हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड
(भारत सरकार संस्थान) रजिस्टर्ड आफिस 17 जमशेदजी टाटा रोड, मुंबई - 400 020
HINDUSTAN PETROLEUM CORPORATION LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE) REGISTERED OFFICE :17 JAMSHEDJI TATA ROAD, MUMBAI - 400 020
CIN : L23201MH1952GOI008858

विशाख रिफाइनरी, पोस्ट बाक्स नं.15, विशाखपट्टणम - 530 011 (आं.प्र.), फोन : 2895000, 2895100
VISAKH REFINERY, POST BOX NO. 15, VISAKHAPATNAM - 530 011 (A.P.), PHONES : 2895000, 2895100

Date: 02-June-2025

Ref: Project Process/25/VRMP/KCK/01

To

The Regional Officer
Integrated Regional Office (IRO), Vijayawada
Ministry Of Environment, Forest and Climate Change
Green House Complex, Gopalareddy Road
Vijayawada-520010, Andhra Pradesh

Subject: Expansion of Visakh refinery (from 8.33 MMTPA to 15 MMTPA) at Village Malkapuram, District-Visakhapatnam, Andhra Pradesh by M/s HPCL -Environmental clearance F.No.J-11011/63/2013-IA II (I) dated 11th February 2016-Reg.

As per subject Environment clearance, HPCL is supposed to send six monthly compliance report for the ongoing project activities.

Please find attached herewith six-monthly compliance report for subject environmental clearance for the period 1st Oct, 2024 to 31st Mar, 2025 for the Visakh Refinery Modernization Project (VRMP).

Very truly yours

Konala Vijay Kiran
General Manager – Projects
(VRMP)

Encl.

1. Six monthly VRMP-EC compliance report.
2. Earlier project EC compliance reports (Annexure-1)
3. Stack gas Emission analysis report (Annexure-2)
4. Ambient air quality report (Annexure-2)
5. Ground water analysis reports (Annexure-2)
6. Noise level reports (Annexure-2)
7. Tri-partite agreement for STP water supply by GVMC/ GVSCCL (Annexure-3)
8. Sulfur balance (Annexure-4)

Compliance of Environmental Clearance conditions for the period 1st Oct 2024 to 31st March 2025.

Project: Expansion of Visakh Refinery from 8.33 to 15.0 MMTPA at Village Malkapuram, Tehsil Visakhapatnam (Urban), District Visakhapatnam, Andhra Pradesh by M/s HPCL

Reference No.: F. No. J-11011/63/2013-IA-II(I) dated Feb 11, 2016 by Ministry of Environment, Forests and Climate Change, GOI

A. SPECIFIC CONDIITONS

S.No.	Particulars	Compliance Status
i.	Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J-11011/22/94-1A 11(1) dated 30th May, 1995, F. No. J-11011/88/96- IA 11 (1) dated 10th April, 1997, J11013/55/2003- IA 11 (I) dated 3rd February, 2004 and J-11011/66/2007-IA 11 (I) dated 7th March, 2008 and J-11011/408/2009-IA 11 (1) dated 2nd September, 2009 shall be satisfactorily implemented and compliance reports submitted to the Ministry's Regional Office at Chennai.	All conditions stipulated in various ECs mentioned are being complied and the compliance status of earlier ECs is being submitted to MoEF & CC on six monthly basis. The compliance status reports are attached as Annexure -1
ii.	M/s HPCL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008	HPCL-Visakh Refinery is complying with the new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18.03.2008.
iii.	Continuous on-line stack monitoring for SO_2. NOx and CO of all the stacks shall be carried out. Low NOx burners shall be installed.	Being complied. On-line stack monitoring facilities considered for all new VRMP stacks and Low Nox burners are being installed in Furnaces (Except RUF)
iv.	The process emissions [SO_2, NOx, HC (Methane & Non-methane)], VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be	The only process emissions from units are through stacks of furnaces and boilers for which online stack analyzers are installed for continuous monitoring. Further, stack emission samples are analyzed for the stipulated parameters by MoEF recognized third party laboratory on

	immediately put out of operation and shall not be restarted until the desired efficiency of the pollution control device has been achieved.	monthly basis. The values are within the stipulated limits. Copies of MoEF recognized third party laboratory analysis reports of stack emissions for the period of Oct-24 to Mar-25 are attached herewith as Annexure-2
v.	Leak Detection and Repair program shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seats of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.	Being complied with. LDAR Program implemented in existing refinery shall be extended to New facilities under VRMP. HC detectors are considered during detail engineering lay out finalization at strategic locations and are being implemented.
vi.	SO_2 emissions after expansion from the plant shall not exceed 11.5 TPD and further efforts shall be made for reduction of SO2 load through use of low sulphur fuel. Sulphur recovery unit with tail gas treating facilities having 99.9 % efficiency shall be provided.	Currently being complied with for the existing refinery by ensuring use of low sulhpur fuels (LSHS, desulphurized fuel gas and naphtha), operation of TGTUs in SRUs and Flue Gas Desulphurization (FGD) units in FCCUs
vii.	As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur), atmospheric emissions etc.	Being complied. Sulfur balance record in line with existing practice is complied after expansion also.
viii.	Ambient air quality monitoring stations, [PM_{10}, $PM_{2.5}$, SO_2, NOx, H_2S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with Andhra Pradesh Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs and trend analysis w.r.t past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient aft quality in the project area.	Except PM10 in ambient air quality all other parameters are within the stipulated limits. Measures like wetting of roads towards mitigating PM10 and PM2.5 levels are being taken up. The requirement is being complied.
ix.	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Besides, acoustic enclosure	As per DHT EC, the DG sets installed under the project are provided with adequate stack height and acoustic enclosures.

	/silencer shall be installed wherever noise levels exceed the limit.	Being complied with
x.	Fresh water requirement from Greater Visakha Municipal Corporation shall not exceed 873 m3/hr after expansion and prior permission shall be obtained from the competent authority. Industrial effluent generation will be 902 m3/hr and treated in the new state-of-the-art Integrated Effluent Treatment Plant (IETP). Treated effluent shall be fully reused/recycled as make-up water for raw water cooling towers. Domestic sewage shall be treated in sewage treatment plant (STP).	The stipulated condition for fresh water is being complied, as additional water from GVMC is STP water. The Tripartite agreement entered among M/s GVMC, M/s GVSSCL and HPCL for consuming treated domestic sewage water for industrial use & the same is attached as Annexure 6. New State of the art IETP commissioned and effluent is being recycled. The treated effluent will be used to produce DM water in RODM plant being installed under VRMP. ETC: Aug 2025
xi.	Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MoEF&CC. Outcome from the report to be implemented for conservation scheme.	Being complied with.
xii.	Automatic/online monitoring system (24x7 monitoring devices) for flow measurement and relevant pollutants in the treatment system to be installed. The data to be made available to the respective SPCB, Regional Office of MoEF&CC and in the Company's website.	Being complied with.
xiii.	Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.	Being complied with. Oil catchers execution status under VRMP is as follows: 1) Oil catcher at west side of syphon area in 23 acres : Completed 2) Oil catcher at east side of syphon area in 23 acres : Completed 3) Oil catcher at east of RUF area : Completed 4) Oil catcher at South west corner of ATP area : Completed 5) Oil separator at South East corner of Old BOT area ETC: Aug 2025
xiv.	Oily sludge shall be disposed off into Coker. Annual Oily sludge generation and disposal data shall be submitted to the Ministry's Regional Office and CPCB.	Coker Unit is not considered in expansion and also not available in existing refinery. Oily sludge is being disposed off as per PCB guidelines.
xv.	The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Hazardous waste should	Being complied with.

	be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time.	
xvi.	The membership of common TSDF should be obtained for the disposal of hazardous waste. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Bhopal. Chemical/inorganic sludge shall be sent to treatment storage disposal facility (TSDF) for hazardous waste. Spent catalyst shall be sent to authorized recyclers/re-processors.	Being complied with. Membership of common TSDF is available for the existing refinery. The hazardous waste is being sent to CPCB authorized TSDF site namely Coastal Waste Management Project located at Parwada, Vishakhapatnam. Spent catalysts are being disposed to recyclers/re-processers or TSDF.
xvii.	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.	Being complied with.
xviii.	Acoustic enclosure / silencer shall be installed wherever it is possible.	Being complied with.
xix.	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Being complied with. Regular health checkups of all the employees in the refinery are carried out and the records are maintained by Occupational health services department
xx.	The company should make the arrangement for protection of possible fire and explosion hazards during construction and operation phase. To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.	Being complied with. Proper Barricading of the project sites is being done from operating process units during construction phase. Hydrocarbon detectors are provided along the barricading to detect any hydrocarbon in vicinity of construction area. Blast proof control rooms arrangements being followed post expansion also
xxi.	The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).	Being complied with.
xxii.	All issues raised during public hearing/consultation shall be satisfactorily implemented and adequate budget provision should be made accordingly.	Being complied with.
xxiii.	Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines.	Being complied with.

xxiv.	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented	Being complied with.
xxv.	As proposed, 60 Crore ₹ shall be earmarked towards the Enterprise social responsibility based on Public Hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Chennai. Implementation of such program shall be ensured accordingly in a time bound manner.	Being complied with. The ESR amount committed so far is 59.88 Cr ₹ for the following activities: ▪ Contribution of Rs.6.02 Crores under ESR of VRMP towards financial assistance for training at least 1320 youth in various trades under skill India/NSDC curriculum for enhancing the employment opportunities. ▪ Financial assistance for setting up for skill development institute at Dwaraka Bus station complex near asilmetta Junction, Visakhapatnam of value 6.97 cr. ▪ Procurement of New Medical Equipment for maintaining good health and savings lives of citizens especially to attend emergency to KGH of value 2.66 cr. ▪ Financial Assistance to District Collector, Visakhapatnam for procurement of Medical Equipment for Regional Eye Hospital, Visakhapatnam of value 1.22 cr. ▪ Contribution of Rs.39.40 Lakhs for development of park in Gullalapalem Vuda Colony at Sriharipuram area in ward No. 60 of Zone V 'B' GVMC, Visakhapatnam ▪ Construction of Malkapuram Drain, Visakhapatnam forvalue of 30.61 cr. ▪ Providing 3 Nos container Toilet Blocks and one unit of Toilet block i.e. Four Urinals and Two Toilet blocks to GVMC, visakhapanam of value 0.48 cr. ▪ Providing Modernization of Garbage Transfer Solution at Mudasasrlova Visakhapatnam under VRMP to GVMC of value

		4.32 cr. ▪ Construction of 4 Nos E Class Roons and IOT Building at AU incubation Centre of value 0.34 cr. ▪ Purchase of 10 Nos 108 Ambulance Vehicles for saving lives of Citizens of value 2.5 cr. ▪ Arranging Road Stoppers and No Parking Boards to Police Dept. for placing them from Scindhia to Srihariiputam of value 0.032 cr. ▪ Procurement of Push Carts, House Hold Dustbins 10lts (Small), Pet Bottles Crushing Machines and Try Bins (Wet, Dry Hazardous Waste) being carried out by Greater Visakhapatnam Municipal Corporation (GVMC) under " Swachh Bharat Mission – 2020" and also during COVID-19 period of value 0.82 cr. ▪ Financial support for construction of Mandal Praja Parishad Building at Bheemili Constituency area viz. Bheemunipatnam in Visakhapatnam District, Andhra Pradesh of value 0.4 cr ▪ Financial assistance for Renovation of existing Infrastructure of Visakha Vimala Vidyalayam, BC Road, Pedagantyada and providing 10 Nos. Smart Class Rooms to 2 Nos. Schools viz. Visakha Vimala Vidyalayam, BC Road, Pedagantyada and Visakha Vimala Vidyalayam, Ukkunagaram (5 Smart Class rooms to each school) located in Visakhapatnam of value 0.37 cr, ▪ Financial support for educating & Empowering Children Through after school guidance at St. Ann's College for women, Malkapuram of value 0.38 cr. ▪ 200 Nos Wheel Chairs to District Collector, Visakhaptanam for a value of 13 lakhs. ▪ Renovation of the existing burns ward at King George Hospital,

		Visakhapatnam for a value of 1.2 Crs. ▪ Facilitating 2 Nos. File Optimizer plus of Mobile file Compactor Storage system for safe custody of files & service records which are pertaining community in CSB and CPO of city police office, Visakhapatnam city for a value of 14.8 Lakhs. ▪ construction of ground and first floor Public Waiting Hall by the side of Malkapuram Police Station and also providing required furniture in the Hall for use of general public & visitors of Malkapuram Police Station, Visakhapatnam for a value of 14 Lakhs. ▪ Provision of 4 Nos. Mahindra Bolero Vehicles, 2 Nos Mahindra Supro LED Mobile Vans, 2 Nos. Video Walls, One Two Wheeler and One UV Water Plant to the Police Commissionerate, Visakhapatnam for a value of Rs 0.78 Crores. ▪ Revision-II of earlier approved proposal for considering changes in the Medical Equipment to be procured with no change in the approved financial limit of Rs.2.66 Crores including GST and all other applicable taxes under Enterprise Social Responsibility funds. The amount spent for the above activities is Rs 55.40 crores.
xxvi.	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, 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 the project.	Project site is within an operating refinery. Sanitary and medical facilities are made available within the Refinery site. Construction labor are from nearby locations.
B.		
i.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.	Being complied with

ii.	No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations 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 protection measures required, if any.	Being complied with
iii.	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.	Being complied with
iv.	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 shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	Noise levels monitored by MoEF recognized third party laboratory around the plant area are within the stipulated limits in the refinery. Measures like usage of earmuffs, display of signage boards, restricting the duration of exposure etc., are followed in few plant areas where noise levels are higher than the stipulated limits.
v.	A separate Environmental Management Cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	There exists a separate Environment Section in Technical Services Department for monitoring of the environmental facilities. (Projects to reply regarding full-fledged laboratory facility for VRMP environmental units).
vi.	Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be used 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 shall not be diverted for any other purposes.	Fund provision has been envisaged for capital / recurring cost towards environment pollution control measures.
vii.	The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Being complied with.
viii.	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any,	Being complied with.

	were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	
ix.	The project proponent shall upload the status of compliance of the stipulated environment clearance 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 the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM_{10}, PM_{25}, $S0_2$, NOx, HC (Methane & Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Being complied with.
x.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry I CPCB / SPCB shall monitor the stipulated conditions.	Being complied with.
xi.	The environmental statement for each financial year ending 31' 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 environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	The latest Environmental Statement of existing refinery for 2023-24 was submitted to APPCB vide letter dated 12.09.2024
xii.	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 and may also be seen at Website of the Ministry of Environment and Forests 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 the Regional office.	Complied. Advertisement regarding grant of Environmental Clearance was published on Feb 17, 2016 (i.e. within seven days from the date of issue of the clearance letter Feb 11, 2016) in “Eenadu” and “The Hindu”. Copy of the same forwarded to the MoEFCC Regional office, Chennai vide letter dated May 26 , 2016.
xiii.	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the	Project approved vide HPCL board Meeting held on July 20, 2016. The Land development of Project unit site started in July 2016.

	concerned authorities and the date of commencing the land development work.	

Annexure-1

Compliance to EC No.J-11011/88/96-IA-II (I) dated 10.04.1997

S.No	EC Conditions	Compliance by HPCL-VR
1	The project authority must-strictly adhere to the stipulations laid down by the Andhra Pradesh State Pollution Control Board and the State Govt	Noted and is complied.
2	No expansion or modernization of the plant should be carried out without prior approval of the Ministry of Environment and Forests	Noted and is complied.
3	The total SO_2 emission from Visakh Refinery including DHDS project should not exceed the norm of 11.5 TPD.	The average SO2 emissions for the period of Oct 24 to Mar 25 is 7.68 TPD and are within the stipulated limit of 11.5 TPD.
4	The existing ETP should be adequately augmented (if required) to accommodate the additional effluent from the DHDS project before commissioning project so as ensure the treated effluent meets the MINAS	Integrated Effluent Treatment Plant (IETP) having capacity of treating 1000m3/hr of effluent which is adequate.
5	Time bound Action Plan for disposal of Oil Sludge/recovery of oil and design details of the solid waste disposal pit should be furnished to the Ministry within a period of 3 months	Oily sludge in the refinery is being processed for recovery of oil. The recovered oil is reprocessed. The residual oily sludge is bio-remediated by Bio-Remedia which is developed by our R&D.
6	SRU having an efficiency of more than 99% should be installed	Sulphur Recovery Units (SRU) with >99% Sulphur recovery efficiency are installed in the refinery.
7	The ground water quality should be regularly monitored and report submitted to the Ministry every six months.	Ground water quality monitoring is being carried out by MoEF recognized third party laboratory once in every six months and the reports are provided to statutory authorities during inspection.
8	Time Bound Action Plan to implement the conditions stipulated by the Ministry while according environmental clearance for the refinery complex should be submitted to the Ministry within 3 months along with details of funds allocated for implementing the above.	Complied

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
	A. Special Conditions:	
1	M/s HPCL shall comply with the stipulations made in the environmental clearance accorded vide Ministry's vide letter No. J-11013/55/2003-IA II (I), dated February 03, 2004 for Clean Fuels Project and expansion from 7.5 to 10.0 MMTPA	Status of compliance to the conditions stipulated in all the ECs is being submitted to MoEF Office. The same has been uploaded on HPCL's corporate website.
2	M/s HPCL shall comply with new standards/ norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March 2008.	HPCL-Visakh Refinery is complying with the new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18.03.2008. The compliance is complete as of date and ongoing.
3	The project authorities shall submit a feasible plan which will be followed to ensure that SO_2 emission from the refinery does not exceed the stipulated figure of 11.5 TPD at any time	Being complied with. The measures adopted to contain the SO_2 emissions are as below: • Two Trains of VRMP sulphur recovery unit of 360 TPD capacity each along with the tail Gas treatment unit designed to achieve >99.9% sulphur recovery. • Installation of additional FG ATU to sweeten the fuel gas for firing in the process furnaces and boilers. • Usage of treated Naptha in CPP. • Installation of FGD unit. The average SO2 emissions for the period of Oct 24 to Mar 25 is 7.68 TPD and are within the stipulated limit of 11.5 TPD.
4	The company shall undertake .measures for control of dust emission during construction and traffic congestion	Various mitigation measures like water sprinkling on the roads at project sites, higher barricades around project sites, regulating the traffic near civil works of project activities, usage of RMC (Ready Mix Concrete) material etc. were taken up regularly to control dust emissions.

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
5	Efforts shall be made to use gas as a fuel in the furnaces to the maximum extent possible	Fuel gas distribution system has been designed to achieve this objective and also strict operational instructions are in place to maximize fuel gas consumption.
6	The process emissions (SO2, NOx, HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the AP State Pollution Control Board from time to time. At no time, the emission levels should go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved	Monitoring of SO2, NOx, CO, PM, HC, VOCs and Benzene is being done regularly in refinery premises. Online connectivity of stack emissions analyzers is established with CPCB and APPCB servers. Further, stack emission monitoring is being carried out by MoEF recognized laboratory on monthly basis. VOCs and Benzene within refinery premises are being monitored periodically and controlled as part of LDAR survey carried out by MoEF recognized third party.
7	Ambient air quality monitoring stations, (SPM, SO_2, NON, H_2S, Mercaptan, NMHC and Benzene) should be set up in the Refinery complex in consultation with SPCB, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs. Continuous on-line stack monitoring equipment should be installed for measurement of SO2, NO, CO and CO2. Low NOx burners should be installed with online analyzers	Based on predominant wind direction, three CAAM stations are installed in the refinery to monitor ambient air quality parameters w.r.t SO_2, NOx, PM10, PM2.5, CO, Benzene, Ammonia and Ozone. Online connectivity of these ambient air quality parameters is established with CPCB and APPCB. Further, manual monitoring of ambient air quality is being carried out by MoEF recognized third party laboratory on monthly basis at the CAAMS locations. Online connectivity of stack emission analyzers established with CPCB an APPCB servers. Low NOx burners are installed for all the major furnaces.

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
8	The proponent shall upload the status of compliance of the stipulated EC conditions, including monitored data on their 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; SPM, RSPM, SO7, NOx (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	Status of compliance to the conditions stipulated in all the ECs is being submitted to MoEF Office. The same has been uploaded on HPCL's corporate website.
9	Monitoring of fugitive emissions should be carried out as per the guidelines of CPCB by fugitive emission detectors and reports should be submitted to the Ministry's Regional Office at Bangalore. For control of fugitive emission all unsaturated hydrocarbon will be routed to the flare system and the flare system should be designed for smoke less burning	Leak Detection and Repair (LDAR) survey is being carried out regularly by MoEF recognized third party laboratory for monitoring fugitive emissions. The existing hydrocarbon flare system is designed for smokeless flaring.
10	Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage should also be provided at strategic locations. The company should use low sulphur fuel to minimize SO2 emission. Sulphur recovery units should have efficiency of 99.5 %. Leak Detection and Repair programme should be implemented to control HC/VOC emissions. Work zone monitoring should be carried out near the storage tanks besides monitoring of HCs/VOCs in the work zone	Hydro carbon detectors are provided in the plant and storage tank areas. Leak Detection And Repair (LDAR) program is in place for the existing refinery. Crude and light hydrocarbon products are stored in floating roof tanks with secondary seals to minimize vapor space and hence hydrocarbon emissions. Sulphur Recovery Units (SRU) with >99% Sulphur recovery efficiency are installed in the refinery.
11	The waste water should be treated in the waste water treatment plant and the treated effluent should meet the prescribed standards. Efforts should be made to recycle the treated effluent to achieve zero discharge	The influent streams to Integrated Effluent Treatment Plant (IETP) are treated and the treated effluent water is being recycled/reused fully as Cooling water make up.

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
12	The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of' Hazardous Wastes (Management, Handling and Trans Boundary Movement) Rules, 1989/ 2003/ 2008 wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/ treatment/ storage/ disposal of hazardous wastes	Hazardous wastes are being handled, stored and disposed off in accordance with the Hazardous & Other Waste Management Rules, 2016.
13	The company should strictly follow all the recommendation mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP) for the oil refineries	Complied.
14	The Company should take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums should be installed to minimize gaseous emissions during flaring	The measures adopted by the PP to prevent fire hazards are as below:- • Hydrocarbon detectors are provided. • Elaborative fire water network & other equipment exist inside refinery to handle fire hazards. • Overhead flare stack with KO drums is provided. The following systems are in place : •Oil Spill response plan (inside refinery) along with necessary equipment is in place. •Operational control procedures /Departmental standing Instructions (DSIs) / Plant Daily Instructions (PDIs)
15	To prevent fire and explosion at Oil and Gas facility, potential ignition sources should be kept to a minimum and adequate separation distance between potential ignition sources and flammable material should be in place	All the facilities are designed in line with OISD (Oil Industry Safety Directorate) standards. Necessary infrastructure is in place to effectively handle any emergency.
16	Onsite and offsite DMP shall be updated to cover the additional facilities and the updated plans shall be implemented	ERDMP (Emergency Response and Disaster Management Plan) which is certified by PNGRB (Petroleum and Natural Gas Regulatory Board) approved third party is in place.

