Reliance
Industries Limited

CIN: L17110MH1973PLC019786

Dated: 21st May '2024

To,
The Regional Officer,
Ministry of Environment, Forest & Climate Change,
Integrated Regional Office,
A Wing – 407 & 409, Aranya Bhawan,
Near CH - 3 Circle, Sector - 10A,
Gandhinagar, Gujarat – 382 010

Sub: EC Compliance Status Reports and Six-Monthly Monitoring Reports of RIL Refinery cum Petrochemical Complexes for the period ending 31st March '2024.

Dear Sir,

Please find herewith the EC compliance status reports (Annexure I) and Six-monthly monitoring reports (Annexure II) of **RIL Refinery cum Petrochemical Complexes which includes CRZ /Environment clearance** for the period **01st October '2023 to 31st March '2024**.

The compliance and monitoring reports are being submitted as per the requirements of EIA Notification 2006.

Thanking you,

Yours truly,
For **Reliance Industries Limited**

Authorized Signatory

CC : The Regional Officer, Gujarat Pollution Control Board. Sardar Patel Bhawan, Rameshwar Nagar, JAMNAGAR.

Half Yearly Compliance Report
2024
01 Jun(01 Oct - 31 Mar)

Acknowledgment

Proposal Name	18 MMTPA Refinery Complex at Motikhavdi/Sikka, Jamnagar
Name of Entity / Corporate Office	RELIANCE INDUSTRIES LIMITED
Village(s)	N/A
District	JAMNAGAR

Proposal No.	J-11011/25/94-IA-II (I)	**Category**	Industrial Projects - 2
Plot / Survey / Khasra No.	N/A	**Sub-District**	N/A
State	GUJARAT	**Entity's PAN**	NA
MoEF File No.	J-11011/25/94-IA-II (I)	**Entity name as per PAN**	NA

Compliance Reporting Details

Reporting Year 2024

Remarks (if any)

Reporting Period 01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office RELIANCE INDUSTRIES LIMITED

	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Crude Oil	Others:MMTPA	N/A	18	18	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	AIR QUALITY	Adequate facilities for monitoring the fugitive emission should be

	MONITORING AND PRESERVATION	provided and data recorded should be submitted every three months to CIF / SPCB and every six months to the Ministry of Environment and Forests.
PPs Submission: Complied Procedure and facilities for Fugitive emission monitoring is established and the results of monitoring are recorded and submitted to GPCB.		Date: 27/05/2024
2	MISCELLANEOUS	Designing of LPG spheres including the exclusion zone should be finalized in consultation and approval of the Chief Inspector of Explosives, Nagpur and the State Pollution Control Board. The impact of fire and explosion should not cross the plant boundaries.
PPs Submission: Complied Designing of the Sphere has been done including the exclusion zone of storage tanks & spheres and are approved by the Chief Inspector of Explosives, Nagpur. The impact of fire and explosion have been quantified in the Risk Assessment carried out and does not cross the plant boundaries.		Date: 27/05/2024
3	WATER QUALITY MONITORING AND PRESERVATION	Ground water should not be tapped for industrial as well as domestic uses including the township. Alternate source has to be finalized keeping in view its impact on other competent users.
PPs Submission: Complied Groundwater is not tapped for domestic or industrial use. Desalination plants have been installed to meet the total water demand of the refinery complex. Narmada water is received through approval accorded by Gujarat Water Infrastructure Ltd (GWIL).		Date: 27/05/2024
4	WATER QUALITY MONITORING AND PRESERVATION	Liquid effluents should be treated to conform to the standards stipulated by State Pollution Control Board / Ministry of Environment and Forests under EPA, 1986. Recycling / reuse of the treated effluent to the maximum extent possible should be planned.
PPs Submission: Complied State-of-art Effluent Treatment Plant (ETP) is provided with Primary, Secondary and Tertiary facilities to maximize the recycle and reuse of the treated water. The treated water meets all the prescribed standards.		Date: 27/05/2024
5	WATER QUALITY MONITORING AND PRESERVATION	Adequate number of influent and effluent quality monitoring stations have to be planned with adequate facilities specially for parameters like phenols, sulphides, oil and grease, suspended solids, BOD, COD, pH and flow. The effluent discharge point should be decided in consultation with NIO and the State Pollution Control Board.
PPs Submission: Complied All the influent and effluent parameters are monitored in the central laboratory (NABL approved) set up. The effluent parameters are monitored at source of generation and at outlet of effluent treatment plant. Please refer Annexure 7-A. Discharge of effluent from the complex is at a point decided in consultation with NIO & through a well-designed diffuser. The consent from GPCB has been granted for this discharge.		Date: 27/05/2024
6	WASTE MANAGEMENT	System to recover oil from the oily sludge and incineration of the residues should be provided.
PPs Submission: Complied The Oily sludge recovered from ETP is re-processed in Delayed Coker unit. The sludge from the heavy oil storage tanks generated during maintenance is sent to common incineration facility & or Co-processing in Cement Industry.		Date: 27/05/2024
7	Statutory compliance	Hazardous substances and solid wastes handling, storage and

		disposal should be as per the Solid Wastes (Management and Handling) Rules, 1989 of EPA, 1986.
PPs Submission: Complied Complied with. Authorisation for Storage, Handling & disposal of HW is obtained from GPCB.		Date: 27/05/2024
8	Statutory compliance	A solid waste management plan should be submitted to the Ministry for approval within a period of six months. In case of land-fill the site should be approved by the State Government.
PPs Submission: Complied The solid waste management plan has been submitted to the Ministry as per the requirement.		Date: 27/05/2024
9	MISCELLANEOUS	Cutting of trees from the project sites should be kept to minimum while developing the site and planning the infrastructural facilities.
PPs Submission: Complied The project is constructed on barren land where green belt has been established.		Date: 27/05/2024
10	MISCELLANEOUS	The industrial township should not be located in the down wind direction with respect to the refinery.
PPs Submission: Complied Complied with.		Date: 27/05/2024
11	MISCELLANEOUS	Adequate sanitation facilities and cooking fuel should be provided to the labourers to avoid tree cutting and nuisance in the area.
PPs Submission: Complied Complied with. The project is already completed.		Date: 27/05/2024
12	MISCELLANEOUS	Affected persons due to acquisition of agricultural land or houses should be properly compensated as per the State Government norms.
PPs Submission: Complied Complied with. The project is already completed.		Date: 27/05/2024
13	MISCELLANEOUS	The project Authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board and the State Government.
PPs Submission: Being Complied Being complied with. The summary monitoring report, Annexure II, is based on reports submitted to GPCB on a monthly basis.		Date: 27/05/2024
14	MISCELLANEOUS	Any expansion of the Plant or storage facilities either with the existing / proposed products mix or new products or change in the pipeline route / location of SPM site etc. can be taken up only with the prior approval of this Ministry.
PPs Submission: Complied Complied with.		Date: 27/05/2024
15	AIR QUALITY MONITORING AND PRESERVATION	The total emissions of SO2 from the refinery complex should not exceed 24 TPD after the refinery has been fully established.

PPs Submission: Complied Regular monitoring & measurement are carried out for measuring SO2 emission from the refinery complex which is below the limit prescribed. Please refer Annexure I-A showing average daily emission quantity of SO2. The Daily SO2 emission during 2nd Half of FY2024 varied between 20.92 and 22.44 MT/day.		Date: 27/05/2024
16	AIR QUALITY MONITORING AND PRESERVATION	The gaseous emission from various process units should conform to the standards prescribed by the concerned authorities, from time to time. At no time the emission level should go beyond the stipulated standards. In the event of failure of any pollution control system adopted by the unit the respective unit should be shut down immediately and should not be restarted until the control measures are rectified to achieve the desired efficiency.
PPs Submission: Complied The limits for gaseous emissions are prescribed by Gujarat Pollution Control Board (GPCB). The emission parameters are within the standards prescribed at all times. The recommended procedure for ensuring compliance to emission limits is followed. Please refer the monitoring reports annexed as Annexure 2-A		Date: 27/05/2024
17	AIR QUALITY MONITORING AND PRESERVATION	Sulphur recovery unit having efficiency of not less than 99% should be provided.
PPs Submission: Complied Sulphur recovery unit efficiency is complying. Please refer Annexure 4-A for SRU Efficiency.		Date: 27/05/2024
18	AIR QUALITY MONITORING AND PRESERVATION	Low NOx burners to avoid excessive formation of NOx should be provided.
PPs Submission: Complied Low NOx burners are provided for reduction of NOx.		Date: 27/05/2024
19	AIR QUALITY MONITORING AND PRESERVATION	At least six ambient air quality monitoring stations should be set up in the refinery area in the down wind direction as well as where maximum ground level concentrations of SO2, NOx, HC and SPM are anticipated. The monitoring network should be decided based on the modelling exercise to represent the short term GLCs. A mobile van with adequate facilities to monitor ambient air quality outside the refinery premises should also be planned.
PPs Submission: Complied Complied with. Stipulated number of AAQM stations have been setup. Please refer Annexure 5-A for AAQMs results. Mobile Ambient Air Quality Van has been established & operated at locations outside the refinery. Please refer Annexure 6.		Date: 27/05/2024
20	AIR QUALITY MONITORING AND PRESERVATION	Fugitive emissions of HC from storage tanks, crude oil tanks etc. should be minimized by adopting necessary measure such as double seal floating roof tanks. The emission should be controlled so as to ensure that the NMHC levels outside the refinery premises does not exceed 160 ug / M3.
PPs Submission: Complied Complied with. All the storage tanks with emission control measures are provided. They are compliant to the Refinery standards Notified on dtd 18.03.2008. Complied.		Date: 27/05/2024
21	Marine/Coastal	A. SPM and Sub-Sea Pipeline: The marine environment should be regularly monitored for the water quality (temperature, petroleum

		hydrocarbons, phenols, sulphides, total organic carbon); sediment quality (trace elements, petroleum hydrocarbons, TOC and sediment size) and biological parameters (primary productivity, benthos, fish quality and growth, bio-mass, phytoplankton and zooplankton).
PPs Submission: Complied A marine environment study is conducted by NIO regularly. For monitoring all physical, chemical & biological parameters in the marine environment. Regular analysis is carried out of the seawater both upstream & downstream of the diffuser, for monitoring parameters temperature, petroleum hydrocarbons, phenols, sulphides, total organic carbon, salinity etc Please refer Annexure 9.		Date: 27/05/2024
22	Marine/Coastal	A. SPM and Sub-Sea Pipeline: A Disaster Management Plan should be prepared to take care of any oil leakage in the Gulf in consultation with the Coast Guards and the Marine Park Authorities. Oil Spill contingency plan should be drawn and adequate facilities provided for combating the oil spills.
PPs Submission: Complied Complied with. The Disaster Management Plan and Oil Spill Contingency Plan are prepared. Indian Coast Guard has approved the Oil Spill Contingency Plan. Marine National Park authorities are also a signatory to the Mutual Aid Agreement between Oil Handling Agencies of the Gulf of Kutch region.		Date: 27/05/2024
23	Marine/Coastal	A. SPM and Sub-Sea Pipeline: The project proponents should also formulate a management plan for coral reefs and mangrove afforestation in the inter-tidal region of Vadinar Sikka in consultation with the Marine Park Authorities.
PPs Submission: Complied RIL has already submitted a coral management plan to the MNP Authorities. The same has been acknowledged by them. However, there is no action recommended to RIL against the plan submitted. Mangrove plantation of 875 acres has been carried out along with MNP authorities. Management Plan for mangroves plantation is drawn up by Marine Park Authorities & RIL participates by involvement in its execution.		Date: 27/05/2024
24	Marine/Coastal	A. SPM and Sub-Sea Pipeline: No discharge of crude oil washings should be done in the Gulf. In case washing is done, adequate ballasting facilities with proper treatment should be provided.
PPs Submission: Complied No discharge of crude oil washings is permitted at the marine facilities, as a procedure set up for marine operations.		Date: 27/05/2024
25	Marine/Coastal	A. SPM and Sub-Sea Pipeline: Necessary approval for acquisition of forest land should also be obtained from the concerned authorities.
PPs Submission: Complied Complied with.		Date: 27/05/2024
26	Marine/Coastal	A. SPM and Sub-Sea Pipeline: No dredging in the sea should be undertaken except where unavoidable during construction phase after providing full details and obtaining the approval of Chief Wild Life Warden, Gujarat.
PPs Submission: Complied Complied with.		Date: 27/05/2024
27	Marine/Coastal	B. CRUDE OIL TERMINAL (COT): The location of COT should be decided in consultation with Government of Gujarat (National

		Marine Park), NIO, ZSI (Madras Office) and SPCB. Submerged filling in all storage facilities should be provided to minimize fugitive emissions.
PPs Submission: Complied Complied with.		Date: 27/05/2024
28	AIR QUALITY MONITORING AND PRESERVATION	B. CRUDE OIL TERMINAL (COT): Hydrocarbon leaks should be detected at regular intervals including the pipelines, at the joints, valves, blinds, caps, plugs and pressure relief devices using portable hydrocarbon monitor and corrective measures should be taken immediately to stop fugitive emissions.
PPs Submission: Complied LDAR programs for fugitive emissions are followed regularly in accordance with MoEF notifications for minimizing and corrective actions undertaken immediately. Please refer Annexure 13 (LDAR sample report of single unit)		Date: 27/05/2024
29	WATER QUALITY MONITORING AND PRESERVATION	B. CRUDE OIL TERMINAL (COT): Effluent treatment facilities for the oil based effluent should be provided so that the treated water meets the MINAS. Regular monitoring should also be carried out for pH, Oil, Phenol, sulphate and BOD and record maintained.
PPs Submission: Complied ETP that has been set up to treat oil-based effluent and the treated effluent meets the norms prescribed by GPCB. Regular monitoring of the treated effluent is carried out. The treated effluent parameters are well within the prescribed norms. Please Refer Annexure 10.		Date: 27/05/2024
30	Statutory compliance	B. CRUDE OIL TERMINAL (COT): Hazardous material and wastes should be handled as per the Hazardous Waste (Management and Handling) Rules, 1989.
PPs Submission: Complied Authorization for Storage, Handling & disposal of HW is obtained from SPCB. The handling of HW is as per the HW Rules 1989 and its subsequent amendments.		Date: 27/05/2024
31	WASTE MANAGEMENT	B. CRUDE OIL TERMINAL (COT): Melting pits of suitable design should be provided for recovery of oil from oily sludge (crude oil tanks bottom). The possibility of using chemicals/bio-surfactant for oil recovery may be explored and report submitted to this Ministry.
PPs Submission: Complied Operations endeavours to minimise sludge from tank bottom by adopting BAT. Melting pits have thus not been effective due to low oil content of oil in the sludge. The sludge generated is collected, stored and sent for Co-processing in cement kiln/incineration.		Date: 27/05/2024
32	WASTE MANAGEMENT	B. CRUDE OIL TERMINAL (COT): Raw sludge should be stored in lagoons having impervious lining with suitable run off / run on control facilities.
PPs Submission: Complied No lagoons are required as quantity of sludge generation is low and is collected in drums. The drums are sent to Common Incineration facility/ for Co-processing in cement kiln.		Date: 27/05/2024
33	WASTE MANAGEMENT	B. CRUDE OIL TERMINAL (COT): Treated sludge should be either incinerated or used for land fill purposes within the COT premises in consultation with the Gujarat Pollution Control Board.

PPs Submission: Complied Complied with. The Oily sludge is sent either for Co-processing in Cement Kiln or Common Incineration facility for disposal.			Date: 27/05/2024
34	WATER QUALITY MONITORING AND PRESERVATION	B. CRUDE OIL TERMINAL (COT): The ground water monitoring should be carried out around sludge lagoons and land fill sites.	
PPs Submission: Complied Not applicable due to above pt. 5 and.6.			Date: 28/05/2024
35	GREENBELT	B. CRUDE OIL TERMINAL (COT): A green belt of adequate width (at least 50 m) and density should be developed all around the crude oil terminal site.	
PPs Submission: Complied Complied with. A green belt of adequate width has been developed and is maintained all around the tank farm.			Date: 27/05/2024
36	MISCELLANEOUS	C. CRUDE OIL & PRODUCTS PIPELINE: Necessary approvals for acquiring forest land (ROW) should be obtained from the concerned authorities. The route of the pipelines should be selected so as to avoid the corals, mangroves, forest lands, etc., and ensure that the sensitive areas are not adversely affected.	
PPs Submission: Complied Complied with.			Date: 27/05/2024
37	MISCELLANEOUS	C. CRUDE OIL & PRODUCTS PIPELINE: The project authorities should ensure minimum cutting of trees, damage to the native vegetation, soil erosion and minimum disturbance to the existing services during laying of pipeline and construction of booster pump stations.	
PPs Submission: Complied Complied with. The refinery complex is established on Barren Land.			Date: 27/05/2024
38	MISCELLANEOUS	C. CRUDE OIL & PRODUCTS PIPELINE: A program of re-vegetation should be undertaken to compensate for loss of vegetation cover.	
PPs Submission: Complied Complied with. No re-vegetation required as refinery is established on barren land. However, a robust green has been established.			Date: 27/05/2024
39	GREENBELT	C. CRUDE OIL & PRODUCTS PIPELINE: All around the booster pump site, adequate green belt should be developed.	
PPs Submission: Complied Not applicable.			Date: 28/05/2024
40	WASTE MANAGEMENT	C. CRUDE OIL & PRODUCTS PIPELINE: Floor washings and oil spills should be collected and treated properly before disposal.	
PPs Submission: Complied Complied with.			Date: 27/05/2024

41	Risk Mitigation and Disaster Management	C. CRUDE OIL & PRODUCTS PIPELINE: Risk assessment report along with the on-site and off-site emergency preparedness plans should be submitted to this Ministry within one year for approval.

PPs Submission: Complied Complied with.	Date: 27/05/2024

42	MISCELLANEOUS	The labourers or contractor should leave the place after completion of the work at site to avoid creation of slum in the adjoining areas of the projects.

PPs Submission: Complied Complied with. The project is already completed.	Date: 27/05/2024

43	Noise Monitoring & Prevention	The overall noise levels in and around the plant area should be kept well within the standards (85 DBA) by providing acoustic hoods, silencers etc. around the noise generating sources.

PPs Submission: Complied Appropriate Engineering control measures are provided to identified sources of noise generation including provision of acoustic hoods, silencers, enclosures etc. wherever necessary The overall noise levels in and around the plant area are kept well within the standards. Please refer Annexure 8-A.	Date: 27/05/2024

44	GREENBELT	A green belt plan with adequate width and density all around the Refinery by selecting the native plant species should be developed in consultation with the local DFO. A norm of about 1500 - 2000 plants per ha. may be adopted for raising the Green Belt.

PPs Submission: Complied About 3,109 acres of the total area has been covered by tree plantation. Over 400 species have been planted conforming to the recommended density. Additionally, 875 acres of mangrove plantation has been carried out.	Date: 27/05/2024

45	MISCELLANEOUS	A long term study to assess the impacts due to emission of pollutants from the refinery on the mangroves should be undertaken and report submitted after the refinery becomes operational. The study should be conducted by a reputed institution or body approved by the Department of Environment, Government of Gujarat.

PPs Submission: Complied Periodic monitoring by NIO of entire marine ecology and mangroves is carried out.	Date: 27/05/2024

46	Risk Mitigation and Disaster Management	Necessary approvals from Chief Explosives Directorate, Inspector of Factories, Fire Safety Inspector, etc. should be obtained and copies of the approval letters be made available to this Ministry. On-site and off-site Emergency Preparedness Plans under Rule 13 & 14 of the Hazardous Chemical Rule, 1989 should also be prepared and approved by the Nodal Agency.

PPs Submission: Complied Complied with. Comprehensive On-site Emergency Preparedness Plans have been developed and approved by the nodal agencies. These are updated at regular intervals. Off-site Emergency Preparedness Plans have been developed by District Authorities. Oil Spill Contingency Plans and Marine Disaster Management Plan prepared & approved by Indian Coast Guard.	Date: 27/05/2024

47	MISCELLANEOUS	The project authority should set up laboratory facilities for collection and analysis of samples under the supervision of competent

		technical personnel, who will directly report to the Chief Executives.
PPs Submission: Complied All monitoring, sampling and analysis of environmental parameters is outsourced to MoEF approved laboratory.		Date: 27/05/2024
48	MISCELLANEOUS	An Environmental Management Cell should be established with suitably qualified people to carry out various functions and should be set up under the control of a senior executive who will report directly to the Head of the organization.
PPs Submission: Complied A full-fledged Environmental Cell headed by Vice President who reports to the Chief Executive and is assisted by suitably qualified engineers is set-up. The environment cell is responsible for all aspects of environmental management in the complex. Refer Departmental Organogram Annexure 14.		Date: 27/05/2024
49	Human Health Environment	Medical surveillance of workers should be done regularly to avoid the possibility of contracting occupational diseases and record maintained.
PPs Submission: Complied Occupational Health Department carries out regular medial surveillance of all employees annually and records are maintained. During last Six Months ending March'24, 100% PME scheduled employees have undergone medical examination.		Date: 27/05/2024
50	Statutory compliance	The project authorities should ensure their activities conform to the recent Supreme Court Order dated 12/12/94 with respect to the Writ Petition No. 664/93 and 551/94 filed by the India Council for Enviro Legal Action Vs. Union of India. Provisions of CRZ should be complied with in respect of installations to be provided within 500 m. of HTL.
PPs Submission: Complied Noted and complied.		Date: 27/05/2024
51	MISCELLANEOUS	The funds earmarked for the environmental protection measures should not be diverted for other purposes and year wise expenditure should be reported to this Ministry.
PPs Submission: Complied Complied with. The total expenditure for the environmental protection measures are provided in Annexure 12.		Date: 27/05/2024
52	Marine/Coastal	A. SPM and Sub-Sea Pipeline: The tank farms should be designed in such a way that the residual flow including floor washings do not percolate the marine areas including the nearby salt pans. Location of SPM / SBM and submarine pipeline should be selected in consultation with NIO, State Pollution Control Board, and Government of Gujarat (National Marine Park Authority) in such a way that the corals and mangroves are not affected.
PPs Submission: Complied Appropriate design measures have been considered and implemented so that the marine areas including the nearby salt pans are not affected by the tank farm operations. Complied with.		Date: 27/05/2024
53	Marine/Coastal	A. SPM and Sub-Sea Pipeline: Necessary approvals from the Chief Wild Life Warden, Government of Gujarat should be obtained prior to laying of SBM / COT / Sub-Marine / On-shore pipeline and

		necessary details in this regard should be submitted to the Ministry.
PPs Submission: Complied Complied with.		Date: 27/05/2024
54	Marine/Coastal	A. SPM and Sub-Sea Pipeline: The flexible hoses should be periodically tested and in case of deterioration of condition, hoses should be replaced. Safety breakaway couplings should be provided in the system.
PPs Submission: Complied The flexible hoses installed are of Double carcass type with safety breakaway couplings. These hoses are inspected periodically. If any signs of deterioration or damage to the hoses is noticed, immediate measures are taken to replace the hoses.		Date: 27/05/2024
55	AIR QUALITY MONITORING AND PRESERVATION	The stacks should be of appropriate design and height and should be attached to pollution control systems wherever necessary. Height of Stacks attached to FCCU / HCU, CPP etc. should be decided in consultation with the State Government (SPCB).
PPs Submission: Complied All the stacks are attached to necessary control systems and are of appropriate height as per the guidelines.		Date: 27/05/2024

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	All Attachments are uploaded as Additional Attachment.

Half Yearly Compliance Report
2024
01 Jun(01 Oct - 31 Mar)

Acknowledgment

Proposal Name	Jamnagar Refinery Complex of M/s RPL at Motikhavdi, Jamnagar, Gujarat-Proposed expansion of crude processing capacity from 18 to 27 MMTPA with no additional pollution load-reg.
Name of Entity / Corporate Office	Reliance Industries Ltd.
Village(s)	Jogvad
District	JAMNAGAR

Proposal No.	J-11011/25/93-IA-II (I)
Plot / Survey / Khasra No.	
State	GUJARAT
MoEF File No.	J-11011/25/93-IA-II (I)

Category	Industrial Projects - 2
Sub-District	Lalpur
Entity's PAN	NA
Entity name as per PAN	NA

Compliance Reporting Details

Reporting Year 2024

Remarks (if any)

Reporting Period 01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office Reliance Industries Ltd.

	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Crude oil processing capacity	Others:MMTPA	N/A	27	27	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	Statutory compliance	All Conditions stipulated by MoEF in the environmental clearance for 18 MMTPA Crude processing vide ministry letter of even number dated 15th September 1995 and NOC granted by GPCB to the 27 MMTPA capacity must be strictly adhered to.
PPs Submission: Complied All conditions are compiled.		Date: 28/05/2024
2	AIR QUALITY MONITORING AND PRESERVATION	The refinery is permitted to operate at the expanded capacity without exceeding the earlier stipulated pollution load of 24 TPD of SO2 emissions. SO2 emission report may be made on a daily basis for all the stacks (fuel burning and process emissions) through the computerized monitoring mechanism as per the format attached. Further, regular monitoring of stacks every fortnight must also be carried out to cross check the data obtained from computerized monitoring by engaging a reputed organization such as NEERI. In addition, a monthly S-balance statement indicating type of crude, its S-content, product S-content, SO2 emission etc. may be made. Daily, fortnightly and monthly reports generated as above should be sent to the GPCB, CPCB & MoEF.
PPs Submission: Complied Regular monitoring & measurement are carried out for measuring total SO2 emission from the refinery complex which is below the limits prescribed. SO2 emission monitoring report is included in Annexure I-A. The refinery now has continuous online emission monitoring system in which the SO2 emissions are captured in real time. Each stack is manually monitored on a monthly basis to cross check the computerised monitoring. A MoEF approved agency has been engaged for the monitoring. Please refer Annexure 2-A. Monthly Sulphur balance statements are prepared as stipulated. Please refer Annexure I-A. Complied With.		Date: 28/05/2024
3	MISCELLANEOUS	The project authorities should come out with a fresh post-project EIA report within 6 months which should also take into account the impact of 250 MW X 4 petro-coke based power plant for review.
PPs Submission: Complied Post-project EIA was carried out by NEERI The Report has been submitted to MoEF in November 2001. The 4X250 MW coke-based plant has not been established.		Date: 28/05/2024
4	MISCELLANEOUS	The company must give an undertaking to implement the recommendations of the "carrying capacity study for management of gulf of Kutch" being undertaken by the Govt of Gujarat.
PPs Submission: Complied We have enquired from GoG regarding a report of the study on “carrying capacity of Gulf of Kutch” or its recommendations. They do not have such study report.		Date: 28/05/2024
5	MISCELLANEOUS	Pressurized storage of LPG should be reduced, and company must shift to either cryogenic/mounded storage within a period of 1 year.
PPs Submission: Complied The pressurised storage of LPG has been reduced as per the condition.		Date: 28/05/2024

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	All Attachments are uploaded as Additional Attachment.

Half Yearly Compliance Report
2024
01 Jun(01 Oct - 31 Mar)

Acknowledgment

Proposal Name	Environmental clearance for expansion and modernization of petrochemical refinery complex at Village Meghpar/Padana, Tehsil Lalpur Taluka
Name of Entity / Corporate Office	RELIANCE INDUSTRIES LIMITED
Village(s)	N/A
District	JAMNAGAR

Proposal No.	J.11011/232/2005-IA II - (I)
Plot / Survey / Khasra No.	N/A
State	GUJARAT
MoEF File No.	J.11011/232/2005-IA II - (I)

Category	Industrial Projects - 2
Sub-District	N/A
Entity's PAN	NA
Entity name as per PAN	NA

Compliance Reporting Details

Reporting Year 2024

Remarks (if any)

Reporting Period 01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office RELIANCE INDUSTRIES LIMITED

	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Crude Oil Processing Capacity	Others:MMTPA	N/A	59.7	59.7	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	Marine/Coastal	The marine water quality shall be regularly monitored for the water quality (temperature, petroleum hydrocarbons, phenols, sulphides, and total organic carbon), sediment quality (trace elements, petroleum hydrocarbons, TOC and sediment size) and biological parameters (primary productivity, benthos, fish quality and growth, biomass, phytoplankton and zooplankton). The present monitoring program shall be continued and upgraded for the expansion and modernization of the refinery complex.

PPs Submission: Complied A marine environment study is conducted by NIO periodically for monitoring all physical, chemical, ecological & biological parameters in the marine environment. Regular analysis is carried out of the seawater both upstream & downstream of the diffuser, for monitoring parameters temperature, petroleum hydrocarbons, phenols, sulphides, total organic carbon, salinity etc Please refer Annexure 9 for Seawater quality at outfall.	Date: 28/05/2024

2	AIR QUALITY MONITORING AND PRESERVATION	The gaseous emissions (SO2, NOx, CO, NMHC & Benzene) from the various process units shall conform to the standards prescribed under the Environment (Protection) Rules, 1986 or norms stipulated by the SPCB, whichever is more stringent. At no time, the emission level shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.

PPs Submission: Complied Complied with. The gaseous emissions (SO2, NOx, CO etc) from the various process units comply to the requirement prescribed by GPCB and of Refinery Standards as notified on 18th March ‘2008.	Date: 28/05/2024

3	Statutory compliance	The company shall ensure strict implementation of compliance to the stipulations made by MOEF vide OM no. J-11011/25/1994-IA~1 dated 15th September 1995 and 6th September, 2000.

PPs Submission: Being Complied Being Complied with.	Date: 28/05/2024

4	AIR QUALITY MONITORING AND PRESERVATION	Ambient air quality monitoring stations, [SPM, SO2, NOx and NMHC, Benzene] shall be set up in the refinery complex in consultation with SPCB, based on occurrence of maximum ground level concentration and downwind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs. Continuous on-line stack monitoring equipment shall be installed for measurement of SO2 and NOx. Data on VOC shall be monitored and submitted to the SPCB / Ministry.

PPs Submission: Complied Complied with. AAQM stations have been setup based on the modelling reports of NEERI. The monitoring parameters are as per the NAAQS 18th November ‘2009. Please Refer Annexure 5-B. Complied with. Continuous on-line stack monitoring for all the stacks is provided. Complied. Ambient HC monitoring at the plant periphery is carried out and submitted. Regular LDAR programs are conducted for fugitive emissions in accordance with the MoEF notification- Refinery Standards as notified on 18th March ‘2008. Please refer Annexure 13.	Date: 28/05/2024

5	AIR QUALITY MONITORING AND PRESERVATION	The total SO2 emission from the refinery complex shall not exceed 49TPD after fully stabilizing of the expansion and modernization of the refinery complex and upgrading the existing facilities. SO2

		emission report may be made on daily basis for all the stacks (fuel burning and process emissions through the computerized mechanism). Further, regular monitoring of stacks every fortnight must also be carried out to cross check the data obtained from computerized monitoring by engaging a reputed organization. In addition a monthly Sulphur balance statement indicating type of fluid, its S content, product s-content. SO2 emission etc. may be made. Daily, fortnightly and monthly reports generated as above shall be sent to the GPCB, SPCB and MoEF.