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
17	Occupational health surveillance of worker should be done on a regular basis and records maintained as per the Factory Act	Regular health check-ups of all the employees in the refinery are being carried out and the records are maintained in the Occupational Health Centre.
18	Greenbelt should be developed to mitigate the effect of fugitive emission all around the plant in a minimum 33% plant area in consultation with DFO as per CPCB guidelines	Plantation along the South boundary of the refinery has been carried out. Green belt is existing in an area of 112 acres. The industry being a brown field project, there is no adequate space available within the refinery for provision of additional green belt. Further, plantation of trees is not recommended inside the plant area due to safety considerations and development of green belt along the boundary is prohibited considering the associated security risk. HPCL-VR has taken up plantation of saplings in various locations of Visakhapatnam in 4 phases under Green Visakha program and completed the plantation of 6,50,000 saplings covering an area of approx..700 acres amounting to Rs 25 Crores. In addition to this, HPCL-VR has taken up plantation of saplings under Vanam-Manam program initiated by Andhra Pradesh State Government and completed the target plantation of 10000 saplings in Jan 2019. Above plantation measures, provide a green cover more than the present shortfall of greenbelt within the refinery. Further, Green belt of 67 acres is developed near the refinery under VRMP (modernization project).

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
		Plantation of 26500 samplings in the vicinity of Refinery is being done in association with Greater Visakh Municipal Corporation (GVMC) is in progress.
19	The Company should undertake measures for rain water harvesting to recharge the ground water and minimize fresh water consumption	Rain water harvesting facilities for the administrative buildings (Blocks-A and C) and for control room & sub stations of DHT project are in place.
20	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, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Various developmental activities such as construction of toilet blocks, supply of furniture, supply of computers, scholarships to students, health camps, supply of diagnostic machines etc., are taken up in schools & hospitals in the region under Corporate Social Responsibility (CSR) program.
	B. GENERAL CONDITIONS	
1	The project authorities must-strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government and any other statuary body	The Refinery is currently complying with the conditions stipulated in CFO No:APPCB/VSP/VSP/72/CFO/HO/1957 dated 30.11.2022 and task force directives which were identified by APPCB vide letter no.702/APPCB/UH-II/TF/VSP/2020-295 dated 12.08.2021.
2	No further expansion or modification in the project shall be carried without prior approval of the Ministry of Environment and Forests. In case of deviations or alternations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry	Noted and is complied.
3	At no time, the emissions shall go beyond the prescribed standards. In the event of failure of any pollution control system, the respective facilities should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved. Provision of adequate height of stack attached to DG sets & flare is to be done	Process emissions are through stack flue gases only. Online connectivity of stack emission analyzers established with CPCB an APPCB servers. Analysis of stack flue gases is being carried out by MoEF recognized third party laboratory on monthly basis and being submitted to APPCB as per the requirement.

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
		Process furnaces, boilers and gas turbines are provided with tall stacks (about 60 m) for better dispersion of flue gases.
4	Waste water shall be properly collected and treated so as to conform to the standards prescribed under EP Act & Rules and mentioned in the Consents provided by the relevant SPCB	A new Integrated Effluent Treatment Plant (IETP) commissioned under refinery expansion project (VRMP) and all the waste water from the refinery is being properly collected and treated as per prescribed standard.
5	The overall noise levels in and around the premises shall be limited within the prescribed standards (75 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)	Noise monitoring is carried out on monthly basis at various locations in the refinery. The noise levels are within the standards for most of the locations. Measures like usage of earmuffs, display of signage boards, restricting the duration of exposure etc., are followed for high noise level areas.
6	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 expansion project, if required. Requisite On-site and Off-site Disaster Management Plans.will be prepared and implemented	Necessary approvals from Chief Inspector of Factories and Chief Controller of Explosives etc are in place and complying with the MSIHC Rules,1989. ERDMP (Emergency Response and Disaster Management Plan) which is certified by PNGRB (Petroleum and Natural Gas Regulatory Board) approved third party is in place.
7	The project authorities will provide adequate funds as non-recurring and recurring expenditure 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	Complied.
8	The company shall develop rain water harvesting structures to harvest the runoff water for recharge of ground water	Rain water harvesting facilities for the administrative buildings (Blocks-A and C) and for control room & sub stations of DHT project are in place.

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
9	The stipulated conditions will be monitored by the concerned Regional Office of this Ministry / Central Pollution Control Board! State Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly. It will also be displayed on the Website of the Company	Complied
10	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 on hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB	Being complied for the current expansion project.
11	A copy of clearance letter shall be sent by the 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. The clearance letter shall also put up on the website of the Company by the proponent	The copy of clearance letter has been sent to the concerned Panchayat, Zilla Parishad / Municipal Corporation, Urban Local Body and the Local NGO. Clearance letter of the DHT project is uploaded on HPCL website.
12	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 concerned Regional office of this Ministry	The advertisement was published in the newspapers; The Hindu, Deccan Chronicle and Sakshi on 18.09.2009 and copies were submitted to the RO, MoEF&CC.

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
13	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 alongwith the status of compliance of EC conditions and shall also be sent to the respective regional Office of the MoEF by e-mail	Complied. The latest Environmental statement for 2023-24 was submitted to APPCB vide letter dated 12.09.2024. and uploaded in the corporate website.
14	A separate environment management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior Executive	Under Technical Services Department, Process Safety & Environment (PS&E) is a separate division, which looks after the Environmental and Process safety functions. This division reports to Head – Technical who in turn reports to Executive Director of the refinery. Refinery has a dedicated quality control laboratory for analysis of environmental parameters under the supervision of competent technical personnel.
15	The project authorities 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 the project	Complied
16	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory	Noted
17	The Ministry reserves the right to stipulate additional conditions if found necessary. The company will implement these conditions in a time bound manner	Noted
18	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, Second Floor, Trikoot-I, Bhikaji Cama Place, New Delhi-110066, if preferred	Noted

Compliance to DHT EC J-11011/408/2009-IA II (I) dated 02.09.2009

S.No	EC Conditions	Compliance by HPCL-VR
	within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997	
19	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 1989/ 2003/ 2008 and Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 along with their amendments and rules	Noted.

EC Compliance for LPG Mounded Storage dated 07.03.2008

S.No	EC Conditions	Compliance by HPCL-VR
1.	All the safety and security systems provided in Risk Analysis Report for the Project shall be implemented. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the Environmental Management Plan and Risk Analysis Report submitted to the Ministry vide letter no. CEE/07/MLVR/056 dated 19th October 2007.	The Risk Analysis Report relates to a specific project and the same has been implemented as required
2.	There shall be no solid waste or release of pollutants.	There is no solid waste generation from the LPG / Propylene Mounded Storage facility.
3.	Regular Ambient Air Quality Monitoring shall be carried out for VOC, HC and LPG, besides other parameters in the Work Zone Area and ambient air in and around the Plant. The location and results of existing monitoring stations shall be reviewed in consultation with the concerned State Pollution Control Board based on the occurrence of maximum ground level concentration and downwind direction of wind. Additional Stations shall be set up, if required. It will be ensured that at least one monitoring station is set up in up-wind & in down-wind direction along with those in other directions. Data shall be submitted to MoEF, CPCB and TNPCB.	Based on predominant wind direction, three CAAM stations are installed in the refinery to monitor ambient air quality parameters w.r.t SO2, NOx, PM10, PM2.5, CO, Benzene, Ammonia and Ozone. Online connectivity of these ambient air quality parameters is established with CPCB and APPCB. Further, manual monitoring of ambient air quality is being carried out by MoEF recognized third party laboratory on monthly basis at the CAAMS locations.
4.	Fugitive emissions in the work zone environment of storage area shall be regularly monitored. The emissions shall conform to the limits imposed by the State Pollution control Boards/Central Pollution Control Board.	Hydrocarbon detectors have been provided in the plant and storage tank areas. Leak Detection And Repair (LDAR) program is in place for the existing refinery where in LPG mounded bullets are also covered.
5.	There shall be no increase in the pollution load for any parameter from the expansion project.	Complied. There is no increase in pollution due to Mounded storage Project.
6.	There shall be no additional water requirement for the process except service water of 5,000 KL for commissioning and testing provisions for appropriate storage and treatment for firefighting water shall be provided.	There is no additional water consumption due to Mounted storage Project and adequate firefighting facilities are in place.

EC Compliance for LPG Mounded Storage dated 07.03.2008

S.No	EC Conditions	Compliance by HPCL-VR
7.	Noise level will be within the approved limits of 80 dB (A).The practice of acoustic plant design shall be adopted to limit noise exposure for personnel to an 8 hr time weighted average of 90 db (A).	Noise monitoring is carried out on monthly basis at various locations in the refinery. The noise levels are within the standards for most of the locations. Measures like usage of earmuffs, display of signage boards, restricting the duration of exposure etc., are followed for high noise level areas.
8.	Green belt shall be provided to mitigate the effects of fugitive emissions all around the plant in a minimum of 33% of the plant area in consultation with DFO as per CPCB guidelines.	Plantation along the South boundary of the refinery has been carried out. Green belt is existing in an area of 112 acres. The industry being a brown field project, there is no adequate space available within the refinery for provision of additional green belt. Further, plantation of trees is not recommended inside the plant area due to safety considerations and development of green belt along the boundary is prohibited considering the associated security risk. HPCL-VR has taken up plantation of saplings in various locations of Visakhapatnam in 4 phases under Green Visakha program and completed the plantation of 6,50,000 saplings covering an area of approx..700 acres amounting to Rs 25 Crores. In addition to this, HPCL-VR has taken up plantation of saplings under Vanam-Manam program initiated by Andhra Pradesh State Government and completed the target plantation of 10000 saplings in Jan 2019. Above plantation measures, provide a green cover more than the present shortfall of greenbelt within the refinery. Further, Green belt of 67 acres is developed near the refinery under VRMP (modernization project).

EC Compliance for LPG Mounded Storage dated 07.03.2008

S.No	EC Conditions	Compliance by HPCL-VR
		Plantation of 26500 samplings in the vicinity of Refinery is being done in association with Greater Visakh Municipal Corporation (GVMC) is in progress
9.	The Company shall harvest surface as well as rainwater from the rooftops of the buildings proposed in the expansion project and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.	Rainwater harvesting facility provided for the Mounded storage facility.
10	The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989, as amended in 2000 and the Public Liability Insurance Act for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commissioning of the expansion project. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.	The approval from Chief Controller of Explosives obtained for the Mounded storage facility. Updated Emergency Response and Disaster Management Plan (ERDMP) is in place to meet any emergency situation. Corporation has a comprehensive PLI policy valid till 31-03-2026 Visakh Refinery is also included in the policy.
	General Conditions:	
1.	The project authorities must strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government.	Noted and is complied.
2.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Noted and is complied.
3.	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and as amended from time to time. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. shall be obtained. All Transportation of Hazardous Chemicals shall be as per the MVA, 1989.	Necessary approvals from Chief Inspector of Factories and Chief Controller of Explosives etc are in place and complying with the MSIHC Rules,1989 and Motor Vehicle rules.

EC Compliance for LPG Mounded Storage dated 07.03.2008

S.No	EC Conditions	Compliance by HPCL-VR
4.	On-site and Off-site emergency preparedness plans shall be prepared. Approval from the nodal agency shall be obtained before commissioning the project.	ERDMP (Emergency Response and Disaster Management Plan) which is certified by PNGRB (Petroleum and Natural Gas Regulatory Board) approved third party is in place.
5.	The overall noise levels in and around the plant area shall be limited within the prescribed standards 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).	Noise monitoring is carried out on monthly basis at various locations in the refinery. The noise levels are within the standards for most of the locations. Measures like usage of earmuffs, display of signage boards, restricting the duration of exposure etc., are followed for high noise level areas.
6.	Proper House Keeping and adequate occupational health programs shall be taken up. Regular Occupational Health Surveillance Programme for the relevant diseases shall be carried out and the records shall be maintained properly for at least 10 years. Sufficient preventive measures shall be adopted to avoid direct exposure to emission and other Hydrocarbons etc.	Housekeeping in the Refinery is ensured on continuous basis. Regular health check-ups of all the employees in the refinery are being carried out and the records are maintained in the Occupational Health Centre. Leak Detection And Repair (LDAR) program is a continuous activity, which is taken up for identification of the sources of fugitive emissions and control of the leaks through inspection, repair and maintenance schedules.
7.	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 on safe handling of hazardous chemicals is imparted to refinery employees as part of Emergency Preparedness training program. Regular health check-ups of all the employees in the refinery are being carried out and the records are maintained in the Occupational Health Centre.
8.	Usage of PPEs by all employees / workers shall be ensured.	Usage of PPE is mandatory for all employees / workers in operating areas.
9.	A separate environment management cell with full fledge laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior Executive.	Under Technical Services Department, Process Safety & Environment (PS&E) is a separate division, which looks after the Environmental and Process safety functions.

EC Compliance for LPG Mounded Storage dated 07.03.2008

S.No	EC Conditions	Compliance by HPCL-VR
		This division reports to Head – Technical who in turn reports to Executive Director of the refinery. Refinery has a dedicated quality control laboratory for analysis of environmental parameters.
10	The project authorities will provide adequate 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.	Complied.
11	The project proponent shall have a scheme for social upliftment in the surrounding villages with reference to contribution in road construction, education of health centers, sanitation facilities, drinking water supply, community awareness and employment to local people whenever and wherever possible both for technical and non-technical jobs. CSR activities will be undertaken by involving local villages and administration.	Various developmental activities such as construction of toilet blocks, supply of furniture, supply of computers, scholarships to students, health camps, supply of diagnostic machines, etc., are taken up in schools & hospitals in the region under Corporate Social Responsibility (CSR) program
12	The implementation of the project vis-a-vis environmental action plans shall be monitored by concerned Regional Office of the Ministry/States Pollution Control Boards/Central Pollution Control Board. A six monthly compliance status report shall be submitted to monitoring agencies and displayed on the Website of the Company.	Complied.
13	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 lease in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the	Complied

EC Compliance for LPG Mounded Storage dated 07.03.2008

S.No	EC Conditions	Compliance by HPCL-VR
	locality concerned and a copy of the same should be forwarded to the concerned Regional office of this Ministry.	
14	The date of Financial Closure and final approval of the project by the concerned authorities and the date of commencing the land development work as well as the commissioning of the project will be informed to the Ministry and its Regional Office.	Complied
15	The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.	Noted
16	The Ministry reserves the right to stipulate additional conditions if found necessary. The company will implement these conditions in a time bound manner.	Noted
17	The above conditions will be enforced inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act 1974 , the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act 1986, Public Liability Insurance Act 1991, Hazardous Waste (Management & Handling) Rules, 1989/2003 and Manufacture , Storage and Import of Hazardous Chemicals 1989/2000 along with their amendments and rules.	Noted

Compliance to SPM EC F.No. 10-47/2009-IA-III dated 20.10.2009

S.No.	EC Conditions	Compliance by HPCL-VR
6	**Special Conditions:**	
i	Pipeline will be laid by the conventional open cut method. The tunnel will be constructed by conventional control blasting technique. No chemical shall be used for blasting	Complied.
ii	A monitoring system shall be provided for Single Point Mooring which will monitor the position of tanker or real time basis including tanker approach speed.	Telemetry system is provided for monitoring the position of tanker.
iii	Mitigative measures shall be taken to prevent SPM collusion.	Close monitoring of tankers and SPM through telemetry system is ensured to avoid any collisions.
iv	Oil Spill Contingency Plan shall be put in place.	Oil Spill Contingency Plan vetted by Indian Coast Guard is in place for SPM facility.
v	All the recommendations as mentioned in the EIA, DMP and Risk Assessment shall be strictly complied	Complied.
vi	There shall be no temporary/permanent camp sites in CRZ area.	Noted
vii	Any offshore vessel discharge shall comply the norms of MARPOL.	Being complied
viii	Waste water generated shall be properly treated and reused, with the provision of oil water separator system.	Waste water is not generated at SPM.
ix	Oily waste to be stored in paved dedicated storage area and shall be disposed to authorized oily recyclers.	In case of oily waste generation, the same shall be handled as per Oil Spill Contingency Plan of SPM facility.
x	Crude oil storage tank from area shall be impervious lined and concrete paved with dyke walls.	Crude Oil storage tanks at Refinery are impervious lined and concrete paved with dyke walls.
xi	Under Corporate Social Responsibilities CSR), sufficient budgetary provision shall be made for health improvement, education, water arid electricity supply etc. in and around the project.	Complied.

S.No.	EC Conditions	Compliance by HPCL-VR
7	**General Conditions:**	
i	The construction of the structure should be undertaken as per the plan approved by the concerned local authorities/Local administration, meticulously confirming to the existing local and central rules and regulations including the provisions of Coastal Regulation Zone notification dated 19.12.1991 and the approved Coastal Zone Management Plan of Andhra Pradesh.	Complied.
ii	In the event of any change in the project profile a fresh reference shall be made to the Ministry of Environment and Forest.	Noted
iii	The Ministry reserve right to revoke this clearance, if any, of the conditions stipulated are not complied with to the satisfaction of this Ministry.	Noted
iv	This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection activities.	Noted
iv	Full support should be extended to the officer of this Ministry's regional office at Bangalore and the officials of the central and Andhra Pradesh Pollution Control Board by the project proponents during their inspection for monitoring purpose, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.	Being complied.
8	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 198, The Environment (Protection) Act. 1986, The Public Liability-(Insurance) Act. 1991, and Municipal Solid Waste (Management and Handline) Rules. 2000 including the amendments and rules made thereafter.	Noted

S.No.	EC Conditions	Compliance by HPCL-VR
9	All statutory clearance such as approvals for storage of diesel from chief controller of explosive, fire department and civil aviation department from height point of view, forest conservation act,1980 and Wildlife (Protection) Act,1972 etc. shall be obtained as applicable by the project proponents from the respective competent authorities.	Noted
10	The project proponent should advertise in at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of the of the clearance letters are available with the Andhra Pradesh Pollution Board and may also be seen on the website of the Ministry of the Environment and forests at https://www.envfor.nc.in. The Advertisement should be made with in 10 days from the date of the receipt of the clearance and a copy of the same shall be forwarded to the Regional office of this Ministry at Bangalore.	Complied
11	Environmental 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.	Final Order of Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 is not applicable to this project.
12	Any appeal against this Environmental Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Noted.
13	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/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	Noted and Complied

S.No.	EC Conditions	Compliance by HPCL-VR
14	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 MoEF at Bangalore, the respective Zonal Office of CPCB and the APPCB. The criteria pollutant levels namely; SPM, RSPM, SOA, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Shall be complied by including SPM EC compliance status in six monthly EC compliance reports of HPCL-Visakh Refinery which are being uploaded in the corporate website besides submitting to MoEF office, Vijayawada regularly.
15	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 copies as well as by e-mail) to the respective Regional Office of MoEF at Bangalore, the respective Zonal Office of CPCB and the APPCB.	Shall be complied by including SPM EC compliance status in six monthly EC compliance reports of HPCL-Visakh Refinery which are being submitted to MoEF office, Vijayawada regularly.
16	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 Regional Office of MoEF at Bangalore by e-mail.	Being Complied. Annual Environment Statement for HPCL-Visakh Refinery is being submitted to APPCB for year 2023-24 on 12.09.2024

EC Compliance for No.J-11012/55/2003-IA-(I) dated 03.02.2004

S.No	EC Conditions	Compliance by HPCL-VR
1	The company shall comply with all the conditions stipulated by this Ministry vide its letter no. J-11011/88/96-IA-11 (I) dated 10th April, 1997.	Complied.
2	Specific limits stipulated for SO_2 (11.5 TPD), HC (2.5 TPD), SPM (1.1 TPD) and NOx (6.5 TPD) at para 2 should be strictly complied.	Complied. Average emission loads for the period Oct 24 to Mar 25 are provided below: Emissions TPD SO_2 7.68 SPM 0.53 HC 0.55 NOx 1.80
3	The fresh water consumption should be pegged at 523 m^3/hr after the proposed modernization. The additional water required, if any, should be met through recycling/reuse of treated effluent.	Fresh water consumption is within the stipulated limit of 1538 m^3/hr as per the latest CFO dated 09.03.2022. The influent streams to Integrated Effluent Treatment Plant (IETP) are treated and the treated effluent water is being recycled/reused fully as Cooling water make up.
4	The industry shall implement all the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) regarding air pollution, waste water and solid waste management and oil spill response facilities at Coastal refineries.	Noted and is complied.
5	All the recommendations made in the Risk Analysis Report should be complied with during design, construction and operation stages to contain the risk within the plant boundary.	The Risk Analysis Report relates to a specific project and the same has been implemented as required

S.No	EC Conditions	Compliance by HPCL-VR
6	No further modernization of the project should be carried out without prior permission of the Ministry.	Noted and is complied.
7	Implementation of the project vis-à-vis Environmental management / risk mitigation measures should be reported to the Ministry / Regional Office / State Pollution Control Board regularly on a six-monthly basis.	Noted and is complied.

Compliance to VREP EC J-11011/22/94-IA II (I) dated 30.05.1995

S.No	EC Conditions	Compliance by HPCL-VR
1	The project authority must strictly adhere to the stipulations made by the A.P. Pollution Control board and the State Government.	The Refinery is currently complying with the conditions stipulated in CFO No:APPCB/VSP/VSP/72/CFO/HO/2021 dated 09.03.2021 and task force directives which were identified by APPCB vide letter no.702/APPCB/UH-II/TF/VSP/2020-295 dated 12.08.2021.
2	Any expansion of the plant, either with the existing product mix or new product(s) or storage facilities etc. /can be taken up only with the prior proposal of this Ministry.	Noted and is complied.
3	The total emission of SO2 from the entire refinery should be brought down from 9 TPD to 7.5 TPD in a phased manner and action plan for the same should be submitted to the Ministry. Until the SO2 of 7.5 TPD is achieved in the near future, the total emission of SO2 would not exceed the earlier prescribed limit of 9 TPD.	Subsequent to industry expansion, the SO_2 emission limit was revised to 11.5 TPD vide EC J11011/88/96-IA-II (I) dated 10.04.97. The same limit is stipulated in the latest EC dated 11.02.2016. The average SO2 emissions for the period of Oct 24 to Mar 25 is 7.68 TPD and are within the stipulated limit of 11.5 TPD.
4	The gaseous emissions 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(s) 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.	Monitoring of SO2, NOx, CO, PM, HC, VOCs and Benzene is being done regularly in refinery premises. Online connectivity of stack emissions analyzers is established with CPCB and APPCB servers. Further, stack emission monitoring is being carried out by MoEF recognized laboratory on monthly basis. VOCs and Benzene within refinery premises are being monitored periodically and controlled as part of LDAR survey carried out by MoEF recognized third party
5	Sulphur recovery units with more than 99% efficiency for sulphur recovery should be provided.	Sulphur Recovery Units (SRU) with >99% Sulphur recovery efficiency are installed in the refinery.

Compliance to VREP EC J-11011/22/94-IA II (I) dated 30.05.1995

S.No	EC Conditions	Compliance by HPCL-VR
6	Low NOx burners to avoid excessive formulation of NOx should he provided.	All major furnaces are provided with low NOx burners.
7	Adequate 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 SO_2, 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.	Based on predominant wind direction, three CAAM stations are installed in the refinery to monitor ambient air quality parameters w.r.t SO2, NOx, PM10, PM2.5, CO, Benzene, Ammonia and Ozone. HPCL-Visakh Refinery is regularly carrying out Ambient air quality monitoring outside the refinery (Malkapuram) thru a MOEF recognized third party Laboratory once in a month.
8	Fugitive emissions of HC from storage tanks, crude oil tanks etc., should be minimised by adopting necessary measures.	Crude and light hydrocarbon products are stored in floating roof tanks with secondary seals to minimize vapor space and hence hydrocarbon emissions from storage tanks are minimized. Hydrocarbon detectors are provided in the plant and storage tank areas.
9	Adequate facilities for monitoring the fugitive emissions should be planned.	Leak Detection and Repair (LDAR) survey is being carried out regularly by MoEF recognized third party laboratory for monitoring fugitive emissions.