PPs Submission: Complied Complied with. Regular monitoring & measurement are carried out for measuring total SO2 emission from the refinery complex which is below the limits prescribed. The total SO2 emission as reported in the annexure is between 42.26 and 46.78 MT/day at the lowest and highest levels. Monitoring is included in Annexure I-A & I-B. Complied with. The refinery now has continuous online emission monitoring system in which the SO2 emissions are captured. Each stack is monitored monthly by MoEF recognized laboratory/consultant to cross check computerized monitoring. Complied with.	Date: 28/05/2024

6	AIR QUALITY MONITORING AND PRESERVATION	All the Sulphur Recovery Units shall have tail gas treatment (TGT) facilities and the overall efficiency of the SRU with TGT unit shall be 99.9%.

PPs Submission: Complied Complied with. Please refer Annexure 4-B for SRU Efficiency.	Date: 28/05/2024

7	AIR QUALITY MONITORING AND PRESERVATION	Ultra Low-NOx burners shall be provided in the new furnaces to avoid excessive formation of NOx. The existing low NOx burners are also to be phased out and replaced with Ultra low-NOx burners.

PPs Submission: Complied Complied with. The emission levels are well below the prescribed norms of GPCB.	Date: 28/05/2024

8	AIR QUALITY MONITORING AND PRESERVATION	Fugitive emissions of HC from product storage tank farms etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations. Necessary measures shall be adopted so as to ensure that the NMHC levels outside the refinery complex premises does not exceed 160 μg/m3. Monitored data shall be submitted to the GPCB / CPCB every three months and to Ministry of Environment & Forests every six months.

PPs Submission: Complied Complied. Complied. More than 46,290 gas detectors and alarms are installed in the jamnagar complex at strategic locations for detecting toxic gas & HC leakage. Complied. Necessary measures like LDAR, gas detectors and monitors etc are in place along with corresponding procedures for ensuring control of HC emissions. Regular monitoring of NMHC levels around the boundary of the plant is conducted. Complied with.	Date: 28/05/2024

9	AIR QUALITY MONITORING AND PRESERVATION	For control of fugitive emissions, the company shall augment the existing flare system and route all unsaturated hydrocarbons to the flare system in addition to the existing flare system. All the pumps and other equipment where there is a likelihood of HC leakages shall be provided with LEL indicators and also provide for immediate isolation of such equipment, in case of a leakage. The company shall adopt Leak Detection and Repair (LDAR) program for quantification and control of fugitive emissions.

PPs Submission: Complied The safety and emergency discharge of hydrocarbons are routed to adequate flare systems which are	Date:

		provided. Complied. Complied. Procedures are developed & implemented for LDAR programs and are in accordance with the MoEF notification- Refinery Standards as notified on 18th March '2008. Please refer Annexure 13.	28/05/2024
10	AIR QUALITY MONITORING AND PRESERVATION	All new stacks shall be of appropriate design and height and shall be attached to pollution control systems, wherever necessary. All stacks in the complex must meet the minimum stack height criteria as prescribed in the Environment Protection Rules.	
		PPs Submission: Complied All the stacks are provided in accordance to the CPCB guidelines for stack height and as prescribed in the Environmental Protection Rules.	Date: 28/05/2024
11	MISCELLANEOUS	All new standards / norms which are being proposed by CPCB for refinery projects I petrochemical units shall be applicable for the proposed expansion and modernization of the petrochemical refinery complex. These standards shall be incorporated into the detail designs for the proposed expansion and modernization. The existing refinery complex shall also be upgraded to the new above-mentioned emission standards.	
		PPs Submission: Complied Complied with.	Date: 28/05/2024
12	AIR QUALITY MONITORING AND PRESERVATION	The Central Pollution Control Board shall carry out independent monitoring of all the stacks for SO2 and NOx.	
		PPs Submission: Agreed to Comply Noted.	Date: 28/05/2024
13	WATER QUALITY MONITORING AND PRESERVATION	Ground water shall not be tapped for construction, industrial or domestic uses including the township. All the water requirements of the refinery complex shall be met by desalination of seawater.	
		PPs Submission: Complied Desalination plants have been installed to meet the total water demand of the refinery complex.	Date: 28/05/2024
14	WATER QUALITY MONITORING AND PRESERVATION	A new effluent treatment plant with primary, secondary and tertiary treatment facility shall be constructed to cater to the additional effluent load. Liquid effluents shall be treated to conform to the standards stipulated by the GPCB I Ministry of Environment & Forests under EPA 1986 and also the new norms being specified. Treated effluent be recycled and reused to achieve zero discharge of effluent. The domestic effluent after treatment and conforming to the prescribed standards shall be used for greenbelt development.	
		PPs Submission: Complied State-of-art Effluent Treatment Plant (ETP) is provided with Primary, Secondary and Tertiary facilities to maximize the recycle and reuse of the treated water. The treated water meets all the standards mentioned. Please refer Annexure 7-A & 7-B. Complied with.	Date: 28/05/2024
15	Marine/Coastal	The return seawater (brine from desalination plant, cooling tower blow down etc.) shall be discharged to the sea through a properly designed diffuser system. The existing diffuser system shall be augmented to cater to the additional discharge volume. The augmentation of the existing diffuser system/any other diffuser system in terms of dispersion in the sea shall meet the standards and	

		certified by M/s National Institute of Oceanography. The company shall take the approval of the GPCB for the discharge of the return sea water.
PPs Submission: Complied The existing diffuser system has been augmented to cater to the additional discharge volume. The augmented diffuser system and the location of discharge has been decided in consultation with M/s National Institute of Oceanography (NIO). GPCB has granted approval for the discharge.		Date: 28/05/2024
16	WATER QUALITY MONITORING AND PRESERVATION	The requisite numbers of effluent quality monitoring stations shall be planned with adequate facilities especially for parameters like phenols, sulphides, oil and grease, suspended solids, BOD, COD, pH and flow. The salinity and temperature of the return seawater shall be monitored periodically and monitored data submitted to the GPCB and Ministry of Environment & Forests on a periodic basis.
PPs Submission: Complied All the effluent parameters are monitored in the central laboratory that is NABL approved. The effluent parameters are monitored at source of generation and at the outlet of the effluent treatment plant. Please refer Annexure 7-A & 7–B. The return seawater before discharge to outfall is monitored for salinity and temperature & submitted to authorities. Please refer Annexure 9 for Sea Water return analysis report.		Date: 28/05/2024
17	WATER QUALITY MONITORING AND PRESERVATION	M/s RIL shall monitor the groundwater quality at the locations as suggested by the Central Ground Water Board. Monitoring results of the same shall be submitted to the GPCB/CPCB and MOEF.
PPs Submission: Complied The groundwater quality is monitored in nearby villages at locations suggested by Central Ground Water Board. The monitoring results are submitted periodically to authorities. Please refer Annexure 11. Ground water quality in nearby locations.		Date: 28/05/2024
18	WATER QUALITY MONITORING AND PRESERVATION	M/s RIL shall undertake rainwater harvesting measures to recharge the ground water in the area in consultation with Central Ground Water Board and Gujarat Pollution Control Board.
PPs Submission: Complied Rainwater Harvesting: A network of storm water ponds is developed having capacity around 1.56 million cum and the rainwater is reused. The storm water run-off is collected in the ponds. Two recharge wells have also been established in the green belt for ground water recharge.		Date: 28/05/2024
19	WASTE MANAGEMENT	M/s RIL shall undertake measures to recover oil from oily sludge and to charge into the feed of Delayed Coker Unit. An incinerator has to be provided for the oily rags as per the guidelines of CPCB.
PPs Submission: Complied The Oily sludge recovered from ETP is re-processed in Delayed Coker unit. Oily rags from SEZ area are incinerated (at the approved Common Hazardous Waste Incinerator (CHWI) facility) or sent for Co-processing in Cement Industry.		Date: 28/05/2024
20	Human Health Environment	Occupational Health Surveillance of the employees and workers shall be done on a regular basis and records maintained as per the Factories Act.
PPs Submission: Complied Complied with. Occupational Health Surveillance of the employees and workers are conducted regularly, and the records are maintained as per the Factories Act. The periodical Medical Surveillance of all employees is carried out annually.		Date: 28/05/2024
21	Marine/Coastal	The extension of the existing tank farm shall be designed in such a

		way that the residual flow including floor washing do not percolate to the marine areas. The augmentation and expansion of the marine facilities like product berths, Crude and product SPMs, seawater intake channel and outfall shall be done in consultation with the National Institute of Oceanography.

PPs Submission: Complied There is no floor washing at the tank farm area. Appropriate design measures have been considered and implemented so that the marine areas are not affected by the tank farm operations. The augmentation and expansion of the marine facilities has been carried out in consultation with NIO.	Date: 28/05/2024

22	Marine/Coastal	No discharge of crude oil / products washings shall be done in the Gulf. No dredging in the sea should be undertaken except where unavoidable during construction and operation while augmenting and expansion of the marine facilities. Details of the same shall be provided to the Director, Marine Park & Sanctuary, Jamnagar, and Gujarat Pollution Control Board.

PPs Submission: Complied Complied with. No crude oil washings are permitted in the Gulf as a part of marine operations. Complied with.	Date: 28/05/2024

23	MISCELLANEOUS	The Company shall also comply with all the conditions and safeguards prescribed in the EIA & Risk Assessment Reports prepared by NEERI. Pressurized storage of LPG shall be reduced and company must shift to either cryogenic/mounded storage.

PPs Submission: Complied Complied with. Pressurized storages of LPG have been reduced.	Date: 28/05/2024

24	Risk Mitigation and Disaster Management	The On-site and Off-site Emergency Preparedness Plans, Oil Spill Contingency Plans, Marine Disaster Management Plan shall be updated for the expansion and modernization for the enhanced refinery throughput and submitted to the Ministry before commissioning at the enhanced capacity.

PPs Submission: Complied Comprehensive On-site Emergency Preparedness Plans have been developed. These are updated at regular intervals. Off-site Emergency Preparedness Plans have been developed by District Authorities. Oil Spill Contingency Plans is approved by Indian Coast Guard.	Date: 28/05/2024

25	MISCELLANEOUS	The Environmental Management Cell and laboratory facilities for the collection of the samples shall be augmented with suitable facilities and qualified personnel and directly report to the chief executive of the refinery complex.

PPs Submission: Complied A full-fledged Environmental Cell headed by Vice President who reports to the Chief Executive and is assisted by suitably qualified engineers is set-up.	Date: 28/05/2024

General Conditions

Sr.No.	Condition Type	Condition Details
1	MISCELLANEOUS	The project authorities must strictly adhere to the stipulations made by the Gujarat State Pollution Control Board and the State Government.

PPs Submission: Complied Complied with.		Date: 28/05/2024
2	MISCELLANEOUS	No further expansion or modernization in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.
PPs Submission: Complied Noted		Date: 28/05/2024
3	AIR QUALITY MONITORING AND PRESERVATION	At no time, the emissions shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.
PPs Submission: Complied Complied with. Emissions are within the standards prescribed by the concerned authorities. In case of any likelihood of exceedance corrective actions are laid down.		Date: 28/05/2024
4	Noise Monitoring & Prevention	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
PPs Submission: Complied Appropriate Engineering control measures are provided to identified sources of noise generation including acoustic hoods, silencers, enclosures etc. The overall noise levels in and around the plant area are kept well within the standards. Regular monitoring of the ambient noise levels is conducted and conforms to the standards prescribed. The monitoring data are submitted to the authorities. Please refer Annexure 8-A & 8–B.		Date: 28/05/2024
5	Statutory compliance	The project authorities must strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the project.
PPs Submission: Complied Complied with. Obtained the necessary approvals from Chief Controller of Explosives.		Date: 28/05/2024
6	Statutory compliance	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of hazardous wastes.
PPs Submission: Complied Complied with. Authorization for collections; treatment; storage and disposal of HW is obtained from SPCB.		Date: 28/05/2024
7	MISCELLANEOUS	The project authorities will provide requisite funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions

		stipulated herein. The funds so provided should not be diverted for any other purposes.
PPs Submission: Complied Complied with. The total expenditure for the environmental protection measures is provided in Annexure 12.		Date: 28/05/2024
8	Statutory compliance	The stipulated conditions will be monitored by the Regional of this Ministry at Bhopal/Central Pollution Control Board/State Pollution Control Board. A six-monthly compliance report and the monitored data should be submitted to them regularly.
PPs Submission: Complied Noted. A six-monthly compliance report and the monitored data are submitted to MoEF regional office on regular basis and Monthly monitoring reports to GPCB.		Date: 28/05/2024
9	Statutory compliance	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board! Committee and may also be seen at Website of the Ministry of Environment and Forests at http://www.envfor.nic.in.This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.
PPs Submission: Complied The advertisement regarding Information to the public that the project has been accorded environmental clearance by the Ministry and Copies of the clearance letter were made available with the State Pollution Control Board, has been published within the stipulated period in two local newspaper that are widely circulated in the region. The copy of the same has been submitted.		Date: 28/05/2024
10	MISCELLANEOUS	The Project Authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.
PPs Submission: Complied Complied with.		Date: 28/05/2024

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	All Attachments are uploaded as Additional Attachment.

Half Yearly Compliance Report
2024
01 Jun(01 Oct - 31 Mar)

Acknowledgment

Proposal Name	Petroleum and Petrochemical Complex in Multi products Special Economic Zone
Name of Entity / Corporate Office	RELIANCE INDUSTRIES LIMITED
Village(s)	N/A
District	JAMNAGAR

Proposal No.	J-11011/149/2007 - IA II (I)
Plot / Survey / Khasra No.	N/A
State	GUJARAT
MoEF File No.	J-11011/149/2007 - IA II (I)

Category	Industrial Projects - 2
Sub-District	N/A
Entity's PAN	NA
Entity name as per PAN	NA

Compliance Reporting Details

Reporting Year 2024

Remarks (if any)

Reporting Period 01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office RELIANCE INDUSTRIES LIMITED

	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Methanol Synthesis	Others:MMTPA	N/A	0.65	0.65	
2	Acetic Acid	Others:MMTPA	N/A	1	1	
3	Vinyl Acetate Monomer (VAM)	Others:MMTPA	N/A	0.7	0.7	
4	Polyvinyl Acetate (PVA)	Others:MMTPA	N/A	0.35	0.35	
5	Polyvinyl Alcohols (PVOH)	Others:MMTPA	N/A	0.125	0.125	
6	Multifeed Cracker Complex-Ethylene	Others:MMTPA	N/A	3.45	3.45	
7	Ethylene Oxide derivatives like MEG, DEG, TEG	Others:MMTPA	N/A	1.25	1.25	
8	Polyethylene polymers like (LDPE / LLDPE / HDPE)	Others:MMTPA	N/A	0.75	0.75	
9	Acrylic Acid & derivatives, SAP	Others:MMTPA	N/A	0.45	0.45	
10	n-Butyl Acrylate, n-butyraldehyde, n-Butanol, 2-EthylHexanol	Others:MMTPA	N/A	0.5	0.5	
11	Jamnagar Export Refinery (JERP) (already under implementation)	Others:Kbsp crude	N/A	580	580	
12	Propylene derivatives like Propylene Oxides, Cumene, Phenol	Others:MMTPA	N/A	0.4	0.4	
13	Propylene Glycols	Others:MMTPA	N/A	0.2	0.2	
14	Hydrogen Peroxide (H2O2)	Others:MMTPA	N/A	0.32	0.32	
15	Fumaric Acid	Others:MMTPA	N/A	0.125	0.125	
16	PET	Others:MMTPA	N/A	1.5	1.5	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	MISCELLANEOUS	M/s RIL shall undertake measures for firefighting facilities in case of emergency.
PPs Submission: Complied Firefighting facilities including dedicated fire stations are operational so as to cover all the units.		Date: 28/05/2024
2	MISCELLANEOUS	The company shall submit time bound action plan for brine management. Further, possibility of setting up of salt manufacturing facility for management of huge volume of brine shall be explored or tie up with the salt manufacturing units in the area for brine disposal.
PPs Submission: Complied Noted. This possibility has been explored. However, it is not found feasible.		Date: 28/05/2024
3	Risk Mitigation and Disaster Management	The company shall prepare integrated risk assessment report considering domino effect which shall be done after freezing overall layout of the Petrochemical Complex with precise location of all individual plants as well as all offsite and battery limit storage areas of the Petrochemical Complex and after all storage capacities and tank sizes are decided.
PPs Submission: Complied The integrated risk assessment considering domino effect has been carried out while freezing the layout of the units and storages.		Date: 28/05/2024
4	Risk Mitigation and Disaster Management	The Quantitative Risk Assessment (QRA) shall be done in comprehensive manner by taking into all consideration listed below but not limited to, a) Report to consider two mega size refineries in the same industrial area and shall deal with the risk arising out of major incident (VCE, Flash fire) in either the existing refineries or proposed petrochemical complex and its domino effect on the each other b) Report to consider precise layout of particular units, bulk storages and storage quantities determined, details of safety system, safeguard provided against domino effect.
PPs Submission: Complied The Comprehensive Quantitative Risk Assessment study has been done once the overall layout of the project including the two refineries and the projects was frozen along with the final layout of the particular units and bulk storages. The report includes the safeguards to be provided under domino effect.		Date: 28/05/2024
5	Risk Mitigation and Disaster Management	All pressure vessels shall be of SIL-3 level product at par with existing refineries.
PPs Submission: Complied Complied.		Date: 28/05/2024
6	Risk Mitigation and Disaster Management	Any relief system for major hazardous releases shall have at least double or triple backup system against the possibility of human error.
PPs Submission: Complied		Date:

Included in the FEED for the project.			28/05/2024
7	Risk Mitigation and Disaster Management	Risk assessment shall include BLEVE for propane and shall be considered in the lay out plan.	
PPs Submission: Complied Complied.			Date: 28/05/2024
8	MISCELLANEOUS	The company shall submit reports of last 2-3 years regarding external safety audit.	
PPs Submission: Complied Safety audits are being conducted and the audit reports submitted to concerned authorities.			Date: 28/05/2024
9	MISCELLANEOUS	Since some of the design parameters have not been frozen at this stage of project, once the Front End Engineering Design Document (FEED) is firmed up, necessary details for integrated QRA study are available particularly with respect to lay out including, the bulk storages with storage quantities determined, details of safety system, safeguard provided against domino effect and other details as prescribed in the specific conditions stipulated above regarding catalyst and the mode of their disposal, steps for mitigation of SO2 and NOx releases details of phosgene management and model used for diffuser for discharged of saline water into the sea shall be submitted to the Ministry. The information provided shall be place before the Committee so that the Committee suggests mid-course correction, and if considered necessary additional environmental safeguards are stipulated for compliance by M/s RIL.	
PPs Submission: Complied Part of the projects are implemented & operational and the rest in the design phase. The projects implemented are as per the assessed impacts and risks. The execution of the remainder projects is unlikely. Any further expansion will be put up to the Ministry for a fresh approval.			Date: 28/05/2024
10	WATER QUALITY MONITORING AND PRESERVATION	The centralized ETP and standalone ETP shall be designed based on the raw water and wastewater quality. Design details of ETP shall be submitted to the Ministry. The effluent shall be segregated into low TDS and High TDS stream which shall after primary, secondary and tertiary treatment shall be used and recycled for green belt development, cooling tower make up etc. The treated effluent shall comply with the prescribed standards. The return sea water shall be discharged into the sea through a multi-port diffuser at a point identified by NIO.	
PPs Submission: Complied For the complex, the process wastewater is treated in the ETP. The wastewater generated are segregated at source based on its stream characteristics & Total Dissolved Solids (TDS) levels. State-of-art Effluent Treatment Plants (ETP's) are provided with Primary, Secondary and Tertiary facilities for the recycle and reuse of the treated water. The effluents are treated to comply with the prescribed standards. Refer Annexure 7C The return seawater is discharged into the Gulf through the existing multiport diffuser at the location identified by NIO.			Date: 28/05/2024
11	AIR QUALITY MONITORING AND PRESERVATION	Action plan for reduction of SO2 and NOx emissions from the present level shall be submitted to the Ministry.	
PPs Submission: Complied Maximized usage of gaseous fuel and use of syngas as fuel have reduced SO2 & NOx emissions to			Date:

the extent possible.		28/05/2024
12	AIR QUALITY MONITORING AND PRESERVATION	The company shall install low NOx burner to mitigate the NOx emission and cyclone, venturi scrubbers, sulphur recovery unit and tail gas treatment for mitigating SO2 emission.
PPs Submission: Complied The best available technology is incorporated in FEED of the project for reduction and control measures for mitigating emissions viz; SO2 , PM, NOx etc.		Date: 28/05/2024
13	AIR QUALITY MONITORING AND PRESERVATION	The company shall install detectors for phosgene and specific steps shall be taken for phosgene management.
PPs Submission: Complied Phosgene plant is not set up and thus Not Applicable.		Date: 28/05/2024
14	AIR QUALITY MONITORING AND PRESERVATION	The gaseous emissions (SO2, PM10, NOx, CO and NMHC) from the various process units shall conform to the standards prescribed under Environment (Protection) Rules, 1986 or norms stipulated by the SPCB, whichever is more stringent. At no time, the emission level shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective units should not be restarted until the control measures are rectified to achieve the desired efficiency.
PPs Submission: Complied Gaseous emissions in the Refinery complex are within the stricter standards prescribed by the authorities. In case of any likelihood of exceedance corrective actions are laid down to avoid it.		Date: 28/05/2024
15	AIR QUALITY MONITORING AND PRESERVATION	Process emissions shall be controlled by scrubbers. Flue gas emissions from the various stacks attached to the boilers, furnace/heaters shall conform to the prescribed standards.
PPs Submission: Complied The best available technology is incorporated & established in FEED for the units to conform to the prescribed standards. Pl. Refer Annexure 2C.		Date: 28/05/2024
16	AIR QUALITY MONITORING AND PRESERVATION	The gaseous emissions from the DG sets shall be dispersed through stack of adequate height as per CPCB/State Pollution Control Board standards. Acoustic enclosures shall be provided to mitigate the noise.
PPs Submission: Complied Suitable stack height as per the prescribed standards and acoustic enclosures are provided for all the DG sets.		Date: 28/05/2024
17	AIR QUALITY MONITORING AND PRESERVATION	The proponent shall upload the status of compliance of the stipulated EC conditions, including monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal office of CPCB and the SPCB. The criteria pollutant namely; Particulate matter (PM10, SO2, NOx, VOC and HC (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at the convenient location near the main gate of the company in the public domain.

PPs Submission: Complied Compliance reports are submitted to authorities regularly. The criteria parameters namely Particulate matter (PM)10, SO2, NOx, VOC and HC (Ambient levels) and critical sectorial parameters, indicated for the complex are monitored and displayed at the convenient location near the main gate of the company in the public domain. The status of compliance is uploaded on the company's website in a summarized form.		Date: 28/05/2024
18	AIR QUALITY MONITORING AND PRESERVATION	The company shall use low sulphur fuel to minimize SO2 emission. Stacks which are contributing to more SO2 emissions shall be identified and SO2 emissions shall be reduced by changing the fuel or by increasing the height of major stacks to bring GLC within the prescribed limits.
PPs Submission: Complied The best available technology is incorporated & established in the Front-End Engineering Design (FEED) for the units for reduction & minimization of GLC. All stack heights are in accordance to standards and there is no exceedance on the GLCs monitored.		Date: 28/05/2024
19	AIR QUALITY MONITORING AND PRESERVATION	Fugitive emissions of HC from product storage tank yards etc must be regularly monitored. Sensors for detecting HC leakage shall also be provided at strategic locations.
PPs Submission: Complied Complied with.		Date: 28/05/2024
20	AIR QUALITY MONITORING AND PRESERVATION	M/s RIL shall implement Leak Detection and Repair (LDAR) programme using a portable VOC detection instrument shall be done on distribution lines and tanks.
PPs Submission: Complied LDAR programs are conducted in accordance with the MoEF notifications 2008 and 2012 for the complex.		Date: 28/05/2024
21	AIR QUALITY MONITORING AND PRESERVATION	Measures shall be undertaken for odour control and inventory of odours compounds shall be maintained.
PPs Submission: Complied Complied.		Date: 28/05/2024
22	AIR QUALITY MONITORING AND PRESERVATION	The product loading gantry shall be connected to the product sphere in closed circuit through the vapour arm connected to the tanker. Data on fugitive emissions shall be regularly monitored and records maintained.
PPs Submission: Complied Complied for the complex. The fugitive emissions in the product loading gantry are regularly monitored and records are maintained.		Date: 28/05/2024
23	AIR QUALITY MONITORING AND PRESERVATION	The company shall ensure that no halogenated organic is sent to the flares. If any of the halogenated organic are present then the respective streams may be incinerated, if there are no technically feasible or economically viable reduction/recovery options. Any stream containing organic carbon, other than halogenated shall be connected to proper flaring system, if not to a recovery device or an incinerator.

PPs Submission: Complied The safety and emergency discharges of HC are routed to the flare system & the HC is recovered to the extent possible, however, the safety and emergency discharges are routed to the flare. No halogenated organics are routed to the flare.		Date: 28/05/2024
24	AIR QUALITY MONITORING AND PRESERVATION	To control the fugitive emissions, the unit shall have provision for internal floating roof tanks with flexible double seal for MS and intermediate products; mechanical seals in pumps; regular inspection of floating roof seals and proper maintenance of floating roof seals for storage tanks; preventive maintenance of valves and other equipment; regular skimming of oil from separators/equalization basin in ETP. The units shall assess and minimize the fugitive VOC emission wherever possible.
PPs Submission: Complied The best available technology is incorporated & established in the (FEED for reduction & minimization of VOC emissions. The mitigation measures for minimizing the fugitive VOC emission during the operational phase is assessed and wherever actions required to control emissions, measures are taken.		Date: 28/05/2024
25	WASTE MANAGEMENT	The company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 for management of Hazardous wastes and prior permission from GPCB shall be obtained for disposal of solid / hazardous waste in the TSDF. Details of regarding type of catalyst to be used and plan for disposal of spent catalyst shall be submitted. The company shall incinerate the oil cotton rags only. The design of the incinerator and secured landfill facility shall be as per the CPCB guidelines.
PPs Submission: Complied Authorization for collection, storage and disposal of hazardous waste generated from the units is obtained from GPCB.		Date: 28/05/2024
26	WATER QUALITY MONITORING AND PRESERVATION	M/s RIL shall undertake rainwater harvesting measures, to recharge the ground water and also to minimize the water drawl from the weir.
PPs Submission: Complied Rainwater harvesting through a network of storm water ponds is developed. The storm water runoffs are collected in the ponds. The water is recycled & reused.		Date: 28/05/2024
27	GREENBELT	Green belt in 33% of the plant area shall be provided to mitigate the effects of fugitive emissions all around the plant as per CPCB guidelines in consultation with local DFO.
PPs Submission: Complied Complied with.		Date: 28/05/2024
28	Human Health Environment	Occupational health surveillance programme shall be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health centre shall be strengthened and the medical records of each employees shall be maintained separately.
PPs Submission: Complied Occupation health surveillance is implemented for the personnel working in the complex. The medical records are being maintained. The first aid facilities in the OHC have been strengthened. During the last six months ending 31st March'24 100% scheduled employee's medical surveillance checkup was conducted.		Date: 28/05/2024

29	Marine/Coastal	The Company shall provide details of the model used for the diffuser for discharge of saline water into sea and the efficacy of the existing diffuser which is based on the HYDRODYN model and also compare with CORMIX model. The depth of discharge of diffuser shall be determined as per the above model.

PPs Submission: Complied During commencement of implementation of the projects CRZ clearance for augmentation of seawater intake facilities, desalination plants and discharge of return seawater was obtained from MoEF for the projects being implemented in 2015. This included numerical modelling for the discharge by NIO. The numerical modelling was found to be in order and accepted by the Ministry.	Date: 28/05/2024

30	WATER QUALITY MONITORING AND PRESERVATION	The hot water effluent and outfall shall be discharged as per the prescribed standards.

PPs Submission: Complied Complied with.	Date: 28/05/2024

31	WATER QUALITY MONITORING AND PRESERVATION	The company shall comply with effluent and emission standards for Petrochemical Plants of CPCB/MoEF.

PPs Submission: Complied The treated effluent quality is well within the prescribed standards for refineries and petrochemical plants.	Date: 28/05/2024

32	MISCELLANEOUS	Provision shall be made for the housing for the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. All the construction wastes shall be managed so that there is no impact on the surrounding environment.

PPs Submission: Complied During the project stage, the labour camps had been set up with all necessary infrastructure facilities such as fuel for cooking, toilets, sewage treatment plant, safe drinking water, medical health care etc. The labour camps for projects are being demobilized. The generation of construction waste was kept to the minimum extent possible by proper planning. It has been managed to ensure no impact to the surrounding environment.	Date: 28/05/2024

33	Statutory compliance	The Company shall comply with all the conditions stipulated vide ministry's clearance letter no. J-111011/232/2005-IA.II(I) dated 3rd August,2005 for expansion and modernization of petrochemical refinery complex

PPs Submission: Complied Being complied with.	Date: 28/05/2024

34	AIR QUALITY MONITORING AND PRESERVATION	Ambient air quality data for one season other than monsoon within 10km radius of the complex particularly one station shall be established where maximum GLC is anticipated with respect to SO2, NOx, PM10, Ozone, CO, Benzene and Benzo (a) pyrene and data submitted to MoEF/CPCB/SPCB.

PPs Submission: Complied Additional adequate numbers of AAQMs stations are set up and monitored as per the standards and the data submitted to MoEF&CC and GPCB. Pl. Refer Annexure 5-C.	Date: 28/05/2024

General Conditions

Sr.No.	Condition Type	Condition Details
1	MISCELLANEOUS	The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the ministry of Environment and Forest as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.
PPs Submission: Complied The funds (recurring and non-recurring) allocated are used only for the implementation of the environmental conditions and are not diverted for any other purpose. Refer Annexure 12.		Date: 28/05/2024
2	MISCELLANEOUS	The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board and the State Government.
PPs Submission: Complied The standards stipulated by GPCB for the complex are being complied with.		Date: 28/05/2024
3	MISCELLANEOUS	No further expansion or modernization in the plant should be carried out without prior approval of the ministry of Environment and Forests.
PPs Submission: Complied Noted.		Date: 28/05/2024
4	MISCELLANEOUS	At no time, the emission should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.
PPs Submission: Complied Noted.		Date: 28/05/2024
5	Noise Monitoring & Prevention	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should confirm to the standards prescribed under EPA Rules.
PPs Submission: Complied All the units in the complex have been so designed by providing noise abatement and control measures such that the ambient noise levels conform to the standards prescribed.		Date: 28/05/2024
6	Statutory compliance	The project authorities must strictly comply with the provisions made in Manufacture, Storage and import of Hazardous Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from chief controller of explosives must be obtained before commission of the project.
PPs Submission: Complied Complied.		Date: 28/05/2024
7	MISCELLANEOUS	A copy of the clearance letter shall be sent by the proponent to

		concerned Panchayat, Zilla Parisad/ Municipal Corporation, Urban local Body and the local NGO, if any, from who suggestions/ representations, if any were received while processing the proposal.
PPs Submission: Complied Complied with.		Date: 28/05/2024
8	Statutory compliance	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at website of Ministry at http://envfor.nic.in This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to concerned the Regional Office of the Ministry.
PPs Submission: Complied Complied.		Date: 28/05/2024
9	MISCELLANEOUS	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closures and final approval of the project by the concerned authorities and the date of start of the project.
PPs Submission: Complied Will be complied with.		Date: 28/05/2024
10	Statutory compliance	The Environmental statement for each financial years ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.
PPs Submission: Complied Complied. Form V are submitted for operationalized plants and have been granted Consent to operate by GPCB.		Date: 28/05/2024
11	MISCELLANEOUS	The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.
PPs Submission: Complied The additional conditions if stipulated will be complied with.		Date: 28/05/2024
12	MISCELLANEOUS	Any appeal against this environmental clearance shall lie with the National Appellate Authority, if preferred, within a period of 30 days as prescribed under section 11 of the National Environment Appellate Authority Act, 1997.
PPs Submission: Complied ---		Date: 28/05/2024
13	MISCELLANEOUS	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

PPs Submission: Complied Noted.	Date: 28/05/2024

14	MISCELLANEOUS	The above conditions will be enforced, interalia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air, (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986 Hazardous Wastes (Management and Handling) Rules, 2003/ 2008 and the Public Liability Insurance Act,1991 along with their amendments and rules.

PPs Submission: Complied ---	Date: 28/05/2024

15	Statutory compliance	The stipulated conditions will be monitored by the Regional of this Ministry at Bhopal/Central Pollution Control Board / State Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly.

PPs Submission: Complied The six-monthly EC compliance and monitoring report are submitted.	Date: 28/05/2024

16	Statutory compliance	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copy as well as by e-mail) to the respective Regional office of MoEF, the respective zonal office of CPCB and the State Pollution Control Board.

PPs Submission: Complied The six-monthly EC compliance and monitoring report are being submitted.	Date: 28/05/2024

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	All Attachments are uploaded as Additional Attachment.

Half Yearly Compliance Report
2024
01 Jun(01 Oct - 31 Mar)

Acknowledgment

Proposal Name	Augmentation of Seawater Intake and Desalination Facilities at Sikka, Jamnagar - CRZ Clearance
Name of Entity / Corporate Office	RELIANCE INDUSTRIES LIMITED
Village(s)	N/A
District	JAMNAGAR

Proposal No.	11-63/2013-IA.III
Plot / Survey / Khasra No.	N/A
State	GUJARAT
MoEF File No.	11-63/2013-IA.III

Category	Only CRZ
Sub-District	N/A
Entity's PAN	NA
Entity name as per PAN	NA

Compliance Reporting Details

Reporting Year 2024

Remarks (if any)

Reporting Period 01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office RELIANCE INDUSTRIES LIMITED

	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	-	Others:-	N/A	-	-	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	Marine/Coastal	a) The water quality especially for the salinity shall be monitored

		around the stilling basin & the outfall once in six months & report should be submitted to Regional Office, MoEF&CC. b) The NCSCM, Chennai at the cost of the project proponent, shall submit to the MoEF&CC the annual inspection report on the functioning of the system & comparative level of pollution, every year takin the year of approval as the base year.
PPs Submission: Complied a)Periodic monitoring around the outfall is carried out. Refer Annexure 9. Monitoring around the stilling basin is included in the report by NCSCM. b)The first monitoring report by NCSCM submitted vide compliance report submitted on 01/12/2019.		Date: 28/05/2024
2	Marine/Coastal	The Project Proponent shall not engage in any trenching, digging or dredging either for water intake into the sea.
PPs Submission: Complied Being complied with.		Date: 28/05/2024
3	Marine/Coastal	All the conditions/ recommendations stipulated by Gujarat Coastal Zone Management Authority (GCZMA) vide letter no. ENV-10-2013-37-E dated 05.06.2013, shall be strictly complied with.
PPs Submission: Complied Complied with.		Date: 28/05/2024
4	Marine/Coastal	The depth of the stilling basins shall not exceed -12 m. The GMB shall monitor the dredging activity so as to check that the depth of stilling basin does not exceed -12m.
PPs Submission: Complied GMB has certified & established the depth of the stilling basin with a depth of -12 m CD.		Date: 28/05/2024
5	Marine/Coastal	The maintenance dredge material shall be used for low level raising in the plant area.
PPs Submission: Complied Complied with.		Date: 28/05/2024
6	WATER QUALITY MONITORING AND PRESERVATION	The Project Proponent shall take the clearance of the concerned ground water authority for undertaking construction of stilling basins of desired depth of 12m.
PPs Submission: Complied Being complied with.		Date: 28/05/2024
7	Statutory compliance	All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF&CC along with half yearly compliance report to MoEF&CC-RO.
PPs Submission: Complied Included in design and complied with and included as Annexure AA.		Date: 28/05/2024
8	Marine/Coastal	Screens and trash bars shall be provided to avoid entry of fishes and fish larvae in to the system.

PPs Submission: Complied Being included in design and complied.		Date: 28/05/2024
9	Marine/Coastal	The outfall shall be at 1 km from shore at 12 m CD.
PPs Submission: Complied The existing diffuser is installed at a location suggested by NIO and approved GPCB. The discharge from the proposed unit is through existing diffuser in compliance with the conditions as stipulated in the clearance.		Date: 28/05/2024
10	Marine/Coastal	There shall be no disturbance to the sand dunes.
PPs Submission: Complied Complied.		Date: 28/05/2024
11	Marine/Coastal	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
PPs Submission: Complied Being complied with.		Date: 28/05/2024
12	MISCELLANEOUS	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.
PPs Submission: Complied Complied. The Environmental Management Cell is in place.		Date: 28/05/2024
13	Marine/Coastal	Periodic monitoring of coastal water shall be carried out at outfall location.
PPs Submission: Complied Being carried out at regular intervals.		Date: 28/05/2024

General Conditions

Sr.No.	Condition Type	Condition Details
1	WATER QUALITY MONITORING AND PRESERVATION	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.
PPs Submission: Complied Complied with.		Date: 28/05/2024
2	MISCELLANEOUS	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment, Forests & Climate Change.
PPs Submission: Complied Noted		Date: 28/05/2024

3	MISCELLANEOUS	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.
PPs Submission: Complied Noted.		Date: 28/05/2024
4	Statutory compliance	A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
PPs Submission: Complied Complied.		Date: 28/05/2024
5	MISCELLANEOUS	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.
PPs Submission: Complied Complied.		Date: 28/05/2024
6	MISCELLANEOUS	Full support shall be extended to the officers of this Ministry/ Regional Office at Bhopal by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.
PPs Submission: Complied Noted.		Date: 28/05/2024
7	Statutory compliance	A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bhopal regarding the implementation of the stipulated conditions.
PPs Submission: Complied Complied.		Date: 28/05/2024
8	MISCELLANEOUS	Ministry of Environment, Forests & Climate Change or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.
PPs Submission: Complied Noted.		Date: 28/05/2024
9	MISCELLANEOUS	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.
PPs Submission: Complied Noted.		Date: 28/05/2024

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	

Half Yearly Compliance Report
2024
01 Jun(01 Oct - 31 Mar)

Acknowledgment

Proposal Name	Expansion of existing jetty by setting a new berth at Gulf of Kutch, Jamnagar - Environmental and CRZ Clearance
Name of Entity / Corporate Office	RELIANCE INDUSTRIES LIMITED
Village(s)	N/A
District	JAMNAGAR

Proposal No.	IA/MIS/GJ/23582/2014	**Category**	INFRA-2
Plot / Survey / Khasra No.	N/A	**Sub-District**	N/A
State	GUJARAT	**Entity's PAN**	NA
MoEF File No.	11-34/2014-IA-III	**Entity name as per PAN**	NA

Compliance Reporting Details

Reporting Year 2024

Remarks (if any)

Reporting Period 01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office RELIANCE INDUSTRIES LIMITED

	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Handling of liquid products like Glycols, Acetic Acid, Naphtha, PX, Diesel, Benzene, VAM & Phenol	Others:MMTPA	N/A	8	8	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	Marine/Coastal	As proposed, the Company shall undertake additional mangrove plantation in area of 100 ha.

PPs Submission: Complied The Forest Dept. Jamnagar has carried out 100 Ha of mangrove plantation. The letter confirming the same is submitted along with compliance reports vide dts:01/12/2019.	Date: 28/05/2024

2	Marine/Coastal	The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.

PPs Submission: Complied Noted, however the location will not cause any such disturbance.	Date: 28/05/2024

3	Marine/Coastal	Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.

PPs Submission: Complied Already established in EIA. No dumping is envisaged. There will be no shoreline changes due to dumping. The shoreline changes are studied by NIO regularly.	Date: 28/05/2024

4	Statutory compliance	'Consent to Establish' shall be obtained from State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act 1974.

PPs Submission: Complied CTE & CTO are obtained from GPCB.	Date: 28/05/2024

5	Marine/Coastal	Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.

PPs Submission: Complied Noted.	Date: 28/05/2024

6	Marine/Coastal	As proposed, the Company shall not carry out any construction activity in the Eco- Sensitive area.

PPs Submission: Complied Ensured.	Date: 28/05/2024

7	Marine/Coastal	The Project proponent shall ensure that there shall be no damage to the existing mangroves patches near site and also ensure the free flow of water to avoid damage to the mangroves.

PPs Submission: Complied Existing mangroves are about 4Kms from the proposed project location.	Date: 28/05/2024

8	PUBLIC HEARING	The commitments made during the Public Hearing and recorded in the Minutes shall be complied with letter and spirit. A hard copy of the action taken shall be submitted to the Ministry.

PPs Submission: Complied There were no actionable points raised during the PH.	Date: 28/05/2024

9	Marine/Coastal	As proposed, no capital and maintenance dredging shall be carried out.

PPs Submission: Complied Not proposed.	Date: 28/05/2024

10	Marine/Coastal	While constructing berth/piles, an independent monitoring shall be carried out by Government Agency/Institute to check the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.

PPs Submission: Complied Complied with. NIO has monitored the marine environmental parameters during construction.	Date: 28/05/2024

11	Risk Mitigation and Disaster Management	All the conditions stipulated in the earlier Clearance including the recommendations of Environment Management Plan, Disaster management Plan shall be strictly complied with.

PPs Submission: Complied Complied with.	Date: 28/05/2024

12	WATER QUALITY MONITORING AND PRESERVATION	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.

PPs Submission: Complied Complied with.	Date: 28/05/2024

13	MISCELLANEOUS	Corporate Social Responsibility- The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/ deviation/violation of the environmental or forest norms/ conditions.

PPs Submission: Complied Noted.		Date: 28/05/2024
14	MISCELLANEOUS	Corporate Social Responsibility- The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
PPs Submission: Complied Organogram for the Environment department is attached as Annexure 14.		Date: 28/05/2024
15	MISCELLANEOUS	Corporate Social Responsibility- To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
PPs Submission: Complied On commissioning all facilities are certified with EMS ISO 14001:2015 which covers this required reporting. The same will be done for the berth also.		Date: 28/05/2024
16	MISCELLANEOUS	Corporate Social Responsibility-The Company shall have a well laid down Environment Policy approved by the Board of Directors.
PPs Submission: Complied Pl. refer Annexure 15.		Date: 28/05/2024
17	Marine/Coastal	Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components as part of the management plan. Marine ecology shall be monitored regularly also in terms of all micro, macro and mega floral and faunal components of marine biodiversity.
PPs Submission: Complied Being done regularly by NIO.		Date: 28/05/2024
18	MISCELLANEOUS	All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to the RO, MoEF&CC along with half yearly compliance report.
PPs Submission: Complied Complied with.		Date: 28/05/2024
19	Marine/Coastal	No product other than permitted under the CRZ Notification, 2011 shall be stored in the CRZ area.
PPs Submission: Complied No storage in CRZ area is envisaged.		Date: 28/05/2024
20	MISCELLANEOUS	The Project Proponent shall take up and earmark adequate fund for socio-economic development and welfare measures as proposed under the CSR Programme. This shall be taken up on priority.

PPs Submission: Complied CSR plan is already being implemented.		Date: 28/05/2024
21	MISCELLANEOUS	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.
PPs Submission: Complied Noted.		Date: 28/05/2024
22	MISCELLANEOUS	Company shall prepare operating manual in respect of all activities. It shall cover all safety & environment related issues and system. Measures to be taken for protection. One set of environmental manual shall be made available at the project site. Awareness shall be created at each level of the management. All the schedules and results of environmental monitoring shall be available at the project site office.
PPs Submission: Complied Being complied and present set of SOPs will be applicable to the new berth.		Date: 28/05/2024
23	WATER QUALITY MONITORING AND PRESERVATION	All the operational areas will be connected with the network of liquid waste collection corridor comprising of storm water, oily waste and sewage collection pipelines.
PPs Submission: Complied Complied with as applicable.		Date: 28/05/2024
24	Marine/Coastal	Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.
PPs Submission: Complied Present Oil Spill Response Plan will be extended to new berth.		Date: 28/05/2024
25	Marine/Coastal	Ships/barges shall not be allowed to release any oily bilge waste in the sea. Any effluents from the Jetty which have leachable characteristics shall be segregated and recycled/disposed as per SPCB guidelines.
PPs Submission: Complied Noted.		Date: 28/05/2024
26	AIR QUALITY MONITORING AND PRESERVATION	Location of DG sets and other emission generating equipment shall be decided keeping in view the predominant wind direction so that emissions do not effect nearby residential areas. Installation and operation of DG sets shall comply with the guidelines of CPCB.
PPs Submission: Complied Complied with.		Date: 28/05/2024
27	WASTE MANAGEMENT	Municipal solid wastes and hazardous wastes shall be managed as per Municipal Solid Waste Rule, 2016 and Hazardous Waste Management Rule, 2016.
PPs Submission: Complied Complied with.		Date:

		28/05/2024
28	MISCELLANEOUS	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.
PPs Submission: Complied Already the cell is established.		Date: 28/05/2024
29	MISCELLANEOUS	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.
PPs Submission: Complied Complied with.		Date: 28/05/2024
30	WATER QUALITY MONITORING AND PRESERVATION	The ground water shall not be tapped within the CRZ areas by the PP to meet with the water requirement in any case.
PPs Submission: Complied Noted.		Date: 28/05/2024

General Conditions

Sr.No.	Condition Type	Condition Details
1	MISCELLANEOUS	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEFCC, the respective Zonal Office of CPCB and the SPCB.
PPs Submission: Complied Complied with.		Date: 28/05/2024
2	MISCELLANEOUS	A copy of the clearance letter shall be marked to concern Panchayat/local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal.
PPs Submission: Complied Complied.		Date: 28/05/2024
3	MISCELLANEOUS	A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries center and Collector's Office/ Tehsildar's office for 30 days.
PPs Submission: Complied Complied.		Date: 28/05/2024
4	MISCELLANEOUS	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974,

		the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.
PPs Submission: Complied Noted.		Date: 28/05/2024
5	MISCELLANEOUS	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
PPs Submission: Complied Noted.		Date: 28/05/2024
6	Statutory compliance	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental and CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest and Climate Change at http://vvvvw.envfornic.in. The advertisement should be made within Seven days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.
PPs Submission: Complied Complied.		Date: 28/05/2024
7	MISCELLANEOUS	This Clearance is subject to final order of the Hon’ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.
PPs Submission: Complied Noted.		Date: 28/05/2024
8	MISCELLANEOUS	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.
PPs Submission: Complied Complied with.		Date: 28/05/2024
9	MISCELLANEOUS	Any appeal against this Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
PPs Submission: Complied Noted.		Date: 28/05/2024
10	MISCELLANEOUS	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.

		The clearance letter shall also be put on the website of the company by the proponent.
PPs Submission: Complied Complied with.		Date: 28/05/2024
11	MISCELLANEOUS	Ministry of Environment, Forest and Climate Change or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.
PPs Submission: Complied Noted.		Date: 28/05/2024
12	MISCELLANEOUS	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment, Forest and Climate Change.
PPs Submission: Complied Noted.		Date: 28/05/2024
13	MISCELLANEOUS	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.
PPs Submission: Complied Complied with.		Date: 28/05/2024
14	WATER QUALITY MONITORING AND PRESERVATION	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.
PPs Submission: Complied No digging is involved.		Date: 28/05/2024
15	MISCELLANEOUS	Full support shall be extended to the officers of this Ministry/ Regional Office at Bhopal by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.
PPs Submission: Complied Noted & will be Complied with.		Date: 28/05/2024
16	Statutory compliance	A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bhopal regarding the implementation of the stipulated conditions.
PPs Submission: Complied Complied with.		Date: 28/05/2024
17	MISCELLANEOUS	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.

PPs Submission: Complied Noted.		Date: 28/05/2024
18	Statutory compliance	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEFCC by e-mail.
PPs Submission: Complied Noted.		Date: 28/05/2024

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	All Attachments are uploaded as Additional Attachment.

Half Yearly Compliance Report
2024
01 Jun(01 Oct - 31 Mar)

Acknowledgment

Proposal Name	Expansion of production capacity of SEZ refinery from 35.2 MMTPA to 41 MMTPA
Name of Entity / Corporate Office	RELIANCE INDUSTRIES LIMITED
Village(s)	N/A
District	JAMNAGAR

Proposal No.	IA/GJ/IND2/79902/2018
Plot / Survey / Khasra No.	N/A
State	GUJARAT
MoEF File No.	J-11011/351/2018-IA-II (I)

Category	Industrial Projects - 2
Sub-District	N/A
Entity's PAN	NA
Entity name as per PAN	NA

Compliance Reporting Details

Reporting Year 2024

Remarks (if any)

Reporting Period 01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office RELIANCE INDUSTRIES LIMITED

	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Crude Oil Processing Capacity	Others:MMTPA	N/A	41	41	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	AIR QUALITY MONITORING AND PRESERVATION	The location of ambient air quality monitoring stations shall be decided in consultation with SPCB and it shall be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
PPs Submission: Complied Complied with. AAQM stations have been setup based on the EIA findings of 2005. The monitoring parameters are as per the NAAQS dtd.18th November '2009. Please Refer Annexure 5B.		Date: 28/05/2024
2	Statutory compliance	The project proponent shall strictly comply the sector specific conditions as mentioned in the Ministry's Office Memorandum No. 22-34/2019-IA.III dated 9th August, 2018. The grant of Environmental Clearance is further subject to compliance of other generic conditions as under:-
PPs Submission: Complied Noted. Pl. refer attachment Annexure BB.		Date: 28/05/2024
3	MISCELLANEOUS	No further expansion or modifications in the plant shall be carried out without prior approval of the MoEF&CC. In case of deviation or alteration in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental pollution control measures required, if any.
PPs Submission: Complied Noted.		Date: 28/05/2024
4	MISCELLANEOUS	A separate Environmental Management Cell equipped with full-fledged laboratory facility shall be set up to carry out the Environmental Management and Monitoring functions.
PPs Submission: Complied Already the cell is established. Refer Departmental Organogram Annexure 14.		Date: 28/05/2024
5	AIR QUALITY MONITORING AND PRESERVATION	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.
PPs Submission: Complied Being complied with.		Date: 28/05/2024
6	Noise Monitoring & Prevention	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures, etc. on all sources of noise generation. The ambient noise level shall confirm to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) 70 dBA (night time).
PPs Submission: Complied Appropriate Engineering control measures are provided to identified sources of noise generation including acoustic hoods, silencers, enclosures etc. The overall noise levels in and around the plant area are kept well within the standards. Regular monitoring of the ambient noise levels is conducted and it conforms to the standards prescribed. The monitoring data are submitted to the authorities. Please refer Annexure 8–B.		Date: 28/05/2024

7	Human Health Environment	Training shall be imparted to all employees on safety and health aspects of chemical handling. Pre-employment and routine periodic medical examination for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
PPs Submission: Complied A dedicated Learning Center with state of Art infrastructure is established and well-structured training modules are developed which includes HSEF procedures. As per the training procedure every New Joiner has to undergo mandatory training modules which includes safe handling; safe operations, safety management systems etc for hazardous chemicals. Occupational Health Department carries out regular medical checkups of all employees and records are maintained.		Date: 28/05/2024
8	WATER QUALITY MONITORING AND PRESERVATION	The company shall harvest rainwater from the roof tops of the buildings to recharge ground water, and to utilize the same for different industrial operations within the plant.
PPs Submission: Complied Rainwater Harvesting through a network of storm water ponds are developed having capacity around 1.56 million cum and is reused. The storm water run-off is collected in the ponds. Two recharge wells have also been established in the green belt for ground water recharge.		Date: 28/05/2024
9	MISCELLANEOUS	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal.
PPs Submission: Complied Complied with. There was no PH conducted and no suggestions / representations were received during the processing of the application.		Date: 28/05/2024
10	Statutory compliance	The project proponent shall inform the public that the project has been accorded EC by the ministry and copies of the clearance letter are available with SPCB/Committee and may also be seen at website of the Ministry at http://moef.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional office of the Ministry.
PPs Submission: Complied Complied with. The copy of advertisement of the same has been submitted in the earlier Six-monthly report dated 29/06/2020.		Date: 28/05/2024
11	MISCELLANEOUS	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by MoEF&CC well as state government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for Environmental Management/ pollution control measures shall not be diverted to any other purpose.
PPs Submission: Complied The capital expenditure towards environmental management is already used up for establishing the necessary controls. The recurring expenditure will be continued to be committed as outlined in Annexure 12.		Date: 28/05/2024
12	Statutory compliance	The project proponent shall obtain all other statutory/necessary permissions/recommendations/ NOCs prior to start

		construction/operation of the project, which inter alia include, permission/approvals under the Forest (Conservation) Act, 1980; the Wildlife (Protection) Act, 1972; the Coastal Regulation Zone Notification, 2019, as amended from time to time, and other office memoranda/circular issued by the Ministry of Environment, Forest and Climate Change from time to time, as applicable to the project.

PPs Submission: Complied There is no construction activity involved in the project as the increase in the processing capacity is due to increase in number of working hours. The CTO is obtained from GPCB. No other approvals are applicable.	Date: 28/05/2024

13	MISCELLANEOUS	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and/or any other statutory authority.

PPs Submission: Complied Being complied with. There is no change in the present conditions envisaged.	Date: 28/05/2024

14	MISCELLANEOUS	The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.

PPs Submission: Complied CSR activities are planned as per the needs of the surrounding villagers aimed at socio-economic improvement and overall development of the area.	Date: 28/05/2024

15	Statutory compliance	The project proponent shall also submit six monthly reports on the status of compliance of stipulated EC conditions including results of monitored data (both hard copy as well as by E-mail) to the respective Regional Office, Moef&CC, the respective zonal office of CPCB & SPCB. A copy of EC and six monthly compliance status report shall be posted on the website of the company.

PPs Submission: Complied The six-monthly EC compliance and monitoring report are being submitted.	Date: 28/05/2024

16	Risk Mitigation and Disaster Management	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in EIA/EMP in respect of environment management, risk mitigation measures and public hearing shall be implemented.

PPs Submission: Complied Noted & complied with.	Date: 28/05/2024

17	Statutory compliance	The Environmental Statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned SPCB as prescribed under the Environment (Protection) Act, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to respective Regional Office of MoEF&CC by e-mail.

PPs Submission: Complied Being complied with.	Date: 28/05/2024

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	All Attachments are uploaded as Additional Attachment.

Environmental Management Plan

Sr. No.	Title	Suggested Mitigation Measures	Compliance Status	Target Date
1	Desilting and its Disposal	Desilted material should be stacked properly before being transported for utilization in the RIL complex for filling the low lying areas.	Complied	Completed
2	Intake water channel	Impingement and entrainment of marine organisms, due to large quantity of intake, should be avoided by placing suitable moving screen at the intake.	Complied. Included in the design and implemented	Completed
3	Miscellaneous	• The area of construction should be confined to the minimum required and spillages of activities outside the project site should be avoided. Care is warranted not to disturb the mangroves in the vicinity. • Major pre-fabrication jobs should be undertaken in a yard on land located sufficiently away from the HTL. • Good sanitation and water supply facilities should be made available to the work force. Adequate fuel also should be provided to them to prevent cutting of mangroves for fuel. • Labour colonies should be set-up away from sea and away from mangroves. • The operational noise level should be kept to a minimum particularly in the nearshore region through proper lubrication, muffling and modernization of equipment.	Complied. Complied. Major Prefabrication jobs were done in yard on land located away from the HTL. Complied. Workmen accommodation is far away from the site with necessary infrastructures facilities Complied Complied	Completed

Sr. No.	Title	Suggested Mitigation Measures	Compliance Status	Target Date
		• Regular preventive maintenance of equipment used for construction should be practiced.	Complied	
		• General clean-up along the corridor, adjacent areas and subtidal regions should be taken-up and extraneous materials such as equipment's, pipes, drums, sacks, metal scrap, ropes, excess sediment, make shift huts and cabins should be cleared from the site.	Complied	
		• All structures should be designed for specific seismic loads.	Complied. Structures are designed to with stand seismic load (Class IV)	
		• Construction time window shall be small to the extent possible and time-overrun should be avoided.	Complied	
		• Confine the area of construction to the minimum required and spillages of activities outside this boundary should be avoided.	Complied	
		• Bunding of excavated material shall be done to avoid contamination and release in to nearby marine environment.	Complied	
		• The discharge from Desalination facilities seawater should be monitored for salinity prior to its release through marine outfall.	Complied	
		• Vehicles moving in project area shall have compulsory PUC (Pollution under control) certificate	Being complied. Complied	
4	Marine Environment Management	Regular periodic marine environmental monitoring will be carried out to identify any changes in the ecological status.	Periodic monitoring by NIO of entire marine ecology and mangroves is carried out.	On-going

ATTACHEMENT

Sr. No.	Stipulation	Compliance Status
I.	**Statutory Compliance**	
1.	The project proponent (PP) shall obtain forest clearance under the provision of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.	Not Applicable.
2.	The PP shall obtain clearance from the National Board of Wildlife, if applicable.	Not Applicable.
3.	The PP shall prepare a site-specific Conservation Plan & Wildlife Management Plan and approved by Chief Wildlife Warden. The recommendations of the approved site-specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (In case of presence of schedule-I species in the study area)	Not Applicable.
4.	The PP shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.	Noted. CTO is obtained from GPCB.
5.	The PP shall obtain the necessary permission from Central Ground Water Authority, in case of drawl of ground water/ from the competent authority concerned in case of drawl of surface water required for the project.	Groundwater is not tapped for domestic or industrial use.
6.	The PP shall obtain authorization under the Hazardous and Other Waste Management Role, 2016 as amended from time to time.	Noted, GPCB has granted Authorisation as a part of the CTO/ Consolidated Consent & Authorisation (CCA).
7.	The company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rule, 1989 as amended time to time. All transportation of hazardous chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	Being Complied with.
II.	**Air Quality Monitoring and Preservation**	
1.	The PP shall install 24*7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rule, 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specifications through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Complied with. Continuous on-line stack monitoring for all the stacks are provided and connected to CPCB. The periodic calibration of these instruments is carried out in house by trained staff as per the OEM's procedures. Pl. refer **Annexure 3-B**.

Sr. No.	Stipulation	Compliance Status
2.	The PP shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.	Fugitive emissions are monitored regularly in the plant premises and reports are submitted regularly.
3.	The PP shall install system to carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NO_X emissions) within and outside of plant area at least at four locations (one with and three outside the plant area at an angle of 120° each) covering upwind and downwind directions. (case to case basis small plants: Manual; Large Plants: Continuous)	Noted. This refinery is a part of the Jamnagar Manufacturing Division (JMD) of Reliance Industries Limited. The complex has other units established as per the approvals granted by the Ministry. A program for AAQ monitoring is implemented covering all the units. The necessary budgeting is being done so as to cover all units by establishing continuous AAQ monitoring stations. The continuous stations will be located, based on an independent study that has been undertaken for siting them.
4.	The PP shall submit monthly summary report of continuous stack monitoring and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality/ fugitive emission to Regional Office of MoEF&CC, Zonal Office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	A six-monthly compliance report and the monitored data are submitted to MoEF&CC regional office on regular basis and Monthly monitoring reports to GPCB. Pl. refer **Annexure 3-B**.
5.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.	The refinery is equipped with all necessary APC systems.
6.	Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (as applicable). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	Coal is not used as a fuel. All the stacks are provided in accordance to the applicable guidelines for stack height and as prescribed in the Environmental Protection Rules.
7.	The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regards.	Suitable stack height as per the prescribed standards and necessary acoustic enclosures are provided for all the DG sets.
8.	The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186 (E) dated 18th March, 2008 and G.S.R. 595 (E) dated 21st August, 2009 as amended from time to time shall be followed.	Noted. Being complied with.
9.	The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820(E) dated 9th November, 2012 as amended time to time shall be followed.	Noted. Being complied with.
10.	Storage of raw materials, coal etc. shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.	Noted. Being complied with

Sr. No.	Stipulation	Compliance Status
III.	**Water Quality Monitoring and Preservation**	
1.	The PP shall provide online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving ZLD).	Being complied with. On-line continuous monitoring of effluent is installed as per CPCB guidelines. The treated water is reused/recycled within the refinery complex. Pl. refer **Annexure 3-B**.
2.	The PP shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometer/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	Being complied with. The groundwater quality is monitored in plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited. The monitoring results are submitted along with these reports. Please refer **Annexure 11.**
3.	The PP shall submit monthly summary report of continuous effluent monitoring and results of manual effluent monitoring and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal Office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	A six-monthly compliance report and the monitored data are submitted to MoEF&CC regional office on regularly basis and Monthly monitoring reports to GPCB.
4.	The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986 or as specified by the SPCB while granting Consent under Air/Water Act, whichever is more stringent.	Complied with.
5.	As already committed by the PP, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises. (applicable in case of projects achieving ZLD)	Not applicable.
6.	Total fresh water requirement shall not exceed the proposed quantity or as specified by the committee. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.	Complied with.
7.	Process effluent/any wastewater shall not be allowed to mix storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.	Complied with.
8.	The PP shall practice rainwater harvesting to maximum possible extent.	Complied with.
9.	The PP shall practice make efforts to minimise water consumption in the complex by segregation of used water, practicing cascade use and by recycling treated water.	Complied with.
IV.	**Noise Monitoring and Prevention**	
1.	Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	Complied with.
2.	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods,	Complied with.