Compliance to VREP EC J-11011/22/94-IA II (I) dated 30.05.1995

S.No	EC Conditions	Compliance by HPCL-VR
10	The stacks should be of appropriate design and height and should be attached to pollution control systems wherever necessary. Height of stacks attached to crude oil furnace and waste heat boiler should be increased to the maximum height as permitted by the Civil Aviation Department. Continuous on-line stack monitoring equipment for measurement of SO_2 & NOx should be installed. The monitored data should be submitted to SPCB every 3 months and every 6 months to the Ministry of Env.& Forest for review.	Process furnaces, boilers and gas turbines are provided with tall stacks (about 60 m) for better dispersion of flue gases. Online connectivity of stack emission analyzers established with CPCB an APPCB servers. Analysis of stack flue gases is being carried out by MoEF recognized third party laboratory on monthly basis and being submitted to APPCB as per the requirement.
11	The existing waste water treatment facilities should be suitably augmented so as to meet the MINAS standards.	Integrated Effluent Treatment Plant (IETP) having capacity of treating 1000m3/hr of effluent and always meeting MINAS satnadards.
12	Recycling/Reuse of the treated effluent to the maximum extent possible should be planned.	The influent streams to Integrated Effluent Treatment Plant (IETP) are treated and the treated effluent water is being recycled/reused fully as Cooling water make up.
13	Adequate number of influent and effluents quality monitoring stations have to be planned with adequate facilities especially for the parameters like phenols, sulphides / oil and grease, suspended solids BOD, COD, PH and flow.	Online liquid effluent monitoring facilities are available for pH, TSS, BOD and COD in line with CPCB guidelines and connectivity of these analyzers established with APPCB and CPCB servers. Flowmeters are available on sea cooling water supply headers.

Compliance to VREP EC J-11011/22/94-IA II (I) dated 30.05.1995

S.No	EC Conditions	Compliance by HPCL-VR
		Further, the treated effluent quality is being monitored by MoEF recognized Third Party laboratory on monthly basis.
14	System to recover oil from the oily sludge and incinerator producing the residues should be provided.	Oily sludge in the refinery is being processed for recovery of oil. The recovered oil is reprocessed. The residual oily sludge is bio-remediated by using bacteria developed by Inhouse R&D and not incinerated. Hence, incinerator is not required.
15	Hazardous substances and solid wastes should be handled stored and disposed off as per the Hazardous Wastes (Management and Handling) Rules, 1989 of the EPA 1986.	Hazardous wastes are being handled, stored and disposed of in accordance with the Hazardous & Other Waste Management Rules, 2016.
16	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. on all the sources of noise generation.	Noise monitoring is carried out on monthly basis at various locations in the refinery. The noise levels are within the standards for most of the locations. Measures like usage of earmuffs, display of signage boards, restricting the duration of exposure etc. are followed for high noise level areas.
17	The density of green belt within the Plant premises should be increased using native plant species in consultation with the local DFO.	Existing green belt area is 112 acres. tree plantation on a massive scale has been carried out in various locations of Visakhapatnam under “Green Visakha” program. The Green Visakha and Vanam Manam programs were taken up by Respondent’s Visakh Refinery as per the directives of APPCB”. HPCL-VR has planted 6,50,000 plantations covering an area of approximately 700 acers of Plantation, and is complying with the CFE condition. Approximately Rs.26 crores were incurred for green belt development during 2011-2021 by HPCL-VR.

Compliance to VREP EC J-11011/22/94-IA II (I) dated 30.05.1995

S.No	EC Conditions	Compliance by HPCL-VR
		In addition to this, HPCL-VR has taken up plantation of saplings under Vanam Manam program initiated by Andhra Pradesh State Government and completed the target plantation of 10,000 saplings in Jan 2019. Above plantation measures, provide a green cover more than the present shortfall of greenbelt within the refinery. Further, Green belt of 67 acres is developed near the refinery under VRMP (modernization project). Plantation of 26500 samplings in the vicinity of Refinery is being done in association with Greater Visakh Municipal Corporation (GVMC) is in progress
18	Various socio-economic schemes should he initiated by HPCL, so to improve the socio economic environment in the region.	Various developmental activities such as construction of toilet blocks, supply of furniture, supply of computers, scholarships to students, health camps, supply of diagnostic machines etc., are taken up in schools & hospitals in the region under Corporate Social Responsibility (CSR) program.
19	Recommendation made by NEERI in the EMP should be implemented and action plan for implementation of the same should be submitted to the Ministry for review.	NEERIs recommendations and action plans were submitted to MoEF&CC. Among the NEERI recommendations, one recommendation couldn't be complied. Effluent discharge through a single outlet was recommended by NEERI. However, 2 outlets are provided as the refinery is in a low-lying area with respect to MSL. The 2 outlets are joined together outside the boundary of the refinery into a single channel outlet outside the Refinery

Compliance to VREP EC J-11011/22/94-IA II (I) dated 30.05.1995

S.No	EC Conditions	Compliance by HPCL-VR
20	Necessary approvals from the Chief Explosives directorate, inspector of factories, Fire Safety Inspector etc. should be obtained and copies of approval letters, be made available to this Ministry for the storages and facilities curtaining to highly inflammable materials.	Necessary approvals are in place.
21	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 Executive.	Refinery has a dedicated quality control laboratory for analysis of environmental parameters under the supervision of competent technical personnel.
22	An Environmental Management Cell should be established with suitably qualified People to carry out various functions and should be set up under the control or senior executive who will report directly to the head of the organization.	Under Technical Services Department, Process Safety & Environment (PS&E) is a separate division, which looks after the Environmental and Process safety functions. This division reports to Head – Technical who in turn reports to Executive Director of the refinery.
23	Medical surveillance of workers should be done regularly to avoid possibility of contracting occupational diseases against the workers engaged in the various plants and record maintained.	Regular health check-ups of all the employees in the refinery are being carried out and the records are maintained in the Occupational Health Centre.
24	The project authorities should carry out a water balance study at the proposed site and submit the report within 12 months.	Water balance study was carried out and the report was submitted to the Ministry.
25	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.	The funds earmarked for environmental protection measures are being used for the same purpose only and there is no diversion of the funds. The expenditure incurred towards environmental pollution control

Compliance to VREP EC J-11011/22/94-IA II (I) dated 30.05.1995

S.No	EC Conditions	Compliance by HPCL-VR
		measures is being provided in Environment Statement (Form-V) every year.

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(ENVIRONMENTAL ENGINEERS & CONSULTANTS IN POLLUTION CONTROL)

Corporate Office & Laboratory : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012.
Hyderabad: Flat No. 302, H.No. 7-1-396/B/12, Sai Ram Residency, Balkampet Road, S.R.Nagar, Hyderabad-500038.
✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com ⊕ www.svenvirolabs.com
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ANNEXURE-2

Issued to:

M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	19th Oct 2024	*Date of reporting*	05th Nov 2024
Report No.	SVELC/HPCL/24-10/02		
Sample particulars	Ambient Air, No. of sample - 1 (One)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024. PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	2 of 6
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS	STANDARDS	METHODS
			MALKAPURAM		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	50	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	17	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	06	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	08	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	4.3	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.20	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.1	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.09	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	20-Annaul	IS: 5182 (P-26)

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✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com 🌐 www.svenvirolabs.com
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Issued to:

M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	16th Nov 2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/02		
Sample particulars	Ambient Air, No. of sample - 1 (One)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024. PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	2 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS	STANDARDS	METHODS
			MALKAPURAM		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	55	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	21	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	10	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	12	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	4.8	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.25	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.5	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.09	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	20-Annaul	IS: 5182 (P-26)

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✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com 🌐 www.svenvirolabs.com
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Issued to:

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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	14th Dec 2024	*Date of reporting*	06-01-2025
Report No.	SVELC/HPCL/24-12/02		
Sample particulars	Ambient Air, No. of sample - 1 (One)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024. PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	2 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS	STANDARDS	METHODS
			MALKAPURAM		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	52	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	19	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	07	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	10	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	4.4	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.21	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.2	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.09	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	20-Annaul	IS: 5182 (P-26)

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(ENVIRONMENTAL ENGINEERS & CONSULTANTS IN POLLUTION CONTROL)

Corporate Office & Laboratory : Enviro House, B-1, Block-B, IDA Autonagar, Visakhapatnam-530012

Hyderabad Office: #402, SaiKrishna Villa, Behind CMR Shopping Mall, AS Raju Nagar, Kukatpally, Hyderabad-500072

✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com 🌐 www.svenvirolabs.com

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	18th Jan 2025	*Date of reporting*	07-02-2025
Report No.	SVELC/HPCL/25-01/02		
Sample particulars	Ambient Air, No. of sample - 1 (One)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024. PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	2 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS	STANDARDS	METHODS
			MALKAPURAM		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	55	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	22	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	11	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	14	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	5.2	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.24	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.5	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.11	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	20-Annaul	IS: 5182 (P-26)

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Corporate Office & Laboratory : Enviro House, B-1, Block-B, IDA Autonagar, Visakhapatnam-530012
Hyderabad Office: #402, SaiKrishna Villa, Behind CMR Shopping Mall, AS Raju Nagar, Kukatpally, Hyderabad-500072
✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com 🌐 www.svenvirolabs.com
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Issued to:

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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	15th Feb 2025	*Date of reporting*	08-03-2025
Report No.	SVELC/HPCL/25-02/02		
Sample particulars	Ambient Air, No. of sample - 1 (One)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024. PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	2 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS	STANDARDS	METHODS
			MALKAPURAM		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	53	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	20	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	09	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	12	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	5.0	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.21	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.3	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.08	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	20-Annaul	IS: 5182 (P-26)

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Hyderabad Office: #402, SaiKrishna Villa, Behind CMR Shopping Mall, AS Raju Nagar, Kukatpally, Hyderabad-500072
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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	15th March 2025	*Date of reporting*	07-04-2025
Report No.	SVELC/HPCL/25-03/02		
Sample particulars	Ambient Air, No. of sample - 1 (One)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024. PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	2 of 6
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS	STANDARDS	METHODS
			MALKAPURAM		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	57	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	22	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	11	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	15	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	7.0	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.24	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.7	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.10	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	20-Annaul	IS: 5182 (P-26)

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	18th Oct 2024	*Date of reporting*	05th Nov 2024
Report No.	SVELC/HPCL/24-10/01		
Sample particulars	Ambient Air, No. of sample's 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	1 of 6
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS			STANDARDS	METHODS
			HLPH	SOUTH GATE	STORE YARD		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	63	66	57	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	24	21	12	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	11	09	06	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	16	13	10	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	06	03	04	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	BDL	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.31	0.23	0.18	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.3	3.6	2.0	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.20	0.22	0.15	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	BDL	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	BDL	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	BDL	BDL	20-Annaul	IS: 5182 (P-26)
13.	Hydrocarbons	mg/m^3	BDL	BDL	BDL	NS	IS: 5182 (P-17)

- NS – Not Specified

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	October 2024	*Date of reporting*	05th Nov 2024
Report No.	SVELC/HPCL/24-10/03		
Sample particulars	Ambient Air, No. of sample - 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	Pb, Benzo(a)pyrene, Arsenic & Nickel		
Method of analysis	IS: 5182	Page No.	3 of 6
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

Location of Sampling Site: South Gate

Parameters	Units	04.10.2024	07.10.2024	11.10.2024	14.10.2024	21.10.2024	25.10.2024	28.10.2024
Lead as (Pb)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: Store Yard

Parameters	Units	04.10.2024	07.10.2024	11.10.2024	14.10.2024	21.10.2024	25.10.2024	28.10.2024
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: HLPH

Parameters	Units	04.10.2024	07.10.2024	11.10.2024	14.10.2024	21.10.2024	25.10.2024	28.10.2024
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL

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LIMITS AND METHOD OF ANALYSIS

S.No.	POLLUTANT	UNITS	TIME WEIGHTED AVERAGE	LIMITS	METHOD
1.	Lead ($\mu g/m^3$)	$\mu g/m^3$	24 Hrs	1.0	IS:5182 (P-22)
2.	Benzo (a) pyrene as (BaP)	ng/m^3	Annual	1.0	IS: 5182 (P12)
3.	Arsenic as (As)	ng/m^3	Annual	6.0	APHA-302
4.	Nickel as (Ni)	ng/m^3	Annual	20.0	IS: 5182 (P-26)

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	15th Nov 2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/01		
Sample particulars	Ambient Air, No. of sample's 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	1 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS			STANDARDS	METHODS
			HLPH	SOUTH GATE	STORE YARD		
1.	Particulate Matter – PM_{10}	µg/m³	67	70	63	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	µg/m³	28	25	22	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	µg/m³	14	13	10	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	µg/m³	17	16	13	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	µg/m³	09	07	06	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	µg/m³	BDL	BDL	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m³	0.35	0.26	0.22	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	µg/m³	2.8	4.0	2.3	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	µg/m³	0.23	0.26	0.19	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m³	BDL	BDL	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m³	BDL	BDL	BDL	20-Annaul	IS: 5182 (P-26)
13.	Hydrocarbons	mg/m³	BDL	BDL	BDL	NS	IS: 5182 (P-17)

- NS – Not Specified

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	November 2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/03		
Sample particulars	Ambient Air, No. of sample - 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	Pb, Benzo(a)pyrene, Arsenic & Nickel		
Method of analysis	IS: 5182	Page No.	3 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

Location of Sampling Site: South Gate

Parameters	Units	01.11.2024	04.11.2024	08.11.2024	11.11.2024	18.11.2024	22.11.2024	25.11.2024	29.11.2024
Lead as (Pb)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: Store Yard

Parameters	Units	01.11.2024	04.11.2024	08.11.2024	11.11.2024	18.11.2024	22.11.2024	25.11.2024	29.11.2024
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: HLPH

Parameters	Units	01.11.2024	04.11.2024	08.11.2024	11.11.2024	18.11.2024	22.11.2024	25.11.2024	29.11.2024
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

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LIMITS AND METHOD OF ANALYSIS

S.No.	POLLUTANT	UNITS	TIME WEIGHTED AVERAGE	LIMITS	METHOD
1.	Lead (µg/m³)	µg/m³	24 Hrs	1.0	IS:5182 (P-22)
2.	Benzo (a) pyrene as (BaP)	ng/m³	Annual	1.0	IS: 5182 (P12)
3.	Arsenic as (As)	ng/m³	Annual	6.0	APHA-302
4.	Nickel as (Ni)	ng/m³	Annual	20.0	IS: 5182 (P-26)

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	13th Dec 2024	*Date of reporting*	06-01-2025
Report No.	SVELC/HPCL/24-12/01		
Sample particulars	Ambient Air, No. of sample's 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	1 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS			STANDARDS	METHODS
			HLPH	SOUTH GATE	STORE YARD		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	65	67	60	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	26	23	20	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	12	11	08	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	16	14	11	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	07	05	05	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	BDL	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.33	0.24	0.20	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.6	3.7	2.0	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.21	0.24	0.17	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	BDL	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	BDL	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	BDL	BDL	20-Annaul	IS: 5182 (P-26)
13.	Hydrocarbons	mg/m^3	BDL	BDL	BDL	NS	IS: 5182 (P-17)

- NS – Not Specified

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	December 2024	*Date of reporting*	06-01-2025
Report No.	SVELC/HPCL/24-12/03		
Sample particulars	Ambient Air, No. of sample - 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	Pb, Benzo(a)pyrene, Arsenic & Nickel		
Method of analysis	IS: 5182	Page No.	3 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

Location of Sampling Site: South Gate

Parameters	Units	02.12.2024	06.12.2024	09.12.2024	16.12.2024	20.12.2024	23.12.2024	27.12.2024	30.12.2024
Lead as (Pb)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: Store Yard

Parameters	Units	02.12.2024	06.12.2024	09.12.2024	16.12.2024	20.12.2024	23.12.2024	27.12.2024	30.12.2024
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: HLPH

Parameters	Units	02.12.2024	06.12.2024	09.12.2024	16.12.2024	20.12.2024	23.12.2024	27.12.2024	30.12.2024
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

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LIMITS AND METHOD OF ANALYSIS

S.No.	POLLUTANT	UNITS	TIME WEIGHTED AVERAGE	LIMITS	METHOD
1.	Lead ($\mu g/m^3$)	$\mu g/m^3$	24 Hrs	1.0	IS:5182 (P-22)
2.	Benzo (a) pyrene as (BaP)	ng/m^3	Annual	1.0	IS: 5182 (P12)
3.	Arsenic as (As)	ng/m^3	Annual	6.0	APHA-302
4.	Nickel as (Ni)	ng/m^3	Annual	20.0	IS: 5182 (P-26)

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	17th Jan 2025	*Date of reporting*	07-02-2025
Report No.	SVELC/HPCL/25-01/01		
Sample particulars	Ambient Air, No. of sample's 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	1 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS			STANDARDS	METHODS
			HLPH	SOUTH GATE	STORE YARD		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	69	71	64	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	28	26	23	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	15	13	11	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	19	17	13	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	09	07	08	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	BDL	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.36	0.27	0.23	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.9	4.1	2.3	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.23	0.26	0.19	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	BDL	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	BDL	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	BDL	BDL	20-Annaul	IS: 5182 (P-26)
13.	Hydrocarbons	mg/m^3	BDL	BDL	BDL	NS	IS: 5182 (P-17)

- NS – Not Specified

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VISAKHAPATNAM – 530 011.
Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	January 2025	*Date of reporting*	07-02-2025
Report No.	SVELC/HPCL/25-01/03		
Sample particulars	Ambient Air, No. of sample - 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	Pb, Benzo(a)pyrene, Arsenic & Nickel		
Method of analysis	IS: 5182	Page No.	3 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

Location of Sampling Site: South Gate

Parameters	Units	03.01.2025	06.01.2025	10.01.2025	13.01.2025	20.01.2025	24.01.2025	27.01.2025	31.01.2025
Lead as (Pb)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: Store Yard

Parameters	Units	03.01.2025	06.01.2025	10.01.2025	13.01.2025	20.01.2025	24.01.2025	27.01.2025	31.01.2025
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: HLPH

Parameters	Units	03.01.2025	06.01.2025	10.01.2025	13.01.2025	20.01.2025	24.01.2025	27.01.2025	31.01.2025
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

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LIMITS AND METHOD OF ANALYSIS

S.No.	POLLUTANT	UNITS	TIME WEIGHTED AVERAGE	LIMITS	METHOD
1.	Lead (μg/m³)	μg/m³	24 Hrs	1.0	IS:5182 (P-22)
2.	Benzo (a) pyrene as (BaP)	ng/m³	Annual	1.0	IS: 5182 (P12)
3.	Arsenic as (As)	ng/m³	Annual	6.0	APHA-302
4.	Nickel as (Ni)	ng/m³	Annual	20.0	IS: 5182 (P-26)

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	14th Feb 2025	*Date of reporting*	08-03-2025
Report No.	SVELC/HPCL/25-02/01		
Sample particulars	Ambient Air, No. of sample's 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	1 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS			STANDARDS	METHODS
			HLPH	SOUTH GATE	STORE YARD		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	65	67	61	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	25	23	20	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	14	11	09	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	17	16	11	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	11	09	10	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	BDL	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.33	0.25	0.20	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	2.7	3.9	2.1	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.20	0.23	0.15	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	BDL	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	BDL	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	BDL	BDL	20-Annaul	IS: 5182 (P-26)
13.	Hydrocarbons	mg/m^3	BDL	BDL	BDL	NS	IS: 5182 (P-17)

- NS – Not Specified

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VISAKHAPATNAM – 530 011.
Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	February 2025	*Date of reporting*	08-03-2025
Report No.	SVELC/HPCL/25-02/03		
Sample particulars	Ambient Air, No. of sample - 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	Pb, Benzo(a)pyrene, Arsenic & Nickel		
Method of analysis	IS: 5182	Page No.	3 of 8
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

Location of Sampling Site: South Gate

Parameters	Units	03.02.2025	07.02.2025	10.02.2025	17.02.2025	21.02.2025	24.02.2025	28.02.2025
Lead as (Pb)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: Store Yard

Parameters	Units	03.02.2025	07.02.2025	10.02.2025	17.02.2025	21.02.2025	24.02.2025	28.02.2025
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: HLPH

Parameters	Units	03.02.2025	07.02.2025	10.02.2025	17.02.2025	21.02.2025	24.02.2025	28.02.2025
Lead (µg/m³)	µg/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m³	BDL	BDL	BDL	BDL	BDL	BDL	BDL

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LIMITS AND METHOD OF ANALYSIS

S.No.	POLLUTANT	UNITS	TIME WEIGHTED AVERAGE	LIMITS	METHOD
1.	Lead (µg/m^3)	µg/m^3	24 Hrs	1.0	IS:5182 (P-22)
2.	Benzo (a) pyrene as (BaP)	ng/m^3	Annual	1.0	IS: 5182 (P12)
3.	Arsenic as (As)	ng/m^3	Annual	6.0	APHA-302
4.	Nickel as (Ni)	ng/m^3	Annual	20.0	IS: 5182 (P-26)

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Issued to:

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	14th March 2025	*Date of reporting*	07-04-2025
Report No.	SVELC/HPCL/25-03/01		
Sample particulars	Ambient Air, No. of sample's 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO. NH_3, Benzene, Benzo(a)pyrene, Arsenic, Nickel & HC		
Method of analysis	IS: 5182	Page No.	1 of 6
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

S No.	POLLUTANT	UNIT	RESULTS			STANDARDS	METHODS
			HLPH	SOUTH GATE	STORE YARD		
1.	Particulate Matter – PM_{10}	$\mu g/m^3$	68	70	64	100-24hrs	IS:5182 (P-23)
2.	Particulate Matter – $PM_{2.5}$	$\mu g/m^3$	27	25	22	60-24hrs	IS:5182 (P-24)
3.	Sulphur Dioxide – SO_2	$\mu g/m^3$	17	13	12	80-24hrs	IS:5182 (P-2)
4.	Oxides of Nitrogen – NO_X	$\mu g/m^3$	20	18	14	80-24hrs	IS:5182(P-6)
5.	Ozone as (O_3)	$\mu g/m^3$	13	10	08	100-8hrs	IS:5182 (P-9)
6.	Lead as (Pb)	$\mu g/m^3$	BDL	BDL	BDL	1.0-24hrs	IS:5182 (P-22)
7.	Carbon Monoxide as (CO)	mg/m^3	0.35	0.27	0.23	2.0-1hr	IS:5182 (P-10)
8.	Ammonia as (NH_3)	$\mu g/m^3$	3.0	4.1	2.3	400-24hrs	IS 5182 (P-25)
9.	Benzene as (C_6H_6)	$\mu g/m^3$	0.23	0.25	0.16	05-Annual	IS: 5182 (P-11)
10.	Benzo (a) pyrene as (BaP)	ng/m^3	BDL	BDL	BDL	01-Annual	IS: 5182 (P12)
11.	Arsenic as (As)	ng/m^3	BDL	BDL	BDL	06-Annaul	APHA-302
12.	Nickel as (Ni)	ng/m^3	BDL	BDL	BDL	20-Annaul	IS: 5182 (P-26)
13.	Hydrocarbons	mg/m^3	BDL	BDL	BDL	NS	IS: 5182 (P-17)

- NS – Not Specified

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SV ENVIRO LABS & CONSULTANTS

(ENVIRONMENTAL ENGINEERS & CONSULTANTS IN POLLUTION CONTROL)

Corporate Office & Laboratory : Enviro House, B-1, Block-B, IDA Autonagar, Visakhapatnam-530012

Hyderabad Office: #402, SaiKrishna Villa, Behind CMR Shopping Mall, AS Raju Nagar, Kukatpally, Hyderabad-500072

✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com 🌐 www.svenvirolabs.com

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Issued to:

M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.
Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	February 2025	*Date of reporting*	07-04-2025
Report No.	SVELC/HPCL/25-03/03		
Sample particulars	Ambient Air, No. of sample - 3 (Three)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	RDS, Make Lata Envirotech. Model/S.No. APM 860, Sl.No. 557 DTC 2024, APM 860, Sl.No. 556 DTC 2024, APM 860, Sl.No. 555 DTC 2024 PM10/PM2.5 Sampler, Make Lata Envirotech. Model/S.No. APM 154, Sl.No. 475 DTC 2024, APM 154, Sl.No. 474 DTC 2024, APM 154, Sl.No. 473 DTC 2024.		
Test required	Pb, Benzo(a)pyrene, Arsenic & Nickel		
Method of analysis	IS: 5182	Page No.	3 of 6
Discipline	Chemical	Group	Atmospheric Pollution

AMBIENT AIR QUALITY

cation of Sampling Site: South Gate

Parameters	Units	03.04.2025	07.04.2025	10.03.2025	17.03.2025	21.03.2025	24.03.2025	28.03.2025	31.04.2025
Lead as (Pb)	$\mu g/m^3$	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: Store Yard

Parameters	Units	03.02.2025	07.02.2025	10.02.2025	17.02.2025	21.02.2025	24.02.2025	28.02.2025	31.04.2025
·ad ($\mu g/m^3$)	$\mu g/m^3$	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic as (As)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Location of Sampling Site: HLPH

Parameters	Units	03.02.2025	07.02.2025	10.02.2025	17.02.2025	21.02.2025	24.02.2025	28.02.2025	31.04.2025
Lead ($\mu g/m^3$)	$\mu g/m^3$	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo (a) pyrene as (BaP)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
·senic as (As)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel as (Ni)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

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Hyderabad Office: #402, SaiKrishna Villa, Behind CMR Shopping Mall, AS Raju Nagar, Kukatpally, Hyderabad-500072

✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com 🌐 www.svenvirolabs.com

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LIMITS AND METHOD OF ANALYSIS

S.No.	POLLUTANT	UNITS	TIME WEIGHTED AVERAGE	LIMITS	METHOD
1.	Lead ($\mu g/m^3$)	$\mu g/m^3$	24 Hrs	1.0	IS:5182 (P-22)
2.	Benzo (a) pyrene as (BaP)	ng/m^3	Annual	1.0	IS: 5182 (P12)
3.	Arsenic as (As)	ng/m^3	Annual	6.0	APHA-302
4.	Nickel as (Ni)	ng/m^3	Annual	20.0	IS: 5182 (P-26)

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PRAGATHI LABS & CONSULTANTS PVT.LTD.