Sr. No.	Stipulation	Compliance Status
	silencers, enclosures, etc. on all sources of noise generation.	
3.	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during daytime and 70 dB(A) during night time.	Complied with.
V.	**Energy Conservation Measures**	
1.	The energy sources for lighting purposes shall preferably be LED based.	Almost all the peripheral street lighting, plant area lighting and office buildings have been converted to LED based/ energy conservation lighting.
VI.	**Waste Management**	
1.	Hazardous chemicals shall be stored in tanks, tank farms, drums carboys, etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.	Being Complied with.
2.	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.	Co-processing of the identified HW waste is sent to Cement industries or sent for incineration at CHWIF/TSDF site. Spent carbon is mixed with coke and used in Gasification.
3.	The company shall undertake waste minimization measures as below:- a. Metering and control of quantities of active ingredients to minimize waste. b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c. Use of automated filling to minimize spillage. d. Use of close feed system into batch reactors. e. Venting equipment through vapour recovery system. f. Use of high-pressure hoses for equipment clearing to reduce wastewater generation.	Noted & Complied with
VII	**Green Belt**	
1.	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per CPCB guidelines in consultation with the State Forest Department.	Complied with. Around 3,109 Acres of the total area of the Jamnagar site has been covered by tree plantation. Over 400 species have been planted. Additionally, 875 acres of mangrove plantation has been carried out.
VII	**Public Hearing and Human Health Issues**	
1.	Emergency preparedness plan based on the Hazardous Identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Complied with.
2.	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.	Complied with.

Sr. No.	Stipulation	Compliance Status
	Firefighting system shall be as per the norms.	
3.	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Complied with.
4.	The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protective Equipment (PPE) as per the norms of Factory Act.	Complied with.
5.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of project.	Complied with.
6.	There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products and no parking to be allowed outside on public places.	Complied with.
7.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Complied with.
IX.	**Corporate Environment Responsibility**	
1.	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 01st May, 2018 as applicable, regarding Corporate Environment Responsibility.	Noted.
2.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/ deviation/ violation of environmental/forest/wildlife norms/ conditions. The company shall have defined system of reporting infringements/ deviation/ violation of the environmental/ forest/ wildlife norms / conditions and / or shareholders/stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	Complied with.
3.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up	Complied with.

Sr. No.	Stipulation	Compliance Status
	under the control of senior Executive, who will directly to the head of the organization.	
4.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be duly approved by competent authority. The yearwise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress for implementation of action plan shall be reported to the Ministry/Regional office along with the six-monthly compliance report.	Complied with.
5.	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Being Complied with. The unit is IMS certified and the EMS audits are conducted as per the standard.
6.	All the recommendations made in the chapter of Corporate Responsibility for Environment Protection (CREP) for the Iron and Steel Plants shall be implemented.	Respective CREP recommendations for Refinery is being complied.
X.	**Miscellaneous**	
1.	The PP shall make public the EC granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Complied with.
2.	The copies of the EC shall be submitted by the PP to the heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Being Complied with.
3.	The project proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and update the same on half-yearly basis.	Being Complied with.
4.	The PP shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	Being Complied with.

Sr. No.	Stipulation	Compliance Status
5.	The PP shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the MoEF&CC at the EC portal.	Being Complied with
6.	The PP shall submit the Environmental Statement for each financial year in Form-V to the concerned SPCB as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Being Complied with
7.	The PP shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	Being Complied with
8.	The project authorities must strictly adhere to the stipulations made by the SPCB and State Government.	Noted.
9.	The PP shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Noted.
10.	No further expansion or modification in the plant shall be carried out without prior approval from the MoEF&CC.	Noted.
11.	Concealing factual data or submission of false/ fabricated data may result in revocation of this EC and attract action under the provisions of Environment (Protection) Act, 1986.	Noted.
12.	The Ministry may revoke or suspend the clearance, if implementation of any of the above condition is not satisfactory.	Noted.
13.	The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	Noted.
14.	The Regional office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the	Being Complied with

Sr. No.	Stipulation	Compliance Status
	requisite data/ information/ monitoring reports.	
15.	The above conditions shall be enforced, inter-alia under the provision of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter.	Noted.
16.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	Noted.

ANNEXURE II
MONITORING DATA

Six Monthly Report
(01st October '2023 to 31st March '2024)

Reliance Industries Ltd.
Jamnagar

List of Six-Monthly Monitoring Reports attached as Annexures.

Annexure No.	Description
1-A & 1-B	Monthly SO2 Emission Monitoring.
2-A, 2-B & 2C	Stack Emission Monitoring Report
3-B	Continuous Online Emission & Effluent Monitoring Reports
4-A & 4-B	Computerized Sulphur Recovery Unit Efficiency
5-A, 5-B & 5-C	Ambient Air Quality Monitoring Report
6	Mobile Van Monitoring
7-A, 7-B & 7C	Treated Wastewater Quality Results – Refinery ETP
8-A, 8-B & 8-C	Plant Peripheral Noise Monitoring Report
9	Marine Water Quality Results
10	Treated Wastewater Quality Results – MTF ETP
11	Groundwater Quality Monitoring Analysis Report.
12	Expenditure for Environmental Protection Measures
13	Sample LDAR Monitoring of plant
14	Organogram of Environment dept.
15	HSEF Policy

Note: In Annexures, “A” denotes reports for RIL, Refinery Division i.e. DTA refinery; “B” denotes reports for RIL, Unit of Reliance Jamnagar SEZ refinery and “C” denotes for RIL, J3 complex (i.e. PX4 complex & C2 complex).

ANNEXURE- 1A

Reliance Industries Ltd. (Refinery Division). Jamnagar
Monthly Sulphur Balance

Month: October '2023

(1) Inputs

	Quantity	S%	S
Total Crude Oil Intake	**2925695**	**2.23**	**65184**
Methanol/Nitrogen/Coke water/Natural Gas/Utility from SEZ	230337	0	0
Imported LSWR	20932	0.23	48
Naphtha	35952	0.02	7
Intermediate Stock	3400677	0.11	3604
GRAND TOTAL	**6613594**	**1.04**	**68843**

(2) Outputs

Product	Quantity	S%	S
LPG+Propane+Butane	61312	0.000	0
HSD Export	756991	0.03	261
HSD Domestic	228333	0.01	12.5
Kero+ATF	309982	0.22	683
MS	134	0.00	0
Naptha	237235	0.02	47
Coke	303391	7.5	22603
Sulphur	41275	100.0	41275
FO	58827	0.47	276
CBFS	8052	1.2	100
Sulphur as Sulphide in ETP Influent			6.70
Intermediate Stock	826466	0.39	3254
Sub Total	**2831997**		**68517.8**
Polypropylene+propylene	25496	No sulphur	0.00
Utility to SEZ	1127	No sulphur	0.00
P-Xylene	93118	No sulphur	0.00
O-Xylene	29215	No sulphur	0.00
Benzene	25694	No sulphur	0.00
Heavy Aromatics	57926	No sulphur	0.0
Loss	3438896	0	0.0
TOTAL	**6503471**		**68518**

SO2 Emission, MT/DAY **20.98**

Reliance Industries Ltd. (Refinery Division). Jamnagar
Monthly Sulphur Balance

Month: November '2023

(1) Inputs

	Quantity	S%	S
Total Crude Oil Intake	**2788117**	**2.19**	**60920**
Methanol/Nitrogen/Coke water/Natural Gas/Utility from SEZ	273511	0	0
Imported LSWR	10154	0.23	23
Naphtha	49872	0.02	10
Intermediate Stock	3276319	0.06	2012
GRAND TOTAL	**6397973**	**0.98**	**62967**

(2) Outputs

Product	Quantity	S%	S
LPG+Propane+Butane	170459	0.000	0
HSD Export	592939	0.03	203
HSD Domestic	327043	0.00	11.3
Kero+ATF	286487	0.22	631
MS	19407	0.01	2
Naptha	296248	0.02	59
Coke	283437	6.2	17431
Sulphur	39864	100.0	39864
FO	60544	0.48	293
CBFS	8894	1.2	111
Sulphur as Sulphide in ETP Influent			6.70
Intermediate Stock	464465	0.86	4017
Sub Total	**2549787**		**62630.0**
Polypropylene+propylene	57576	No sulphur	0.00
Utility to SEZ	1064	No sulphur	0.00
P-Xylene	94348	No sulphur	0.00
O-Xylene	28224	No sulphur	0.00
Benzene	23868	No sulphur	0.00
Heavy Aromatics	45157	No sulphur	0.0
Loss	3466200	0	0.0
TOTAL	**6266223**		**62630**

SO2 Emission, MT/DAY **22.44**

ANNEXURE- 1A

Reliance Industries Ltd. (Refinery Division). Jamnagar
Monthly Sulphur Balance

Month: December '2023

(1) Inputs

	Quantity	S%	S
Total Crude Oil Intake	**2785049**	**2.12**	**59127**
Methanol/Nitrogen/Coke water/Natural Gas/Utility from SEZ	468897	0	0
Imported LSWR	18732	0.23	43
Naphtha	88142	0.02	18
Intermediate Stock	3629812	0.05	1995
GRAND TOTAL	**6990631**	**0.88**	**61182**

(2) Outputs

Product	Quantity	S%	S
LPG+Propane+Butane	425178	0.000	0
HSD Export	602265	0.03	207
HSD Domestic	321794	0.00	11.3
Kero+ATF	295330	0.22	651
MS	49973	0.01	4
Naptha	427616	0.02	85
Coke	298501	7.2	21492
Sulphur	37257	100.0	37257
FO	55915	0.45	253
CBFS	51737	1.2	644
Sulphur as Sulphide in ETP Influent			6.70
Intermediate Stock	82389	0.28	227
Sub Total	**2647955**		**60838.8**
Polypropylene+propylene	120423	No sulphur	0.00
Utility to SEZ	1136	No sulphur	0.00
P-Xylene	112293	No sulphur	0.00
O-Xylene	21227	No sulphur	0.00
Benzene	30938	No sulphur	0.00
Heavy Aromatics	49078	No sulphur	0.0
Loss	3863522	0	0.0
TOTAL	**6846574**		**60839**

SO2 Emission, MT/DAY **22.14**

ANNEXURE- 1A

Reliance Industries Ltd. (Refinery Division). Jamnagar
Monthly Sulphur Balance

Month: January '2024

(1) Inputs

	Quantity	S%	S
Total Crude Oil Intake	**2961822**	**2.08**	**61609**
Methanol/Nitrogen/Coke water/Natural Gas/Utility from SEZ	470790	0	0
Imported LSWR	10735	0.23	25
Naphtha	111205	0.02	22
Intermediate Stock	3656731	0.00	110
GRAND TOTAL	**7211284**	**0.86**	**61765**

(2) Outputs

Product	Quantity	S%	S
LPG+Propane+Butane	406309	0.000	0
HSD Export	254446	0.03	85
HSD Domestic	572090	0.00	10.1
Kero+ATF	297440	0.22	656
MS	30039	0.00	1
Naptha	379219	0.02	75
Coke	286422	5.5	15753
Sulphur	35866	100.0	35866
FO	49928	0.44	219
CBFS	36690	1.2	457
Sulphur as Sulphide in ETP Influent			6.70
Intermediate Stock	315842	2.63	8296
Sub Total	**2664290**		**61424.4**
Polypropylene+propylene	118651	No sulphur	0.00
Utility to SEZ	1182	No sulphur	0.00
P-Xylene	119322	No sulphur	0.00
O-Xylene	31947	No sulphur	0.00
Benzene	28741	No sulphur	0.00
Heavy Aromatics	47735	No sulphur	0.0
Loss	4062793	0	0.0
TOTAL	**7074662**		**61424**

SO2 Emission, MT/DAY **21.99**

ANNEXURE- 1A

Reliance Industries Ltd. (Refinery Division). Jamnagar
Monthly Sulphur Balance

Month: February '2024

(1) Inputs

	Quantity	S%	S
Total Crude Oil Intake	**2688870**	**2.06**	**55337**
Methanol/Nitrogen/Coke water/Natural Gas/Utility from SEZ	443319	0	0
Imported LSWR	1884	0.23	4
Naphtha	102430	0.02	22
Intermediate Stock	3382872	0.07	2309
GRAND TOTAL	**6619376**	**0.87**	**57672**

SO2 Emission, MT/DAY **20.92**

(2) Outputs

Product	Quantity	S%	S
LPG+Propane+Butane	377567	0.000	0
HSD Export	461387	0.03	155
HSD Domestic	441091	0.00	10.7
Kero+ATF	284451	0.22	628
MS	51084	0.01	4
Naptha	356216	0.02	71
Coke	288746	6.2	17902
Sulphur	33569	100.0	33569
FO	48208	0.43	207
CBFS	25310	1.2	315
Sulphur as Sulphide in ETP Influent			6.70
Intermediate Stock	92602	4.86	4500
Sub Total	**2460232**		**57368.6**
Polypropylene+propylene	108126	No sulphur	0.00
Utility to SEZ	1160	No sulphur	0.00
P-Xylene	110628	No sulphur	0.00
O-Xylene	28671	No sulphur	0.00
Benzene	28095	No sulphur	0.00
Heavy Aromatics	31006	No sulphur	0.0
Loss	3725070	0	0.0
TOTAL	**6492989**		**57369**

Reliance Industries Ltd. (Refinery Division). Jamnagar

Monthly Sulphur Balance

Month: March '2024

(1) Inputs

	Quantity	S%	S
Total Crude Oil Intake	**2990421**	**2.10**	**62945**
Methanol/Nitrogen/Coke water/Natural Gas/Utility from SEZ	496770	0	0
Imported LSWR	5869	0.23	13
Naphtha	114307	0.02	20
Intermediate Stock	3792289	0.20	7758
GRAND TOTAL	**7399657**	**0.96**	**70737**

(2) Outputs

Product	Quantity	S%	S
LPG+Propane+Butane	427434	0.000	0
HSD Export	475680	0.03	160
HSD Domestic	367299	0.00	12.6
Kero+ATF	324186	0.22	714
MS	35580	0.00	2
Naptha	521897	0.02	104
Coke	347943	7.0	24356
Sulphur	42418	100.0	42418
FO	56311	0.46	260
CBFS	26159	1.2	326
Sulphur as Sulphide in ETP Influent			6.70
Intermediate Stock	219589	0.93	2045
Sub Total	**2844497**		**70404.6**
Polypropylene+propylene	120644	No sulphur	0.00
Utility to SEZ	1299	No sulphur	0.00
P-Xylene	80558	No sulphur	0.00
O-Xylene	25621	No sulphur	0.00
Benzene	24711	No sulphur	0.00
Heavy Aromatics	36039	No sulphur	0.0
Loss	4132202	0	0.0
TOTAL	**7265571**		**70405**

SO2 Emission, MT/DAY **21.43**

ANNEXURE – 1B

Reliance Industries Ltd. (Unit of Reliance Jamnagar SEZ). Jamnagar
Monthly Sulphur Balance

Month: October '2023

	INPUT	Quantity (MT)	% S	S (T)
I	**Consumption**			
1	Total Crude	1586572.23	2.02	31969
2	Intermediate Stock	2701978.03	0.65	17573
3	Naphtha	130269.29	0.00	3
4	MPG/Methanol/ Water in Pet Coke/ Nitogen	14052.30	0.00	0
5	HSGO/VGO	4299.69	0.00	88
6	LSFO/LSWR/VR	0.00	0.00	0
7	Natural Gas	12543.40	0.00	0
8	Pet Coke	0.00	0.00	0
	Sub Total	**4449714.93**		**49635**

	OUTPUT	Quantity (MT)	% S	S (T)
II	**Product**			
1	LPG + Mixpetgas+NG+Nbutane	281394.74	0.3780	1063.60
2	High Speed Diesel (HSD)	1570064.43	0.0024	37.54
3	Motor Spirit (MS)+ Reformate	579584.24	0.0006	3.48
4	Alkylate	102063.47	0.0005	0.55
5	Naphtha	240879.23	0.0013	3.20
6	ATF	11972.42	0.00	7.78
7	Petroleum Coke (Non-Calcined)	124700.90	6.10	7605.51
8	Un-Refined Sulphur	32200.84	100.0	32200.84
9	CBFS+VGO+VR+Gas oil	63677.63	0.80	508.62
10	Intermediate Stock	837818.12	0.98	7868.42
11	"S" as sulphide in Effluent			5.08
	Sub Total			
1	Polypropylene	73811.36	0.00	0.00
	Loss	530836.56	0.02	329.90
	Grand Total	**4449003.95**		**49635**

Sulphur Emission	**Tonnes**	**330**
SO2 Emission	**Tonnes/day**	**21.28**

ANNEXURE – 1B

Reliance Industries Ltd. (Unit of Reliance Jamnagar SEZ). Jamnagar
Monthly Sulphur Balance

Month: November '2023

	INPUT	Quantity (MT)	% S	S (T)
I	**Consumption**			
1	Total Crude	2210493.08	2.07	45740
2	Intermediate Stock	2595990.67	0.47	12298
3	Naphtha	67213.51	0.00	2
4	MPG/Methanol/ Water in Pet Coke/ Nitogen	15045.51	0.00	0
5	HSGO/VGO	0.00	0.00	0
6	LSFO/LSWR/VR	0.00	0.00	0
7	Natural Gas	28244.75	0.00	0
8	Pet Coke	0.00	0.00	0
	Sub Total	**4916987.52**		**58039**

Sulphur Emission	**Tonnes**	**322**
SO2 Emission	**Tonnes/day**	**21.45**

II	OUTPUT	Quantity (MT)	% S	S (T)
II	**Product**			
1	LPG + Mixpetgas+NG+Nbutane	330217.88	0.1407	464.73
2	High Speed Diesel (HSD)	1565803.41	0.0016	25.10
3	Motor Spirit (MS)+ Reformate	596392.30	0.0006	3.58
4	Alkylate	160805.54	0.0005	0.86
5	Naphtha	274021.56	0.0013	3.51
6	ATF	97915.02	0.00	63.64
7	Petroleum Coke (Non-Calcined)	286715.51	6.12	17546.99
8	Un-Refined Sulphur	34951.72	100.0	34951.72
9	CBFS+VGO+VR+Gas oil	222828.53	0.58	1282.05
10	Intermediate Stock	799451.85	0.45	3369.96
11	"S" as sulphide in Effluent			4.91
	Sub Total			
1	Polypropylene	70249.79	0.00	0.00
	Loss	477634.42	0.02	321.82
	Grand Total	**4916987.52**		**58039**

ANNEXURE – 1B

Reliance Industries Ltd. (Unit of Reliance Jamnagar SEZ). Jamnagar
Monthly Sulphur Balance

Month: December '2023

	INPUT	Quantity (MT)	% S	S (T)
I	**Consumption**			
1	Total Crude	2492701.83	2.27	56559
2	Intermediate Stock	2857247.86	0.52	14847
3	Naphtha	72991.78	0.00	2
4	MPG/Methanol/ Water in Pet Coke/ Nitogen	17374.85	0.00	0
5	HSGO/VGO	0.00	0.00	0
6	LSFO/LSWR/VR	0.00	0.00	0
7	Natural Gas	41185.45	0.00	0
8	Pet Coke	0.00	0.00	0
	Sub Total	**5481501.77**		**71408**

	OUTPUT	Quantity (MT)	% S	S (T)
II	**Product**			
1	LPG + Mixpetgas+NG+Nbutane	457824.32	0.0145	66.57
2	High Speed Diesel (HSD)	1652874.38	0.0015	24.17
3	Motor Spirit (MS)+ Reformate	893249.91	0.0006	5.36
4	Alkylate	215022.46	0.0005	1.15
5	Naphtha	264887.31	0.0011	3.04
6	ATF	124765.32	0.00	81.10
7	Petroleum Coke (Non-Calcined)	346623.67	6.44	22322.56
8	Un-Refined Sulphur	47094.32	100.0	47094.32
9	CBFS+VGO+VR+Gas oil	142783.47	0.91	1305.39
10	Intermediate Stock	669696.75	0.02	117.08
11	"S" as sulphide in Effluent			5.08
	Sub Total			
1	Polypropylene	102139.85	0.00	0.00
	Loss	564540.00	0.03	381.90
	Grand Total	**5481501.77**		**71408**

Sulphur Emission	**Tonnes**	**382**
SO2 Emission	**Tonnes/day**	**24.64**

ANNEXURE – 1B

Reliance Industries Ltd. (Unit of Reliance Jamnagar SEZ). Jamnagar
Monthly Sulphur Balance

Month: January '2024

	INPUT	Quantity (MT)	% S	S (T)
1	Total Crude	2611010.10	2.32	60602
2	Intermediate Stock	2229522.87	0.45	10046
3	Naphtha	29727.21	0.00	1
4	MPG/Methanol/ Water in Pet Coke/ Nitogen	17568.16	0.00	0
5	HSGO/VGO	96563.08	0.00	1903
6	LSFO/LSWR/VR	0.00	0.00	0
7	Natural Gas	27799.10	0.00	0
8	Pet Coke	0.00	0.00	0
	Sub Total	**5012190.52**		**72551**

Sulphur Emission	**Tonnes**	**357**
SO2 Emission	**Tonnes/day**	**23.01**

II	OUTPUT	Quantity (MT)	% S	S (T)
1	LPG + Mixpetgas+NG+Nbutane	349640.18	0.0007	2.44
2	High Speed Diesel (HSD)	1327917.57	0.0019	25.80
3	Motor Spirit (MS)+ Reformate	761989.30	0.0006	4.57
4	Alkylate	222055.53	0.0005	1.19
5	Naphtha	464896.84	0.0012	5.77
6	ATF	197198.45	0.00	128.18
7	Petroleum Coke (Non-Calcined)	293540.01	6.12	17955.84
8	Un-Refined Sulphur	50974.26	100.0	50974.26
9	CBFS+VGO+VR+Gas oil	31452.15	1.21	381.89
10	Intermediate Stock	656063.34	0.44	2708.96
11	"S" as sulphide in Effluent			5.08
	Sub Total			
1	Polypropylene	99765.35	0.00	0.00
	Loss	556740.65	0.03	356.72
	Grand Total	**5012233.61**		**72551**

ANNEXURE – 1B

Reliance Industries Ltd. (Unit of Reliance Jamnagar SEZ). Jamnagar
Monthly Sulphur Balance

Month: February '2024

	INPUT	Quantity (MT)	% S	S (T)
1	Total Crude	2189297.64	2.33	51033
2	Intermediate Stock	2514986.20	0.59	14815
3	Naphtha	0.00	0.00	0
4	MPG/Methanol/ Water in Pet Coke/ Nitogen	16324.39	0.00	0
5	HSGO/VGO	32380.81	0.00	638
6	LSFO/LSWR/VR	0.00	0.00	0
7	Natural Gas	32341.66	0.00	0
8	Pet Coke	0.00	0.00	0
	Sub Total	**4785330.70**		**66486**

II	OUTPUT	Quantity (MT)	% S	S (T)
1	LPG + Mixpetgas+NG+Nbutane	273148.94	0.0007	1.78
2	High Speed Diesel (HSD)	1535196.70	0.0009	13.50
3	Motor Spirit (MS)+ Reformate	795695.54	0.0006	4.77
4	Alkylate	223442.47	0.0005	1.20
5	Naphtha	438641.44	0.0012	5.35
6	ATF	166603.35	0.00	108.29
7	Petroleum Coke (Non-Calcined)	308972.48	6.65	20546.67
8	Un-Refined Sulphur	44249.84	100.0	44249.84
9	CBFS+VGO+VR+Gas oil	59579.79	1.77	1055.87
10	Intermediate Stock	380139.49	0.04	136.41
11	"S" as sulphide in Effluent			4.75
	Sub Total			
1	Polypropylene	90294.74	0.00	0.00
	Loss	469357.09	0.05	357.66
	Grand Total	**4785321.85**		**66486**

Sulphur Emission	**Tonnes**	**358**
SO2 Emission	**Tonnes/day**	**24.67**

ANNEXURE – 1B

Reliance Industries Ltd. (Unit of Reliance Jamnagar SEZ). Jamnagar
Monthly Sulphur Balance

Month: March '2024

	INPUT	Quantity (MT)	% S	S (T)
I	**Consumption**			
1	Total Crude	2558824.46	2.18	55846
2	Intermediate Stock	2897032.44	0.45	12968
3	Naphtha	0.00	0.00	0
4	MPG/Methanol/ Water in Pet Coke/ Nitogen	32888.81	0.00	0
5	HSGO/VGO	58826.88	0.00	1159
6	LSFO/LSWR/VR	0.00	0.00	0
7	Natural Gas	46006.27	0.00	0
8	Pet Coke	0.00	0.00	0
	Sub Total	**5593578.87**		**69973**

Sulphur Emission	**Tonnes**	**365**
SO2 Emission	**Tonnes/day**	**23.54**

II	OUTPUT	Quantity (MT)	% S	S (T)
II	**Product**			
1	LPG + Mixpetgas+NG+Nbutane	450652.95	0.0007	3.35
2	High Speed Diesel (HSD)	1632633.90	0.0011	18.14
3	Motor Spirit (MS)+ Reformate	942063.12	0.0007	6.43
4	Alkylate	241364.00	0.0005	1.29
5	Naphtha	375414.73	0.0012	4.54
6	ATF	172582.58	0.00	112.18
7	Petroleum Coke (Non-Calcined)	311360.95	6.12	19045.95
8	Un-Refined Sulphur	47977.45	100.0	47977.45
9	CBFS+VGO+VR+Gas oil	65289.44	1.89	1230.78
10	Intermediate Stock	724964.02	0.17	1203.50
11	"S" as sulphide in Effluent			5.08
	Sub Total			
1	Polypropylene	94793.55	0.00	0.00
	Loss	534482.18	0.03	364.81
	Grand Total	**5593578.87**		**69974**

Reliance Industries Limited (Refinery Division, Jamnagar)
Stack Emission Monitoring Results
(1st Oct '23 to 31st Mar '24)

Sr. No.	Furnace	Stack No.	SO2 (mg/Nm3)			NOx (mg/Nm3)			PM (mg/Nm3)		
			Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
I	**Stacks Involving Fuel Burning**										
A.	**CPP**										
1	HRSG-1	MS-EE 951-201	10.2	13.2	11.9	43.0	46.0	44.2	1.0	1.1	1.0
2	HRSG-2	MS-EE 951-202	11.6	12.5	12.0	41.0	46.0	43.3	1.0	1.2	1.1
3	HRSG-3	MS-EE 951-203	10.0	12.5	11.9	40.0	47.0	43.5	1.0	1.2	1.1
4	HRSG-4	MM-RR 771-201	11.4	14.2	12.2	40.0	47.0	44.0	1.0	1.2	1.1
5	HRSG-5	MM-RR 771-202	12.0	12.8	12.4	42.0	48.0	44.5	1.0	1.1	1.0
6	HRSG-6	MM-RR 771-203	11.7	13.4	12.3	45.0	51.0	47.4	1.0	1.1	1.1
7	HRSG-7	MM-RR 771-204	12.5	13.6	13.0	40.0	46.0	42.8	1.0	1.3	1.2
8	HRSG-8	MS-EE 951-204	11.6	12.5	12.0	42.0	49.0	45.3	1.0	1.1	1.0
9	HRSG-9	MS-EE G-201	10.2	13.6	11.9	41.0	50.0	43.5	1.0	1.3	1.2
10	Aux- Blr -1*	MB-RU 771-B010	11.7	13.4	12.5	52.0	62.0	55.6	1.0	1.2	1.1
11	Aux- Blr -2*	MB-RU 771-B011	10.6	226.0	48.1	52.0	66.0	59.0	1.1	6.4	2.1
12	Aux- Blr -3*	MB-EE 951-B010	11.8	12.6	12.1	52.0	60.0	56.2	1.0	1.6	1.2
13	Aux- Blr -4*	MB-EE 951-B011	10.4	174.0	38.8	54.0	66.0	59.7	1.1	4.5	2.0
14	Aux- Blr -5*	MB-EE 952-B010	12.0	240.0	50.7	57.0	69.0	60.0	1.4	5.8	2.4
15	Aux- Blr -6*	MB-EE 952-B011	10.2	156.0	36.0	56.0	64.0	60.8	1.0	7.2	2.2
B.	**Crude Complex**										
1	CDU-1-FO1*	MB-RD311-F01	14.6	186.0	140.5	45.0	49.0	46.8	1.3	5.8	4.3
2	CDU-1 -F51*	MB-RD311-F51	108.0	186.0	166.2	44.0	49.0	46.3	3.9	5.5	4.8
3	VDU-1	MB-RD311-F02	11.2	12.4	11.9	38.0	41.0	39.2	1.0	1.1	1.1
4	CDU-2-FO1*	MB-RD312-F01	116.0	191.0	172.0	44.0	50.0	47.8	3.9	5.2	4.4
5	CDU-2 -F51*	MB-RD312-F51	96.1	188.0	163.9	44.0	51.0	47.2	3.7	5.8	4.7
6	VDU-2	MB-RD312-F02	10.8	13.8	12.4	34.0	37.0	35.2	1.0	1.2	1.1
7	DHT-1	MB-RH351-F01	10.2	12.6	11.7	32.8	39.0	36.1	1.0	1.4	1.2
8	DHT-2	MB-RH352-F01	11.6	13.7	12.2	33.0	39.0	35.2	1.0	1.1	1.0
9	VGO HT- 1	MB-RH361-F02	11.6	12.9	12.3	34.0	40.0	37.0	1.0	1.5	1.1
10	VGO HT- 2	MB-RH362-F02	10.2	12.2	11.0	30.0	37.0	33.0	1.1	1.2	1.2
11	LNHT	MB-RH471-F01	10.2	12.1	11.4	31.0	36.0	34.0	1.0	1.0	1.0
12	Hydrogen-1	MB-RH521-SO1	Not in Operation								
13	Hydrogen-2	MB-RH522-SO1	Not in Operation								
14	Hydrogen-3	MB-RH523-SO1	Not in Operation								
15	KHT	MB-RH-365-F02	10.2	12.7	11.8	34.0	40.0	36.2	1.0	1.3	1.1
16	CNHT	MB-RH-222-F01	9.8	12.1	11.3	33.0	38.0	35.2	1.0	1.2	1.1
C.	**Aromatics**										
1	Platforming	MB-AY231-F01	12.5	14.6	13.9	36.0	44.1	39.3	1.0	1.4	1.2
2	HNHT	MB-AY221-F01	11.6	13.2	12.6	34.0	41.0	36.1	1.0	1.2	1.1
3	Xylene -1	MB-AY241-F01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Xylene -2	MB-AY242-F01	12.5	76.0	40.7	39.0	45.0	40.7	1.0	3.8	2.6

Reliance Industries Limited (Refinery Division, Jamnagar)
Stack Emission Monitoring Results
(1st Oct '23 to 31st Mar '24)

Sr. No.	Furnace	Stack No.	SO2 (mg/Nm3)			NOx (mg/Nm3)			PM (mg/Nm3)		
			Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
5	Xylene -3	MB-AY243-F01	13.3	72.0	41.0	38.0	42.0	38.8	1.0	4.2	3.2
6	O-Xylene	MB-AY251-F01A	11.6	15.0	12.5	36.0	41.0	38.7	1.1	1.4	1.2
7	Isomar 1	MB-AY271-F01	SHUTDOWN								
8	Isomar 2	MB-AY272-F01	10.2	13.1	12.3	33.0	41.0	39.0	1.1	1.2	1.1
9	Isomar 3	MB-AY273-F01	10.6	14.5	12.6	35.0	39.0	37.0	1.0	1.2	1.1
10	Tatoray-1	MB-AY281-F01	12.1	13.4	12.8	33.0	40.0	36.5	0.0	0.0	0.0
11	Tatoray-2	MB-AY281-F51	9.8	12.8	12.1	36.0	42.0	38.0	1.0	1.0	1.0
D.	**Coker**										
1	Coker-1	MB-RK371-F01	12.5	14.6	13.2	36.0	42.0	38.2	1.0	1.3	1.2
2	Coker-2	MB-RK371-F02	12.4	12.8	12.6	32.0	36.0	34.4	1.0	1.1	1.1
3	Coker-3	MB-RK371-F03	11.6	13.8	12.8	35.0	48.0	38.2	1.2	1.3	1.2
4	Coker-4	MB-RK371-F04	10.2	14.2	11.7	33.0	39.0	36.3	1.1	1.3	1.2
5	Coker-5	MB-RK371-F07	11.0	13.4	12.0	31.0	41.0	37.2	1.0	1.2	1.1
II	**Stacks Involving Process Emission**										
A.	**FCC Complex**										
1	FCCC-N	MB-RF412-S01	14.2	15.2	14.6	38.0	42.0	39.9	6.9	8.9	7.9
2	FCCC-S	MB-RF412-S51	13.6	13.9	13.8	35.0	39.0	37.3	6.5	8.4	7.4
B.	**Sulphur Complex**										
1	SRU-1	MB-RH451-SO1	1082.0	1450.0	1244.2	55.0	57.0	56.2	NA	NA	NA
2	SRU-2	MB-RH452-SO1	1086.0	1718.0	1359.0	51.0	58.0	54.0	NA	NA	NA
3	SRU-3	MB-RH453-SO1	1435.0	1860.0	1597.0	52.0	58.0	54.3	NA	NA	NA
C.	**ETP-Incinerator**										
1	Incinerator	_	24.8	28.5	26.3	28.0	38.0	31.3	8.2	9.6	8.7
III	**Stacks Involving Material Handling**										
A.	**SGU**										
1	SGU-1	MF-RH-465-Y-01	NA	NA	NA	NA	NA	NA	8.1	9.5	9.0
2	SGU-2	MF-RH-465-Y-02	NA	NA	NA	NA	NA	NA	7.4	9.8	8.8

Note: * Furnaces / Heaters were on dual (liquid+gas) firing & others were on gas firing during sampling.
NA : Not applicable; BDL -Below Detectable Level

ANNEXURE -2B

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar
Stack Emission Monitoring Results
(1st Oct '2023 to 31st Mar '2024)

Sr. No.	Stack Attached to	Stack No.	SO2 mg/Nm3			NOX mg/Nm3			PM mg/Nm3		
			MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX	AVG
I	**Stacks Involving Fuel Burning**										
A.	**CPP**										
1	HRSG-1	MB-BBZ9H1-B01	10.2	12.2	11.1	43.0	46.0	44.0	1.1	1.2	1.2
2	HRSG-2	MB-BBZ9H2-B01	11.6	14.7	12.6	40.0	46.0	43.0	1.0	1.3	1.1
3	HRSG-3	MB-BBZ9H3-B01	9.8	11.5	10.6	44.0	48.0	46.4	1.0	1.4	1.2
4	HRSG-4	MB-BBZ9H4-B01	12.1	12.6	12.3	41.0	45.0	43.2	1.1	1.2	1.2
5	HRSG-5	MB-BBZ9H5-B01	10.2	15.5	11.5	41.0	49.0	43.8	1.0	1.4	1.1
6	HRSG-6	MB-BBZ9H6-B01	11.2	16.3	12.5	42.0	52.0	44.8	1.0	1.5	1.3
7	Aux- Boiler-1*	MB-BBZ9B1-B01	12.2	13.4	12.8	56.0	62.0	59.7	1.1	1.2	1.1
8	Aux- Boiler-2*	MB-BBZ9B2-B01	11.3	162.0	41.8	58.0	66.0	60.8	1.0	6.9	2.5
9	Aux- Boiler-3*	MB-BBZ9B3-B01	9.8	11.8	10.9	57.0	66.0	62.4	1.2	1.3	1.3
10	Aux- Boiler-4*	MB-BBZ9B4-B01	10.0	196.0	120.3	62.0	68.0	65.3	1.0	5.4	3.5
B.	**Crude Complex**										
1	CDU-1-FO1*	MB-RDZ311-F01	11.6	164.0	58.2	42.0	46.0	43.8	1.0	3.4	1.6
2	CDU-1-F51*	MB-RDZ311-F51	13.4	165.0	39.5	35.0	45.0	41.5	1.0	6.0	2.5
3	VDU-1	MB-RDZ311-F02	10.2	12.6	11.4	33.0	39.0	36.2	1.1	1.2	1.2
4	CDU-2-FO1*	MB-RDZ312-F01	12.0	126.0	31.7	40.0	48.0	43.0	1.2	4.6	2.0
5	CDU-2-F51*	MB-RDZ312-F51	12.2	14.8	13.3	40.0	45.0	43.0	1.0	1.5	1.2
6	VDU-2	MB-RDZ312-F02	10.4	13.1	11.8	34.0	39.0	35.7	1.0	1.2	1.1
7	VGOHT- 1	MB-RHZ361-F01/F02	10.6	12.4	11.6	31.0	40.0	33.8	1.0	1.2	1.1
8	VGOHT- 1	MB-RHZ361-F03	9.6	12.8	11.1	29.0	37.0	34.8	1.0	1.4	1.2
9	VGOHT- 2	MB-RHZ362-F01/F02	10.2	12.8	10.9	31.0	37.0	34.0	1.0	1.2	1.1
10	VGOHT- 2	MB-RHZ362-F03	9.8	12.5	10.5	33.0	36.0	34.5	1.0	1.2	1.1
C.	**Hydrogen & Merox Complex**										
1	Hydrogen-4	MB-RHZ524-S01	Not in Operation								
2	Hydrogen-5	MB-RHZ523-S01	Not in Operation								
3	Hydrogen-6	MB-RHZ522-S01	Not in Operation								
4	Hydrogen-7	MB-RHZ521-S01	Not in Operation								
5	Hydrogen-8	MB-RHZ525-S01	Not in Operation								
D.	**Coker**										
1	Coker-1	MB-RKZ371-F01	10.5	13.4	12.3	32.0	39.0	35.0	1.0	1.0	1.0
2	Coker-2	MB-RKZ371-F02	11.6	14.1	13.0	33.0	37.0	35.7	1.0	1.4	1.2
3	Coker-3	MB-RKZ371-F03	10.9	13.4	12.3	34.0	41.0	37.0	1.0	1.2	1.1
4	Coker-4	MB-RKZ371-F04	10.2	12.9	11.9	33.0	39.0	35.5	1.1	1.1	1.1
5	Coker-5	MB-RKZ371-F07	10.0	13.3	11.7	32.0	40.0	34.8	1.0	1.3	1.1
E.	**Clean Fuel Project**										
1	DHDS-1	MBRHZ355-F01A	11.7	13.5	12.6	37.0	44.0	40.2	1.0	1.2	1.1

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar
Stack Emission Monitoring Results
(1st Oct '2023 to 31st Mar '2024)

Sr. No.	Stack Attached to	Stack No.	SO2 mg/Nm3			NOX mg/Nm3			PM mg/Nm3		
			MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX	AVG
2	DHDS-1	MBRHZ355-F01B	11.1	12.1	11.6	35.0	38.0	36.3	1.0	1.3	1.2
3	DHDS-2	MBRHZ358-F01A	10.2	13.0	11.5	34.0	38.0	36.3	1.0	1.3	1.1
4	DHDS-2	MBRHZ358-F01B	10.1	13.6	11.9	31.0	36.0	34.2	1.0	1.4	1.2
5	DHDS-2	MBRHZ358-F02	10.9	12.6	12.0	29.0	39.0	34.0	1.0	1.6	1.3
6	Common Facilities	MBRHZ357-F01	11.2	12.1	11.7	28.0	41.0	35.0	1.0	1.3	1.2
7	LCOHC	MBRHZ354-F01	10.2	13.8	11.8	34.0	40.0	36.0	1.0	1.4	1.2
F.	**Aromatics**										
1	Platformer	MB-AYZ231-F02	11.3	12.4	11.8	30.0	36.0	33.2	1.0	1.2	1.1
2	Platformer	MB-AYZ231-F01/F03	11.1	11.9	11.6	31.0	34.0	32.8	1.0	1.3	1.2
3	Platformer	MB-AYZ231-F01A/F03A	11.3	13.6	12.8	31.0	39.0	35.2	1.0	1.4	1.2
4	HNUU	MB-AYZ221-F01/F02	12.4	13.0	12.7	30.0	35.0	32.6	1.1	1.2	1.2
G.	**Alkylation**										
1	SAR	MB-RFZ430-F41	10.1	11.6	11.1	32.0	40.0	36.0	1.0	1.2	1.1
II	**Stacks Involving Process Emission**										
A.	**FCC Complex**										
1	FCC-N	MB-RFZ412-S01	13.8	15.4	14.8	39.0	45.0	41.7	5.8	8.2	6.9
2	FCC-S	MB-RFZ412-S51	14.9	16.2	15.6	38.0	46.0	42.0	5.8	7.5	7.0
B.	**Sulphur Complex**										
1	SRU-1	MB-RHZ451-S01	448.0	679.0	581.0	52.0	58.0	54.5	NA	NA	NA
2	SRU-2	MB-RHZ452-S01	482.0	870.0	617.8	52.0	58.0	55.2	NA	NA	NA
3	SRU-3	MB-RHZ453-S01	359.0	522.0	466.3	48.0	56.0	54.0	NA	NA	NA
C.	**Alkylation**										
1	SAR	MB-RFZ430-S01	164.0	224.0	177.8	NA	NA	NA	NA	NA	NA
III	**Stacks Involving Material Handling**										
A.	**Sulphur Pestillation Unit**										
1	SPU-1	MA-RHZ465-F01A/B	NA	NA	NA	NA	NA	NA	8.4	9.6	8.4
2	SPU-2	MA-RHZ465-F02A/B	NA	NA	NA	NA	NA	NA	8.0	9.8	8.0

Note: 1. *Furnaces / Heaters were on duel (liquid + gas) firing and others were on gas firing during sampling.
2. ND: Not Detectable. 3. NA – Not Applicable

ANNEXURE - 2C

Reliance Industries Ltd. Jamnagar
STACK EMISSION MONITORING REPORT
(1st Oct '2023 to 31st Mar '2024)

Sr. No.	Stack Attached to	Stack No.	SO2 (mg/Nm3)			NOX (mg/Nm3)			PM (mg/Nm3)		
			MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX	AVG
	PX-4 Complex										
1	Xylene Recovery Column Reboiler	MB-AYZ241-F000001A/B	11.6	12.8	12.3	33.0	37.0	35.0	1.0	1.2	1.1
2	Isomer Charge Heater	MB-AYZ271-F000001A/B	11.0	12.2	11.7	33.0	36.0	34.6	1.0	1.2	1.1
3	TA Charge Heater	MB-AYZ281-F000001	12.2	13.8	13.0	35.0	38.0	36.2	1.0	1.0	1.0
4	TA Stabilizer Heater	MB-AYZ281-F000002	12.0	13.7	13.1	31.0	40.0	35.4	1.3	1.3	1.3
5	Toluene Column Reboiler	MB-AYZ281-F000003	10.9	12.2	11.4	37.0	40.0	37.8	1.1	1.4	1.2
6	HA Column Reboiler	MB-AYZ281-F000004	8.8	11.2	10.3	35.0	39.0	36.2	0.0	0.0	0.0
A	**C2-COMPLEX "CPP"**										
1	HRSG - 1	MB-BBC9H1-B-001	11.6	12.8	12.2	41.0	45.0	43.6	1.1	1.1	1.5
2	HRSG - 2	MB-BBC9H2-B-001	11.2	13.1	12.4	41.0	46.0	44.0	1.0	1.0	1.4
3	AUX B'ER - 1	MB-BBC9B1-B-001	10.2	13.3	12.4	52.0	65.0	58.8	1.2	1.0	1.4
4	AUX B'ER - 2	MB-BBC9B2-B-001	9.8	13.7	12.2	49.0	66.0	59.4	1.1	1.0	1.3
B	**C2-COMPLEX "ROGC"**										
1	ROGC-1	MB-F010001	10.8	12.5	11.7	35.0	40.0	37.6	1.0	1.2	1.1
2	ROGC-2	MB-F010002	10.2	12.4	11.6	36.0	43.0	39.8	1.0	1.1	1.0
3	ROGC-3	MB-F010003	11.6	12.6	12.0	32.0	38.0	35.2	1.0	1.3	1.2
4	ROGC-4	MB-F010004	12.4	13.5	13.1	34.0	41.0	38.0	1.1	1.2	1.2
5	ROGC-5	MB-F010005	10.2	11.9	11.2	33.0	39.0	35.4	1.0	1.1	1.0
6	ROGC-6	MB-F010006	11.7	12.5	12.1	32.0	38.0	36.0	1.2	1.2	1.2
7	ROGC-HEATER-01	MB-F160001	11.0	12.2	11.8	31.0	36.0	34.0	1.0	1.2	1.1
8	ROGC-HEATER-02	MB-F160002	11.0	11.6	11.3	33.0	33.0	33.0	1.0	1.2	1.1
C.	**CPP**										
	HRSG-10	MB-BBD9H1-B-001	12.5	14.2	13.4	42.0	46.0	43.7	1.1	1.3	1.2
	HRSG-11	MB-BBD9H2-B-001	11.6	15.2	13.3	40.0	48.0	44.8	1.0	1.2	1.1
	HRSG-12	MB-BBD9H3-B-001	10.2	14.6	12.3	40.0	46.0	42.3	1.0	1.2	1.1
	HRSG-13	MB-BBD9H4-B-001	11.6	14.6	12.6	41.0	48.0	45.0	1.0	1.2	1.1

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar
Continuous Online Stack Emission & Effluent Monitoring Results

1. Continuous Online Stack Emission Monitoring Results (1st Oct '2023 to 31st Mar '2024)

Sr. No.	Stack Attached to	Stack No.	SO2 (mg/Nm3)			NOx (mg/Nm3)			PM (mg/Nm3)			CO (mg/Nm3)		
			Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
I	**Stacks Involving Fuel Burning**													
A.	**CPP**													
1	HRSG-1	MB-BBZ9H1-B01	2.5	7.5	5.0	12.5	225.0	29.0	0.3	0.8	0.5	5.0	89.7	10.0
2	HRSG-2	MB-BBZ9H2-B01	28.1	657.7	45.5	12.6	155.3	24.9	2.1	7.3	4.5	5.0	131.7	33.1
3	HRSG-3	MB-BBZ9H3-B01	2.6	126.9	29.3	12.5	66.9	27.6	0.4	7.5	0.8	5.0	90.0	12.5
4	HRSG-4	MB-BBZ9H4-B01	2.5	125.7	6.5	12.5	236.7	25.2	0.4	7.3	0.5	17.3	18.3	17.9
5	HRSG-5	MB-BBZ9H5-B01	2.5	100.1	19.7	12.6	187.9	34.7	0.5	5.8	0.6	5.0	88.6	10.0
6	HRSG-6	MB-BBZ9H6-B01	4.0	127.4	12.0	12.5	52.4	25.1	0.3	7.5	0.5	5.0	22.4	10.1
7	Aux- Boiler-1	MB-BBZ9B1-B01	2.9	127.5	84.8	13.0	52.5	35.0	0.7	7.5	5.0	7.5	22.5	15.0
8	Aux- Boiler-2	MB-BBZ9B2-B01	2.7	127.5	84.8	12.7	52.5	35.1	0.3	45.0	5.0	6.4	22.5	15.0
9	Aux- Boiler-3	MB-BBZ9B3-B01	2.6	127.5	58.1	13.9	52.5	31.6	0.3	45.0	4.2	5.7	22.5	13.3
10	Aux- Boiler-4	MB-BBZ9B4-B01	2.5	127.5	77.9	17.5	52.5	35.2	0.3	7.5	4.6	5.0	22.5	14.5
B.	**Crude Complex**													
1	CDU-1-FO1*	MB-RDZ311-F01	2.5	406.6	118.0	12.5	218.0	62.2	0.8	24.0	2.5	5.0	108.4	9.6
2	CDU-1-F51*	MB-RDZ311-F51	2.5	391.9	24.8	12.5	106.0	24.6	0.3	24.9	4.3	5.0	111.3	10.5
3	VDU-1	MB-RDZ311-F02	2.5	45.0	8.7	12.5	224.0	33.1	0.5	4.2	0.6	5.0	90.0	10.1
4	CDU-2-FO1*	MB-RDZ312-F01	2.5	137.0	25.5	12.5	262.3	26.5	0.3	28.8	3.2	5.0	115.4	25.0
5	CDU-2-F51*	MB-RDZ312-F51	2.5	184.7	37.8	12.5	301.5	26.3	0.3	44.9	1.0	5.0	135.0	16.4
6	VDU-2	MB-RDZ312-F02	2.5	45.0	8.0	12.5	216.8	24.9	0.3	4.5	0.5	5.0	85.1	10.0
7	VGOHT- 1	MB-RHZ361-F01/F02	5.0	44.8	18.8	25.0	220.7	37.5	1.0	4.5	1.3	10.0	89.9	14.7

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar
Continuous Online Stack Emission & Effluent Monitoring Results

1. Continuous Online Stack Emission Monitoring Results (1st Oct '2023 to 31st Mar '2024)

Sr. No.	Stack Attached to	Stack No.	SO2 (mg/Nm3)			NOx (mg/Nm3)			PM (mg/Nm3)			CO (mg/Nm3)		
			Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
8	VGOHT- 2	MB-RHZ362-F01/F02	5.0	45.0	12.0	25.0	214.8	35.9	0.5	4.5	1.6	10.0	90.0	15.7
C.	**Hydrogen & Merox Complex**													
1	Hydrogen-4	MB-RHZ524-S01	Not in Operation											
2	Hydrogen-5	MB-RHZ523-S01	Not in Operation											
3	Hydrogen-6	MB-RHZ522-S01	Not in Operation											
4	Hydrogen-7	MB-RHZ521-S01	Not in Operation											
5	Hydrogen-8	MB-RHZ525-S01	Not in Operation											
D.	**Coker**													
1	Coker-1	MB-RKZ371-F01	5.4	45.0	26.0	25.0	224.1	35.5	0.5	4.5	0.7	10.0	90.0	15.9
2	Coker-2	MB-RKZ371-F02	6.0	45.0	30.7	25.0	217.4	37.3	0.5	1.0	0.8	10.0	90.0	15.5
3	Coker-3	MB-RKZ371-F03	5.3	45.0	23.0	25.0	217.1	41.0	0.5	4.1	0.7	10.0	90.0	15.3
4	Coker-4	MB-RKZ371-F04	5.0	45.0	11.0	25.0	220.8	58.9	0.5	4.5	0.8	10.0	90.0	17.9
E.	**Clean Fuel Project**													
1	DHDS-1	MBRHZ355-F01A	7.1	43.0	20.7	25.0	219.1	37.5	0.5	2.4	0.7	10.0	85.0	20.8
2	DHDS-1	MBRHZ355-F01B	5.0	45.0	8.6	25.0	223.9	39.2	0.5	4.1	0.8	10.0	90.0	23.6
3	DHDS-2	MBRHZ358-F01A	5.0	45.0	10.9	25.0	217.6	37.5	0.5	1.0	0.8	10.0	90.0	24.9
4	DHDS-2	MBRHZ358-F01B	5.0	45.0	13.7	25.0	222.7	37.3	0.5	4.5	0.6	10.0	90.0	33.2
5	DHDS-2	MBRHZ358-F02	5.0	45.0	8.7	25.0	219.9	37.1	0.5	4.5	0.8	10.0	90.0	37.3
6	Common Facilities	MBRHZ357-F01	5.0	45.0	41.3	25.0	223.9	37.5	1.1	4.4	1.4	10.0	90.0	15.2
7	LCOHC	MBRHZ354-F01	5.2	45.0	25.5	25.0	218.5	37.5	0.5	1.0	0.7	10.0	86.8	16.4
F.	**Aromatics**													
1	Platformer	MB-AYZ231-F02	5.0	45.0	28.4	25.0	217.5	37.1	0.5	4.5	0.8	10.0	80.5	15.0

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar
Continuous Online Stack Emission & Effluent Monitoring Results

1. Continuous Online Stack Emission Monitoring Results (1st Oct '2023 to 31st Mar '2024)

Sr. No.	Stack Attached to	Stack No.	SO2 (mg/Nm3)			NOx (mg/Nm3)			PM (mg/Nm3)			CO (mg/Nm3)		
			Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
2	Platformer	MB-AYZ231-F01/F03	5.0	45.0	28.0	25.0	225.0	56.6	0.6	4.5	0.9	10.0	90.0	14.7
3	HNUU	MB-AYZ221-F01/F02	5.0	45.0	22.8	25.0	215.6	35.5	0.5	4.5	1.0	10.0	89.7	15.1
G.	**Alkylation**													
1	SAR	MB-RFZ430-F41	5.0	45.0	8.1	25.0	224.4	55.1	0.5	4.5	0.9	10.0	90.0	18.8
II	**Stacks Involving Process Emission**													
A.	**FCC Complex**													
1	FCC-N	MB-RFZ412-S01	50.0	445.7	89.3	35.0	307.5	50.7	5.2	45.0	15.7	30.0	270.0	46.7
2	FCC-S	MB-RFZ412-S51	50.0	449.0	96.3	35.0	312.4	80.0	5.4	45.0	30.2	30.0	270.0	47.4
B.	**Sulphur Complex**													
1	SRU-1	MB-RHZ451-S01	30.0	270.0	81.5	25.0	214.2	37.7	NA			10.0	88.8	15.0
2	SRU-2	MB-RHZ452-S01	30.0	270.0	204.6	25.0	224.8	46.0	NA			10.0	90.0	17.5
3	SRU-3	MB-RHZ453-S01	30.0	270.0	154.3	25.0	50.0	37.5	NA			10.0	20.0	15.0
C.	**Alkylation**													
1	SAR	MB-RFZ430-S01	95	855	240	Not Applicable								

2. Continuous Online Effluent Monitoring Results (1st Oct '2023 to 31st Mar '2024):

Parameters	Units	MIN	MAX	AVG
Flow	Cum/hr	0	475	190
pH	-	6.6	8.2	7.4
TSS	ppm	2.0	18.0	7.7
BOD	ppm	2.0	12.0	6.5
COD	ppm	12.0	115.0	58.2

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs **MONTH: October '2023**

01-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	502.77	320.2	99.87%
452	455.71	717.0	99.71%
453	497.38	726.0	99.73%
	1455.86	AVG >>	99.77%

02-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	507.63	411.6	99.85%
452	436.29	773.2	99.69%
453	509.63	784.0	99.71%
	1453.54	AVG >>	99.75%

03-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	509.85	420.8	99.85%
452	414.66	443.5	99.82%
453	507.50	825.1	99.69%
	1432.00	AVG >>	99.79%

04-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	498.73	419.0	99.85%
452	439.95	467.8	99.81%
453	490.63	839.2	99.68%
	1429.31	AVG >>	99.78%

05-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	533.60	553.3	99.80%
452	461.46	609.6	99.76%
453	546.50	998.3	99.64%
	1541.56	AVG >>	99.74%

06-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	544.36	592.7	99.79%
452	518.34	660.2	99.75%
453	552.99	1039.1	99.62%
	1615.69	AVG >>	99.72%

07-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	522.21	529.6	99.81%
452	520.54	649.3	99.75%
453	527.64	996.4	99.62%
	1570.40	AVG >>	99.73%

08-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	473.48	507.3	99.81%
452	471.80	638.8	99.75%
453	480.21	976.9	99.62%
	1425.49	AVG >>	99.72%

09-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	453.59	459.1	99.83%
452	452.20	612.9	99.76%
453	460.26	950.1	99.63%
	1366.05	AVG >>	99.74%

10-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	448.13	404.8	99.85%
452	446.78	598.2	99.76%
453	453.16	933.8	99.63%
	1348.07	AVG >>	99.75%

11-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	400.59	378.3	99.85%
452	399.29	595.1	99.75%
453	406.28	907.0	99.62%
	1206.16	AVG >>	99.74%

12-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	419.48	356.6	99.86%
452	418.22	588.8	99.76%
453	426.98	903.2	99.63%
	1264.68	AVG >>	99.75%

13-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	431.98	366.3	99.86%
452	430.64	608.4	99.76%
453	438.96	935.3	99.63%
	1301.58	AVG >>	99.75%

14-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	450.76	375.0	99.86%
452	449.22	616.5	99.76%
453	457.28	961.4	99.62%
	1357.26	AVG >>	99.75%

15-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	457.92	370.5	99.86%
452	456.65	600.4	99.77%
453	465.86	987.6	99.62%
	1280.43	AVG >>	99.75%

ANNEXURE -4A

Reliance Industries Limited, Refinery Division Jamnagar

16-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	447.31	448.5	99.83%
452	465.79	661.0	99.74%
453	477.26	1068.7	99.59%
	1390.36	AVG >>	99.72%

17-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	458.04	416.9	99.84%
452	453.56	648.2	99.75%
453	468.25	1076.2	99.59%
	1379.84	AVG >>	99.73%

18-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	449.91	407.6	99.85%
452	468.90	652.4	99.75%
453	470.72	1087.5	99.59%
	1389.53	AVG >>	99.73%

19-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	440.98	390.6	99.85%
452	477.21	667.1	99.75%
453	463.77	1074.6	99.59%
	1383.96	AVG >>	99.73%

20-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	442.67	663.0	99.75%
452	492.36	1057.3	99.61%
453	516.46	1163.7	99.58%
	1451.50	AVG >>	99.64%

21-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	448.08	627.0	99.76%
452	522.20	1029.5	99.63%
453	527.96	1281.1	99.53%
	1498.24	AVG >>	99.64%

22-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	442.15	529.0	99.80%
452	522.28	881.1	99.68%
453	515.22	1240.4	99.54%
	1479.65	AVG >>	99.67%

23-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	439.93	515.7	99.81%
452	498.31	851.6	99.68%
453	454.35	1204.5	99.52%
	1392.58	AVG >>	99.67%

24-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	442.39	538.5	99.80%
452	402.60	863.2	99.68%
453	474.35	1200.6	99.53%
	1409.33	AVG >>	99.67%

25-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	406.82	359.2	99.86%
452	410.92	674.8	99.72%
453	404.07	1025.2	99.56%
	1221.80	AVG >>	99.71%

26-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	415.34	376.4	99.85%
452	416.64	691.8	99.72%
453	417.11	1011.9	99.57%
	1249.09	AVG >>	99.71%

27-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	394.14	367.2	99.85%
452	394.02	682.3	99.71%
453	396.27	973.9	99.58%
	1184.43	AVG >>	99.71%

28-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	381.14	360.6	99.85%
452	376.59	679.1	99.71%
453	385.49	962.1	99.57%
	1143.22	AVG >>	99.71%

29-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	376.06	348.3	99.86%
452	378.90	676.0	99.71%
453	375.55	946.6	99.58%
	1130.51	AVG >>	99.72%

30-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	385.49	356.0	99.86%
452	377.47	674.6	99.71%
453	395.69	959.7	99.58%
	1158.65	AVG >>	99.72%

31-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	417.17	353.8	99.86%
452	395.73	672.3	99.72%
453	443.56	980.7	99.60%
	1256.46	AVG >>	99.73%

Reliance Industries Limited, Refinery Division Jamnagar

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs **MONTH: November '2023**

01-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	428.04	467	99.82%
452	456.55	781	99.70%
453	478.83	1088	99.58%
	1364.41	AVG >>	99.70%

02-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	426.81	459	99.83%
452	463.77	778	99.71%
453	481.64	1095	99.58%
	1372.21	AVG >>	99.71%

03-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	418.52	472	99.82%
452	464.57	775	99.70%
453	452.33	1173	99.54%
	1335.42	AVG >>	99.69%

04-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	414.67	474	99.82%
452	431.72	771	99.69%
453	466.69	1186	99.54%
	1313.07	AVG >>	99.68%

05-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	415.13	531	99.80%
452	438.21	820	99.68%
453	481.34	1291	99.53%
	1334.69	AVG >>	99.67%

06-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	415.12	511	99.80%
452	451.34	796	99.69%
453	487.54	1239	99.53%
	1354.00	AVG >>	99.68%

07-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	419.36	523	99.80%
452	467.67	789	99.70%
453	482.62	1124	99.57%
	1369.64	AVG >>	99.69%

08-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	431.16	617	99.77%
452	476.30	872	99.67%
453	511.86	1110	99.58%
	1419.32	AVG >>	99.77%

09-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	443.39	785	99.71%
452	519.43	1040	99.62%
453	532.56	1251	99.51%
	1495.38	AVG >>	99.61%

10-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	432.54	773	99.71%
452	493.53	1040	99.61%
453	498.39	1164	99.55%
	1424.47	AVG >>	99.62%