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(ISO 9001:2015, OHSMS ISO 45001:2018)

Plot No. B15 & 16, Industrial Estate, Behind Pollution Control Board
Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

Issued to

Mr. Bukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram
Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Monitoring	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/12/01		
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021		
Sample particulars	Bore water samples, No. of samples :08 (Eight)		
Test required	Water depth (Meters)	**Instrument Used**	Piezo Meter
Sampling Done by	Field in charge, PLCPL		

Test Results

S.NO	Bore well No	Location	Water depth (Meters)
1	Bore Well - 4	At Labour gate	Dry
2	Bore Well - 8	West of tank 90	5.4
3	Bore Well - 9	South East SS6/B Substation	8.1
4	Bore Well -10	M.O.I Building	6.0
5	Bore Well- 18	Chemical House	9.4
6	Bore Well - 20	South West point of sludge pond	9.1
7	Bore Well - 21	East of Centrifuge ETP-2	7.2
8	South East Corner Boundary	(I-ETP)	5.0

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(Md.Azeem)
Analyst

Authorized Signatory
(M. Ravi Kiran)

– END OF THE REPORT –

PLCPL/C.I.7.8/F3

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Plot No. B15 & 16, Industrial Estate, Behind Pollution Control Board
Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

TC-13807

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery, Malkapuram
Visakhapatnam - 530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5009/3405	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021	**ULR No.**	ULR-TC138072400000482F
Sample particulars	South East Corner Boundary (I-ETP) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of 1L		
Test required	Odor, Taste, Turbidity, pH, TDS, Ca, Cl, Cu, F,Residual free Chlorine, Fe, Mg, NO3, SO4,T.Alk,T.Hardness, Zn, Oil & Grease, S.		
Sampling Done by	Field in charge, PLCPL		

Discipline: Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Odour	-	IS:3025(P05)	Agreeable	Agreeable	Agreeable
Taste	-	IS:3025(P07)	Agreeable	Agreeable	Agreeable
Turbidity	NTU	IS:3025(P10)	1.0	1	5
pH	--	IS:3025(P11)	7.3	6.5 to 8.5	NR
TDS	mg/l	IS:3025(P16)	1011	500	2000
Calcium as Ca	mg/l	IS:3025(P40)	75	75	200
Chlorides as Cl (Max.)	mg/l	IS:3025(P32)	125	250	1000
Copper as Cu (Max.)	mg/l	IS:3025(P42)	0.09	0.05	1.5
Fluorides as F (Max.)	mg/l	IS:3025(P60)	0.5	1	1.5
Residual free Chlorine	mg/l	IS:3025(P26)	Nil	0.2	1
Iron (as Fe) (Max.)	mg/l	IS:3025(P53)	0.8	1.0	1.0
Magnesium as Mg	mg/l	IS:3025(P46)	32	30	100
Nitrate as NO_3	mg/l	IS:3025(P34)	13	45	NR
Sulphates as SO_4	mg/l	IS:3025(P24)	77	200	400
T. Alkalinity as $CaCO_3$	mg/l	IS:3025(P23)	280	200	600
T. Hardness as $CaCO_3$	mg/l	IS:3025(P21)	320	200	600
Zinc (as Zn) (Max.)	mg/l	IS:3025(P49)	3.3	5	15
Oil and Grease	mg/l	IS:3025(P39)	Nil	0.5	0.5
Sulphide (as S)	mg/L	IS:3025(P29)	<0.05	0.05	NR

Note: NS – Not Specified In IS 10500, NR- No Relaxation Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

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Plot No. B15 & 16, Industrial Estate, Behind Pollution Control Board
Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5009/3406	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021		
Sample particulars	South East Corner Boundary (I-ETP) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of 1L		
Test required	Phenolic compds,CN, Mo, Ag, MBAS, Ba,Chloramines, Mineral oil, PCB, PAH, Bromoform, Dibromochloromethane. Bromodichloromethane, Chloroform, Color, Hg. Mn, T.As, Se, Cd, T.Cr, B, Al, NH_3-N, Pb, Ni.		
Sampling Done by	Field in charge, PLCPL		

Discipline: Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Color	Hazen	IS:3025(P04)	<5.0	5	15
Ammonia as N	mg/l	IS:3025(P34)	<0.1	0.5	0.5
Lead (as Pb) (Max.)	mg/l	IS:3025(P47)	<0.01	0.01	NR
Nickel as Ni	mg/l	IS:3025(P54)	<0.02	0.02	NR
Aluminium (as Al) (Max.)	mg/l	IS:3025(P55)	0.05	0.03	0.2
Manganese (as Mn)	mg/l	IS:3025(P59)	<0.1	0.1	0.3
Selenium (as Se) (Max.)	mg/l	IS:3025(P56)	<0.01	0.01	NR
Cadmium (as Cd) (Max.)	mg/l	IS:3025(P41)	<0.003	0.003	NR
Mercury (as Hg) (Max.)	mg/l	IS:3025(P48)	<0.001	0.001	NR
Total Arsenic (as As) (Max.)	mg/l	IS:3025(P37)	<0.01	0.01	0.01
Total Chromium (as Cr)	mg/l	IS:3025(P52)	<0.05	0.05	NR
Boron (as B) (Max.)	mg/l	IS:3025(P57)	0.25	0.5	1.0
Phenolic compounds	mg/l	IS:3025(P43)	Nil	0.001	0.002
Cyanide (as CN) (Max.)	mg/l	IS:3025(P27)	Nil	0.05	NR
Molybdenum	mg/l	IS:3025(P02)	<0.07	0.07	0.07
Silver (as Ag)	mg/L	IS 13428	<0.1	0.1	NR
Anionic detergents as MBAS	mg/L	IS 13428	Nil	0.2	1.0
Barium (as Ba)	mg/L	IS 13428	<0.1	0.7	NR
Chloramines as Cl_2	mg/l	IS:3025(P26)	1.1	4.0	NR
Mineral oil	mg/l	IS:3025(P39)	Nil	0.5	0.5
Polychlorinated biphenyls	mg/l	ASTM 5175	Nil	0.0005	NR
Polynuclear Aromatic hydrocarbon as PAH	mg/l	APHA 6440	Nil	0.0001	NR
Trihalomethanes					
Bromoform	mg/l	APHA 6232	<0.1	0.1	NR
Dibromochloromethane	mg/l	APHA 6232	<0.1	0.1	NR
Bromodichloromethane	mg/l	APHA 6232	<0.06	0.06	NR
Chloroform	mg/l	APHA 6232	<0.2	0.2	NR

Note: NS – Not Specified in IS 10500, NR- No Relaxation Note: Results relate only to the sample tested.

For Pragathi Labs & Consultants Pvt Ltd.

B.Meghana

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

(LAB RECOGNISED BY MINISTRY OF ENVIRONMENT & FORESTS,GOVT.OF INDIA)
(ISO 9001:2015, OHSMS ISO 45001:2018)
Plot No. B15 & 16, Industrial Estate, Behind Pollution Control Board
Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

TC-13807

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5010/3407	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date.:2/7/2021	**ULR No.**	ULR-TC138072400000482F
Sample particulars	Bore Well -8 (West of tank 90) No. of samples 1(One) packed in 2 containers (PVC No.1+Bsgb No.1) each 1L		
Test required	Odor, Taste, Turbidity, pH, TDS, Ca, Cl, Cu, F,Residual free Chlorine, Fe, Mg, NO3, SO4,T.Alk,T.Hardness, Zn, Oil & Grease, S.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Odour	-	IS:3025(P05)	Agreeable	Agreeable	Agreeable
Taste	-	IS:3025(P07)	Agreeable	Agreeable	Agreeable
Turbidity	NTU	IS:3025(P10)	<1.0	1	5
pH	-	IS:3025(P11)	6.8	6.5 to 8.5	NR
TDS	mg/l	IS:3025(P16)	935	500	2000
Calcium as Ca	mg/l	IS:3025(P40)	72	75	200
Chlorides as Cl (Max.)	mg/l	IS:3025(P32)	120	250	1000
Copper as Cu (Max.)	mg/l	IS:3025(P42)	0.03	0.05	1.5
Fluorides as F (Max.)	mg/l	IS:3025(P60)	0.9	1	1.5
Residual free Chlorine	mg/l	IS:3025(P26)	Nil	0.2	1
Iron (as Fe) (Max.)	mg/l	IS:3025(P53)	0.42	1.0	1.0
Magnesium as Mg	mg/l	IS:3025(P46)	26	30	100
Nitrate as NO_3	mg/l	IS:3025(P34)	9.0	45	NR
Sulphates as SO_4	mg/l	IS:3025(P24)	65	200	400
T. Alkalinity as $CaCO_3$	mg/l	IS:3025(P23)	248	200	600
T. Hardness as $CaCO_3$	mg/l	IS:3025(P21)	288	200	600
Zinc (as Zn) (Max.)	mg/l	IS:3025(P49)	3.7	5	15
Oil and Grease	mg/l	IS:3025(P39)	Nil	0.5	0.5
Sulphide (as S)	mg/L	IS:3025(P29)	<0.05	0.05	NR

Note: NS – Not Specified in IS 10500, NR- No Relaxation Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

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(ISO 9001:2015, OHSMS ISO 45001:2018)
Plot No. B15 & 16, Industrial Estate, Behind Pollution Control Board
Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5010/3408	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021		
Sample particulars	Bore Well -8 (West of tank 90) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of one liter.		
Test required	Phenolic compds,CN, Mo, Ag, MBAS, Ba,Chloramines, Mineral oil, PCB, PAH, Bromoform, Dibromochloromethane, Bromodichloromethane, Chloroform, Color, Hg, Mn, T.As, Se, Cd, T.Cr, B, Al, NH_3-N, Pb, Ni.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Color	Hazen	IS:3025(P04)	<5	5	15
Ammonia as N	mg/l	IS:3025(P34)	<0.5	0.5	0.5
Lead (as Pb) (Max.)	mg/l	IS:3025(P47)	<0.01	0.01	NR
Nickel as Ni	mg/l	IS:3025(P54)	<0.02	0.02	NR
Aluminium (as Al) (Max.)	mg/l	IS:3025(P55)	0.02	0.03	0.2
Manganese (as Mn)	mg/l	IS:3025(P59)	<0.1	0.1	0.3
Selenium (as Se) (Max.)	mg/l	IS:3025(P56)	<0.01	0.01	0.01
Cadmium (as Cd) (Max.)	mg/l	IS:3025(P41)	<0.03	0.003	NR
Mercury (as Hg) (Max.)	mg/l	IS:3025(P48)	<0.001	0.001	NR
Total Arsenic (as As) (Max.)	mg/l	IS:3025(P37)	<0.01	0.01	0.01
Total Chromium (as Cr)	mg/l	IS:3025(P52)	<0.05	0.05	NR
Boron (as B) (Max.)	mg/l	IS:3025(P57)	0.2	0.5	1.0
Phenolic compounds	mg/l	IS:3025(P43)	<0.001	0.001	0.002
Cyanide (as CN) (Max.)	mg/l	IS:3025(P27)	<0.05	0.05	NR
Molybdenum	mg/l	IS:3025(P02)	<0.07	0.07	0.07
Silver (as Ag)	mg/L	IS 13428	<0.1	0.1	NR
Anionic detergents as MBAS	mg/L	IS 13428	Nil	0.2	1.0
Barium (as Ba)	mg/L	IS 13428	0.52	0.7	NR
Chloramines as Cl_2	mg/l	IS:3025(P26)	<1.0	4.0	NR
Mineral oil	mg/l	IS:3025(P39)	Nil	0.5	0.5
Polychlorinated biphenyls	mg/l	ASTM 5175	Nil	0.0005	NR
Polynuclear Aromatic hydrocarbon as PAH	mg/l	APHA 6440	Nil	0.0001	NR
Trihalomethanes					
Bromoform	mg/l	APHA 6232	<0.1	0.1	NR
Dibromochloromethane	mg/l	APHA 6232	<0.1	0.1	NR
Bromodichloromethane	mg/l	APHA 6232	<0.06	0.06	NR
Chloroform	mg/l	APHA 6232	<0.2	0.2	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

(LAB RECOGNISED BY MINISTRY OF ENVIRONMENT & FORESTS,GOVT.OF INDIA)
(ISO 9001:2015, OHSMS ISO 45001:2018)
Plot No. B15 & 16, Industrial Estate, Behind Pollution Control Board
Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

TC-13807

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5011/3409	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021	**ULR No.**	ULR-TC138072400000482F
Sample particulars	Bore Well - 9 (South East SS6/B Substation) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of 1L		
Test required	Odor, Taste, Turbidity, pH, TDS, Ca, Cl, Cu, F,Residual free Chlorine, Fe, Mg, NO3, SO4,T.Alk,T.Hardness, Zn, Oil & Grease, S.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Odour	-	IS:3025(P05)	Agreeable	Agreeable	Agreeable
Taste	-	IS:3025(P07)	Agreeable	Agreeable	Agreeable
Turbidity	NTU	IS:3025(P10)	1.7	1	5
pH	--	IS:3025(P11)	6.8	6.5 to 8.5	NR
TDS	mg/l	IS:3025(P16)	934	500	2000
Calcium as Ca	mg/l	IS:3025(P40)	96	75	200
Chlorides as Cl (Max.)	mg/l	IS:3025(P32)	210	250	1000
Copper as Cu (Max.)	mg/l	IS:3025(P42)	0.12	0.05	1.5
Fluorides as F (Max.)	mg/l	IS:3025(P60)	1.0	1	1.5
Residual free Chlorine	mg/l	IS:3025(P26)	Nil	0.2	1
Iron (as Fe) (Max.)	mg/l	IS:3025(P53)	0.8	1.0	1.0
Magnesium as Mg	mg/l	IS:3025(P46)	40	30	100
Nitrate as NO_3	mg/l	IS:3025(P34)	15	45	NR
Sulphates as SO_4	mg/l	IS:3025(P24)	86	200	400
T. Alkalinity as $CaCO_3$	mg/l	IS:3025(P23)	320	200	600
T. Hardness as $CaCO_3$	mg/l	IS:3025(P21)	404	200	600
Zinc (as Zn) (Max.)	mg/l	IS:3025(P49)	4.2	5	15
Oil and Grease	mg/l	IS:3025(P39)	Nil	0.5	0.5
Sulphide (as S)	mg/L	IS:3025(P29)	<0.05	0.05	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

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(ISO 9001:2015, OHSMS ISO 45001:2018)

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Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5011/3410	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021		
Sample particulars	Bore Well -9 (South East SS6/B Substation) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each 1L		
Test required	Phenolic compds,CN, Mo, Ag, MBAS, Ba,Chloramines, Mineral oil, PCB, PAH, Bromoform, Dibromochloromethane, Bromodichloromethane, Chloroform, Color, Hg, Mn, T.As, Se, Cd, T.Cr, B, Al, NH_3-N, Pb, Ni.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Color	Hazen	IS:3025(P04)	<5	5	15
Ammonia as N	mg/l	IS:3025(P34)	<0.5	0.5	0.5
Lead (as Pb) (Max.)	mg/l	IS:3025(P47)	<0.01	0.01	NR
Nickel as Ni	mg/l	IS:3025(P54)	<0.02	0.02	NR
Aluminium (as Al) (Max.)	mg/l	IS:3025(P55)	0.09	0.03	0.2
Manganese (as Mn)	mg/l	IS:3025(P59)	<0.1	0.1	0.3
Selenium (as Se) (Max.)	mg/l	IS:3025(P56)	<0.01	0.01	NR
Cadmium (as Cd) (Max.)	mg/l	IS:3025(P41)	<0.003	0.003	NR
Mercury (as Hg) (Max.)	mg/l	IS:3025(P48)	<0.001	0.001	NR
Total Arsenic (as As) (Max.)	mg/l	IS:3025(P37)	<0.01	0.01	0.01
Total Chromium (as Cr)	mg/l	IS:3025(P52)	<0.05	0.05	NR
Boron (as B) (Max.)	mg/l	IS:3025(P57)	0.8	0.5	1.0
Phenolic compounds	mg/l	IS:3025(P43)	<0.001	0.001	0.002
Cyanide (as CN) (Max.)	mg/l	IS:3025(P27)	<0.05	0.05	NR
Molybdenum	mg/l	IS:3025(P02)	<0.07	0.07	0.07
Silver (as Ag)	mg/L	IS 13428	<0.1	0.1	NR
Anionic detergents as MBAS	mg/L	IS 13428	Nil	0.2	1.0
Barium (as Ba)	mg/L	IS 13428	0.4	0.7	NR
Chloramines as Cl_2	mg/l	IS:3025(P26)	<1.0	4.0	NR
Mineral oil	mg/l	IS:3025(P39)	Nil	0.5	0.5
Polychlorinated biphenyls	mg/l	ASTM 5175	Nil	0.0005	NR
Polynuclear Aromatic hydrocarbon as PAH	mg/l	APHA 6440	Nil	0.0001	NR
Trihalomethanes					
Bromoform	mg/l	APHA 6232	<0.1	0.1	NR
Dibromochloromethane	mg/l	APHA 6232	<0.1	0.1	NR
Bromodichloromethane	mg/l	APHA 6232	<0.06	0.06	NR
Chloroform	mg/l	APHA 6232	<0.2	0.2	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

(LAB RECOGNISED BY MINISTRY OF ENVIRONMENT & FORESTS,GOVT.OF INDIA)

(ISO 9001:2015, OHSMS ISO 45001:2018)

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Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

TC-13807

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5012/3411	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021	**ULR No.**	ULR-TC138072400000482F
Sample particulars	Bore Well -10 (M.O.I) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of one liter.		
Test required	Odor, Taste, Turbidity, pH, TDS, Ca, Cl, Cu, F,Residual free Chlorine, Fe, Mg, NO3, SO4,T.Alk,T.Hardness, Zn, Oil & Grease, S.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Odour	-	IS:3025(P05)	Agreeable	Agreeable	Agreeable
Taste	-	IS:3025(P07)	Agreeable	Agreeable	Agreeable
Turbidity	NTU	IS:3025(P10)	2.2	1	5
pH	--	IS:3025(P11)	7.2	6.5 to 8.5	NR
TDS	mg/l	IS:3025(P16)	1072	500	2000
Calcium as Ca	mg/l	IS:3025(P40)	119	75	200
Chlorides as Cl (Max.)	mg/l	IS:3025(P32)	230	250	1000
Copper as Cu (Max.)	mg/l	IS:3025(P42)	0.17	0.05	1.5
Fluorides as F (Max.)	mg/l	IS:3025(P60)	1.0	1	1.5
Residual free Chlorine	mg/l	IS:3025(P26)	Nil	0.2	1
Iron (as Fe) (Max.)	mg/l	IS:3025(P53)	0.8	1.0	1.0
Magnesium as Mg	mg/l	IS:3025(P46)	45	30	100
Nitrate as NO_3	mg/l	IS:3025(P34)	14	45	NR
Sulphates as SO_4	mg/l	IS:3025(P24)	115	200	400
T. Alkalinity as $CaCO_3$	mg/l	IS:3025(P23)	364	200	600
T. Hardness as $CaCO_3$	mg/l	IS:3025(P21)	480	200	600
Zinc (as Zn) (Max.)	mg/l	IS:3025(P49)	4.8	5	15
Oil and Grease	mg/l	IS:3025(P39)	Nil	0.5	0.5
Sulphide (as S)	mg/L	IS:3025(P29)	<0.05	0.05	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

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(ISO 9001:2015, OHSMS ISO 45001:2018)
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Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5012/3412	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021		
Sample particulars	Bore Well -10 (M.O.I) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of one liter.		
Test required	Phenolic compds,CN, Mo, Ag, MBAS, Ba,Chloramines, Mineral oil, PCB, PAH, Bromoform, Dibromochloromethane, Bromodichloromethane, Chloroform, Color, Hg, Mn, T.As, Se, Cd, T.Cr, B, Al, NH_3-N, Pb, Ni.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Colour	Hazen	IS:3025(P04)	<5	5	15
Ammonia as N	mg/l	IS:3025(P34)	<0.5	0.5	0.5
Lead (as Pb) (Max.)	mg/l	IS:3025(P47)	<0.01	0.01	NR
Nickel as Ni	mg/l	IS:3025(P54)	<0.02	0.02	NR
Aluminium (as Al) (Max.)	mg/l	IS:3025(P55)	0.11	0.03	0.2
Manganese (as Mn)	mg/l	IS:3025(P59)	<0.1	0.1	0.3
Selenium (as Se) (Max.)	mg/l	IS:3025(P56)	<0.01	0.01	NR
Cadmium (as Cd) (Max.)	mg/l	IS:3025(P41)	<0.003	0.003	NR
Mercury (as Hg) (Max.)	mg/l	IS:3025(P48)	<0.001	0.001	NR
Total Arsenic (as As) (Max.)	mg/l	IS:3025(P37)	<0.01	0.01	0.01
Total Chromium (as Cr)	mg/l	IS:3025(P52)	<0.05	0.05	NR
Boron (as B) (Max.)	mg/l	IS:3025(P57)	<0.1	0.5	1.0
Phenolic compounds	mg/l	IS:3025(P43)	<0.001	0.001	0.002
Cyanide (as CN) (Max.)	mg/l	IS:3025(P27)	<0.05	0.05	NR
Molybdenum	mg/l	IS:3025(P02)	<0.07	0.07	0.07
Silver (as Ag)	mg/L	IS 13428	<0.1	0.1	NR
Anionic detergents as MBAS	mg/L	IS 13428	<0.1	0.2	1.0
Barium (as Ba)	mg/L	IS 13428	0.7	0.7	NR
Chloramines as Cl_2	mg/l	IS:3025(P26)	<1.0	4.0	NR
Mineral oil	mg/l	IS:3025(P39)	Nil	0.5	0.5
Polychlorinated biphenyls	mg/l	ASTM 5175	Nil	0.0005	NR
Polynuclear Aromatic hydrocarbon as PAH	mg/l	APHA 6440	Nil	0.0001	NR
Trihalomethanes					
Bromoform	mg/l	APHA 6232	<0.1	0.1	NR
Dibromochloromethane	mg/l	APHA 6232	<0.1	0.1	NR
Bromodichloromethane	mg/l	APHA 6232	<0.06	0.06	NR
Chloroform	mg/l	APHA 6232	<0.2	0.2	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

(LAB RECOGNISED BY MINISTRY OF ENVIRONMENT & FORESTS,GOVT.OF INDIA)
(ISO 9001:2015, OHSMS ISO 45001:2018)
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Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

TC-13897

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5013/3413	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021	**ULR No.**	ULR-TC138072400000482F
Sample particulars	**South West point of sludge pond (ETP-2)** No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each 1L		
Test required	Odor, Taste, Turbidity, pH, TDS, Ca, Cl, Cu, F,Residual free Chlorine, Fe, Mg, NO3, SO4,T.Alk,T.Hardness, Zn, Oil & Grease, S.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Odour	-	IS:3025(P05)	Agreeable	Agreeable	Agreeable
Taste	-	IS:3025(P07)	Agreeable	Agreeable	Agreeable
Turbidity	NTU	IS:3025(P10)	1.4	1	5
pH	--	IS:3025(P11)	6.7	6.5 to 8.5	NR
TDS	mg/l	IS:3025(P16)	978	500	2000
Calcium as Ca	mg/l	IS:3025(P40)	114	75	200
Chlorides as Cl (Max.)	mg/l	IS:3025(P32)	195	250	1000
Copper as Cu (Max.)	mg/l	IS:3025(P42)	0.12	0.05	1.5
Fluorides as F (Max.)	mg/l	IS:3025(P60)	1.2	1	1.5
Residual free Chlorine	mg/l	IS:3025(P26)	Nil	0.2	1
Iron (as Fe) (Max.)	mg/l	IS:3025(P53)	0.68	1.0	1.0
Magnesium as Mg	mg/l	IS:3025(P46)	43	30	100
Nitrate as NO_3	mg/l	IS:3025(P34)	14	45	NR
Sulphates as SO_4	mg/l	IS:3025(P24)	93	200	400
T. Alkalinity as $CaCO_3$	mg/l	IS:3025(P23)	360	200	600
T. Hardness as $CaCO_3$	mg/l	IS:3025(P21)	460	200	600
Zinc (as Zn) (Max.)	mg/l	IS:3025(P49)	3.9	5	15
Oil and Grease	mg/l	IS:3025(P39)	Nil	0.5	0.5
Sulphide (as S)	mg/L	IS:3025(P29)	<0.05	0.05	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

(LAB RECOGNISED BY MINISTRY OF ENVIRONMENT & FORESTS,GOVT.OF INDIA)

(ISO 9001:2015, OHSMS ISO 45001:2018)

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Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5013/3414	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021		
Sample particulars	**South West point of sludge pond (ETP-2)** No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each 1L		
Test required	Phenolic compds,CN, Mo, Ag, MBAS, Ba,Chloramines, Mineral oil, PCB, PAH, Bromoform, Dibromochloromethane, Bromodichloromethane, Chloroform, Color, Hg, Mn, T.As, Se, Cd, T.Cr, B, Al, NH_3-N, Pb, Ni.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Colour	Hazen	IS:3025(P04)	<5	5	15
Ammonia as N	mg/l	IS:3025(P34)	<0.1	0.5	0.5
Lead (as Pb) (Max.)	mg/l	IS:3025(P47)	<0.01	0.01	NR
Nickel as Ni	mg/l	IS:3025(P54)	<0.02	0.02	NR
Aluminium (as Al) (Max.)	mg/l	IS:3025(P55)	0.05	0.03	0.2
Manganese (as Mn)	mg/l	IS:3025(P59)	<0.1	0.1	0.3
Selenium (as Se) (Max.)	mg/l	IS:3025(P56)	<0.01	0.01	NR
Cadmium (as Cd) (Max.)	mg/l	IS:3025(P41)	<0.003	0.003	NR
Mercury (as Hg) (Max.)	mg/l	IS:3025(P48)	<0.001	0.001	NR
Total Arsenic (as As) (Max.)	mg/l	IS:3025(P37)	<0.01	0.01	0.01
Total Chromium (as Cr)	mg/l	IS:3025(P52)	<0.05	0.05	NR
Boron (as B) (Max.)	mg/l	IS:3025(P57)	0.22	0.5	1.0
Phenolic compounds	mg/l	IS:3025(P43)	<0.001	0.001	0.002
Cyanide (as CN) (Max.)	mg/l	IS:3025(P27)	<0.05	0.05	NR
Molybdenum	mg/l	IS:3025(P02)	<0.07	0.07	0.07
Silver (as Ag)	mg/L	IS 13428	<0.1	0.1	NR
Anionic detergents as MBAS	mg/L	IS 13428	<0.2	0.2	1.0
Barium (as Ba)	mg/L	IS 13428	<0.1	0.7	NR
Chloramines as Cl_2	mg/l	IS:3025(P26)	<1.0	4.0	NR
Mineral oil	mg/l	IS:3025(P39)	Nil	0.5	0.5
Polychlorinated biphenyls	mg/l	ASTM 5175	Nil	0.0005	NR
Polynuclear Aromatic hydrocarbon as PAH	mg/l	APHA 6440	Nil	0.0001	NR
Trihalomethanes					
Bromoform	mg/l	APHA 6232	<0.1	0.1	NR
Dibromochloromethane	mg/l	APHA 6232	<0.1	0.1	NR
Bromodichloromethane	mg/l	APHA 6232	<0.06	0.06	NR
Chloroform	mg/l	APHA 6232	<0.2	0.2	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

(LAB RECOGNISED BY MINISTRY OF ENVIRONMENT & FORESTS,GOVT.OF INDIA)
(ISO 9001:2015, OHSMS ISO 45001:2018)
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Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

TC-13857

Issued to

Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5014/3415	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021	**ULR No.**	ULR-TC138072400000482F
Sample particulars	Bore Well -21 (East of Centrifuge ETP-2) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of one liter.		
Test required	Odor, Taste, Turbidity, pH, TDS, Ca, Cl, Cu, F,Residual free Chlorine, Fe, Mg, NO3, SO4,T.Alk, T.Hardness, Zn, Oil & Grease, S.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Odour	-	IS:3025(P05)	Agreeable	Agreeable	Agreeable
Taste	-	IS:3025(P07)	Agreeable	Agreeable	Agreeable
Turbidity	NTU	IS:3025(P10)	4.0	1	5
pH	--	IS:3025(P11)	7.3	6.5 to 8.5	NR
TDS	mg/l	IS:3025(P16)	985	500	2000
Calcium as Ca	mg/l	IS:3025(P40)	112	75	200
Chlorides as Cl (Max.)	mg/l	IS:3025(P32)	210	250	1000
Copper as Cu (Max.)	mg/l	IS:3025(P42)	0.14	0.05	1.5
Fluorides as F (Max.)	mg/l	IS:3025(P60)	0.8	1	1.5
Residual free Chlorine	mg/l	IS:3025(P26)	Nil	0.2	1
Iron (as Fe) (Max.)	mg/l	IS:3025(P53)	0.6	1.0	1.0
Magnesium as Mg	mg/l	IS:3025(P46)	45	30	100
Nitrate as NO_3	mg/l	IS:3025(P34)	17	45	NR
Sulphates as SO_4	mg/l	IS:3025(P24)	97	200	400
T. Alkalinity as $CaCO_3$	mg/l	IS:3025(P23)	368	200	600
T. Hardness as $CaCO_3$	mg/l	IS:3025(P21)	464	200	600
Zinc (as Zn) (Max.)	mg/l	IS:3025(P49)	3.9	5	15
Oil and Grease	mg/l	IS:3025(P39)	Nil	0.5	0.5
Sulphide (as S)	mg/L	IS:3025(P29)	<0.05	0.05	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

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(ISO 9001:2015, OHSMS ISO 45001:2018)

Plot No. B15 & 16, Industrial Estate, Behind Pollution Control Board
Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5014/3416	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021		
Sample particulars	Bore Well -21 (East of Centrifuge ETP-2) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of one liter.		
Test required	Phenolic compds,CN, Mo, Ag, MBAS, Ba,Chloramines, Mineral oil, PCB, PAH, Bromoform, Dibromochloromethane, Bromodichloromethane, Chloroform, Color, Hg, Mn, T.As, Se, Cd, T.Cr, B, Al, NH_3-N, Pb, Ni.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Color	Hazen	IS:3025(P04)	<5	5	15
Ammonia as N	mg/l	IS:3025(P34)	<0.5	0.5	0.5
Lead (as Pb) (Max.)	mg/l	IS:3025(P47)	<0.01	0.01	NR
Nickel as Ni	mg/l	IS:3025(P54)	<0.02	0.02	NR
Aluminium (as Al) (Max.)	mg/l	IS:3025(P55)	0.05	0.03	0.2
Total Arsenic (as As) (Max.)	mg/l	IS:3025(P37)	<0.01	0.01	0.01
Total Chromium (as Cr)	mg/l	IS:3025(P52)	<0.05	0.05	NR
Boron (as B) (Max.)	mg/l	IS:3025(P57)	0.27	0.5	1.0
Manganese (as Mn)	mg/l	IS:3025(P59)	<0.1	0.1	0.3
Selenium (as Se) (Max.)	mg/l	IS:3025(P56)	<0.01	0.01	NR
Cadmium (as Cd) (Max.)	mg/l	IS:3025(P41)	<0.003	0.003	NR
Mercury (as Hg) (Max.)	mg/l	IS:3025(P48)	<0.001	0.001	NR
Phenolic compounds	mg/l	IS:3025(P43)	<0.001	0.001	0.002
Cyanide (as CN) (Max.)	mg/l	IS:3025(P27)	<0.05	0.05	NR
Molybdenum	mg/l	IS:3025(P02)	<0.07	0.07	0.07
Silver (as Ag)	mg/L	IS 13428	<0.1	0.1	NR
Anionic detergents as MBAS	mg/L	IS 13428	<0.2	0.2	1.0
Barium (as Ba)	mg/L	IS 13428	0.13	0.7	NR
Chloramines as Cl_2	mg/l	IS:3025(P26)	<1.0	4.0	NR
Mineral oil	mg/l	IS:3025(P39)	Nil	0.5	0.5
Polychlorinated biphenyls	mg/l	ASTM 5175	Nil	0.0005	NR
Polynuclear Aromatic hydrocarbon as PAH	mg/l	APHA 6440	Nil	0.0001	NR
Trihalomethanes					
Bromoform	mg/l	APHA 6232	<0.1	0.1	NR
Dibromochloromethane	mg/l	APHA 6232	<0.1	0.1	NR
Bromodichloromethane	mg/l	APHA 6232	<0.06	0.06	NR
Chloroform	mg/l	APHA 6232	<0.2	0.2	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

PRAGATHI LABS & CONSULTANTS PVT.LTD.

(LAB RECOGNISED BY MINISTRY OF ENVIRONMENT & FORESTS,GOVT.OF INDIA)
(ISO 9001:2015, OHSMS ISO 45001:2018)
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Opp. Bank of Baroda, Sanath Nagar, Hyderabad - 500 018. Telangana.
Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

TC-13807

Issued to

Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery,
Malkapuram, Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5015/3417	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021	**ULR No.**	ULR-TC138072400000482F
Sample particulars	Bore Well -18 (Chemical House) (ATP) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of one liter.		
Test required	Odor, Taste, Turbidity, pH, TDS, Ca, Cl, Cu, F,Residual free Chlorine, Fe, Mg, NO3, SO4,T.Alk,T.Hardness, Zn, Oil & Grease, S.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Odour	-	IS:3025(P05)	Agreeable	Agreeable	Agreeable
Taste	-	IS:3025(P07)	Agreeable	Agreeable	Agreeable
Turbidity	NTU	IS:3025(P10)	1.5	1	5
pH	--	IS:3025(P11)	6.8	6.5 to 8.5	NR
TDS	mg/l	IS:3025(P16)	1027	500	2000
Calcium as Ca	mg/l	IS:3025(P40)	115	75	200
Chlorides as Cl (Max.)	mg/l	IS:3025(P32)	220	250	1000
Copper as Cu (Max.)	mg/l	IS:3025(P42)	0.27	0.05	1.5
Fluorides as F (Max.)	mg/l	IS:3025(P60)	0.9	1	1.5
Residual free Chlorine	mg/l	IS:3025(P26)	Nil	0.2	1
Iron (as Fe) (Max.)	mg/l	IS:3025(P53)	0.9	1.0	1.0
Magnesium as Mg	mg/l	IS:3025(P46)	45	30	100
Nitrate as NO_3	mg/l	IS:3025(P34)	13	45	NR
Sulphates as SO_4	mg/l	IS:3025(P24)	112	200	400
T. Alkalinity as $CaCO_3$	mg/l	IS:3025(P23)	360	200	600
T. Hardness as $CaCO_3$	mg/l	IS:3025(P21)	472	200	600
Zinc (as Zn) (Max.)	mg/l	IS:3025(P49)	4.2	5	15
Oil and Grease	mg/l	IS:3025(P39)	Nil	0.5	0.5
Sulphide (as S)	mg/L	IS:3025(P29)	<0.05	0.05	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

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Mobile : 98498 72272 Mail : info@pragathilabs.com Web : www.pragathilabs.com

TEST REPORT

Issued to
Mr.Bhukya Rajesh Naik
Senior Manager
Hindustan Petroleum Corporation Limited
Visakh Refinery ,
Malkapuram,Visakhapatnam-530 011
Phone No. 0891-2894825/4818

Date of Sampling	10th December, 2024	**Date of Reporting**	16th December, 2024
Report No.	PLCPL/24/5015/3418	**Method of Sampling**	IS: 17614 (P 01)
Your Ref No.	21000406-OP-46002/SS Date. 12/7/2021		
Sample particulars	Bore Well -18 (Chemical House) No. of samples 1 (One) packed in 2 containers (PVC No.1+Bsgb No.1) each of one liter.		
Test required	Phenolic compds,CN, Mo, Ag, MBAS, Ba,Chloramines, Mineral oil, PCB, PAH, Bromoform, Dibromochloromethane, Bromodichloromethane, Chloroform, Color, Hg, Mn, T.As, Se, Cd, T.Cr, B, Al, NH_3-N, Pb, Ni.		
Sampling Done by	Field in charge, PLCPL		

Discipline:Chemical Testing
Group: Water

TEST RESULTS

Parameter	Unit	Method	Result	IS10500 Limits	
				Acceptable	Permissible
Color	Hazen	IS:3025(P04)	<5	5	15
Ammonia as N	mg/l	IS:3025(P34)	<0.5	0.5	0.5
Lead (as Pb) (Max.)	mg/l	IS:3025(P47)	<0.01	0.01	NR
Nickel as Ni	mg/l	IS:3025(P54)	<0.02	0.02	NR
Aluminium (as Al) (Max.)	mg/l	IS:3025(P55)	0.13	0.03	0.2
Manganese (as Mn)	mg/l	IS:3025(P59)	<0.1	0.1	0.3
Phenolic compounds	mg/l	IS:3025(P43)	<0.001	0.001	0.002
Selenium (as Se) (Max.)	mg/l	IS:3025(P56)	<0.01	0.01	NR
Cadmium (as Cd) (Max.)	mg/l	IS:3025(P41)	<0.003	0.003	NR
Mercury (as Hg) (Max.)	mg/l	IS:3025(P48)	<0.001	0.001	NR
Total Chromium (as Cr)	mg/l	IS:3025(P52)	<0.05	0.05	NR
Boron (as B) (Max.)	mg/l	IS:3025(P57)	0.14	0.5	1.0
Total Arsenic (as As) (Max.)	mg/l	IS:3025(P37)	<0.01	0.01	0.01
Cyanide (as CN) (Max.)	mg/l	IS:3025(P27)	<0.05	0.05	NR
Molybdenum	mg/l	IS:3025(P02)	<0.07	0.07	0.07
Silver (as Ag)	mg/L	IS 13428	<0.1	0.1	NR
Anionic detergents as MBAS	mg/L	IS 13428	<0.2	0.2	1.0
Barium (as Ba)	mg/L	IS 13428	<0.1	0.7	NR
Chloramines as Cl_2	mg/l	IS:3025(P26)	<1.0	4.0	NR
Mineral oil	mg/l	IS:3025(P39)	Nil	0.5	0.5
Polychlorinated biphenyls	mg/l	ASTM 5175	Nil	0.0005	NR
Polynuclear Aromatic hydrocarbon as PAH	mg/l	APHA 6440	Nil	0.0001	NR
Trihalomethanes					
Bromoform	mg/l	APHA 6232	<0.1	0.1	NR
Dibromochloromethane	mg/l	APHA 6232	<0.1	0.1	NR
Bromodichloromethane	mg/l	APHA 6232	<0.06	0.06	NR
Chloroform	mg/l	APHA 6232	<0.2	0.2	NR

Note: NR- No Relaxation in IS 10500, Note: Results relate only to the sample tested

For Pragathi Labs & Consultants Pvt Ltd.

Verified by
(B.Meghana)
Analyst

Authorized Signatory
(M. Ravi Kiran)

– END OF THE REPORT –

SV ENVIRO LABS & CONSULTANTS

(ENVIRONMENTAL ENGINEERS & CONSULTANTS IN POLLUTION CONTROL)

Corporate Office & Laboratory : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012.
Hyderabad: Flat No. 302, H.No. 7-1-396/B/12, Sai Ram Residency, Balkampet Road, S.R.Nagar, Hyderabad-500038.
✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com 🌐 www.svenvirolabs.com
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Issued to:

M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	18th Oct 2024	*Date of reporting*	05th Nov 2024
Report No.	SVELC/HPCL/24-10/05		
Sample particulars	Noise-3No's		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Sound Level Meter, Make: Lutron Sl.No. SL-4033SD/Q660788		
Test required	Noise Levels		
Method of analysis	IS: 9989	Page No.	6 of 6
Discipline	Chemical	Group	Atmospheric Pollution

TEST REPORT

S.No.	Locations	Noise Levels dB (A)	
		Day (6 am to 10 pm)	Night (10 pm to 6am)
1	1m distance away from South Gate	64	51
2	1m distance away from Store Yard	60	43
3	1m distance away from HLPH	58	46

NOISE QUALITY STANDARDS IN RESPECT OF NOISE

Area Code	Category of Area	Limits in dB (A)	
		Day	Night
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

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Hyderabad: Flat No. 302, H.No. 7-1-396/B/12, Sai Ram Residency, Balkampet Road, S.R.Nagar, Hyderabad-500038.
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Issued to:

M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	16th Nov 2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/07		
Sample particulars	Noise-3No's		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Sound Level Meter, Make: Lutron Sl.No. SL-4033SD/Q660788		
Test required	Noise Levels		
Method of analysis	IS: 9989	Page No.	8 of 8
Discipline	Chemical	Group	Atmospheric Pollution

TEST REPORT

S.No.	Locations	Noise Levels dB (A)	
		Day (6 am to 10 pm)	Night (10 pm to 6am)
1	1m distance away from South Gate	68	56
2	1m distance away from Store Yard	63	47
3	1m distance away from HLPH	60	50

NOISE QUALITY STANDARDS IN RESPECT OF NOISE

Area Code	Category of Area	Limits in dB (A)	
		Day	Night
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

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Corporate Office & Laboratory : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012.
Hyderabad: Flat No. 302, H.No. 7-1-396/B/12, Sai Ram Residency, Balkampet Road, S.R.Nagar, Hyderabad-500038.
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Issued to:

M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	13th Dec 2024	*Date of reporting*	06-01-2025
Report No.	SVELC/HPCL/24-12/07		
Sample particulars	Noise-3No's		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Sound Level Meter, Make: Lutron Sl.No. SL-4033SD/Q660788		
Test required	Noise Levels		
Method of analysis	IS: 9989	Page No.	8 of 8
Discipline	Chemical	Group	Atmospheric Pollution

TEST REPORT

S.No.	Locations	Noise Levels dB (A)	
		Day (6 am to 10 pm)	Night (10 pm to 6am)
1	1m distance away from South Gate	65	54
2	1m distance away from Store Yard	61	45
3	1m distance away from HLPH	57	47

NOISE QUALITY STANDARDS IN RESPECT OF NOISE

Area Code	Category of Area	Limits in dB (A)	
		Day	Night
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

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Hyderabad Office: #402, SaiKrishna Villa, Behind CMR Shopping Mall, AS Raju Nagar, Kukatpally, Hyderabad-500072

✆ +91-9440338628, +91-7207664444 ✉ svenviro_labs@yahoo.co.in, info@svenvirolabs.com 🌐 www.svenvirolabs.com

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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	17th Jan 2025	*Date of reporting*	07-02-2025
Report No.	SVELC/HPCL/25-01/08		
Sample particulars	Noise-3No's		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Sound Level Meter, Make: Lutron Sl.No. SL-4033SD/Q660788		
Test required	Noise Levels		
Method of analysis	IS: 9989	Page No.	8 of 8
Discipline	Chemical	Group	Atmospheric Pollution

TEST REPORT

S.No.	Locations	Noise Levels dB (A)	
		Day (6 am to 10 pm)	Night (10 pm to 6am)
1	1m distance away from South Gate	67	56
2	1m distance away from Store Yard	63	47
3	1m distance away from HLPH	60	49

NOISE QUALITY STANDARDS IN RESPECT OF NOISE

Area Code	Category of Area	Limits in dB (A)	
		Day	Night
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	14th Feb 2025	*Date of reporting*	08-03-2025
Report No.	SVELC/HPCL/25-02/08		
Sample particulars	Noise-3No's		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Sound Level Meter, Make: Lutron Sl.No. SL-4033SD/Q660788		
Test required	Noise Levels		
Method of analysis	IS: 9989	Page No.	8 of 8
Discipline	Chemical	Group	Atmospheric Pollution

TEST REPORT

S.No.	Locations	Noise Levels dB (A)	
		Day (6 am to 10 pm)	Night (10 pm to 6am)
1	1m distance away from South Gate	69	58
2	1m distance away from Store Yard	66	49
3	1m distance away from HLPH	63	52

NOISE QUALITY STANDARDS IN RESPECT OF NOISE

Area Code	Category of Area	Limits in dB (A)	
		Day	Night
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

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(ENVIRONMENTAL ENGINEERS & CONSULTANTS IN POLLUTION CONTROL)

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Issued to:

M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	14th March 2025	*Date of reporting*	07-04-2025
Report No.	SVELC/HPCL/25-03/08		
Sample particulars	Noise-3No's		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Sound Level Meter, Make: Lutron Sl.No. SL-4033SD/Q660788		
Test required	Noise Levels		
Method of analysis	IS: 9989	Page No.	6 of 6
Discipline	Chemical	Group	Atmospheric Pollution

TEST REPORT

S.No.	Locations	Noise Levels dB (A)	
		Day (6 am to 10 pm)	Night (10 pm to 6am)
1	1m distance away from South Gate	71	60
2	1m distance away from Store Yard	68	52
3	1m distance away from HLPH	65	50

NOISE QUALITY STANDARDS IN RESPECT OF NOISE

Area Code	Category of Area	Limits in dB (A)	
		Day	Night
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