11-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	430.62	621	99.77%
452	498.70	942	99.65%
453	463.11	961	99.62%
	1392.43	AVG >>	99.68%

12-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	407.95	599	99.77%
452	438.55	1342	99.43%
453	386.39	1025	99.56%
	1232.88	AVG >>	99.80%

13-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	389.05	535	99.79%
452	398.92	682	99.71%
453	380.85	974	99.58%
	1168.83	AVG >>	99.69%

14-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	384.66	445	99.82%
452	398.59	679	99.71%
453	372.57	862	99.57%
	1155.82	AVG >>	99.70%

15-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	395.95	485	99.81%
452	399.47	890	99.56%
453	397.26	960	99.58%
	1192.68	AVG >>	99.65%

Reliance Industries Limited, Refinery Division Jamnagar

16-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	415.59	515	99.80%
452	444.02	391	99.85%
453	462.70	667	99.75%
	1322.30	AVG >>	99.80%

17-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	415.37	671	99.74%
452	464.28	444	99.83%
453	479.82	1201	99.53%
	1359.47	AVG >>	99.71%

18-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	422.17	715	99.73%
452	481.67	701	99.74%
453	460.16	1205	99.52%
	1364.00	AVG >>	99.67%

19-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	421.78	756	99.71%
452	479.78	736	99.72%
453	445.66	802	99.68%
	1347.22	AVG >>	99.70%

20-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	421.54	844	99.68%
452	480.18	804	99.70%
453	469.23	1081	99.58%
	1370.96	AVG >>	99.65%

21-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	432.47	879	99.67%
452	488.26	837	99.69%
453	463.26	1281	99.50%
	1383.99	AVG >>	99.62%

22-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	494.70	780	99.72%
452	512.26	866	99.68%
453	531.54	1407	99.46%
	1538.50	AVG >>	99.62%

23-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	547.89	952	99.68%
452	537.67	1001	99.64%
453	563.20	1597	99.41%
	1648.96	AVG >>	99.57%

24-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	599.47	887	99.70%
452	557.16	923	99.67%
453	567.34	1549	99.42%
	1683.97	AVG >>	99.60%

25-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	552.61	867	99.70%
452	552.53	902	99.67%
453	557.33	1519	99.43%
	1662.47	AVG >>	99.60%

26-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	521.58	840	99.70%
452	540.84	857	99.69%
453	525.50	1464	99.43%
	1587.92	AVG >>	99.61%

27-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	493.29	828	99.70%
452	493.18	832	99.69%
453	502.13	1428	99.44%
	1488.59	AVG >>	99.61%

28-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	442.38	934	99.66%
452	493.13	900	99.66%
453	500.27	1352	99.41%
	1435.78	AVG >>	99.58%

29-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	486.76	822	99.71%
452	465.30	823	99.69%
453	512.10	1526	99.43%
	1464.17	AVG >>	99.61%

30-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	493.57	734	99.74%
452	370.47	745	99.69%
453	490.84	1514	99.42%
	1354.88	AVG >>	99.62%

Reliance Industries Limited, Refinery Division Jamnagar

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs — **MONTH: December '2023**

01-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	437.48	768.3	99.72%
452	423.15	762.2	99.70%
453	455.99	1166.7	99.59%
	1316.62	AVG >>	99.67%

02-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	418.41	838.3	99.69%
452	468.89	832.0	99.69%
453	487.11	1049.2	99.68%
	1374.40	AVG >>	99.69%

03-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	414.99	713.1	99.73%
452	494.11	715.1	99.74%
453	482.08	1027.3	99.68%
	1391.18	AVG >>	99.72%

04-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	435.82	797.1	99.71%
452	519.15	813.3	99.71%
453	549.93	1388.7	99.50%
	1504.91	AVG >>	99.64%

05-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	433.38	828.5	99.69%
452	533.72	834.4	99.70%
453	534.98	821.4	99.70%
	1502.07	AVG >>	99.70%

06-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	436.31	838.6	99.69%
452	535.41	838.0	99.70%
453	536.69	879.3	99.68%
	1508.42	AVG >>	99.69%

07-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	502.08	813.3	99.72%
452	529.76	804.5	99.71%
453	553.04	906.2	99.68%
	1584.87	AVG >>	99.70%

08-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	466.61	787.4	99.71%
452	528.29	768.4	99.72%
453	514.60	944.8	99.65%
	1509.50	AVG >>	99.69%

09-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	429.50	845.9	99.68%
452	551.65	817.7	99.71%
453	550.72	1027.8	99.63%
	1531.86	AVG >>	99.67%

10-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	427.69	946.8	99.64%
452	554.44	897.4	99.68%
453	553.41	1123.1	99.59%
	1535.54	AVG >>	99.64%

11-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	434.02	568.4	99.64%
452	572.08	903.4	99.68%
453	573.15	1161.6	99.58%
	1579.25	AVG >>	99.63%

12-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	446.35	933.7	99.66%
452	571.29	891.6	99.69%
453	564.74	1177.7	99.58%
	1582.38	AVG >>	99.64%

13-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	529.67	869.5	99.70%
452	552.64	850.8	99.70%
453	551.22	1140.1	99.58%
	1633.53	AVG >>	99.66%

14-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	507.17	1069.2	99.63%
452	460.40	994.4	99.62%
453	546.56	1296.0	99.51%
	1514.13	AVG >>	99.59%

15-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	577.47	899.7	99.70%
452	374.80	838.4	99.64%
453	522.41	1142.5	99.56%
	1474.68	AVG >>	99.63%

Reliance Industries Limited, Refinery Division Jamnagar

16-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	547.13	781.9	99.74%
452	419.37	735.7	99.70%
453	528.38	1030.9	99.61%
	1494.88	AVG >>	99.68%

17-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	571.55	799.6	99.74%
452	427.31	763.4	99.70%
453	566.76	1054.0	99.61%
	1565.62	AVG >>	99.68%

18-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	529.67	851.8	99.71%
452	529.52	801.2	99.71%
453	528.90	1095.1	99.58%
	1588.09	AVG >>	99.67%

19-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	504.55	788.9	99.72%
452	507.73	760.0	99.72%
453	500.09	1042.0	99.59%
	1512.38	AVG >>	99.68%

20-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	503.12	732.0	99.74%
452	494.36	708.4	99.74%
453	510.67	987.1	99.62%
	1508.16	AVG >>	99.70%

21-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	519.04	687.4	99.76%
452	388.37	686.3	99.71%
453	530.29	984.8	99.63%
	1437.69	AVG >>	99.70%

22-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	508.50	716.2	99.75%
452	431.37	687.5	99.73%
453	484.73	1024.3	99.59%
	1424.60	AVG >>	99.69%

23-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	477.29	726.3	99.74%
452	429.92	688.2	99.73%
453	486.08	1010.9	99.60%
	1393.29	AVG >>	99.69%

24-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	463.85	701.4	99.75%
452	430.15	660.6	99.74%
453	445.27	1014.8	99.59%
	1339.27	AVG >>	99.69%

25-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	400.36	633.4	99.76%
452	403.77	596.8	99.76%
453	390.21	941.1	99.59%
	1194.34	AVG >>	99.70%

26-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	400.57	670.5	99.75%
452	361.33	605.9	99.74%
453	391.82	959.2	99.59%
	1153.72	AVG >>	99.69%

27-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	450.32	455.7	99.83%
452	279.71	1126.5	99.53%
453	455.74	767.6	99.69%
	1185.77	AVG >>	99.68%

28-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	573.27	625.2	99.73%
452	SD	SD	SD
453	563.27	897.6	99.68%
	1136.53	AVG >>	99.71%

29-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	550.25	460.7	99.75%
452	SD	SD	SD
453	545.53	769.6	99.63%
	1091.05	AVG >>	99.69%

30-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	585.80	632.1	99.72%
452	SD	SD	SD
453	557.81	765.8	99.63%
	1143.61	AVG >>	99.67%

31-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	479.77	519.0	99.80%
452	389.58	597.4	99.76%
453	458.96	476.4	99.80%
	1328.30	AVG >>	99.87%

Reliance Industries Limited, Refinery Division Jamnagar

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs — **MONTH: January '2024**

01-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	460.99	651.8	99.75%
452	433.06	631.7	99.75%
453	472.34	618.6	99.75%
	1366.39	AVG >>	99.75%

02-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	502.53	960.6	99.66%
452	422.65	938.2	99.65%
453	497.48	918.2	99.64%
	1422.66	AVG >>	99.65%

03-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	460.92	1020.4	99.62%
452	430.53	995.2	99.61%
453	441.50	971.1	99.60%
	1332.95	AVG >>	99.61%

04-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	434.59	1226.6	99.54%
452	428.98	1254.9	99.50%
453	431.27	1140.3	99.52%
	1294.40	AVG >>	99.52%

05-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	454.23	843.8	99.69%
452	430.32	796.4	99.68%
453	474.02	786.2	99.69%
	1358.57	AVG >>	99.69%

06-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	482.12	950.2	99.67%
452	433.99	794.2	99.68%
453	489.17	895.2	99.65%
	1405.28	AVG >>	99.67%

07-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	533.98	933.1	99.69%
452	438.62	1028.2	99.61%
453	527.94	895.1	99.66%
	1480.54	AVG >>	99.65%

08-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	512.33	1279.1	99.57%
452	435.03	1305.8	99.51%
453	450.33	1184.4	99.52%
	1397.68	AVG >>	99.53%

09-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	489.80	1108.5	99.62%
452	442.32	1140.7	99.57%
453	421.46	1023.6	99.57%
	1353.58	AVG >>	99.59%

10-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	507.06	775.9	99.74%
452	438.26	882.5	99.67%
453	498.61	748.5	99.72%
	1443.92	AVG >>	99.71%

11-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	512.18	930.9	99.69%
452	438.81	1028.8	99.61%
453	506.50	919.8	99.65%
	1457.49	AVG >>	99.65%

12-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	515.27	949.8	99.66%
452	436.80	1057.1	99.59%
453	514.61	925.9	99.65%
	1466.68	AVG >>	99.60%

13-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	560.71	1009.7	99.67%
452	514.17	1132.0	99.58%
453	537.05	1012.6	99.63%
	1611.93	AVG >>	99.63%

14-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	558.25	815.1	99.73%
452	526.84	957.7	99.65%
453	510.15	825.1	99.69%
	1595.24	AVG >>	99.69%

15-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	548.63	836.6	99.72%
452	512.82	975.1	99.64%
453	492.40	833.2	99.68%
	1553.86	AVG >>	99.68%

ANNEXURE -4A

Reliance Industries Limited, Refinery Division Jamnagar

16-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	531.77	1178.8	99.60%
452	489.62	1269.6	99.53%
453	465.70	1133.8	99.55%
	1487.10	AVG >>	99.56%

17-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	493.47	760.4	99.74%
452	454.79	873.3	99.66%
453	423.30	759.2	99.68%
	1373.55	AVG >>	99.69%

18-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	460.45	788.5	99.72%
452	440.15	918.6	99.63%
453	427.79	803.5	99.66%
	1328.39	AVG >>	99.67%

19-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	474.93	795.0	99.72%
452	454.77	966.9	99.62%
453	453.29	847.2	99.66%
	1382.98	AVG >>	99.66%

20-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	422.83	800.2	99.71%
452	406.05	878.4	99.64%
453	381.87	749.0	99.67%
	1210.75	AVG >>	99.68%

21-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	388.66	517.2	99.81%
452	363.75	593.5	99.75%
453	386.76	478.3	99.79%
	1139.17	AVG >>	99.78%

22-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	428.78	553.3	99.80%
452	407.10	645.4	99.74%
453	435.71	520.7	99.79%
	1271.58	AVG >>	99.78%

23-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	494.96	815.6	99.72%
452	436.57	927.7	99.64%
453	502.08	780.6	99.71%
	1433.61	AVG >>	99.69%

24-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	525.34	856.9	99.71%
452	451.19	993.8	99.62%
453	514.09	836.4	99.68%
	1490.62	AVG >>	99.67%

25-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	544.18	1094.8	99.63%
452	533.17	1138.9	99.57%
453	525.62	1046.3	99.60%
	1602.98	AVG >>	99.60%

26-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	528.22	885.1	99.70%
452	510.41	966.3	99.63%
453	495.90	851.1	99.66%
	1534.53	AVG >>	99.66%

27-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	488.55	803.7	99.69%
452	464.25	962.1	99.62%
453	437.81	830.8	99.65%
	1390.60	AVG >>	99.65%

28-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	415.62	799.7	99.70%
452	389.52	867.4	99.64%
453	368.27	730.6	99.68%
	1173.40	AVG >>	99.67%

29-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	389.01	699.0	99.74%
452	377.54	776.6	99.68%
453	380.63	650.2	99.71%
	1147.18	AVG >>	99.71%

30-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	409.18	635.0	99.77%
452	393.01	728.0	99.71%
453	420.77	621.9	99.73%
	1222.96	AVG >>	99.74%

31-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	499.32	729.9	99.75%
452	434.25	827.7	99.67%
453	497.88	738.8	99.72%
	1431.44	AVG >>	99.71%

Reliance Industries Limited, Refinery Division Jamnagar

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs **MONTH:February '2024**

01-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	540.24	815.2	99.72%
452	482.53	951.4	99.65%
453	522.44	861.8	99.68%
	1545.2	AVG >>	99.68%

02-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	544.96	1005.2	99.66%
452	534.40	1100.3	99.61%
453	527.74	1036.3	99.60%
	1807.1	AVG >>	99.62%

03-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	515.47	936.5	99.67%
452	468.04	863.4	99.70%
453	451.88	917.0	99.61%
	1435.4	AVG >>	99.66%

04-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	468.31	974.5	99.65%
452	432.76	768.7	99.74%
453	440.98	928.3	99.60%
	1341.0	AVG >>	99.66%

05-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	444.52	822.8	99.70%
452	429.83	438.1	99.83%
453	433.20	797.3	99.66%
	1307.5	AVG >>	99.73%

06-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	425.22	897.8	99.67%
452	424.03	884.0	99.65%
453	405.47	856.1	99.62%
	1254.7	AVG >>	99.65%

07-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	431.56	817.0	99.71%
452	429.17	800.8	99.69%
453	408.95	794.4	99.66%
	1269.7	AVG >>	99.68%

08-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	424.72	836.3	99.70%
452	421.58	810.9	99.68%
453	383.67	805.8	99.64%
	1230.0	AVG >>	99.67%

09-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	421.26	666.3	99.76%
452	411.21	633.8	99.75%
453	408.32	659.8	99.72%
	1340.8	AVG >>	99.74%

10-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	444.84	595.6	99.80%
452	428.59	751.9	99.71%
453	433.58	812.1	99.67%
	1307.0	AVG >>	99.72%

11-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	485.28	552.7	99.81%
452	433.98	788.7	99.69%
453	470.14	884.7	99.66%
	1389.4	AVG >>	99.72%

12-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	515.11	616.2	99.79%
452	431.00	887.8	99.65%
453	517.53	977.0	99.63%
	1463.6	AVG >>	99.69%

13-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	521.04	581.7	99.80%
452	459.43	859.3	99.67%
453	506.61	962.1	99.64%
	1487.1	AVG >>	99.70%

14-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	509.50	589.7	99.79%
452	485.27	827.5	99.68%
453	472.01	965.0	99.62%
	1466.8	AVG >>	99.70%

15-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	536.99	758.0	99.74%
452	516.16	969.3	99.63%
453	505.50	1110.1	99.57%
	1558.6	AVG >>	99.65%

Reliance Industries Limited, Refinery Division Jamnagar

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs **MONTH:February '2024**

16-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	597.13	770.0	99.73%
452	574.39	1002.0	99.64%
453	556.61	1124.6	99.57%
	1728.1	AVG >>	99.65%

17-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	599.35	866.8	99.69%
452	577.65	1079.8	99.60%
453	559.05	1224.4	99.53%
	1736.0	AVG >>	99.61%

18-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	591.30	819.9	99.71%
452	564.52	1016.9	99.62%
453	538.49	1164.5	99.55%
	1694.3	AVG >>	99.63%

19-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	573.17	889.9	99.68%
452	556.85	1072.1	99.60%
453	542.69	964.7	99.62%
	1672.7	AVG >>	99.64%

20-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	584.53	839.2	99.70%
452	557.98	1040.2	99.61%
453	532.43	895.0	99.65%
	1674.9	AVG >>	99.66%

21-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	586.86	698.9	99.76%
452	566.56	917.1	99.66%
453	546.04	752.0	99.71%
	1699.5	AVG >>	99.71%

22-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	591.80	698.7	99.75%
452	568.78	925.4	99.66%
453	547.87	764.1	99.71%
	1708.4	AVG >>	99.71%

23-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	598.29	765.9	99.73%
452	562.10	1008.3	99.62%
453	568.48	827.2	99.69%
	1728.9	AVG >>	99.68%

24-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	600.58	728.5	99.74%
452	526.39	992.7	99.62%
453	567.23	808.7	99.69%
	1694.3	AVG >>	99.68%

25-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	602.64	745.5	99.74%
452	527.24	1029.8	99.60%
453	564.48	818.0	99.68%
	1694.4	AVG >>	99.67%

26-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	603.06	690.9	99.75%
452	557.82	989.6	99.63%
453	551.58	771.3	99.70%
	1712.5	AVG >>	99.69%

27-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	583.24	722.6	99.74%
452	549.11	1006.7	99.62%
453	532.09	781.5	99.69%
	1664.4	AVG >>	99.68%

28-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	532.65	570.1	99.80%
452	497.93	856.9	99.66%
453	494.75	644.8	99.74%
	1525.3	AVG >>	99.73%

29-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	493.67	485.7	99.82%
452	474.31	769.5	99.69%
453	467.89	578.8	99.76%
	1435.8	AVG >>	99.76%

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs **MONTH: March '2024**

01-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	481.15	551	99.79%
452	467.30	797	99.68%
453	466.13	609	99.75%
	[illegible]	AVG >>	99.74%

02-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	482.21	563	99.79%
452	474.03	791	99.68%
453	487.98	388	99.77%
	[illegible]	AVG >>	99.75%

03-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	481.65	628	99.77%
452	475.23	832	99.66%
453	482.49	617	99.76%
	[illegible]	AVG >>	99.73%

04-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	515.37	718	99.74%
452	507.72	931	99.63%
453	512.06	704	99.73%
	[illegible]	AVG >>	99.70%

05-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	539.06	678	99.76%
452	523.04	869	99.66%
453	510.80	695	99.73%
	[illegible]	AVG >>	99.72%

06-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	513.54	675	99.76%
452	498.94	795	99.69%
453	488.90	788	99.70%
	[illegible]	AVG >>	99.72%

07-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	498.18	591	99.79%
452	495.62	695	99.73%
453	496.33	648	99.75%
	[illegible]	AVG >>	99.76%

08-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	505.34	563	99.80%
452	489.89	676	99.74%
453	456.66	816	99.67%
	[illegible]	AVG >>	99.74%

09-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	487.37	486	99.82%
452	488.31	621	99.76%
453	355.25	571	99.75%
	[illegible]	AVG >>	99.78%

10-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	459.77	457	99.83%
452	433.31	603	99.75%
453	409.17	564	99.76%
	[illegible]	AVG >>	99.78%

11-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	470.03	533	99.81%
452	459.26	701	99.72%
453	452.67	651	99.74%
	[illegible]	AVG >>	99.76%

12-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	467.45	446	99.84%
452	463.27	663	99.74%
453	451.10	538	99.76%
	[illegible]	AVG >>	99.78%

13-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	465.46	463	99.84%
452	460.85	678	99.73%
453	457.26	630	99.75%
	[illegible]	AVG >>	99.77%

14-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	478.20	513	99.82%
452	472.92	635	99.75%
453	467.11	687	99.73%
	[illegible]	AVG >>	99.77%

15-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	491.80	580	99.80%
452	478.23	811	99.69%
453	463.70	764	99.70%
	[illegible]	AVG >>	99.73%

ANNEXURE -4A

Reliance Industries Limited, Refinery Division Jamnagar

16-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	492.53	860	99.70%
452	473.65	1067	99.59%
453	451.70	1030	99.58%
	1417.87	AVG >>	99.62%

17-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	482.38	642	99.77%
452	475.92	892	99.65%
453	457.86	830	99.66%
	1416.17	AVG >>	99.70%

18-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	494.56	662	99.77%
452	475.78	906	99.65%
453	453.40	834	99.66%
	1423.74	AVG >>	99.69%

19-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	492.43	722	99.74%
452	479.26	960	99.62%
453	464.11	863	99.65%
	1435.80	AVG >>	99.67%

20-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	488.91	696	99.75%
452	474.35	944	99.63%
453	457.24	832	99.66%
	1420.50	AVG >>	99.68%

21-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	485.25	679	99.76%
452	470.44	907	99.65%
453	452.21	790	99.68%
	1407.90	AVG >>	99.69%

22-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	474.73	685	99.75%
452	467.07	858	99.67%
453	457.10	739	99.70%
	1398.90	AVG >>	99.70%

23-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	482.10	675	99.76%
452	471.54	910	99.65%
453	459.21	777	99.69%
	1412.86	AVG >>	99.70%

24-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	486.78	695	99.71%
452	471.89	952	99.63%
453	454.28	813	99.67%
	1412.96	AVG >>	99.67%

25-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	480.11	655	99.69%
452	457.72	886	99.65%
453	433.18	750	99.69%
	1371.01	AVG >>	99.68%

26-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	481.00	665	99.67%
452	467.27	915	99.65%
453	450.81	784	99.68%
	1398.08	AVG >>	99.67%

27-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	495.35	868	99.70%
452	468.14	1396	99.47%
453	480.25	1277	99.50%
	1483.75	AVG >>	99.56%

28-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	500.70	666	99.77%
452	474.50	1123	99.56%
453	446.63	964	99.60%
	1421.83	AVG >>	99.64%

29-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	485.53	534	99.81%
452	462.25	992	99.61%
453	435.35	824	99.65%
	1383.13	AVG >>	99.69%

30-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	476.50	585	99.79%
452	457.06	1034	99.59%
453	430.57	871	99.63%
	1364.14	AVG >>	99.67%

31-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
451	473.21	656	99.77%
452	453.47	1100	99.57%
453	427.67	934	99.61%
	1694.35	AVG >>	99.65%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs **MONTH: October 2023**

01-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	384.93	254.5	99.92%
Z452	SD	SD	SD
Z453	387.02	147.6	99.93%
Total	772.93	AVG >>	99.93%

02-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	389.05	219.6	99.92%
Z452	SD	SD	SD
Z453	390.09	119.7	99.95%
Total	779.76	AVG >>	99.93%

03-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	395.70	203.6	99.92%
Z452	SD	SD	SD
Z453	395.02	155.9	99.93%
Total	791.16	AVG >>	99.92%

04-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	396.45	203.5	99.92%
Z452	SD	SD	SD
Z453	395.03	155.9	99.93%
Total	791.93	AVG >>	99.92%

05-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	447.97	253.9	99.92%
Z452	SD	SD	SD
Z453	448.99	163.9	99.93%
Total	897.41	AVG >>	99.93%

06-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	486.98	241.4	99.92%
Z452	SD	SD	SD
Z453	484.65	155.9	99.94%
Total	972.08	AVG >>	99.93%

07-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	514.51	260.3	99.92%
Z452	SD	SD	SD
Z453	511.26	175.2	99.93%
Total	1026.22	AVG >>	99.93%

08-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	501.94	248.1	99.93%
Z452	SD	SD	SD
Z453	499.63	157.4	99.93%
Total	1002.03	AVG >>	99.93%

09-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	493.62	199.8	99.92%
Z452	SD	SD	SD
Z453	493.44	157.4	99.92%
Total	987.50	AVG >>	99.92%

10-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	498.81	200.5	99.91%
Z452	SD	SD	SD
Z453	499.46	157.4	99.91%
Total	998.72	AVG >>	99.91%

11-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	463.99	208.6	99.92%
Z452	SD	SD	SD
Z453	460.63	157.4	99.93%
Total	925.06	AVG >>	99.93%

12-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	450.44	199.0	99.91%
Z452	SD	SD	SD
Z453	445.60	157.4	99.93%
Total	896.44	AVG >>	99.92%

13-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	436.07	224.9	99.93%
Z452	SD	SD	SD
Z453	433.60	115.0	99.91%
Total	870.05	AVG >>	99.92%

14-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	421.27	177.4	99.91%
Z452	SD	SD	SD
Z453	420.48	80.5	99.92%
Total	842.15	AVG >>	99.91%

15-Oct-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	466.63	133.4	99.92%
Z452	SD	SD	SD
Z453	465.95	92.2	99.91%
Total	933.00	AVG >>	99.92%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

16-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	456.50	123.7	99.91%
Z452	SD	SD	SD
Z453	455.88	106.0	99.92%
Total	912.79	AVG >>	99.91%

17-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	459.67	257.0	99.92%
Z452	SD	SD	SD
Z453	458.22	128.1	99.92%
Total	918.32	AVG >>	99.92%

18-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	474.76	251.2	99.92%
Z452	SD	SD	SD
Z453	473.76	137.9	99.91%
Total	948.95	AVG >>	99.92%

19-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	465.28	208.1	99.92%
Z452	SD	SD	SD
Z453	462.31	169.1	99.93%
Total	928.02	AVG >>	99.92%

20-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	448.64	180.8	99.91%
Z452	SD	SD	SD
Z453	444.33	169.1	99.92%
Total	893.40	AVG >>	99.91%

21-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	439.04	148.8	99.92%
Z452	SD	SD	SD
Z453	436.30	169.1	99.93%
Total	875.79	AVG >>	99.92%

22-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	492.75	182.2	99.92%
Z452	SD	SD	SD
Z453	494.08	169.1	99.93%
Total	987.26	AVG >>	99.93%

23-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	519.29	215.2	99.93%
Z452	SD	SD	SD
Z453	541.45	169.1	99.93%
Total	1061.19	AVG >>	99.93%

24-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	442.00	142.6	99.91%
Z452	SD	SD	SD
Z453	449.78	169.1	99.93%
Total	892.24	AVG >>	99.92%

25-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	414.67	142.6	99.91%
Z452	SD	SD	SD
Z453	416.38	169.1	99.92%
Total	831.51	AVG >>	99.92%

26-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	406.25	198.9	99.92%
Z452	SD	SD	SD
Z453	405.24	174.8	99.92%
Total	811.93	AVG >>	99.92%

27-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	403.43	202.3	99.93%
Z452	SD	SD	SD
Z453	403.59	170.7	99.92%
Total	807.46	AVG >>	99.93%

28-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	413.48	246.1	99.91%
Z452	SD	SD	SD
Z453	415.64	170.7	99.92%
Total	829.55	AVG >>	99.92%

29-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	420.22	246.1	99.91%
Z452	SD	SD	SD
Z453	422.98	170.7	99.92%
Total	843.64	AVG >>	99.92%

30-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	457.25	246.1	99.92%
Z452	SD	SD	SD
Z453	498.35	173.4	99.93%
Total	956.04	AVG >>	99.92%

31-Oct-23			
Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	463.31	-70.4	99.92%
Z452	SD	SD	SD
Z453	512.18	169.1	99.93%
Total	975.94	AVG >>	99.92%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

COMPUTERISED MONITORING OF SO2 EMISSION FROM SRUs **MONTH: November 2023**

01-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	479.78	255.0	99.92%
Z452	SD	SD	SD
Z453	559.42	187.5	99.93%
Total	1039.67	AVG >>	99.92%

02-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	467.83	255.0	99.92%
Z452	SD	SD	SD
Z453	518.73	169.1	99.93%
Total	987.02	AVG >>	99.92%

03-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	470.51	255.0	99.92%
Z452	SD	SD	SD
Z453	543.02	181.8	99.93%
Total	1013.99	AVG >>	99.92%

04-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	469.54	255.0	99.92%
Z452	SD	SD	SD
Z453	533.94	176.5	99.93%
Total	1003.94	AVG >>	99.92%

05-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	475.45	255.0	99.92%
Z452	SD	SD	SD
Z453	528.53	169.9	99.93%
Total	1004.44	AVG >>	99.92%

06-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	479.00	255.0	99.92%
Z452	SD	SD	SD
Z453	566.17	260.6	99.90%
Total	1045.65	AVG >>	99.91%

07-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	472.79	255.0	99.92%
Z452	SD	SD	SD
Z453	533.19	198.3	99.92%
Total	1006.45	AVG >>	99.92%

08-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	462.26	255.0	99.92%
Z452	SD	SD	SD
Z453	509.45	163.0	99.93%
Total	972.18	AVG >>	99.92%

09-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	458.27	255.0	99.92%
Z452	SD	SD	SD
Z453	506.24	134.4	99.93%
Total	964.97	AVG >>	99.92%

10-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	485.28	255.0	99.92%
Z452	SD	SD	SD
Z453	563.65	203.7	99.92%
Total	1049.42	AVG >>	99.92%

11-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	486.96	255.0	99.92%
Z452	SD	SD	SD
Z453	543.53	196.4	99.92%
Total	1031.19	AVG >>	99.92%

12-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	441.24	255.0	99.91%
Z452	170.34	135.0	99.90%
Z453	486.24	154.3	99.94%
Total	1097.81	AVG >>	99.92%

13-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	378.33	255.0	99.91%
Z452	355.33	811.6	99.91%
Z453	357.45	140.2	99.93%
Total	1091.12	AVG >>	99.82%

14-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	365.41	255.0	99.91%
Z452	362.78	867.0	99.91%
Z453	359.19	140.2	99.93%
Total	1087.39	AVG >>	99.81%

15-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	400.10	255.0	99.91%
Z452	414.72	923.4	99.92%
Z453	414.02	140.2	99.94%
Total	1228.84	AVG >>	99.81%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

16-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	388.16	255.0	99.91%
Z452	566.65	921.0	99.93%
Z453	422.64	140.2	99.94%
Total	1377.45	AVG >>	99.83%

17-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	420.65	255.0	99.91%
Z452	644.78	611.1	99.93%
Z453	427.49	142.4	99.94%
Total	1492.91	AVG >>	99.87%

18-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	405.60	255.0	99.91%
Z452	642.65	378.7	99.85%
Z453	419.79	139.1	99.94%
Total	1468.04	AVG >>	99.90%

19-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	378.42	255.0	99.91%
Z452	634.03	497.8	99.91%
Z453	386.76	195.3	99.91%
Total	1399.21	AVG >>	99.88%

20-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	420.74	255.0	99.91%
Z452	517.56	533.6	99.91%
Z453	434.86	200.0	99.91%
Total	1373.16	AVG >>	99.87%

21-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	474.81	255.0	99.92%
Z452	476.42	359.5	99.92%
Z453	475.98	235.0	99.90%
Total	1427.22	AVG >>	99.89%