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M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	01.10.2024 to 30.10.2024	*Date of reporting*	05th Nov 2024
Report No.	SVELC/HPCL/24-10/04		
Sample particulars	Fuel Gas Analysis, No. of Samples - 24		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	4 of 6
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NOx	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm³					
1.	CDU-II	11-F-01	24.10.2024	60	2.55	5.104	308	2.7	30.1	351	58	10	11	BDL	BDL
2.	CDU-II	12-F-01	24.10.2024	60	1.60	2.01	198	2.5	28.5	335	62	08	13	BDL	BDL
3.	CDU-III	42-F-01	23.10.2024	60	2.74	5.896	172	3.1	33.2	340	66	17	17	BDL	BDL
4.	CDU-III	42-F-02	23.10.2024	60	1.59	1.986	186	2.4	27.6	344	63	12	06	BDL	BDL
5.	CDU-III	46-F-01	23.10.2024	60	1.89	2.806	175	3.2	42.1	355	79	15	21	BDL	BDL
6.	CDU-IV	501-F-101	22.10.2024	85	3.0	7.069	213	3.7	28.1	360	68	21	25	BDL	BDL
7.	FCCU-I	4-F-51	01.10.2024	60	2.18	3.733	188	2.0	21.9	185	66	16	23	BDL	BDL
8.	FCCU-II	14-F-01	03.10.2024	60	1.35	1.431	175	3.0	25.1	159	57	15	20	BDL	BDL
9.	DHDS	60-F-01	04.10.2024	60	1.34	1.410	180	3.5	35.8	156	75	18	24	BDL	BDL
10.	NHT	72-F-01/02	09.10.2024	60	1.50	1.767	218	4.1	4.0	50	63	24	12	BDL	BDL
11.	CCR	74-F-1/2/3/4	09.10.2024	60	3.37	8.923	180	3.2	4.5	40	69	25	21	BDL	BDL
12.	CPP	HRSG-III	03.10.2024	60	3.00	7.065	162	9.8	15.1	29	47	12	15	BDL	BDL
13.	CPP	HRSG-IV	08.10.2024	60	3.00	7.065	157	12.7	18.2	31	50	18	11	BDL	BDL
14.	CPP	HRSG-V	30.10.2024	60	3.00	7.065	168	11.3	16.4	33	48	16	23	BDL	BDL
15.	CPP	HRSG-VI	30.10.2024	60	3.00	7.065	162	13.2	17.4	30	50	18	15	BDL	BDL
16.	PP-1	IBH	28.10.2024	60	2.40	4.525	174	2.0	14.3	41	44	13	21	BDL	BDL
17.	DHT	90-F-01/02	15.10.2024	60	3.00	7.309	197	3.5	26.1	185	56	23	20	BDL	BDL
18.	FCC NHT	75-F-01	29.10.2024	60	1.01	0.801	174	2.9	4.1	33	60	16	19	-	-
19.	FCC NHT	75-F-51	29.10.2024	60	1.35	1.430	158	2.5	3.6	41	82	23	28	-	-
20.	FCCU-II	FGD-II	08.10.2024	60	2.00	3.142	69	11.9	21.6	50	53	15	23	BDL	BDL
21.	DHT -HGU	91-F-01	15.10.2024	60	1.30	1.326	166	1.3	3.1	36	55	20	14	-	-

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--	--	350	--	150	--	15

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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	01.10.2024 to 30.10.2024	*Date of reporting*	05th Nov 2024
Report No.	SVELC/HPCL/24-10/06		
Sample particulars	Fuel Gas Analysis, No. of Samples - 24		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	5 of 6
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
22.	FCHCU	503-F-101	16.10.2024	76	3.8	11.3	161	4.5	31.1	356	64	16	19	-	BDL	BDL
23.	VRMP HGU Train – I	505-LZ-1201	17.10.2024	60	3.5	9.62	180	3.2	2.4	36.1	61	18	13	-	BDL	BDL
24.	VRMP SRU Train – I	507-LZ-1301	17.10.2024	60	1.5	1.77	287	2.9	2.0	28.8	79	13	06	5.0	-	-

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	01.11.2024 to 15.11.2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/04		
Sample particulars	Fuel Gas Analysis, No. of Samples – 25 (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	4 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NO_x	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3					
1.	CDU-II	11-F-01	12.11.2024	60	2.55	5.104	312	2.9	33.8	356	61	13	15	BDL	BDL
2.	CDU-II	12-F-01	12.11.2024	60	1.60	2.01	202	2.2	25.7	330	57	06	11	BDL	BDL
3.	CDU-III	42-F-01	07.11.2024	60	2.74	5.896	178	3.4	35.7	344	69	19	21	BDL	BDL
4.	CDU-III	42-F-02	07.11.2024	60	1.59	1.986	191	2.7	29.1	348	65	14	08	BDL	BDL
5.	CDU-III	46-F-01	07.11.2024	60	1.89	2.806	171	3.0	40.3	359	82	17	24	BDL	BDL
6.	CDU-IV	501-F-101	05.11.2024	85	3.0	7.069	215	3.9	30.8	364	71	23	28	BDL	BDL
7.	FCCU-I	4-F-51	13.11.2024	60	2.18	3.733	184	1.8	19.8	181	61	13	20	BDL	BDL
8.	FCCU-II	14-F-01	14.11.2024	60	1.35	1.431	172	2.7	22.9	155	50	12	17	BDL	BDL
9.	DHDS	60-F-01	14.11.2024	60	1.34	1.410	184	3.9	33.1	148	71	15	21	BDL	BDL
10.	NHT	72-F-01/02	01.11.2024	60	1.50	1.767	213	3.7	7.7	47	60	21	10	BDL	BDL
11.	CCR	74-F-1/2/3/4	01.11.2024	60	3.37	8.923	186	3.0	4.3	38	66	23	18	BDL	BDL
12.	CPP	HRSG-III	15.11.2024	60	3.00	7.065	157	9.4	7.9	27	45	10	13	BDL	BDL
13.	CPP	HRSG-IV	15.11.2024	60	3.00	7.065	151	8.6	16.2	27	48	16	08	BDL	BDL
14.	CPP	HRSG-V	15.11.2024	60	3.00	7.065	163	9.2	13.7	31	46	14	20	BDL	BDL
15.	CPP	HRSG-VI	15.11.2024	60	3.00	7.065	169	8.4	16.8	27	55	21	18	BDL	BDL
16.	PP-1	IBH	06.11.2024	60	2.40	4.525	181	2.4	18.2	45	49	15	24	BDL	BDL
17.	DHT	90-F-01/02	05.11.2024	60	3.00	7.309	205	3.9	28.6	189	59	25	22	BDL	BDL
18.	FCC NHT	75-F-01	11.11.2024	60	1.01	0.801	170	2.6	3.7	41	57	13	17	-	-
19.	FCC NHT	75-F-51	11.11.2024	60	1.35	1.430	154	2.3	3.4	24	78	20	25	-	-
20.	FCCU-I	FGD-I	13.11.2024	60	1.76	2.431	61	3.2	21.8	47	63	15	22	BDL	BDL
21.	FCCU-II	FGD-II	14.11.2024	60	2.00	3.142	65	6.7	18.1	46	50	12	20	BDL	BDL
22.	DHT -HGU	91-F-20	05.11.2024	60	3.00	3.63	188	5.6	3.4	45	51	16	18	--	BDL

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--		350	--	150	--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	01.11.2024 to 15.11.2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/05		
Sample particulars	Fuel Gas Analysis, No. of Samples – 25 (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	5 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					Stack Emissions							
				Ht.	Dia.	Area	Temp	Velocity	PM	SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s	mg/nm^3							
23.	FCHCU	503-F-101	06.11.2024	76	3.8	11.3	156	4.1	29.8	350	62	13	17	-	BDL	BDL
24.	VRMP HGU Train – I	505-LZ-1201	08.11.2024	60	3.5	9.62	174	3.0	2.2	32.9	58	21	15	-	BDL	BDL
25.	VRMP SRU Train – I	507-LZ-1301	04.11.2024	60	1.5	1.77	284	3.3	2.2	26.1	72	15	08	5.0	-	-

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	18.11.2024 to 20.11.2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/06		
Sample particulars	Fuel Gas Analysis, No. of Samples – 15		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech, Model/S.No. APM 160, Sl.No. 176-DTC-2024.		
Test required	Temperature, Velocity, PM & SO_2		
Method of analysis	IS: 11255	Page No.	6 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					Stack Emissions	
				Ht.	Dia.	Area	Temp	Velocity	PM	SO_2
				m	m	m^2	°C	m/s	mg/nm^3	
1.	CDU-II	12-F-01	20.11.2024	60	1.60	2.01	184	2.5	31.2	342
2.	CDU-III	42-F-01	18.11.2024	60	2.74	5.896	258	3.4	35.8	345
3.	CDU-III	42-F-02	18.11.2024	60	1.59	1.986	334	2.2	25.6	338
4.	CDU-III	46-F-01	19.11.2024	60	1.89	2.806	166	3.7	46.8	359
5.	FCCU-I	4-F-51	19.11.2024	60	2.18	3.733	272	2.2	23.1	189
6.	FCCU-II	14-F-01	18.11.2024	60	1.35	1.431	169	3.4	28.9	162
7.	CPP	HRSG-III	20.11.2024	60	3.00	7.065	148	9.5	8.2	26
8.	PP-I	IBH	19.11.2024	60	2.40	4.525	236	2.1	15.7	40
9.	FCCU-I	FGD-I	19.11.2024	60	1.76	2.431	63	3.7	25.2	55
10.	FCC NHT	75-F-01	19.11.2024	60	1.01	0.801	252	3.1	4.3	41
11.	FCC NHT	75-F-51	20.11.2024	60	1.35	1.430	235	2.8	4.1	24
12.	NHT	72-F-01/02	19.11.2024	60	1.50	1.767	161	4.1	7.7	46
13.	CCR	74-F-1/2/3/4	19.11.2024	60	3.37	8.923	124	3.0	4.2	37
14.	DHT	90-F-01/02	20.11.2024	60	3.00	7.309	169	3.9	27.9	189
15.	DHT SRU	92-M-22	20.11.2024	60	1.50	1.767	159	4.4	6.3	56

	Fuel Type	SO_2	NO_x	PM
Furnaces and CPP	Gas	50	350	10
	Liquid	1700	450	100
FCC Regenerators	--	--	350	--

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	18.11.2024 to 29.11.2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/06		
Sample particulars	Fuel Gas Analysis, No. of Samples – 26 (Round-2)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	6 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NO_x	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm³					
1.	CDU-II	11-F-01	29.11.2024	60	2.55	5.104	311	2.9	33.8	355	61	13	16	BDL	BDL
2.	CDU-II	12-F-01	20.11.2024	60	1.60	2.01	184	2.5	31.2	342	65	11	14	BDL	BDL
3.	CDU-III	42-F-01	18.11.2024	60	2.74	5.896	258	3.4	35.8	345	69	19	23	BDL	BDL
4.	CDU-III	42-F-02	18.11.2024	60	1.59	1.986	334	2.2	25.6	338	57	10	04	BDL	BDL
5.	CDU-III	46-F-01	19.11.2024	60	1.89	2.806	166	3.7	46.8	359	83	17	25	BDL	BDL
6.	CDU-IV	501-F-101	22.11.2024	85	3.0	7.069	219	3.9	29.5	366	71	23	28	BDL	BDL
7.	FCCU-I	4-F-51	19.11.2024	60	2.18	3.733	272	2.2	23.1	189	68	19	21	BDL	BDL
8.	FCCU-II	14-F-01	18.11.2024	60	1.35	1.431	169	3.4	28.9	162	59	16	22	BDL	BDL
9.	DHDS	60-F-01	27.11.2024	60	1.34	1.410	183	3.8	37.9	158	77	20	26	BDL	BDL
10.	CPP	HRSG-III	20.11.2024	60	3.00	7.065	148	9.5	8.2	26	45	10	13	BDL	BDL
11.	CPP	HRSG-IV	28.11.2024	60	3.00	7.065	152	8.6	16.9	27	46	16	09	BDL	BDL
12.	CPP	HRSG-V	28.11.2024	60	3.00	7.065	172	8.1	14.2	30	41	14	21	BDL	BDL
13.	CPP	HRSG-VI	28.11.2024	60	3.00	7.065	166	8.9	19.5	33	54	21	19	BDL	BDL
14.	PP-I	IBH	19.11.2024	60	2.40	4.525	236	2.1	15.7	40	49	15	24	BDL	BDL
15.	FCCU-I	FGD-I	19.11.2024	60	1.76	2.431	63	3.7	25.2	55	69	14	20	BDL	BDL
16.	FCC NHT	75-F-01	19.11.2024	60	1.01	0.801	252	3.1	4.3	41	63	19	23	-	-
17.	FCC NHT	75-F-51	20.11.2024	60	1.35	1.430	235	2.8	4.1	24	85	20	26	-	-
18.	NHT	72-F-01/02	19.11.2024	60	1.50	1.767	162	4.1	7.7	46	54	21	10	BDL	BDL
19.	CCR	74-F-1/2/3/4	19.11.2024	60	3.37	8.923	124	3.0	4.2	37	65	23	17	BDL	BDL
20.	DHT	90-F-01/02	20.11.2024	60	3.00	7.309	169	3.9	27.9	189	58	25	18	BDL	BDL

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--	--	350	--	150	--	15

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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	01.11.2024 to 15.11.2024	*Date of reporting*	05th Dec 2024
Report No.	SVELC/HPCL/24-11/05		
Sample particulars	Fuel Gas Analysis, No. of Samples – 26 (Round-2)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	7 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
21.	DHT SRU	92-M-22	20.11.2024	60	1.50	1.767	159	4.4	6.3	56	58	19	25	7.8	--	--
22.	DHT -HGU	91-F-01	25.11.2024	60	1.30	1.327	172	0.6	3.3	45	53	18	12	--	-	-
23.	VRMP SRU Train – I	507-LZ-1301	26.11.2024	60	1.5	1.77	282	2.6	1.8	25.9	72	11	04	4.5	-	--
24.	VRMP SRU Train – I I	507-LZ-2301	26.11.2024	60	1.5	1.77	273	2.7	2.2	29.6	81	15	08	5.3	-	--
25.	VRMP HGU Train – I	505-LZ-1201	27.11.2024	60	3.5	9.62	180	3.5	2.7	39.8	65	20	15	-	BDL	--
26.	FCHCU	503-F-101	24.11.2024	76	3.8	11.3	157	4.2	28.9	351	68	18	22	-	BDL	--

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FC[illegible]egenerators	--	--	350	--	150		--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	02.12.2024 to 16.12.2024	*Date of reporting*	06-01-2025
Report No.	SVELC/HPCL/24-12/04		
Sample particulars	Fuel Gas Analysis, No. of Samples – 26 (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	4 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NO_X	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm³					
1.	CDU-II	11-F-01	16.12.2024	60	2.55	5.104	308	2.7	35.1	359	63	15	17	BDL	BDL
2.	CDU-II	12-F-01	16.12.2024	60	1.60	2.01	205	2.3	26.1	334	59	08	12	BDL	BDL
3.	CDU-III	42-F-01	10.12.2024	60	2.74	5.896	182	3.6	33.5	340	65	22	24	BDL	BDL
4.	CDU-III	42-F-02	10.12.2024	60	1.59	1.986	193	2.9	30.5	351	67	16	10	BDL	BDL
5.	CDU-III	46-F-01	10.12.2024	60	1.89	2.806	173	3.2	42.5	362	85	19	26	BDL	BDL
6.	CDU-IV	501-F-101	04.12.2024	85	3.0	7.069	218	4.1	28.7	33.5	68	21	25	BDL	BDL
7.	FCCU-I	4-F-51	12.12.2024	60	2.18	3.733	181	2.0	21.2	183	64	15	23	BDL	BDL
8.	FCCU-II	14-F-01	12.12.2024	60	1.35	1.431	168	2.4	20.3	151	47	10	15	BDL	BDL
9.	DHDS	60-F-01	12.12.2024	60	1.34	1.410	180	3.5	31.5	145	68	13	19	BDL	BDL
10.	NHT	72-F-01/02	02.12.2024	60	1.50	1.767	210	3.9	7.8	49	63	23	12	BDL	BDL
11.	CCR	74-F-1/2/3/4	02.11.2024	60	3.37	8.923	182	2.8	4.0	35	64	20	15	BDL	BDL
12.	CPP	HRSG-III	11.12.2024	60	3.00	7.065	155	9.2	7.6	25	43	13	17	BDL	BDL
13.	CPP	HRSG-IV	11.12.2024	60	3.00	7.065	147	8.1	15.8	23	45	13	06	BDL	BDL
14.	CPP	HRSG-V	11.12.2024	60	3.00	7.065	166	9.7	14.4	33	49	17	23	BDL	BDL
15.	CPP	HRSG-VI	11.12.2024	60	3.00	7.065	172	8.2	15.4	25	53	18	13	BDL	BDL
16.	PP-I	IBH	05.12.2024	60	2.40	4.525	176	2.1	17.3	43	46	13	20	BDL	BDL
17.	DHT	90-F-01/02	04.12.2024	60	3.00	7.309	202	3.5	26.9	185	55	23	18	BDL	BDL
18.	FCC NHT	75-F-01	03.12.2024	60	1.01	0.801	165	2.3	3.4	40	54	11	15	-	-
19.	FCC NHT	75-F-51	03.12.2024	60	1.35	1.430	151	2.8	4.1	27	82	23	29	-	-
20.	FCCU-I	FGD-I	13.12.2024	60	1.76	2.431	57	3.0	19.7	45	60	13	18	BDL	BDL
21.	FCCU-II	FGD-II	12.12.2024	60	2.00	3.142	68	7.1	20.3	41	46	10	17	BDL	BDL
22.	DHT –HGU	91-F-20	04.12.2024	60	3.00	3.63	184	5.3	3.2	43	47	14	16	--	BDL
23.	DHT -HGU	91-F-01	04.12.2024	60	1.30	1.326	169	1.8	3.4	39	51	18	11	-	-

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--	--	350	--	150	--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	02.12.2024 to 16.12.2024	*Date of reporting*	06-01-2025
Report No.	SVELC/HPCL/24-12/05		
Sample particulars	Fuel Gas Analysis, No. of Samples – 25 (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	5 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
24.	FCHCU	503-F-101	05.12.2024	76	3.8	11.3	159	4.3	31.2	348	59	11	15	-	BDL	BDL
25.	VRMP HGU Train – I	505-LZ-1201	09.12.2024	60	3.5	9.62	170	2.8	2.0	31.1	54	18	13	-	BDL	BDL
26.	VRMP SRU Train – I	507-LZ-1301	06.12.2024	60	1.5	1.77	280	3.1	2.5	28.4	67	13	06	3.0	-	-

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	17.12.2024 to 31.12.2024	*Date of reporting*	06-01-2025
Report No.	SVELC/HPCL/24-12/06		
Sample particulars	Fuel Gas Analysis, No. of Samples – 26 (Round-2)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	6 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NO_X	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3					
1.	CDU-II	11-F-01	31.12.2024	60	2.55	5.104	310	2.9	33.8	356	61	13	15	BDL	BDL
2.	CDU-II	12-F-01	31.12.2024	60	1.60	2.01	203	2.1	25.6	330	57	10	13	BDL	BDL
3.	CDU-III	42-F-01	24.12.2024	60	2.74	5.896	185	3.8	35.1	342	67	24	28	BDL	BDL
4.	CDU-III	42-F-02	24.12.2024	60	1.59	1.986	195	3.1	31.8	353	69	18	12	BDL	BDL
5.	CDU-III	46-F-01	24.12.2024	60	1.89	2.806	175	3.4	43.8	365	88	21	29	BDL	BDL
6.	CDU-IV	501-F-101	17.12.2024	85	3.0	7.069	216	3.8	27.5	32.2	64	19	23	BDL	BDL
7.	FCCU-I	4-F-51	30.12.2024	60	2.18	3.733	184	2.3	23.8	185	66	17	25	BDL	BDL
8.	FCCU-II	14-F-01	26.12.2024	60	1.35	1.431	171	2.8	18.1	146	45	07	13	BDL	BDL
9.	DHDS	60-F-01	26.12.2024	60	1.34	1.410	183	3.7	33.6	148	63	10	17	BDL	BDL
10.	CPP	HRSG-III	18.12.2024	60	3.00	7.065	151	8.9	7.3	23	41	11	15	BDL	BDL
11.	CPP	HRSG-IV	18.12.2024	60	3.00	7.065	144	7.8	14.7	21	43	12	04	BDL	BDL
12.	CPP	HRSG-V	18.12.2024	60	3.00	7.065	163	9.5	14.1	31	47	15	21	BDL	BDL
13.	CPP	HRSG-VI	18.12.2024	60	3.00	7.065	175	8.4	15.9	27	55	20	16	BDL	BDL
14.	PP-1	IBH	25.12.2024	60	2.40	4.525	179	2.4	19.4	45	49	15	23	BDL	BDL
15.	FCCU-I	FGD-I	30.12.2024	60	1.76	2.431	65	3.9	27.8	57	65	16	22	BDL	BDL
16.	FCCU-II	FGD-II	26.12.2024	60	2.00	3.142	69	5.8	17.3	43	47	10	18	BDL	BDL
17.	FCC NHT	75-F-01	19.12.2024	60	1.76	2.431	55	2.7	18.6	41	57	15	24	BDL	BDL
18.	FCC NHT	75-F-51	19.12.2024	60	2.00	3.142	71	6.7	16.3	36	41	07	14	BDL	BDL
19.	NHT	72-F-01/02	20.12.2024	60	1.50	1.767	214	4.2	8.3	51	65	25	17	BDL	BDL
20.	CCR	74-F-1/2/3/4	20.12.2024	60	3.37	8.923	185	3.0	4.5	39	68	23	19	BDL	BDL
21.	DHT	90-F-01/02	17.12.2024	60	3.00	7.309	198	3.2	24.6	178	51	20	15	BDL	BDL

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--	--	350	--	150	--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	01.11.2024 to 15.11.2024	*Date of reporting*	06-01-2025
Report No.	SVELC/HPCL/24-12/05		
Sample particulars	Fuel Gas Analysis, No. of Samples – 26 (Round-2)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	7 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
22.	DHT –HGU	91-F-20	17.12.2024	60	3.00	3.63	181	5.1	3.5	46	49	16	18	--	--	BDL
23.	DHT -HGU	91-F-01	17.12.2024	60	1.30	1.326	174	2.2	3.2	42	55	21	13	--	-	-
24	VRMP SRU Train – I	507-LZ-1301	23.12.2024	60	1.5	1.77	285	3.3	2.7	25.1	65	11	04	2.5	-	-
25.	VRMP HGU Train – II	507-LZ-2201	27.12.2024	60	3.5	9.62	174	3.0	2.3	33.5	56	20	15	-	BDL	BDL
26.	FCHCU	503-F-101	25.12.2024	76	3.8	11.3	161	4.5	33.5	352	61	13	17	-	BDL	BDL

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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Corporate Office & Laboratory : Enviro House, B-1, Block-B, IDA Autonagar, Visakhapatnam-530012

Hyderabad Office: #402, SaiKrishna Villa, Behind CMR Shopping Mall, AS Raju Nagar, Kukatpally, Hyderabad-500072