22-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	472.89	255.0	99.92%
Z452	477.69	208.5	99.92%
Z453	481.43	258.2	99.9%
Total	1432.01	AVG >>	99.91%

23-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	460.65	255.0	99.91%
Z452	464.50	227.8	99.91%
Z453	461.60	208.4	99.91%
Total	1386.75	AVG >>	99.91%

24-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	440.09	255.0	99.91%
Z452	444.01	221.5	99.92%
Z453	441.04	157.0	99.91%
Total	1325.13	AVG >>	99.92%

25-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	450.40	255.0	99.91%
Z452	455.66	228.2	99.92%
Z453	454.13	250.8	99.9%
Total	1360.19	AVG >>	99.91%

26-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	507.76	255.0	99.92%
Z452	528.40	224.2	99.93%
Z453	385.91	250.5	99.9%
Total	1422.06	AVG >>	99.91%

27-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	441.87	255.0	99.91%
Z452	471.77	222.3	99.93%
Z453	433.04	285.1	99.88%
Total	1346.68	AVG >>	99.90%

28-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	423.41	255.0	99.91%
Z452	428.77	230.7	99.92%
Z453	423.06	60.5	99.92%
Total	1275.25	AVG >>	99.92%

29-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	374.07	255.0	99.91%
Z452	379.33	224.7	99.92%
Z453	374.57	45.2	99.91%
Total	1127.97	AVG >>	99.91%

30-Nov-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	376.48	255.0	99.91%
Z452	381.61	222.3	99.92%
Z453	378.67	27.1	99.91%
Total	1136.75	AVG >>	99.91%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

COMPUTERISED MONITORING OF SO_2 EMISSION FROM SRUs — MONTH: December 2023

01-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	421.54	250.0	99.90%
Z452	423.23	222.3	99.92%
Z453	427.37	115.8	99.93%
Total	1272.14	AVG >>	99.92%

02-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	472.54	250.0	99.90%
Z452	514.27	222.3	99.93%
Z453	530.92	193.5	99.93%
Total	1517.73	AVG >>	99.92%

03-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	490.09	250.0	99.90%
Z452	542.72	222.3	99.93%
Z453	580.61	238.8	99.91%
Total	1613.42	AVG >>	99.91%

04-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	500.55	250.0	99.90%
Z452	548.48	222.3	99.93%
Z453	585.21	186.0	99.93%
Total	1634.24	AVG >>	99.92%

05-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	494.97	250.0	99.90%
Z452	528.98	222.3	99.93%
Z453	551.13	162.1	99.94%
Total	1575.08	AVG >>	99.92%

06-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	483.98	250.0	99.90%
Z452	504.26	222.3	99.93%
Z453	515.78	186.7	99.93%
Total	1504.03	AVG >>	99.92%

07-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	466.83	250.0	99.90%
Z452	483.22	222.3	99.93%
Z453	488.73	212.3	99.92%
Total	1438.79	AVG >>	99.91%

08-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	460.46	250.0	99.90%
Z452	469.26	222.3	99.93%
Z453	471.79	205.4	99.92%
Total	1401.51	AVG >>	99.91%

09-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	447.94	250.0	99.90%
Z452	453.52	222.3	99.92%
Z453	453.60	193.6	99.92%
Total	1355.05	AVG >>	99.91%

10-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	427.32	250.0	99.90%
Z452	428.89	222.3	99.92%
Z453	425.67	165.3	99.93%
Total	1281.87	AVG >>	99.92%

11-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	445.77	250.0	99.90%
Z452	450.73	222.3	99.92%
Z453	454.94	166.3	99.93%
Total	1351.45	AVG >>	99.92%

12-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	487.22	250.0	99.90%
Z452	515.31	237.2	99.92%
Z453	534.36	211.4	99.92%
Total	1536.89	AVG >>	99.91%

13-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	485.22	250.0	99.90%
Z452	521.50	252.4	99.92%
Z453	546.51	223.8	99.92%
Total	1553.23	AVG >>	99.91%

14-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	482.74	250.0	99.90%
Z452	530.09	257.2	99.91%
Z453	564.30	223.8	99.92%
Total	1577.14	AVG >>	99.91%

15-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	474.20	250.0	99.90%
Z452	494.91	235.9	99.92%
Z453	506.35	227.8	99.91%
Total	1475.46	AVG >>	99.91%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

16-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	477.29	250.0	99.90%
Z452	480.42	204.7	99.93%
Z453	477.88	218.4	99.91%
Total	1435.59	AVG >>	99.91%

17-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	483.77	250.0	99.90%
Z452	489.30	212.0	99.93%
Z453	489.42	220.7	99.91%
Total	1462.49	AVG >>	99.91%

18-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	475.71	250.0	99.90%
Z452	480.06	228.3	99.92%
Z453	485.47	237.9	99.91%
Total	1441.24	AVG >>	99.91%

19-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	475.51	250.0	99.90%
Z452	475.65	207.0	99.93%
Z453	463.60	218.4	99.91%
Total	1414.76	AVG >>	99.91%

20-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	445.09	250.0	99.90%
Z452	446.40	207.0	99.93%
Z453	444.97	218.4	99.93%
Total	1336.46	AVG >>	99.92%

21-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	457.24	250.0	99.90%
Z452	456.39	207.0	99.93%
Z453	447.17	218.4	99.94%
Total	1360.80	AVG >>	99.92%

22-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	350.77	250.0	99.90%
Z452	469.95	207.0	99.93%
Z453	462.76	218.4	99.94%
Total	1283.49	AVG >>	99.92%

23-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	369.73	250.0	99.90%
Z452	453.63	164.6	99.95%
Z453	449.86	264.4	99.89%
Total	1273.22	AVG >>	99.91%

24-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	415.74	250.0	99.90%
Z452	419.26	208.6	99.92%
Z453	414.46	132.0	99.95%
Total	1249.46	AVG >>	99.92%

25-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	385.44	250.0	99.90%
Z452	388.00	208.6	99.92%
Z453	384.04	218.4	99.94%
Total	1157.48	AVG >>	99.92%

26-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	393.56	250.0	99.90%
Z452	394.42	209.7	99.92%
Z453	387.78	218.4	99.91%
Total	1175.77	AVG >>	99.91%

27-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	450.44	250.0	99.90%
Z452	463.87	202.5	99.93%
Z453	465.44	218.4	99.94%
Total	1379.76	AVG >>	99.92%

28-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	466.98	250.0	99.90%
Z452	490.44	192.7	99.94%
Z453	507.37	218.4	99.94%
Total	1464.78	AVG >>	99.94%

29-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	461.63	250.0	99.90%
Z452	473.13	204.3	99.93%
Z453	477.86	218.4	99.93%
Total	1412.62	AVG >>	99.94%

30-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	437.63	250.0	99.92%
Z452	442.86	209.3	99.93%
Z453	441.33	218.4	99.94%
Total	1321.82	AVG >>	99.93%

31-Dec-23

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	395.96	250.0	99.91%
Z452	404.09	197.0	99.93%
Z453	398.36	218.4	99.94%
Total	1198.40	AVG >>	99.93%

COMPUTERISED MONITORING OF SO_2 EMISSION FROM SRUs — MONTH: January 2024

01-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	400.88	250.0	99.92%
Z452	406.14	193.4	99.93%
Z453	401.36	27.3	99.95%
Total	1208.38	AVG >>	99.93%

02-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	388.32	250.0	99.95%
Z452	396.06	191.0	99.94%
Z453	386.85	108.1	99.96%
Total	1171.23	AVG >>	99.95%

03-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	357.13	250.0	99.94%
Z452	360.19	209.9	99.92%
Z453	354.60	178.6	99.92%
Total	1071.92	AVG >>	99.93%

04-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	389.22	250.0	99.93%
Z452	392.11	187.3	99.94%
Z453	393.57	177.3	99.92%
Total	1174.90	AVG >>	99.93%

05-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	442.24	250.0	99.93%
Z452	443.62	196.9	99.94%
Z453	442.36	187.8	99.92%
Total	1328.22	AVG >>	99.93%

06-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	474.93	250.0	99.94%
Z452	479.05	245.1	99.92%
Z453	475.33	223.9	99.91%
Total	1429.30	AVG >>	99.92%

07-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	479.71	250.0	99.93%
Z452	486.25	251.4	99.92%
Z453	481.91	230.7	99.91%
Total	1447.87	AVG >>	99.92%

08-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	481.93	250.0	99.93%
Z452	489.05	261.7	99.91%
Z453	483.31	217.6	99.92%
Total	1454.29	AVG >>	99.92%

09-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	488.80	250.0	99.94%
Z452	494.73	236.4	99.93%
Z453	492.94	216.0	99.92%
Total	1476.47	AVG >>	99.93%

10-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	483.04	250.0	99.93%
Z452	493.83	223.2	99.93%
Z453	492.19	197.7	99.93%
Total	1469.06	AVG >>	99.93%

11-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	515.48	250.0	99.92%
Z452	552.99	221.3	99.93%
Z453	576.24	192.4	99.93%
Total	1644.72	AVG >>	99.93%

12-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	548.80	250.0	99.91%
Z452	568.73	240.2	99.93%
Z453	577.76	197.0	99.93%
Total	1695.29	AVG >>	99.92%

13-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	584.84	250.0	99.95%
Z452	616.94	245.3	99.93%
Z453	632.38	197.0	99.99%
Total	1834.17	AVG >>	99.95%

14-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	598.59	250.0	99.92%
Z452	607.93	245.3	99.93%
Z453	604.39	197.0	99.93%
Total	1810.91	AVG >>	99.92%

15-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	492.91	250.0	99.93%
Z452	496.49	245.3	99.92%
Z453	487.58	197.0	99.93%
Total	1476.98	AVG >>	99.92%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

16-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	429.92	250.0	99.95%
Z452	433.77	241.1	99.91%
Z453	430.49	197.0	99.93%
Total	1294.18	AVG >>	99.93%

17-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	424.78	250.0	99.93%
Z452	425.47	237.5	99.91%
Z453	391.00	197.0	99.93%
Total	1241.25	AVG >>	99.92%

18-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	403.81	250.0	99.95%
Z452	407.67	188.6	99.93%
Z453	403.81	197.0	99.93%
Total	1215.29	AVG >>	99.94%

19-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	383.52	250.0	99.94%
Z452	388.04	248.1	99.90%
Z453	382.58	197.0	99.93%
Total	1154.14	AVG >>	99.92%

20-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	368.35	250.0	99.93%
Z452	373.28	216.5	99.92%
Z453	369.67	197.0	99.93%
Total	1111.29	AVG >>	99.92%

21-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	402.29	250.0	99.92%
Z452	407.96	200.9	99.93%
Z453	404.31	197.0	99.93%
Total	1214.56	AVG >>	99.92%

22-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	470.29	250.0	99.93%
Z452	474.58	206.5	99.93%
Z453	468.29	197.0	99.93%
Total	1413.16	AVG >>	99.93%

23-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	436.94	250.0	99.94%
Z452	440.61	203.9	99.93%
Z453	436.80	197.0	99.93%
Total	1314.35	AVG >>	99.93%

24-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	421.14	250.0	99.95%
Z452	425.70	176.6	99.94%
Z453	420.55	197.0	99.93%
Total	1267.40	AVG >>	99.94%

25-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	459.86	250.0	99.93%
Z452	459.35	191.7	99.94%
Z453	456.52	197.0	99.93%
Total	1375.73	AVG >>	99.93%

26-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	457.29	250.0	99.93%
Z452	457.61	156.4	99.95%
Z453	454.12	197.0	99.93%
Total	1369.02	AVG >>	99.93%

27-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	423.36	250.0	99.95%
Z452	425.16	176.3	99.94%
Z453	421.16	197.0	99.93%
Total	1269.67	AVG >>	99.94%

28-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	374.41	250.0	99.95%
Z452	376.33	193.5	99.93%
Z453	373.10	197.0	99.93%
Total	1123.85	AVG >>	99.93%

29-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	377.46	250.0	99.92%
Z452	379.50	197.7	99.92%
Z453	378.74	197.0	99.93%
Total	1135.69	AVG >>	99.92%

30-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	443.88	250.0	99.93%
Z452	447.01	202.2	99.93%
Z453	443.84	197.0	99.93%
Total	1334.73	AVG >>	99.93%

31-Jan-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	454.47	250.0	99.92%
Z452	458.08	210.6	99.93%
Z453	453.68	197.0	99.93%
Total	1366.23	AVG >>	99.92%

COMPUTERISED MONITORING OF SO_2 EMISSION FROM SRUs — MONTH: Feburary 2024

01-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	461.64	250.0	99.93%
Z452	465.40	234.8	99.92%
Z453	462.40	197.0	99.94%
Total	1389.44	AVG >>	99.93%

02-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	475.44	250.0	99.92%
Z452	479.31	214.9	99.92%
Z453	473.27	197.0	99.91%
Total	1428.02	AVG >>	99.92%

03-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	410.45	250.0	99.93%
Z452	414.16	209.6	99.92%
Z453	408.83	197.0	99.93%
Total	1233.43	AVG >>	99.93%

04-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	387.24	250.0	99.92%
Z452	387.59	208.4	99.92%
Z453	388.82	197.0	99.90%
Total	1163.65	AVG >>	99.91%

05-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	399.53	250.0	99.92%
Z452	402.55	205.1	99.92%
Z453	400.04	197.0	99.94%
Total	1202.12	AVG >>	99.93%

06-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	407.45	250.0	99.93%
Z452	413.04	221.4	99.92%
Z453	412.27	197.0	99.93%
Total	1232.76	AVG >>	99.93%

07-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	421.68	250.0	99.91%
Z452	423.61	174.3	99.94%
Z453	423.83	197.0	99.94%
Total	1269.11	AVG >>	99.93%

08-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	402.26	250.0	99.94%
Z452	403.91	139.8	99.95%
Z453	402.35	197.0	99.90%
Total	1208.51	AVG >>	99.93%

09-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	414.99	250.0	99.92%
Z452	416.31	138.0	99.95%
Z453	415.49	197.0	99.91%
Total	1246.79	AVG >>	99.93%

10-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	533.68	250.0	99.90%
Z452	532.71	218.9	99.93%
Z453	535.01	197.0	99.91%
Total	1601.40	AVG >>	99.91%

11-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	525.57	250.0	99.92%
Z452	526.25	219.0	99.93%
Z453	524.57	197.0	99.93%
Total	1576.39	AVG >>	99.93%

12-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	506.66	250.0	99.91%
Z452	508.15	217.6	99.93%
Z453	506.23	197.0	99.92%
Total	1521.04	AVG >>	99.92%

13-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	503.64	250.0	99.89%
Z452	505.37	217.1	99.93%
Z453	504.29	197.0	99.90%
Total	1513.30	AVG >>	99.91%

14-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	536.02	250.0	99.93%
Z452	541.02	232.4	99.92%
Z453	544.74	197.0	99.94%
Total	1621.77	AVG >>	99.93%

15-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	534.08	250.0	99.90%
Z452	540.28	222.9	99.93%
Z453	543.70	197.0	99.91%
Total	1618.05	AVG >>	99.91%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

16-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	542.72	250.0	99.91%
Z452	553.98	221.0	99.93%
Z453	567.36	197.0	99.91%
Total	1664.06	AVG >>	99.92%

17-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	566.20	250.0	99.90%
Z452	567.48	248.3	99.92%
Z453	572.58	197.0	99.89%
Total	1706.26	AVG >>	99.90%

18-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	514.74	250.0	99.92%
Z452	514.39	234.7	99.92%
Z453	513.33	197.0	99.93%
Total	1542.45	AVG >>	99.92%

19-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	501.61	250.0	99.92%
Z452	503.73	208.1	99.93%
Z453	502.69	197.0	99.92%
Total	1508.03	AVG >>	99.92%

20-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	520.89	250.0	99.91%
Z452	523.30	231.4	99.92%
Z453	520.11	197.0	99.93%
Total	1564.29	AVG >>	99.92%

21-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	514.15	250.0	99.93%
Z452	514.73	205.5	99.93%
Z453	514.53	197.0	99.94%
Total	1543.41	AVG >>	99.93%

22-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	468.14	250.0	99.93%
Z452	472.06	205.5	99.93%
Z453	471.66	197.0	99.90%
Total	1411.87	AVG >>	99.92%

23-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	455.99	250.0	99.94%
Z452	459.51	205.5	99.93%
Z453	460.32	197.0	99.95%
Total	1375.83	AVG >>	99.94%

24-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	460.90	250.0	99.93%
Z452	464.20	189.1	99.94%
Z453	465.18	197.0	99.93%
Total	1390.28	AVG >>	99.93%

25-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	454.97	250.0	99.95%
Z452	459.13	145.2	99.95%
Z453	459.45	197.0	99.93%
Total	1373.55	AVG >>	99.94%

26-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	450.22	250.0	99.92%
Z452	454.59	173.3	99.94%
Z453	455.03	197.0	99.91%
Total	1359.84	AVG >>	99.92%

27-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	446.66	250.0	99.93%
Z452	448.00	184.1	99.94%
Z453	450.72	197.0	99.91%
Total	1345.38	AVG >>	99.93%

28-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	446.25	250.0	99.92%
Z452	451.94	212.9	99.92%
Z453	452.21	197.0	99.90%
Total	1350.39	AVG >>	99.91%

29-Feb-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	450.72	250.0	99.91%
Z452	453.99	212.9	99.92%
Z453	455.86	197.0	99.93%
Total	1360.57	AVG >>	99.92%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

COMPUTERISED MONITORING OF SO_2 EMISSION FROM SRUs — MONTH: March 2024

01-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	421.51	250.0	99.91%
Z452	422.55	212.9	99.93%
Z453	422.91	197.0	99.94%
Total	1266.97	AVG >>	99.93%

02-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	421.42	250.0	99.90%
Z452	419.50	212.9	99.94%
Z453	424.82	197.0	99.94%
Total	1265.74	AVG >>	99.93%

03-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	432.04	250.0	99.90%
Z452	432.61	220.3	99.94%
Z453	437.46	197.0	99.94%
Total	1302.11	AVG >>	99.93%

04-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	432.19	250.0	99.91%
Z452	432.23	214.5	99.93%
Z453	438.55	197.0	99.94%
Total	1302.97	AVG >>	99.93%

05-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	456.50	250.0	99.91%
Z452	455.35	216.9	99.93%
Z453	458.40	197.0	99.94%
Total	1370.24	AVG >>	99.93%

06-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	463.02	250.0	99.91%
Z452	461.19	212.9	99.93%
Z453	460.17	197.0	99.94%
Total	1384.38	AVG >>	99.93%

07-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	470.93	250.0	99.91%
Z452	470.03	211.3	99.94%
Z453	468.18	197.0	99.94%
Total	1409.15	AVG >>	99.93%

08-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	487.07	250.0	99.91%
Z452	484.47	206.0	99.93%
Z453	487.72	197.0	99.94%
Total	1459.26	AVG >>	99.93%

09-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	474.98	250.0	99.91%
Z452	474.39	178.1	99.94%
Z453	475.59	197.0	99.94%
Total	1424.96	AVG >>	99.93%

10-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	437.76	250.0	99.90%
Z452	440.74	179.9	99.94%
Z453	439.53	197.0	99.94%
Total	1318.02	AVG >>	99.93%

11-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	421.42	250.0	99.90%
Z452	423.47	177.3	99.94%
Z453	423.41	197.0	99.94%
Total	1268.30	AVG >>	99.93%

12-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	403.26	250.0	99.91%
Z452	404.53	179.1	99.93%
Z453	402.94	197.0	99.94%
Total	1210.73	AVG >>	99.93%

13-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	395.05	250.0	99.91%
Z452	396.30	180.7	99.93%
Z453	393.55	197.0	99.94%
Total	1184.90	AVG >>	99.93%

14-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	404.26	250.0	99.90%
Z452	410.05	141.7	99.94%
Z453	415.31	197.0	99.94%
Total	1229.62	AVG >>	99.93%

15-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	432.01	250.0	99.90%
Z452	445.35	149.9	99.95%
Z453	459.98	197.0	99.94%
Total	1337.34	AVG >>	99.93%

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ) Jamnagar

16-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	468.97	250.0	99.91%
Z452	497.98	235.1	99.92%
Z453	528.42	197.0	99.94%
Total	1495.37	AVG >>	99.92%

17-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	500.91	250.0	99.91%
Z452	499.47	214.1	99.93%
Z453	501.97	197.0	99.94%
Total	1502.34	AVG >>	99.93%

18-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	493.50	250.0	99.90%
Z452	492.69	144.9	99.94%
Z453	493.73	197.0	99.94%
Total	1479.93	AVG >>	99.93%

19-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	482.87	250.0	99.91%
Z452	481.20	84.1	99.93%
Z453	483.52	197.0	99.94%
Total	1447.59	AVG >>	99.93%

20-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	470.38	250.0	99.91%
Z452	468.79	246.8	99.92%
Z453	474.32	197.0	99.94%
Total	1413.49	AVG >>	99.92%

21-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	491.37	250.0	99.91%
Z452	491.02	269.5	99.91%
Z453	496.75	197.0	99.94%
Total	1479.15	AVG >>	99.92%

22-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	498.25	250.0	99.91%
Z452	501.45	254.5	99.93%
Z453	502.69	197.0	99.94%
Total	1502.39	AVG >>	99.93%

23-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	438.62	250.0	99.91%
Z452	435.85	200.8	99.93%
Z453	439.85	197.0	99.94%
Total	1314.33	AVG >>	99.93%

24-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	433.71	250.0	99.91%
Z452	430.77	200.8	99.93%
Z453	436.79	197.0	99.93%
Total	1301.27	AVG >>	99.92%

25-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	442.79	250.0	99.91%
Z452	440.85	200.8	99.93%
Z453	448.95	197.0	99.94%
Total	1332.59	AVG >>	99.93%

26-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	494.24	250.0	99.91%
Z452	491.79	225.8	99.94%
Z453	499.95	197.0	99.94%
Total	1485.98	AVG >>	99.93%

27-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	471.84	250.0	99.91%
Z452	471.19	223.8	99.93%
Z453	474.84	197.0	99.94%
Total	1417.88	AVG >>	99.93%

28-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	431.38	250.0	99.91%
Z452	432.53	200.0	99.93%
Z453	430.70	197.0	99.94%
Total	1294.62	AVG >>	99.93%

29-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	397.06	250.0	99.91%
Z452	397.91	200.0	99.93%
Z453	398.22	197.0	99.94%
Total	1193.19	AVG >>	99.93%

30-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	415.58	250.0	99.91%
Z452	411.29	250.0	99.92%
Z453	413.06	197.0	99.94%
Total	1239.93	AVG >>	99.92%

31-Mar-24

Unit	CBA production MT/day	SO2 emission ppm	Sulphur Recovery Efficiency
Z451	399.20	250.0	99.91%
Z452	398.27	201.6	99.93%
Z453	398.63	197.0	99.94%
Total	1196.10	AVG >>	99.93%

Reliance Industries Limited (Refinery Division), Jamnagar
AMBIENT AIR QUALITY MONITORING
(1st October '2023 to 31st March '2024)

LOCATION	MINIMUM VALUE	MAXIMUM VALUE	AVERAGE VALUE
POLLUTANT - PM 2.5 (µg/m3)			
RRTF Control Building	19.0	34.0	27.9
SSO STP	19.0	27.0	21.6
Liquid Rail Gantry	21.0	34.0	28.0
ETP	19.0	34.0	28.3
SOLID Parking Area	19.0	34.0	27.0
Central LAB	19.0	29.0	22.3
POLLUTANT - PM 10 (µg/m3)			
RRTF Control Building	40.0	58.0	48.6
SSO STP	40.0	48.0	43.2
Liquid Rail Gantry	41.0	54.0	48.6
ETP	43.0	53.0	48.7
SOLID Parking Area	40.0	53.0	48.8
Central LAB	40.0	47.0	43.2
POLLUTANT - SO2 (µg/m3)			
RRTF Control Building	12.0	25.0	17.7
SSO STP	10.0	18.0	12.4
Liquid Rail Gantry	10.0	24.0	16.8
ETP	10.0	24.0	17.1
SOLID Parking Area	10.0	24.0	16.3
Central LAB	10.0	18.0	12.6
POLLUTANT – NOx (µg/m3)			
RRTF Control Building	13.0	30.0	24.0
SSO STP	16.0	25.0	20.5
Liquid Rail Gantry	13.0	29.0	24.1
ETP	19.0	29.0	24.0
SOLID Parking Area	18.0	29.0	23.4
Central LAB	16.0	25.0	20.4
POLLUTANT – CO (mg/m3)			
RRTF Control Building	1.11	1.76	1.31
SSO STP	1.07	1.66	1.34
Liquid Rail Gantry	1.09	1.71	1.34
ETP	1.05	1.56	1.32
SOLID Parking Area	1.10	1.65	1.34
Central LAB	1.04	1.72	1.31
POLLUTANT - NH3 (µg/m3)			
RRTF Control Building	10.0	19.0	13.1
SSO STP	10.0	17.0	12.5
Liquid Rail Gantry	10.0	17.0	13.1
ETP	10.0	17.0	12.5
SOLID Parking Area	10.0	17.0	12.9
Central LAB	10.0	16.0	12.0
POLLUTANT - Benzene (µg/m3)			
RRTF Control Building	BDL	BDL	BDL
SSO STP	BDL	BDL	BDL
Liquid Rail Gantry	BDL	BDL	BDL
ETP	BDL	BDL	BDL
SOLID Parking Area	BDL	BDL	BDL
Central LAB	BDL	BDL	BDL

Note : 1. Grab sampling for CO ; 2. BDL : Below Detectable level

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ), Jamnagar

AMBIENT AIR QUALITY MONITORING
(1st October '2023 to 31st March '2024)

LOCATION	MINIMUM VALUE	MAXIMUM VALUE	AVERAGE VALUE
POLLUTANT - PM 2.5 (µg/m3)			
Sulphur Load Office	21.0	34.0	29.1
ZETP	22.0	33.0	28.4
Sulphur Recovery Unit	23.0	33.0	28.7
RTF	18.0	27.0	21.5
POLLUTANT – PM 10 (µg/m3)			
Sulphur Load Office	45.0	54.0	49.8
ZETP	42.0	54.0	48.8
Sulphur Recovery Unit	43.0	53.0	48.8
RTF	40.0	48.0	42.6
POLLUTANT - SO_2 (µg/m3)			
Sulphur Load Office	12.0	24.0	18.5
ZETP	10.0	24.0	17.4
Sulphur Recovery Unit	10.0	24.0	16.2
RTF	10.0	18.0	12.6
POLLUTANT – NO2 (µg/m3)			
Sulphur Load Office	18.0	29.0	25.0
ZETP	19.0	29.0	25.3
Sulphur Recovery Unit	18.0	29.0	24.3
RTF	16.0	26.0	20.5
POLLUTANT - NH3 (µg/m3)			
Sulphur Load Office	10.0	17.0	13.4
ZETP	1.2	17.0	12.9
Sulphur Recovery Unit	10.0	17.0	12.6
RTF	10.0	16.0	12.6
POLLUTANT – CO (mg/m3)			
Sulphur Load Office	1.05	1.76	1.31
ZETP	1.13	1.76	1.36
Sulphur Recovery Unit	1.01	1.70	1.32
RTF	1.04	1.75	1.36
POLLUTANT – Benzene (µg/m3)			
Sulphur Load Office	BDL	BDL	BDL
ZETP	BDL	BDL	BDL
Sulphur Recovery Unit	BDL	BDL	BDL
RTF	BDL	BDL	BDL

Note : 1. Grab sampling for CO ; 2. BDL : Below Detectable level

Reliance Industries Limited. Jamnagar (C2 Complex)

AMBIENT AIR QUALITY MONITORING
(1st October '2023 to 31st March '2024)

LOCATION	MINIMUM VALUE	MAXIMUM VALUE	AVERAGE VALUE
POLLUTANT – PM2.5 (µg/m3)			
LC5	21.0	33.0	28.2
LC7	23.0	33.0	28.4
Nr ETP	21.0	33.0	28.6
FWP	23.0	33.0	28.3
POLLUTANT – PM10 (µg/m3)			
LC5	40.0	53.0	48.3
LC7	44.0	53.0	49.4
Nr ETP	42.0	53.0	49.2
FWP	44.0	53.0	49.3
POLLUTANT - SO2 (µg/m3)			
LC5	10.0	24.0	17.3
LC7	10.0	24.0	17.1
Nr ETP	12.0	24.0	18.2
FWP	12.0	24.0	17.3
POLLUTANT – NO2 (µg/m3)			
LC5	19.0	29.0	24.4
LC7	19.0	29.0	24.4
Nr ETP	19.0	29.0	26.0
FWP	20.0	29.0	25.1
POLLUTANT - NH3 (µg/m3)			
LC5	10.0	16.0	12.7
LC7	10.0	16.0	12.8
Nr ETP	10.0	17.0	12.8
FWP	10.0	16.0	12.2
POLLUTANT - CO (mg/m3)			
LC5	1.06	1.70	1.35
LC7	1.03	1.66	1.34
Nr ETP	1.13	1.70	1.38
FWP	1.03	1.70	1.35
POLLUTANT – Benzene (µg/m3)			
LC5	BDL	BDL	BDL
LC7	BDL	BDL	BDL
Nr ETP	BDL	BDL	BDL
FWP	BDL	BDL	BDL

Note : 1. Grab sampling for CO ; 2. BDL : Below Detectable level

ANNEXURE – 6

Reliance Industries Limited (Refinery Division, Jamnagar)

Mobile Van Monitoring

(1st October '2023 to 31st March '2024)

LOCATION	MINIMUM VALUE	MAXIMUM VALUE	AVERAGE VALUE
POLLUTANT – PM2.5 (µg/m3)			
Gagva	14	64	39
MTF	23	59	41
Padana	24	66	41
Township	16	48	31
POLLUTANT – PM10 (µg/m3)			
Gagva	22	87	56
MTF	31	82	61
Padana	35	92	59
Township	22	70	46
POLLUTANT - SO2 (µg/m3)			
Gagva	5	65	11
MTF	5	21	9
Padana	2	72	12
Township	3	41	9
POLLUTANT – NO2 (µg/m3)			
Gagva	0.06	14	5
MTF	0.36	16	6
Padana	0.11	14	5
Township	0.08	9	3
POLLUTANT - NH3 (µg/m3)			
Gagva	4.09	8.82	5.40
MTF	4.46	7.30	5.47
Padana	3.78	12.81	5.09
Township	4.31	7.03	5.48
POLLUTANT - CO (mg/m3)			
Gagva	0.01	0.45	0.26
MTF	0.03	0.45	0.26
Padana	0.01	0.52	0.29
Township	0.01	0.63	0.21
POLLUTANT – Ozone (µg/m3)			
Gagva	7	58	25
MTF	12	68	26
Padana	10	55	27
Township	8	77	33

Note: Sampling Time:- 24 hrs avg.