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	01.01.2025 to 20.01.2025	*Date of reporting*	07-02-2025
Report No.	SVELC/HPCL/25-01/04		
Sample particulars	Fuel Gas Analysis, No. of Samples – 28No's (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	4 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NO_x	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm³					
1.	CDU-II	11-F-01	07.01.2025	60	2.55	5.104	311	2.9	37.5	366	65	18	21	BDL	BDL
2.	CDU-II	12-F-01	07.01.2025	60	1.60	2.01	209	2.6	28.5	338	61	10	14	BDL	BDL
3.	CDU-III	42-F-01	02.01.2025	60	2.74	5.896	185	3.1	31.6	336	63	20	23	BDL	BDL
4.	CDU-III	42-F-02	02.01.2025	60	1.59	1.986	188	2.5	28.4	345	65	14	08	BDL	BDL
5.	CDU-III	46-F-01	02.01.2025	60	1.89	2.806	177	3.4	45.9	362	89	23	29	BDL	BDL
6.	CDU-IV	501-F-101	08.01.2025	85	3.0	7.069	224	4.4	30.5	339	65	17	23	BDL	BDL
7.	FCCU-I	4-F-51	08.01.2025	60	2.18	3.733	185	2.3	8.6	46.5	68	19	25	BDL	BDL
8.	FCCU-II	14-F-01	09.01.2025	60	1.35	1.431	172	2.6	7.9	44.8	49	12	17	BDL	BDL
9.	DHDS	60-F-01	09.01.2025	60	1.34	1.410	183	3.8	33.8	147	70	15	23	BDL	BDL
10.	NHT	72-F-01/02	03.01.2025	60	1.50	1.767	205	3.5	7.1	45	60	20	09	BDL	BDL
11.	CCR	74-F-1/2/3/4	03.01.2025	60	3.37	8.923	170	2.6	3.7	33	32	18	13	BDL	BDL
12.	CPP	HRSG-III	16.01.2025	60	3.00	7.065	151	9.0	7.2	22	40	11	15	BDL	BDL
13.	CPP	HRSG-IV	16.01.2025	60	3.00	7.065	153	8.5	8.3	26	47	15	08	BDL	BDL
14.	CPP	HRSG-V	16.01.2025	60	3.00	7.065	160	9.5	7.0	31	46	21	25	BDL	BDL
15.	CPP	HRSG-VI	16.01.2025	60	3.00	7.065	175	8.6	6.8	27	55	20	16	BDL	BDL
16.	PP-1	IBH	06.01.2025	60	2.40	4.525	182	2.3	18.6	314	49	15	24	BDL	BDL
17.	DHT	90-F-01/02	20.01.2025	60	3.00	7.309	206	3.8	28.1	188	59	25	21	BDL	BDL
18.	FCC NHT	75-F-01	01.01.2025	60	1.01	0.801	158	2.1	3.2	38	52	10	13	-	-
19.	FCC NHT	75-F-51	01.01.2025	60	1.35	1.430	148	2.6	3.8	25	80	21	27	-	-
20.	FCCU-I	FGD-I	08.01.2025	60	1.76	2.431	55	2.8	17.8	43	57	11	16	BDL	BDL
21.	FCCU-II	FGD-II	09.01.2025	60	2.00	3.142	72	7.5	22.5	43	49	13	19	BDL	BDL
22.	DHT –HGU	91-F-20	20.01.2025	60	3.00	3.63	188	6.1	3.4	46	51	17	20	BDL	BDL
23.	DHT -HGU	91-F-01	20.01.2025	60	1.30	1.326	166	2.1	3.0	35	48	16	08	-	-

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--	--	350	--	150	--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	01.01.2025 to 20.01.2025	*Date of reporting*	07-02-2025
Report No.	SVELC/HPCL/25-01/05		
Sample particulars	Fuel Gas Analysis, No. of Samples – 28 (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	5 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
24.	FCHCU	503-F-101	06.01.2025	76	3.8	11.3	154	4.1	30.2	344	56	10	13	-	BDL	BDL
25.	VRMP HGU Train – II	505-LZ-2201	17.01.2025	60	3.5	9.62	206	3.9	4.7	350	69	20	17	-	BDL	BDL
26.	VRMP SRU Train – I	507-LZ-1301	10.01.2025	60	1.5	1.77	274	2.8	2.3	25.4	65	11	04	2.8	-	-
27.	VRMP SRU Train – II	507-LZ-2301	10.01.2025	60	1.5	1.77	316	4.1	3.5	30.2	75	14	19	7.9	-	-
28.	DHT SRU	92-M-22	20.01.2025	60	1.50	1.767	198	4.3	6.2	41	58	18	21	8.1	--	--

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	21.01.2025 to 31.01.2025	*Date of reporting*	07-02-2025
Report No.	SVELC/HPCL/25-01/06		
Sample particulars	Fuel Gas Analysis, No. of Samples – 27 (Round-2)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	6 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details						Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity	PM	SO_2	NO_x	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3					
1.	CDU-II	11-F-01	21.01.2025	60	2.55	5.104	315	3.1	38.6	369	64	16	19	BDL	BDL
2.	CDU-II	12-F-01	21.01.2025	60	1.60	2.01	204	2.2	25.6	332	57	08	13	BDL	BDL
3.	CDU-III	42-F-01	22.01.2025	60	2.74	5.896	181	3.3	33.8	339	65	23	26	BDL	BDL
4.	CDU-III	42-F-02	21.01.2025	60	1.59	1.986	192	2.7	30.7	349	69	17	10	BDL	BDL
5.	CDU-III	46-F-01	21.01.2025	60	1.89	2.806	181	3.6	47.1	364	92	25	33	BDL	BDL
6.	CDU-IV	501-F-101	23.01.2025	85	3.0	7.069	228	4.1	27.6	326	62	15	21	BDL	BDL
7.	FCCU-I	4-F-51	29.01.2025	60	2.18	3.733	182	2.1	8.1	43.2	65	17	23	BDL	BDL
8.	FCCU-II	14-F-01	23.01.2025	60	1.35	1.431	168	2.9	7.4	41.8	52	14	19	BDL	BDL
9.	DHDS	60-F-01	29.01.2025	60	1.34	1.410	185	4.0	35.1	152	73	18	26	BDL	BDL
10.	CPP	HRSG-III	28.01.2025	60	3.00	7.065	146	7.9	6.7	20	37	09	13	BDL	BDL
11.	CPP	HRSG-IV	28.01.2025	60	3.00	7.065	148	8.1	7.8	23	44	13	06	BDL	BDL
12.	CPP	HRSG-V	28.01.2025	60	3.00	7.065	164	10.3	7.2	29	42	19	23	BDL	BDL
13.	CPP	HRSG-VI	28.01.2025	60	3.00	7.065	171	8.1	8.3	25	51	17	12	BDL	BDL
14.	PP-I	IBH	30.01.2025	60	2.40	4.525	184	2.5	19.1	317	53	17	26	BDL	BDL
15.	FCCU-I	FGD-I	29.01.2025	60	1.76	2.431	59	3.1	19.5	45	59	13	19	BDL	BDL
16.	FCCU-II	FGD-II	23.01.2025	60	2.00	3.142	75	7.9	25.6	48	52	17	21	BDL	BDL
17.	FCC NHT	75-F-01	31.01.2025	60	1.01	0.801	152	1.9	3.0	34	48	08	11	-	-
18.	FCC NHT	75-F-51	31.01.2025	60	1.35	1.430	142	2.3	3.5	23	77	24	32	-	-
19.	NHT	72-F-01/02	21.01.2025	60	1.50	1.767	210	3.9	7.3	48	63	21	12	BDL	BDL
20.	CCR	74-F-1/2/3/4	21.01.2025	60	3.37	8.923	173	2.8	3.9	36	34	20	15	BDL	BDL
21.	DHT	90-F-01/02	24.01.2025	60	3.00	7.309	212	4.2	29.4	180	55	23	16	BDL	BDL
22.	DHT -HGU	91-F-01	24.01.2025	60	1.30	1.326	171	2.5	3.4	28	53	19	10	-	-

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--	--	350	--	150	--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	21.01.2025 to 31.01.2025	*Date of reporting*	07-02-2025
Report No.	SVELC/HPCL/25-01/07		
Sample particulars	Fuel Gas Analysis, No. of Samples – 27 (Round-2)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	7 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	Nox	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
23.	VRMP SRU Train – I	507-LZ-1301	27.01.2025	60	1.5	1.77	279	3.1	2.5	27.6	67	13	06	3.1	-	-
24.	VRMP SRU Train – II	507-LZ-2301	27.01.2025	60	1.5	1.77	319	4.4	3.8	32.8	79	17	23	9.8	-	-
25.	VRMP HGU Train – II	507-LZ-2201	31.01.2025	60	3.5	9.62	209	4.2	2.9	354	72	23	19	-	BDL	BDL
26.	FCHCU	503-F-101	30.01.2025	76	3.8	11.3	150	3.5	33.6	340	52	08	11	-	BDL	BDL
27.	DHT SRU	92-M-22	24.01.2025	60	1.50	1.767	194	3.9	5.8	37.1	56	16	19	7.6	--	--

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	03.02.2025 to 14.02.2025	*Date of reporting*	08-03-2025
Report No.	SVELC/HPCL/25-02/04		
Sample particulars	Fuel Gas Analysis, No. of Samples – 24No's (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	4 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NO_x	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3					
1.	CDU-II	11-F-01	05.02.2025	60	2.55	5.104	306	2.5	35.1	360	63	15	19	BDL	BDL
2.	CDU-II	12-F-01	05.02.2025	60	1.60	2.01	205	2.3	26.2	334	58	08	12	BDL	BDL
3.	CDU-III	42-F-01	04.02.2025	60	2.74	5.896	181	3.3	33.6	333	61	18	21	BDL	BDL
4.	CDU-III	42-F-02	04.02.2025	60	1.59	1.986	192	2.7	30.4	351	68	16	11	BDL	BDL
5.	CDU-III	46-F-01	04.02.2025	60	1.89	2.806	175	3.2	43.2	359	87	21	26	BDL	BDL
6.	CDU-IV	501-F-101	10.02.2025	85	3.0	7.069	221	4.2	32.6	395	69	19	25	BDL	BDL
7.	FCCU-I	4-F-51	12.02.2025	60	2.18	3.733	182	2.0	7.5	43.1	65	16	22	BDL	BDL
8.	FCCU-II	14-F-01	11.02.2025	60	1.35	1.431	168	2.3	7.7	41.6	45	10	14	BDL	BDL
9.	DHDS	60-F-01	12.02.2025	60	1.34	1.410	179	3.6	31.2	145	67	13	20	BDL	BDL
10.	NHT	72-F-01/02	03.02.2025	60	1.50	1.767	201	4.1	7.3	48	65	22	13	BDL	BDL
11.	CCR	74-F-1/2/3/4	03.02.2025	60	3.37	8.923	174	2.9	3.9	35	34	20	16	BDL	BDL
12.	CPP	HRSG-III	06.02.2025	60	3.00	7.065	146	8.5	7.0	20	36	09	13	BDL	BDL
13.	CPP	HRSG-IV	06.02.2025	60	3.00	7.065	150	8.3	8.1	24	45	13	06	BDL	BDL
14.	CPP	HRSG-V	06.02.2025	60	3.00	7.065	163	10.1	7.5	33	49	23	28	BDL	BDL
15.	CPP	HRSG-VI	06.02.2025	60	3.00	7.065	179	8.9	7.2	29	57	23	18	BDL	BDL
16.	PP-1	IBH	11.02.2025	60	2.40	4.525	180	2.1	18.3	345	45	13	21	BDL	BDL
17.	DHT	90-F-01/02	13.02.2025	60	3.00	7.309	210	4.2	25.6	185	55	23	20	BDL	BDL
18.	FCC NHT	75-F-01	14.02.2025	60	1.01	0.801	154	1.8	3.0	34	50	13	17	-	-
19.	FCC NHT	75-F-51	14.02.2025	60	1.35	1.430	152	2.9	3.5	29	76	18	24	-	-
20.	FCCU-II	FGD-II	11.02.2025	60	2.00	3.142	68	7.2	21.9	40	45	16	21	BDL	BDL
21.	DHT -HGU	91-F-01	13.02.2025	60	1.30	1.326	159	2.0	2.7	33	43	13	06	-	-

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--	--	350	--	150	--	15

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VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	03.02.2025 to 14.02.2025	*Date of reporting*	08-03-2025
Report No.	SVELC/HPCL/25-02/05		
Sample particulars	Fuel Gas Analysis, No. of Samples – 24 (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	5 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
22.	FCHCU	503-F-101	10.02.2025	76	3.8	11.3	151	3.9	28.3	340	53	08	11	-	BDL	BDL
23.	VRMP HGU Train – II	505-LZ-2201	07.02.2025	60	3.5	9.62	203	3.4	2.8	345	65	23	19	-	BDL	BDL
24.	VRMP SRU Train – II	507-LZ-2301	07.02.2025	60	1.5	1.77	310	4.3	3.1	39.5	77	17	23	8.2	-	-

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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Issued to:

M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	17.02.2025 to 28.02.2025	*Date of reporting*	08-03-2025
Report No.	SVELC/HPCL/25-02/06		
Sample particulars	Fuel Gas Analysis, No. of Samples – 25No's (Round-2)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	6 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NO_x	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3					
1.	CDU-II	11-F-01	26.02.2025	60	2.55	5.104	309	2.7	36.8	366	65	18	21	BDL	BDL
2.	CDU-II	12-F-01	26.02.2025	60	1.60	2.01	201	2.1	23.8	328	54	06	10	BDL	BDL
3.	CDU-III	42-F-01	19.02.2025	60	2.74	5.896	179	3.1	31.5	331	58	16	20	BDL	BDL
4.	CDU-III	42-F-02	19.02.2025	60	1.59	1.986	190	2.5	28.6	344	64	14	10	BDL	BDL
5.	CDU-III	46-F-01	19.02.2025	60	1.89	2.806	181	3.6	45.8	383	89	24	29	BDL	BDL
6.	CDU-IV	501-F-101	17.02.2025	85	3.0	7.069	225	4.5	34.5	316	71	21	27	BDL	BDL
7.	FCCU-I	4-F-51	25.02.2025	60	2.18	3.733	185	2.3	7.8	44.8	68	18	24	BDL	BDL
8.	FCCU-II	14-F-01	20.02.2025	60	1.35	1.431	171	2.5	7.9	42.8	49	13	17	BDL	BDL
9.	DHDS	60-F-01	20.02.2025	60	1.34	1.410	182	3.9	33.5	148	69	15	23	BDL	BDL
10.	NHT	72-F-01/02	21.02.2025	60	1.50	1.767	203	4.3	7.5	39.6	69	23	15	BDL	BDL
11.	CCR	74-F-1/2/3/4	21.02.2025	60	3.37	8.923	178	3.1	4.2	39	36	22	19	BDL	BDL
12.	CPP	HRSG-III	18.02.2025	60	3.00	7.065	149	8.9	7.2	23	39	11	15	BDL	BDL
13.	CPP	HRSG-IV	18.02.2025	60	3.00	7.065	145	8.0	7.8	21	41	12	06	BDL	BDL
14.	CPP	HRSG-V	18.02.2025	60	3.00	7.065	160	9.8	7.3	30	45	21	26	BDL	BDL
15.	CPP	HRSG-VI	18.02.2025	60	3.00	7.065	175	8.6	7.0	27	56	20	16	BDL	BDL
16.	PP-1	IBH	25.02.2025	60	2.40	4.525	186	2.3	19.1	345	49	14	23	BDL	BDL
17.	DHT	90-F-01/02	27.02.2025	60	3.00	7.309	213	4.5	27.5	180	52	21	18	BDL	BDL
18.	FCC NHT	75-F-01	28.02.2025	60	1.01	0.801	151	2.0	2.8	32	47	11	15	-	-
19.	FCC NHT	75-F-51	28.02.2025	60	1.35	1.430	148	2.7	3.3	26	70	16	21	-	-
20.	FCCU-II	FGD-II	20.02.2025	60	2.00	3.142	65	7.0	19.5	38	43	14	20	BDL	BDL
21.	DHT -HGU	91-F-01	27.02.2025	60	1.30	1.326	155	2.3	2.9	35	45	18	09	-	-

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators			350	--	150	--	15

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(ENVIRONMENTAL ENGINEERS & CONSULTANTS IN POLLUTION CONTROL)

Corporate Office & Laboratory : Enviro House, B-1, Block-B, IDA Autonagar, Visakhapatnam-530012

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M/s. HINDUSTAN PETROLEUM CORPORATION LTD.,
VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	17.02.2025 to 28.02.2025	*Date of reporting*	08-03-2025
Report No.	SVELC/HPCL/25-02/07		
Sample particulars	Fuel Gas Analysis, No. of Samples – 25 (Round-1)		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	7 of 8
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
22.	FCHCU	503-F-101	17.02.2025	76	3.8	11.3	154	4.1	27.5	336	50	06	10	-	BDL	BDL
23.	VRMP HGU Train – II	505-LZ-2201	22.02.2025	60	3.5	9.62	201	3.2	29.1	340	63	21	17	-	BDL	BDL
24.	VRMP SRU Train – I	507-LZ-1301	22.02.2025	60	1.5	1.77	270	2.5	2.1	23.6	61	10	02	2.3	-	-
25.	DHT SRU	92-M-22	27.02.2025	60	1.50	1.767	195	4.1	5.8	37	55	16	20	7.8	--	--

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	04.04.2025 to 27.04.2025	*Date of reporting*	07-04-2025
Report No.	SVELC/HPCL/25-03/04		
Sample particulars	Fuel Gas Analysis, No. of Samples – 24No's		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	4 of 6
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions					
				Ht.	Dia.	Area	Temp	Velocity		SO_2	NOx	CO	HC	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3					
1.	CDU-II	11-F-01	27.04.2025	60	2.55	5.104	311	2.7	33.5	366	65	17	18	BDL	BDL
2.	CDU-II	12-F-01	27.04.2025	60	1.60	2.01	207	2.1	23.8	330	53	06	10	BDL	BDL
3.	CDU-III	42-F-01	06.04.2025	60	2.74	5.896	174	3.0	31.2	327	58	16	20	BDL	BDL
4.	CDU-III	42-F-02	06.04.2025	60	1.59	1.986	186	2.5	27.5	347	66	14	08	BDL	BDL
5.	CDU-III	46-F-01	06.04.2025	60	1.89	2.806	170	3.0	41.1	351	69	18	19	BDL	BDL
6.	CDU-IV	501-F-101	11.04.2025	85	3.0	7.069	216	4.0	30.4	349	66	17	20	BDL	BDL
7.	FCCU-I	4-F-51	12.04.2025	60	2.18	3.733	178	1.8	7.2	40.2	62	13	20	BDL	BDL
8.	FCCU-II	14-F-01	24.04.2025	60	1.35	1.431	165	2.1	7.1	38.4	42	08	12	BDL	BDL
9.	DHDS	60-F-01	12.04.2025	60	1.34	1.410	175	3.3	27.5	140	64	11	17	BDL	BDL
10.	NHT	72-F-01/02	05.04.2025	60	1.50	1.767	205	4.4	5.5	34	48	25	14	-	-
11.	CCR	74-F-1/2/3/4	05.04.2025	60	3.37	8.923	170	2.7	5.0	32	39	17	13	-	-
12.	CPP	HRSG-III	25.04.2025	60	3.00	7.065	140	8.2	6.1	18	33	07	10	BDL	BDL
13.	CPP	HRSG-IV	25.04.2025	60	3.00	7.065	146	7.9	7.7	22	41	11	05	BDL	BDL
14.	CPP	HRSG-V	26.04.2025	60	3.00	7.065	160	9.2	7.0	30	46	21	25	BDL	BDL
15.	CPP	HRSG-VI	26.04.2025	60	3.00	7.065	175	8.4	6.6	27	55	20	16	BDL	BDL
16.	PP-1	IBH	11.04.2025	60	2.40	4.525	188	2.4	19.1	351	48	16	24	BDL	BDL
17.	DHT	90-F-01/02	18.04.2025	60	3.00	7.309	213	4.0	23.1	181	53	21	17	BDL	BDL
18.	FCC NHT	75-F-01	04.04.2025	60	1.01	0.801	158	2.0	3.3	36	53	15	19	-	-
19.	FCC NHT	75-F-51	04.04.2025	60	1.35	1.430	155	3.1	3.7	30	69	20	28	-	-
20.	DHT -HGU	91-F-01	19.04.2025	60	1.30	1.326	162	2.2	3.1	30	41	12	04	-	-

	Fuel Type	SO_2	NO_x	PM	CO	Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150	--	--
	Liquid	1700	450	100	200	5	--
FCC Regenerators	--	--	350	--	150	--	15

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VAISAKHA REFINERY, MALKAPURAM,
VISAKHAPATNAM – 530 011.

Kind attention to: G. BHAGAVAN, GM-TECHNICAL

Date of Monitoring	03.02.2025 to 14.02.2025	*Date of reporting*	07-04-2025
Report No.	SVELC/HPCL/25-03/05		
Sample particulars	Fuel Gas Analysis, No. of Samples – 24		
PO. No.	5200046390 Dt. 27.03.2024		
Instrument used	Stack Kit, Make: Lata Envirotech,		
Test required	Temperature, Velocity, PM, SO_2, NO_x, HC, Co, H_2S, Ni & V		
Method of analysis	IS: 11255	Page No.	5 of 6
Discipline	Chemical	Group	Atmospheric Pollution

S.No.	Unit	Stack Type	Date of Monitoring	Stack Details					PM	Stack Emissions						
				Ht.	Dia.	Area	Temp	Velo-city		SO2	NOx	CO	HC	H2S	Ni	V
				m	m	m^2	°C	m/s		mg/nm^3						
	FCHCU	503-F-101	18.04.2025	76	3.8	11.3	144	3.6	26.1	336	51	06	09	-	BDL	BDL
22.	VRMP HGU Train – II	505-LZ-2201	19.04.2025	60	3.5	9.62	210	3.8	3.1	351	69	19	20	-	-	-
23.	VRMP SRU Train – I	507-LZ-1301	20.04.2025	60	1.5	1.77	302	4.1	2.9	37.6	35	15	19	8.0	-	-
24.	DHT SRU	92-M-22	20.04.2025	60	1.50	1.767	196	4.0	6.0	36	54	20	23	8.	--	--

	Fuel Type	SO_2	NO_x	PM	CO		Ni & V	H_2S
Furnaces and CPP	Gas	50	350	10	150		--	--
	Liquid	1700	450	100	200		5	--
FCC Regenerators	--	--	350	--	150		--	15

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SV ENVIRO LABS & CONSULTANTS VISAKHAPATNAM

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Sold to whom : Greater Visakhapatnam Smart City Corporation Ltd.

TRIPARTITE AGREEMENT FOR THE SUPPLY OF BULK WATER TO HPCL

This Tripartite Agreement is drawn on the 29th day of March 2019 between:

(i) Greater Visakhapatnam Municipal Corporation (GVMC), a municipal corporation having its office at Tenneti Bhavan, Ram Nagar, Visakhapatnam - 530002 Andhra Pradesh, India, represented herein by its Commissioner (hereinafter referred to as "**GVMC**" which expression shall include its permitted assignees) on the **First Part;**

AND

(ii) **Greater Visakhapatnam Smart City Corporation Limited (GVSCCL)**, the Special Purpose Vehicle (SPV) jointly owned by Government of Andhra Pradesh (GoAP) and Greater Visakhapatnam Municipal Corporation (GVMC), having its registered office at Room No. 306, GVMC, Tenneti Bhavan, Ram Nagar, Visakhapatnam 530002 Andhra Pradesh, India represented herein by its Managing Director (hereinafter referred to as "**GVSCCL**" which expression shall unless repugnant to the context mean and include successors, administrators, legal representatives and assignees) on the **Second Part;**

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

वी. रतनराज
V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी) कार्यकारी निदेशक-वी आर एम पी
Chief General Manager (I/C)-VR Executive Director-VRMP
हेच.पी.सी.एल - विशाख रिफाइनरी एच.पी.सी.एल -विशाख रिफाइनरी
HPCL - Visakh Refinery HPCL - Visakh Refinery

एस. राजा / S. RAJA

AND

(iii) **Hindustan Petroleum Corporation Limited (HPCL)**, a Government of India Enterprise, having its registered office at Petroleum House, 17, Jamshedji Tata Road, Mumbai - 400020, Maharashtra, and one of its refineries (Visakh Refinery) at Post Box-15, Malkapuram, Visakhapatnam-530011, Andhra Pradesh, represented herein by its Executive Director (hereinafter referred to as "**HPCL**" which expression shall unless repugnant to the context, mean and include its permitted assignees) on the **Third Part.**

'GVMC', 'GVSCCL' and 'HPCL' are hereinafter collectively referred to as the "**Parties**" and individually as the "**Party**" as the context may permit.