ANNEXURE – 7A

Reliance Industries Limited (Refinery Division, Jamnagar)

Treated Water Quality - Refinery ETP

(1st October '2023 to 31st March '2024)

Sr.No.	PARAMETERS	Unit	Min Value	Max Value	Average Value
1	pH	--	7.4	7.7	7.52
2	Suspended Solids	mg/l	10	13	11.83
3	Biochemical Oxygen Demand	mg/l	5.0	8.0	6.67
4	Chemical Oxygen Demand	mg/l	48.0	56.0	51.83
5	Oil & Grease	mg/l	2.2	2.6	2.37
6	Phenols (as C6H5OH)	mg/l	0.1	0.1	0.12
7	Sulphide (as S)	mg/l	N.D.	N.D.	N.D.
8	Cyanide (as CN)	mg/l	N.D.	N.D.	N.D.
9	Ammonical Nitrogen	mg/l	9.5	9.7	9.62
10	TKN	mg/l	11.8	13.8	12.57
11	Phosphorous (as P)	mg/l	1.1	1.4	1.20
12	Chromium (hexavalent)	mg/l	N.D.	N.D.	N.D.
13	Chromium (Total)	mg/l	N.D.	N.D.	N.D.
14	Lead as Pb	mg/l	N.D.	N.D.	N.D.
15	Mercury as Hg	mg/l	N.D.	N.D.	N.D.
16	Zinc as Zn	mg/l	N.D.	N.D.	N.D.
17	Copper as Cu	mg/l	N.D.	N.D.	N.D.
18	Nickel as Ni	mg/l	N.D.	N.D.	N.D.
19	Vanadium as V	mg/l	N.D.	N.D.	N.D.
20	Benzene	mg/l	N.D.	N.D.	N.D.
21	Benzo (a) - pyrene	mg/l	N.D.	N.D.	N.D.
22	Fluoride (as F)	mg/l	N.D.	N.D.	N.D.

Note: N.D. - Not Detectable

Remarks : 1) Minimum Detectable Limit : Sulphides=0.1mg/l, Cyanide=0.01mg/l, Metals(Cr,Pb,Hg,Zn,Ni,Cu,V)=0.01mg/l, Benzene=0.01mg/l, Benzo(a)Pyrene=0.01mg/l,

2) N.D. : Not Detectable

ANNEXURE – 7A

Reliance Industries Limited (Refinery Division, Jamnagar)

Brine Discharge Water Quality through Seawater Outfall

(1st October '2023 to 31st March '2024)

Sr.No.	PARAMETERS	Unit	Min Value	Max Value	Average Value
1	Temperature	^{O}C	27	32	29.5
2	pH	--	7.9	8.2	8.07
3	Total Dissolved Solids	mg/l	58876	59048	58968.17
4	Total Suspended Solids	mg/l	10.0	14.0	12.50
5	Biochemical Oxygen Demand	mg/l	6.0	8.0	7.17
6	Chemical Oxygen Demand*	mg/l	*----	*----	*----
7	Oil & Grease	mg/l	N.D.	N.D.	N.D.
8	Phenols (as C6H5OH)	mg/l	N.D.	N.D.	N.D.
9	Sulphide (as S)	mg/l	N.D.	N.D.	N.D.
10	Cyanide (as CN)	mg/l	N.D.	N.D.	N.D.
11	Ammonical Nitrogen	mg/l	10.4	10.8	10.57
12	TKN	mg/l	12.6	13.5	13.05
13	Phosphorous (as P)	mg/l	1.0	1.3	1.15
14	Chromium (hexavalent)	mg/l	N.D.	N.D.	N.D.
15	Chromium (Total)	mg/l	N.D.	N.D.	N.D.
16	Lead as Pb	mg/l	N.D.	N.D.	N.D.
17	Mercury as Hg	mg/l	N.D.	N.D.	N.D.
18	Zinc as Zn	mg/l	N.D.	N.D.	N.D.
19	Copper as Cu	mg/l	N.D.	N.D.	N.D.
20	Nickel as Ni	mg/l	N.D.	N.D.	N.D.
21	Vanadium as V	mg/l	N.D.	N.D.	N.D.
22	Benzene	mg/l	N.D.	N.D.	N.D.
23	Benzo (a) - pyrene	mg/l	N.D.	N.D.	N.D.

---* As per APHA,AWWA Standard methods for the Examination of Water & Waste Water, the COD analysis may not be representative due to positive interference of high chloride content in the sample, hence it is not analysed.

Remarks : 1) Minimum Detectable Limit : Sulphides=0.1mg/l, Cyanide=0.01mg/l,
Metals(Cr,Pb,Hg,Zn,Ni,Cu,V)=0.01mg/l, Benzene=0.01mg/l, Benzo(a)Pyrene=0.01mg/l,
2) N.D. : Not Detectable

ANNEXURE – 7B

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ, Jamnagar)

Treated Water Quality - ETP Outlet

(1st October '2023 to 31st March '2024)

Sr.No.	PARAMETERS	Unit	Min Value	Max Value	Average Value
1	pH	--	7.5	7.7	7.60
2	Total Suspended Solids	mg/l	10.0	15.0	13.00
3	Biochemical Oxygen Demand	mg/l	6.0	8.0	6.83
4	Chemical Oxygen Demand	mg/l	41.0	48.0	43.83
5	Oil & Grease	mg/l	1.2	1.6	1.40
6	Phenols (as C6H5OH)	mg/l	0.11	0.13	0.12
7	Sulphide (as S)	mg/l	N.D.	N.D.	N.D.
8	Cyanide (as CN)	mg/l	N.D.	N.D.	N.D.
9	Ammonical Nitrogen	mg/l	9.5	9.8	9.65
10	TKN	mg/l	10.8	11.8	11.32
11	Phosphorous (as P)	mg/l	1.0	1.2	1.10
12	Chromium (hexavalent)	mg/l	N.D.	N.D.	N.D.
13	Chromium(Total)	mg/l	N.D.	N.D.	N.D.
14	Lead as Pb	mg/l	N.D.	N.D.	N.D.
15	Mercury as Hg	mg/l	N.D.	N.D.	N.D.
16	Zinc as Zn	mg/l	N.D.	N.D.	N.D.
17	Copper as Cu	mg/l	N.D.	N.D.	N.D.
18	Nickel as Ni	mg/l	N.D.	N.D.	N.D.
19	Vanadium as V	mg/l	N.D.	N.D.	N.D.
20	Benzene	mg/l	N.D.	N.D.	N.D.
21	Benzo (a) - pyrene	mg/l	N.D.	N.D.	N.D.

Remarks : 1) Minimum Detectable Limit : Sulphides=0.1mg/l, Cyanide=0.01mg/l, Metals(Cr,Pb,Hg,Zn,Ni,Cu,V)=0.01mg/l, Benzene=0.01mg/l, Benzo(a)Pyrene=0.01mg/l,

2) N.D. : Not Detectable

ANNEXURE – 7B

Reliance Industries Limited (Unit of Reliance Jamnagar SEZ, Jamnagar)
Brine Discharge Through Seawater Outfall Water Quality

(1st October '2023 to 31st March '2024)

Sr.No.	PARAMETERS	Unit	Min Value	Max Value	Average Value
1	Temperature	^{0}C	28	36	29.5
2	pH	--	8.0	8.2	8.08
3	Total Dissolved Solids	mg/l	58976	59267	59111
4	Total Suspended Solids	mg/l	10.0	15.0	12.67
5	Biochemical Oxygen Demand	mg/l	6.0	8.0	6.83
6	Chemical Oxygen Demand	mg/l	*-----	*-----	*-----
7	Oil & Grease	mg/l	N.D.	N.D.	N.D.
8	Phenols (as C6H5OH)	mg/l	N.D.	N.D.	N.D.
9	Sulphide (as S)	mg/l	N.D.	N.D.	N.D.
10	Cyanide (as CN)	mg/l	N.D.	N.D.	N.D.
11	Ammonical Nitrogen	mg/l	10.2	10.7	10.47
12	TKN	mg/l	12.8	14.2	13.35
13	Phosphorous (as P)	mg/l	1.0	1.3	1.13
14	Chromium (hexavalent)	mg/l	N.D.	N.D.	N.D.
15	Chromium (Total)	mg/l	N.D.	N.D.	N.D.
16	Lead as Pb	mg/l	N.D.	N.D.	N.D.
17	Mercury as Hg	mg/l	N.D.	N.D.	N.D.
18	Zinc as Zn	mg/l	N.D.	N.D.	N.D.
19	Copper as Cu	mg/l	N.D.	N.D.	N.D.
20	Nickel as Ni	mg/l	N.D.	N.D.	N.D.
21	Vanadium as V	mg/l	N.D.	N.D.	N.D.
22	Benzene	mg/l	N.D.	N.D.	N.D.
23	Benzo (a) - pyrene	mg/l	N.D.	N.D.	N.D.

---* As per APHA, AWWA Standard methods for the Examination of Water & Waste Water, the COD analysis may not be representative due to positive interference of high chloride content in the sample, hence it is not analysed.

Remarks: 1) Minimum Detectable Limit: Sulphides=0.1mg/l, Cyanide=0.01mg/l,
Metals (Cr, Pb, Hg, Zn, Ni, Cu,8 V)=0.01mg/l, Benzene=0.01mg/l, Benzo(a)Pyrene=0.01mg/l,
2) N.D.: Not Detectable

ANNEXURE – 7C

Reliance Industries Limited, Jamnagar

Treated Water Quality - C2-COMPLEX ETP

(1st October '2023 to 31st March '2024)

Sr.No.	PARAMETERS	Unit	Min Value	Max Value	Average Value
1	pH	--	7.4	7.6	7.52
2	Total Suspended Solids	mg/l	10	14	11.83
3	Biochemical Oxygen Demand	mg/l	6.0	8.0	7.00
4	Chemical Oxygen Demand	mg/l	38.0	46.0	42.33
5	Phenols (as C6H5OH)	mg/l	0.1	0.1	0.12
6	Sulphide (as S)	mg/l	N.D.	N.D.	N.D.
7	Cyanide (as CN)	mg/l	N.D.	N.D.	N.D.
8	Chromium (hexavalent)	mg/l	N.D.	N.D.	N.D.
9	Chromium (Total)	mg/l	N.D.	N.D.	N.D.
10	Fluoride (as F)	mg/l	0.2	0.6	0.42

Remarks : 1) Minimum Detectable Limit : Sulphides=0.1mg/l, Cyanide=0.01mg/l, Metals (Cr, F) =0.01mg/l

2) N.D. : Not Detectable

ANNEXURE – 8A

Reliance Industries Limited. (Refinery Division) Jamnagar.
NOISE QUALITY MONITORING RESULTS
(1st October '2023 to 31st March '2024)

Sr. No.	Area /Location	Noise Level (dBA) Day-time		Noise Level (dBA) Night-time	
		Minimum Value	Maximum Value	Minimum Value	Maximum Value
1	Back side of Laboratory	50	55	44	48
2	Storm water pond no. 2 near fire station	45	57	49	52
3	Near ETP	58	64	53	59
4	Near Main Gate	54	67	48	51
5	Near Back Boundary Wall (PP Gate)	51	59	50	54
6	In front of Sulphur loading plant	56	65	51	56
7	Near flare stack	51	59	54	59

ANNEXURE – 8B

Reliance Industries Ltd. (Unit of Reliance Jamnagar SEZ). Jamnagar.

NOISE QUALITY MONITORING RESULTS

(1st October '2023 to 31st March '2024)

Sr. No.	Area /Location	Noise Level (dBA) Day-time		Noise Level (dBA) Night-time	
		Minimum Value	Maximum Value	Minimum Value	Maximum Value
1	Near Cargo Gate 1	54	57	38	47
2	Near MMC, Avenue L	51	55	41	48
3	Near PP Ware House, Avenue L	59	64	50	55
4	Near Pond 7	57	63	41	47
5	Near Cargo Gate -2	55	67	45	50
6	Near Sulfur Gate	56	64	47	52
7	Near Clean Fuel Project Nr. Avenue F	55	65	50	56

ANNEXURE – 8C

Reliance Industries Ltd. Jamnagar. (J3 Complex).

NOISE QUALITY MONITORING RESULTS

(1st October '2023 to 31st March '2024)

Sr. No.	Area /Location	Noise Level (dBA) Day-time		Noise Level (dBA) Night-time	
		Minimum Value	Maximum Value	Minimum Value	Maximum Value
	Px4 Complex				
1	SO	56	61	50	53
2	B/H CT	53	57	53	55
3	Scarp Bin	52	54	46	50
4	Crystalliser	55	57	53	55
	C2 Complex				
1	LC 5	50	53	44	46
2	LC 7	45	48	39	43
3	ETP	56	58	47	51
4	FWPH	53	57	44	46

ANNEXURE – 9

Reliance Industries Ltd. Jamnagar
Marine Water Quality Analysis Report
(1st October '2023 to 31st March '2024)

Sample location : Samples near Diffuser (Sea water)

Parameters	UOM	Sample Above Diffuser			Sample 100 m Upstream of Diffuser			Sample 100 m Downstream of Diffuser		
		Min	Max	AVG	Min	Max	AVG	Min	Max	AVG
pH	-	8.1	8.2	8.2	8.2	8.2	8.2	7.9	8.2	8.1
Conductivity	µS/cm	55670	57680	56200	55285	56630	55854	55380	55890	55620
Total Dissolved Solids (TDS)	mg/l	36312	55760	37305.5	35925	39210	37824	36427	38410	37857
Total Suspended Solids (TSS)	mg/l	3.8	4.5	4.08	3.5	4.4	4.1	3.1	4.1	3.83
Chemical Oxygen Demand (COD)	mg/l	9	19	15	13	18	15	11	16	12.95
Biochemical Oxygen Demand (BOD)	mg/l	6	14	6	7	8	7.5	5.5	7	6.25
O & G	mg/l			N.D.			N.D.			N.D.
Sulphide	mg/l			N.D.			N.D.			N.D.
Phenol	mg/l			N.D.			N.D.			N.D.

Remarks : 1) N.D. : Not Detectable
2) Minimum Detectable Limit : Oil & Grease=0.01mg/l, Sulphides=0.1mg/l, Phenol=0.1mg/l.
*APHA - AWWA Standard methods are followed for the Examination of Water & Waste Water, the COD analysis is a representative value due to positive interference of high chloride content in the sample.

ANNEXURE – 10

Reliance Industries Ltd. (Refinery Division), Jamnagar
Treated Water Quality – MTF ETP
(1st October '2023 to 31st March '2024)

Sr.No.	PARAMETERS	Unit	Min Value	Max Value	Average Value
1	pH	--	7.7	7.9	7.82
2	Total Suspended Solids	mg/l	10	14	12.50
3	Biochemical Oxygen Demand	mg/l	5.0	8.0	6.17
4	Chemical Oxygen Demand*	mg/l	*----	*----	*----
5	Oil & Grease	mg/l	2.1	2.8	2.48
6	Phenols (as C6H5OH)	mg/l	0.1	0.1	0.12
7	Sulphide (as S)	mg/l	N.D.	N.D.	N.D.
8	Cyanide (as CN)	mg/l	N.D.	N.D.	N.D.
9	Ammonical Nitrogen	mg/l	9.8	10.2	9.98
10	TKN	mg/l	12.4	13.4	12.78
11	Phosphorous (as P)	mg/l	1.0	1.2	1.10
12	Chromium (hexavalent)	mg/l	N.D.	N.D.	N.D.
13	Chromium (Total)	mg/l	N.D.	N.D.	N.D.
14	Lead as Pb	mg/l	N.D.	N.D.	N.D.
15	Mercury as Hg	mg/l	N.D.	N.D.	N.D.
16	Zinc as Zn	mg/l	N.D.	N.D.	N.D.
17	Copper as Cu	mg/l	N.D.	N.D.	N.D.
18	Nickel as Ni	mg/l	N.D.	N.D.	N.D.
19	Vanadium as V	mg/l	N.D.	N.D.	N.D.
20	Benzene	mg/l	N.D.	N.D.	N.D.
21	Benzo (a) - pyrene	mg/l	N.D.	N.D.	N.D.

Note: N.D. - Not Detectable

---* As per APHA,AWWA Standard methods for the Examination of Water & Waste Water, the COD analysis may not be representative due to positive interference of high chloride content in the sample, hence it is not analysed.

ANNEXURE – 11

Netel (India) Limited
A Reliance Group Company
Office & Laboratory : W-406, Rabale MIDC, TTC Industrial Area, Navi Mumbai - 400 701.
Phone : 72080976 92 / 93 / 94 / 95 • Website : www.netel-india.com • E-mail : ems@netel-india.com
Registered office : Liberty Building, 3rd Floor, Sir Vithaldas Thackersey Marg, (New Marine Lines), Mumbai - 400 020.
CIN : U74899MH[illegible]

GROUND WATER SAMPLE-WELLS
RELIANCE INDUSTRIES LTD., JAMNAGAR

Ref. : NIL/EMS/SL/RIL/JAM/12/2023
Date of Sampling : 20/12/2023

Sr. No.	Parameters↓ / Locations→	Unit	RPL-4 Reper	RPL-5 Reper	RPL-7 Navagam	RPL-9 Navagam	RPL-10 Navi-Khavdi	RPL-11 Navi-Khavdi	RPL-15 Padana	RPL-16 Padana	RPL-18 Nevenia	RPL-22 Jogvad	RPL-24 Gagva	RPL-41 Pipli	Kanalus —	Setalus —	Megnugam —	Meghpar —	Kanachikari —	Derachikari —
1	pH	-	7.6	7.5	7.7	7.6	7.5	7.6	7.4	7.5	7.6	7.7	7.4	7.7	7.5	7.4	7.5	7.7	7.6	7.5
2	Colour	Co.Pt.Scale	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless
3	TDS	mg/l	777	762	786	846	833	842	838	1,112	880	714	728	717	892	875	786	728	762	774
4	Total ammonia - N	mg/l	4.6	4.8	4.5	4.6	4.7	4.5	4.7	4.6	4.8	4.0	4.5	4.7	4.8	4.6	4.5	4.7	4.8	4.5
5	COD	mg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
6	Chloride-Cl	mg/l	238	220	234	231	228	240	238	358	280	230	230	224	265	258	212	220	224	234
7	Total Hardness (as Caco3)	mg/l	131	132	126	132	126	152	133	148	122	117	120	125	128	122	116	118	215	122
8	Sulphate (as SO4)	mg/l	56	58	52	54	56	58	56	55	58	56	52	54	58	55	56	58	56	54
9	Nitrate-NO3	mg/l	14	12	10	12	10	12	10	12	10	12	10	12	10	14	12	10	14	10
10	Fluoride-F	mg/l	0.6	0.7	0.5	0.6	0.5	0.6	0.5	0.6	0.4	0.6	0.5	0.7	0.5	0.6	0.5	0.6	0.5	0.6
11	Iron-Fe	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12	Sulphide (as H2S)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13	Calcium-Ca	mg/l	155	148	145	154	152	157	155	194	190	142	147	138	228	216	152	170	168	174
14	Magnesium-Mg	mg/l	128	122	125	128	133	130	125	170	152	126	120	115	185	152	120	140	142	144
15	Copper-Cu	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
16	Nickel - Ni	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
17	Lead - Pb	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
18	Cyanide - CN	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	Oil & Grease	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20	Phenol	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

for NETEL (INDIA) LTD

BIRBAHADUR SINGH
(Project Incharge)

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

NEELIMA DALVI
(Environment Chemist)

ANNEXURE – 12

Expenditure for Environmental Protection Measures

(1st October '2023 to 31st March '2024)

Sr. No.	Reliance Jamnagar Manufacturing Complex	*Expenditure Amount (Rs.)
1	DTA Refinery	7,32,32,016
2	SEZ Refinery	8,71,55,567
3	J3 Complex (PX4 & C2 complexes)	1,71,68,811
	Total	Rs. 17,75,56,394

***Expenditure Amount for Environment Management System which includes expenses incurred for operation cost of ETP; APC equipment; waste management etc**

Reliance Industries Ltd. Jamnagar

Sample : Monitoring of Leak Detection & Repair Procedure (LDAR) conducted during the last Quarter

EIM / IMS / HSEF / ENV / 3809 (C) Rev.: 00

LDAR Summary sheet

Complex:-	ZCOKER
Period (Year, Quarter):-	2023_24, Fourth Quarter (Oct-Dec 23)

Plant Name / Unit no	Equipment Type	Last monitoring period (Year, Quarter)	Flanges	Heat Exchangers	Seal	Valves	No Of Sources identified	Inaccessible & Insulated Sources	No. of sources checked	No of leaks	% Leak	No. of leaks attended	No. of leaks to be attended during shutdown	Remarks
ZCOKER	Fuel Gas Distribution System (V22)	2023_24, Third quarter (July-Sep-23)	95	-	-	62	157	0	157	0	0	NA	NA	
ZCOKER	FG&B Gas Distribution System	2023_24, Third quarter (July-Sep-23)	71	-	-	41	112	0	112	0	0	NA	NA	
ZCOKER	Heater 1/2/3/4 Pilot Gas System	2023_24, Third quarter (July-Sep-23)	572	-	-	280	852	0	852	0	0	NA	NA	
ZCOKER	Heater 1/2/3/4 Fuel Gas System	2023_24, Third quarter (July-Sep-23)	488	-	-	340	828	0	828	0	0	NA	NA	
ZCOKER	Heater-5 both Fuel Gas and Pilot Gas System	2023_24, Third quarter (July-Sep-23)	94	-	-	49	143	0	143	0	0	NA	NA	NA due to heater in non operation
ZCOKER	Heater-1 Burners (Fuel Gas Supply)	2023_24, Third quarter (July-Sep-23)	800	-	-	480	1280	0	1280	0	0	NA	NA	
ZCOKER	Heater-2 Burners (Fuel Gas Supply)	2023_24, Third quarter (July-Sep-23)	800	-	-	480	1280	0	1280	0	0	NA	NA	
ZCOKER	Heater-3 Burners (Fuel Gas Supply)	2023_24, Third quarter (July-Sep-23)	800	-	-	480	1280	0	1280	0	0	NA	NA	
ZCOKER	Heater-4 Burners (Fuel Gas Supply)	2023_24, Third quarter (July-Sep-23)	800	-	-	480	1280	0	1280	0	0	NA	NA	
ZCOKER	Heater-1 Burners (Pilot Gas Supply)	2023_24, Third quarter (July-Sep-23)	800	-	-	322	1122	0	1122	0	0	NA	NA	
ZCOKER	Heater-2 Burners Pilot Gas Supply)	2023_24, Third quarter (July-Sep-23)	800	-	-	322	1122	0	1122	0	0	NA	NA	
ZCOKER	Heater-3 Burners (Pilot Gas Supply)	2023_24, Third quarter (July-Sep-23)	800	-	-	322	1122	0	1122	0	0	NA	NA	
ZCOKER	Heater-4 Burners (Pilot I Gas Supply)	2023_24, Third quarter (July-Sep-23)	800	-	-	322	1122	0	1122	0	0	NA	NA	
ZCOKER	Flare Gas Recovery System	2023_24, Third quarter (July-Sep-23)	206	-	-	105	311	0	311	0	0	NA	NA	
ZCOKER	Fractionator Overhead System	2023_24, Third quarter (July-Sep-23)	632	0		329	961	0	961	0	0	NA	NA	
ZCOKER	Compressor KOD System(V61)	2023_24, Third quarter (July-Sep-23)	20			31	57	0	57	0	0	NA	NA	
ZCOKER	Compressor System	2023_24, Third quarter (July-Sep-23)	230	3	5	124	369	0	364	0	0	NA	NA	
ZCOKER	Compressor Seal System	2023_24, Third quarter (July-Sep-23)	37	-	-	17	54	0	54	0	0	NA	NA	
ZCOKER	Primary Absorber	2023_24, Third quarter (July-Sep-23)	52		-	32	84	0	82	0	0	NA	NA	

Sample Format: Monitoring of Leak Detection & Repair Procedure (LDAR conducted during the last Quarter)…contd

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LDAR Summary sheet

Complex:-	ZCOKER
Period (Year, Quarter):-	2023_24, Fourth Quarter (Oct-Dec 23)

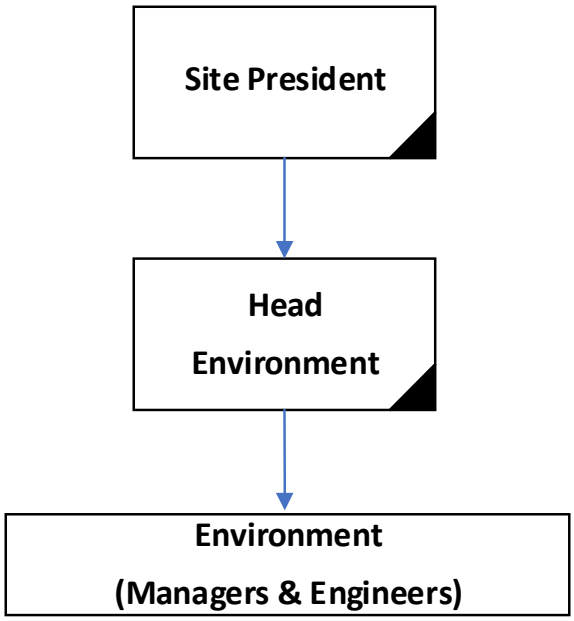
Plant Name / Unit no	Equipment Type	Last monitoring period (Year, Quarter)	Flanges	Heat Exchangers	Seal	Valves	No Of Sources Identified	Inaccessible & Insulated Sources	No. of sources checked	No of leaks	% Leak	No. of leaks attended	No. of leaks to be attended during	Remarks
ZCOKER	Stripper	2023_24, Third quarter (July-Sep-23)	175	4	-	80	259	0	259	0	0	NA	NA	
ZCOKER	Debutaniser	2023_24, Third quarter (July-Sep-23)	483	5		281	769	0	769	0	0	NA	NA	
ZCOKER	Sponge Absorber	2023_24, Third quarter (July-Sep-23)	18			76	95	0	95	0	0	NA	NA	
ZCOKER	Naptha Splitter	2023_24, Third quarter (July-Sep-23)	434	4		228	666	0	666	0	0	NA	NA	
ZCOKER	Amine Absorber	2023_24, Third quarter (July-Sep-23)	233	2		129	364	0	364	0	0	NA	NA	
ZCOKER	LLP Flare	2023_24, Third quarter (July-Sep-23)	93			102	195	0	195	0	0	NA	NA	
ZCOKER	HP Flare	2023_24, Third quarter (July-Sep-23)	98			108	206	0	206	0	0	NA	NA	
ZCOKER	Z371 Area Pumps	2023_24, Third quarter (July-Sep-23)	26		10	46	82	0	82	0	0	NA	NA	
ZCOKER	Z372 Area Pumps	2023_24, Third quarter (July-Sep-23)	85		25	132	242	0	242	0	0	NA	NA	
ZCOKER	Heater 7	2023_24, Third quarter (July-Sep-23)	421			147	568	0	568	0	0	NA	NA	
ZCOKER	Absorber Stripper Acid drum	2023_24, Third quarter (July-Sep-23)	148	2		69	219	0	219	0	0	NA	NA	
ZCOKER	**Total**		**10957**	**25**	**43**	**5970**	**16596**	**0**	**16996**	**0**	**0**	**NA**	**NA**	

Prepared By: Name: Shreyas Prasad	Designation: SS	Sign:	Date: 19/12/2023
Reviewed By: Name: Mehul Jawal	Designation: D.SS	Sign:	Date: 25/12/2023

*All inaccessible sources for LDAR completed

Reliance Industries Ltd. Jamnagar

Organogram of Environment Department



Reliance

Environment Policy

Protection of environment is of prime concern and a core business value at Reliance Industries Limited (RIL). With a leading role in providing competitive goods and services in the materials and energy value chains and infrastructure, RIL is conscious of its responsibility towards the needs of the communities in which it operates by creating, maintaining and ensuring a safe and clean environment for sustainable development.

In particular, RIL is committed to:

- Comply with all applicable laws, regulations and conditions granted in environmental and forest clearances, as well as take any additional measures considered necessary to go beyond compliance.
- Implement an environmental compliance management process to capture deviations and report the violations observed by the authorities to the HSE committee of Directors.
- Follow an international environmental management system, governance process with clearly defined responsibilities in order to achieve continual improvement and communicate environmental performance to the stakeholders.
- Design new facilities and conduct operations with preventive approach and industry best practices to avoid adverse impacts to the human health and the environment.
- Conserve natural resources by their responsible and efficient use in all our operations.
- Take appropriate measures to prevent environmental incidences and maximize recycle to reduce wastes, discharges and emissions.
- Promote tree plantation, green surrounding and protection of biodiversity at our locations to be in harmony with nature.
- Ensure appropriate training and awareness on environmental systems, procedures, best practices and on shared responsibility towards environmental protection among employees, contractors, suppliers and customers.
- Communicate this policy to the stakeholders.

Mukesh D. Ambani

Reliance
Industries Limited

Health, Safety, Environment and Quality Policy
Jamnagar Manufacturing Division

At Reliance, prevention of injury, occupational ill health, pollution and meeting customer requirements is an integral part of our business management. As one of the major manufacturing complex of Reliance in the energy value chain, Jamnagar Refinery is fully conscious of it's responsibility towards operation in safe manner to avoid harm to human being, interested parties & environment. We endeavour to enhance customer satisfaction for continual development and sustain organizational excellence through visionary leadership & innovative efforts in line with:

- Health, Safety and Environmental Policy &
- Quality Policy signed by the Chairman

In particular, we are committed to:

- Comply with applicable HSEQ legal & other requirements and any additional measures considered necessary.
- Follow a structured Health, Safety, Environment and Quality Management System in order to achieve continual performance improvements.
- Setting up of objectives and targets for
  - Prevention of Injuries, Occupational Illness and Incidents.
  - Improvements in Fuel Consumption and utilization of natural resources.
  - Reduction in power Consumption, waste generation and carbon-dioxide emission.
  - Continually sustaining & improving quality.
  - Determining Risk and Opportunities.
- Ensure every employee's responsibility in Health, Safety, Environment and Quality performance.
- Organize appropriate operating practices and training.
- Promote awareness amongst contractors, suppliers and customers for shared responsibility towards HSEQ Performance.
- Make our HSEQ commitment available to public.
- Promote Consultation and Participation of workers.

Surinder S. Saini
Site President
JMMA

Rev. (10)