1 Introduction

A. GVMC intends to develop a sewerage infrastructure project in Visakhapatnam, comprising:

(i) laying of sewerage network and providing connections in Gajuwaka, Malkapuram and Pendurthi in a phased manner;

(ii) full utilisation of the existing 108 MLD Sewage Treatment Plant (STP) at Narava;

(iii) augmentation of the existing sewerage pumping stations and development of new sewage pumping stations as required;

(iv) development of a new waste water treatment plant with a system for additional treatment to further treat the treated waste water from the STPs

for the supply of Recycled Water to various industries in Visakhapatnam (the "**Project**").

B. GVSCCL has been incorporated as a 50:50 joint venture company by GVMC and the Government of Andhra Pradesh (GoAP) for the purpose of undertaking several obligations pertaining to the development of Visakhapatnam as a Smart City. Further, vide the G.O. Rt. No. 546 dated 26.7.2017 issued by the Municipal Administration & Urban Development Department, GoAP, the 'Project' had been transferred from GVMC to GVSCCL for development and further operations.

C. GVMC and HPCL have executed 3 agreements for the supply of Bulk Water as per the following details:

(i) Agreement No. 25/GVMC-Bulk Water/2017-18, dated 11.01.2018 for the supply of **12 LIGD of clear water** by GVMC from its Raiwada source to HPCL for use at its Visakh Refinery;

(ii) Agreement No. 26/GVMC-Bulk Water/2017-18 dated 11.01.2018 for the supply of **18 LIGD of clear water** by GVMC from its Meghadri Gedda Reservoir to HPCL for use at its Visakh Refinery; and

(iii) Agreement No. 27/GVMC-Bulk Water/2017-18 dated 11.01.2018 for the supply of **15 LIGD of clear water** by GVMC from its Thatipudi Source to HPCL for use of 14 LIGD at its Visakh Refinery and 1 LIGD at its Waltair Park Housing Complex.

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

वी. रतनराज
V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी) - विशाख रिफाइनरी
Chief General Manager (In-charge) - Visakh Refinery
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निदेशक-वी आर एम
Executive Director-VRM
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery

The total quantity agreed to be supplied by GVMC to HPCL under the aforesaid Agreements is 45 LIGD (**20.46 MLD**). The aforesaid agreements are hereinafter collectively referred to as the '**Executed Agreements**' and are attached herewith collectively as **Annexure-I**. In terms of these Executed Agreements, GVMC is already supplying 45 LIGD (20.46 MLD) of clear water to HPCL. However, going forward, once the Project Facility is operational, GVSCCL shall supply 36.2 LIGD (16.46 MLD) of Recycled (treated) Water (hereinafter referred to as the "**Product**") which shall replace 36.2 LIGD (16.46 MLD) of clear water being supplied by GVMC presently and GVMC shall continue to supply only 8.8 LIGD (4 MLD) of clear water to HPCL.

D. The Parties agree that the rights and obligations of GVMC under the Executed Agreements shall stand transferred and novated in favour of GVSCCL pursuant to this Agreement and that GVSCCL shall undertake, comply with and perform the said obligations of GVMC under the Executed Agreements.

E. Post novation of the rights and obligations of GVMC in favour of GVSCCL pursuant to this Agreement, the Parties now agree to the following revised understanding in relation to the supply of water to HPCL:

(i) Instead of clear water supply from GVMC as per the above said Executed Agreements and Recital C above, HPCL has agreed to accept 36.2 LIGD (16.46 MLD) of Product from GVSCCL, which GVSCCL shall supply to HPCL at the rate of Rs. 57/- per KL (inclusive of all taxes & charges as applicable). Cost to HPCL for the Product will be only Rs. 57/- per KL (all inclusive).

(ii) In addition to the above, HPCL has requested and GVSCCL has agreed to supply additional 30 LIGD (13.64 MLD) of Product to HPCL. Thus, a total of 66.2 LIGD (30.10 MLD) [36.2 LIGD (16.46 MLD) + 30 LIGD (13.64 MLD)] of Product water shall be supplied by GVSCCL to HPCL at the rate of Rs. 57/- per KL (inclusive of all taxes & charges as applicable). Cost to HPCL for the Product will be only Rs. 57/- per KL (all inclusive).

(iii) Balance 8.8 LIGD (4 MLD) of clear water (hereinafter referred to as the "**Clear Water**") shall continue to be supplied by GVMC to HPCL, at the current rate of Rs. 60/- per KL(as per the Executed Agreements) or at such revised rates as may be applicable from time to time.

(iv) Except to the extent modified above, all the other terms and conditions of the Executed Agreements shall continue to be binding and effective between the Parties and shall be deemed to be incorporated by reference into this Agreement, to the extent the same are required and relevant for the purpose of this Agreement and are not being repeated herein for the sake of brevity. Thus this agreement shall always be read in conjunction with the Executed agreements.

F. **Priority of Documents**: The Parties agree that in case of any inconsistency or conflict between the Executed Agreements and this Agreement, this Agreement shall prevail as regards the revised understanding of the Parties for the supply of Product and Clear Water is concerned. In relation to the Capital Contribution and other charges already paid by HPCL under the Executed Agreements, the Executed Agreements shall prevail.

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

V. RATANRA...
मुख्य महाप्रबन्धक (प्रभारी)
Chief General Manager (I/C)
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम पी
Executive Director-VRMP
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery

2 **Project Facility**

Project Facility means collectively the following:

(a) Waste Water Treatment Plant including Ultra-Filtration and Reverse Osmosis (UF&RO) plant being constructed in STP premises at Narava [collectively referred to as "**Tertiary Treatment and Reverse Osmosis plant (TTRO)**"],

(b) Pumping Station(s) for Product supply,

(c) Conveyance pipeline from TTRO to HPCL premises on an exclusive basis for supply of the Product,

(d) Any other infrastructure that forms or may form part of the Project Facility at a future date, and

(e) The clear water supply facility for meeting contingency in case of quality and quantity issues with respect to STP water.

3 **Contracted Quantity**

(a) The "**Contracted Quantity**" is 75 LIGD [34.10 Million Litres Per Day (MLD)] comprising of the following:

i. 66.2 LIGD (30.10 MLD) of Product ("**Contracted Quantity of Product**") and

ii. 8.8 LIGD (4 MLD) of Clear Water ("**Contracted Quantity of Clear Water**").

(b) GVSCCL and GVMC assure HPCL that supply of Contracted Quantity of Product [66.2 LIGD (30.10 MLD)] and Clear Water [8.8 LIGD (4 MLD)] shall be undertaken as per the terms and conditions provided in this Agreement.

(c) **Product:**

i. The supply start date for the Contracted Quantity of Product will be mutually agreed between the Parties and shall be referred to as the '**Effective Date**' in this Agreement. GVSCCL has agreed to supply the Contracted Quantity of Product as per the Specifications attached herewith as Annexure-II. The payment obligations on the part of HPCL shall also commence from the Effective Date.

ii. The supply obligations on the part of GVSCCL shall commence from the date of this Agreement, which shall include undertaking the Project components and laying down of the conveyance pipelines etc.

iii. The Contracted Quantity of Product, reckoned on a daily basis, shall be supplied equally in a period spread over 24 hours.

(d) **Clear Water:**

i. The Contracted Quantity of Clear Water per day (on an average) will be supplied to HPCL during any duration of the day as per the convenience of GVMC. The supply start date for the Contracted Quantity of Clear Water shall be reckoned from the Effective Date in this agreement.

RECTOR
/SCCL

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Municipal Corporation

V. RATANRAJA / एस. राजा / S. RAJA
मुख्य महाप्रबन्धक (प्रभारी) कार्यकारी निदेशक-वी आर एम
Chief General Manager Executive Director-VRM
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

4 **Delivery Point**

(a) **Product**:

i. The Product by GVSCCL for HPCL will be delivered with 7 m (0.7 Kg/cm2 G) residual head at the existing reservoir of HPCL (i.e. **"Delivery Point"**), where the other GVMC sources are delivering clear water.

ii. HPCL shall be responsible for the development and operation of any facilities for storage, usage, etc., of Product in its premises beyond the Delivery Point.

iii. The title, property & the risk of loss of the Product delivered under this Agreement shall pass from GVSCCL to HPCL at the Delivery Point.

(b) **Clear Water**:

i. **Clear Water** shall be continued to be supplied by GVMC from its suitable point / source (Raiwada source / Meghadri Gedda Reservoir / Thatipudi source) to HPCL.

5 **Supply Price for the Product and Clear Water**

(a) **Supply by GVSCCL (Product):**

i. The Supply Price of the Product payable by HPCL to GVSCCL for the supply of the Product will be Rs. 57/- per KL (inclusive of all taxes & charges as applicable). Cost to HPCL for the product will be only Rs. 57/- per KL (all inclusive) from the Effective Date.

ii. HPCL shall be charged for at least 60% of the Contracted Quantity of Product per month (Contracted Quantity of Product per month is defined as 66.2 LIGD (30.10 MLD x number of days in that particular month) if the quantity of Product consumed in a month is less than 60% of the Contracted Quantity of Product in a month.

iii. HPCL shall be charged for the actual quantity consumed in a month if it is more than 60% of the Contracted Quantity of Product in a month.

iv. For the quantity of Product consumed over and above the Contracted Quantity of Product in a month, HPCL shall be charged for the extra quantity at the same price as the Supply Price of the Product.

v. The Supply Price shall escalate every year on 1st April as per the Whole Sale Price Index (WPI) applicable from the successive year after effective date.

vi. The escalation provision for Supply Price of the Product shall be such that at any point of time, the Supply Price of the Product shall not exceed the respective Supply Price of the Clear Water by GVMC applicable at that point of time. The price of the Product at any point of time shall be the minimum of escalated price and the price with a differential of Rs.3 per KL with respect to Supply Price of Clear Water.

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

वी. रत्नराज
V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी) - वि
Chief General Manager (I/C) VR
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम पी
Executive Director-VRMP
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery

(b) Supply by GVMC (Clear Water):

i. The Supply Price of Clear Water to be supplied by GVMC to HPCL shall be calculated at the rate of Rs. 60/- per KL or at such rate as may be applicable from time to time.

ii. HPCL will be charged for at least for 60% of the Contracted Quantity of Clear Water per month if the Contracted Quantity of Clear Water consumed in a month is less than 60% of Contracted Quantity of Clear Water.

iii. HPCL will be charged for actual quantity of Clear Water consumed in a month if it varies between 60% and 100% of Contracted Quantity of Clear Water, reckoned per month at the rate of Rs.60/- per KL or at such rate as may be applicable from time to time.

iv. HPCL will be charged for additional Clear Water quantity consumed, over and above the Contracted Quantity of Clear Water, reckoned per month at the rate of Rs.120/- per KL.

v. HPCL will be charged for actual consumption of Clear Water even though it is less than the 60% of Contracted Quantity of Clear Water, reckoned per month, if GVMC is solely responsible for supply of less than 60% of Contracted Quantity of Clear Water.

vi. HPCL will be charged for maintenance of meters, instrumentation and automation etc., at the rate of 0.75% of the monthly bill, which is subject to revision as and when necessary.

vii. The existing rate per KL of Clear Water consumed shall be revised as and when deemed necessary by the governing council of GVMC from time to time.

viii. HPCL will be informed of the revision in Supply Price well in advance by 2 months by directly addressing through a letter.

ix. The Clear Water supply bye-laws as framed and amended from time to time by the GVMC shall form part of this Agreement to the extent they are consistent with the provisions hereof.

6 Off take by HPCL

The off-take by HPCL shall be of the Contracted Quantity (i.e. Product and Clear Water) except as per prior information to GVSCCL and GVMC and as mutually agreed to by the Parties.

(a) Product:

i. In case HPCL wants a reduction in the Contracted Quantity of Product or is unable to off-take the Contracted Quantity of Product in a specific supply period, it shall inform GVSCCL of the same 24 hours in advance.

(b) Clear Water:

i. If HPCL desires to reduce the Contracted Quantity of Clear Water, three (3) months' prior intimation should be given to GVMC.

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam

वी. रतनराज / V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी) / Chief General Manager (I/C)
हेच.पी.सी.एल - विशाख रिफाइनरी / HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम / Executive Director-VRM
हेच.पी.सी.एल.-विशाख रिफाइनरी / HPCL - Visakh Refinery

7 **Failure to Supply**

(a) In the case of any unfortunate event and consequent shortage in provision of Product due to reasons attributable to GVSCCL, the HPCL water requirement shall be met from the existing clear water supply lines by GVMC at the then applicable rate of Clear Water as notified by GVMC without any penalties to HPCL. GVSCCL shall arrange the clear water supplies from GVMC during such periods.

(b) Appropriate measures will be identified by GVMC to supply the balance quantity remaining unsupplied by GVSCCL to HPCL, from a suitable point. The switching/ transition time required for effecting Clear Water supply is normally about 12 hours.

(c) However, considering unexpected contingencies during the switching /transition period, HPCL is required to make its own arrangements for storage of Product and Clear Water in its premises, the capacity of which should be at least 2 days' cover of the Contracted Quantity of Product and Contracted Quantity of Clear Water per day respectively.

(d) However, the Parties agree and acknowledge that top priority shall be accorded to the supply of drinking water to the public, if there is any shortage in the availability of Clear Water.

(e) In such a scenario, the above said Clear Water supply by GVMC shall be in accordance with the provisions of this Agreement and shall be billed separately by GVMC. GVSCCL to coordinate and ensure smooth supplies of clear water from GVMC and billing without any penalties in all such eventualities.

8 **Conveyance Pipeline**

(a) The Product Water Conveyance pipeline will be laid along Port Road and will enter HPCL premises from the HPCL North boundary on Port Road side. The RoW for shortest possible alignment inside HPCL premises will be made available by HPCL for laying the Product Water Conveyance pipeline. HPCL shall facilitate the same.

(b) While laying the conveyance pipeline within HPCL premises, the rules and safety precautions as per HPCL policy are to be followed by GVSCCL. HPCL shall facilitate the same.

(c) GVSCCL shall be responsible for the safety and maintenance of the conveyance pipeline up to the boundary limits of HPCL. HPCL shall be responsible for safety and maintenance of the conveyance pipeline in the HPCL premises.

9 **Metering and Calibration**

(a) **Product**:

i. Metering for determining the exact quantities of the Product supplied shall be done at the Delivery Point in the premises of HPCL. GVSCCL shall install a meter with a standby at the Delivery Point.

ii. Periodical calibration of the meter shall be carried out by GVSCCL.

iii. HPCL shall provide adequate space (2m x 2m) for installation of the water meters.

iv. Power requirement for the metering station shall be provided by HPCL while power backup by way of UPS shall be provided by GVSCCL.

DIRECTOR
GVSCCL

V. RATAN (A)
मुख्य महाप्रबन्धक (प्रभारी)
Chief General Manager (I/C)
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निदेशक-वी आर एम पी
Executive Director-VRMP
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery

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(b) **Clear Water:**

i. The metering and connected automation will be arranged immediately at the tapping point of GVMC water supply main.

10 Water Quality

(a) **Product:**

i. The Product to be supplied by GVSCCL to HPCL shall be as per the water quality parameters specified by HPCL, which are provided in **Annexure-II**.

ii. HPCL shall carry out periodic analysis of the Product for ascertaining the quality requirements as specified in **Annexure-II**.

iii. In case the Product as analysed by HPCL does not meet the specified quality, HPCL shall inform GVSCCL immediately, who shall immediately stop the supply of the Product and shall take necessary measures for improvement in the quality of the Product. Supply of the Product shall be resumed by GVSCCL upon achieving the specified quality. During the period of stoppage of Product supply on account of such quality issues, Clear Water shall be supplied to HPCL by GVMC with due allowance for the switching / transition period, at Supply Price of Clear Water as applicable at that time. GVSCCL will coordinate and ensure clear water supply to HPCL in all such eventualities.

iv. In the case of any dispute between GVSCCL & HPCL with respect to the quality of the Product, quality analysis of the Product shall be carried out by a mutually agreed third party, whose quality report thereof shall be binding on both GVSCCL & HPCL. The charges of such third-party analysis of the Product shall be equally shared by HPCL and GVSCCL.

v. GVSCCL shall not be responsible for the quality of Product beyond the Delivery Point.

11 Capital Contribution Charges

(a) The Parties agree, accept and acknowledge that under the Executed Agreements, HPCL has paid GVMC, the Capital Contribution Charges of Rs. 23,45,71,800/- (Rupees Twenty-Three Crores, Forty-Five Lakhs, Seventy-One Thousand and Eight Hundred only) to GVMC ("**CCC**"), the details of which are provided below:

Capital Contribution Charges: (Non-Refundable)

S. No.	Source	Contracted Quantity		Rate per KL	Amount paid so far (Rs.)	Details
		LIGD	KL			
1	RWD	12.00	5455.22	-	5,45,52,000	DD No. 069447, dt 20.08.2007
2	MGR	18.00	8182.98	-		
3				-	6,81,90,000	DD. 531356, SBI, dt 03.03.2015 Rcpt key. 2014-CH-61382, dt 09.03.2015

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam

V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी) - हे
Chief General Manager (I/C
हेच.पी.सी.एल - विशाख रिफाइ
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम प
Executive Director-VRMF
हेच.पी.सी.एल.-विशाख रिफाइनर
HPCL - Visakh Refinery

S. No.	Source	Contracted Quantity		Rate per KL	Amount paid so far (Rs.)	Details
		LIGD	KL			
4	TPD	15	6819.15	-	3,00,00,000	As per Bulk water supply agreement on dt. 31.12.1989
5					8,18,29,800	DD. 579690, SBI, 20.09.2017 Rcpt key. 2017-CH-15243, dt. 20.11.2017
	Total	45	20457.35		23,45,71,800	

(b) For the purpose of this Agreement, the above said CCC already paid by HPCL to GVMC under the Executed Agreements, shall be deemed to have been paid by HPCL to GVSCCL for the supply of Product water.

(c) For the additional requirement of 30 LIGD (13.64 MLD) of Product sought by HPCL, Capital Contribution Charges (CCC) as per the present GVMC norms shall be paid by HPCL to GVMC as per the schedule given below:

Schedule for Payment of Capital Contribution Charges for additional 30 LIGD (13.64 MLD)

CCC Instalment No.	Stage	CCC Amount (Rs. Cr.)
1	At the time of Signing of this Agreement	10 % of CCC (Rs. 4.092 Cr.)
2	After 25 % physical progress of the Project Package-1	20 % of CCC (Rs. 8.184 Cr.)
3	After 50 % physical progress of the Project Package-1	20% of CCC (Rs. 8.184 Cr.)
4	After 75 % physical progress of the Project Package-1	25% of CCC (Rs. 10.23 Cr.)
5	At the time of start of actual supply of Product Water to HPCL	25 % of CCC (Rs. 10.23 Cr.)
	Total	**Rs. 40.92 Cr.**

12 Security for Payment

(a) The Parties agree, accept and acknowledge that under the Executed Agreements, HPCL has paid GVMC, the Advance Consumption Charges of Rs. 22,46,22,801/- (Rupees Twenty-Two Crores, Forty-Six Lakhs, Twenty-Two Thousand And Eight Hundred and One only) to GVMC ("**ACC**"), the details of which are provided below:

Advance Consumption Charges: (Refundable)

S. No.	Source	Contracted Quantity		Rate per KL	For a minimum period of	Amount (Rs.)	Details
		LGPD	KL				
1	RWD	12	5455.32	60	183 days	5,98,99,413.60	-
2	MGR	18	8182.98	60	183 days	8,98,49,120.40	-
3	TPD	15	6819.15	60	183 days	7,48,74,267.00	-
	Total	45	20457.45			22,46,22,801.00	

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी)
Chief General Manager (I/C)
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम
Executive Director-VRM
हेच.पी.सी.एल.-विशाख रिफाइनरी
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Total ACC	*Rs. 21,56,14,260*	*Rs. 14,22,78, 840*
Amount paid to GVMC against ACC	*Rs. 22,46,22,801*	---
Balance	*(-) Rs. 90, 08,541*	*(+) Rs. 14,22,78, 840*
Total ACC to be paid to GVMC	***Rs.13,32,70,299***	

13 Payment Mechanism for Monthly Consumption Charges

(a) **For Product supplied by GVSCCL:**

i. The bill for the monthly consumption charges for the Product consumed will be raised by GVSCCL once in a month.

ii. GVSCCL will see that the bill reaches HPCL by the 10th day of every month. In any case if the bill is not received by the 10th day, HPCL has to inform the same to GVSCCL on the 11th day and obtain the duplicate bill.

iii. HPCL shall pay the bill amount within 15 (fifteen) days from the date of receipt of bill by online transfer into the Bank Account as specified by GVSCCL (or any other mode as may be directed by GVSCCL), failing which, the supply of the Product will be stopped.

(b) For Clear Water supplied by GVMC:

i. The bill for the monthly consumption charges for Clear Water supplied by GVMC will be raised once in a month.

ii. GVMC will see that the bill reaches HPCL by the 10th day of every month. In any case if the bill is not received by the 10th day, HPCL has to inform the same to GVMC on the 11th day and obtain the duplicate bill.

iii. HPCL has to pay the bill amount within 15 (fifteen) days from the date of receipt of bill by online transfer into the Bank Account as specified by GVMC or any other mode as may be directed by GVMC, failing which the supply of Clear Water will be stopped.

(c) HPCL shall be liable to pay the total demand amount for monthly consumption charges mentioned in each bill and any part payment will not be accepted by GVMC or GVSCCL.

(d) In case of failure on the part of GVSCCL to supply the Contracted Quantity of the Product to HPCL as mentioned in Clause 7 above, Clear Water in quantity equivalent to the quantity remaining unsupplied/ shortfall, shall be supplied by GVMC to HPCL. In such a case, GVMC shall raise its invoice for the quantity of Clear Water supplied and thereafter GVSCCL and GVMC shall issue joint instructions to HPCL for the release of the payment for the said Clear Water supplied to GVMC.

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

वी. रत्नराज
V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी)
Chief General Manager (I/C) HPCL
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम
Executive Director-VRM
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery

The details of these ACC payments by HPCL to GVMC are as given below:

Available Advance Consumption charges (Security Deposit) with GVMC					
1	-	-	-	Rs. 83,46,150	Cheque nos. VM-18935 dt. 12.07.1972, VM-45434 dt. 17.10.1979, VM- 4676 dt. 16.02.1984, VM-5096 dt. 09.03.1984, VM- 43079 dt. 23.08.1989, VM-46424 dt. 12.01.1990, dd. 082776 dt. 29.04.1997
2	-	-	-	Rs. 3,32,76,720	Cheque no. 069445, dt. 20.08.2007
3	-	-	-	Rs. 66,53,344	Cheque no. 073695, dt. 25.01.2008
4	-	-	-	Rs. 5,05,99,794	Rept key, 2013-CH-32942, 32944, 32945 Dt. 06.07.2013
5	-	-	-	Rs. 1,79,69,429	DD. 531357, SBI, dt. 03.03.2015 Rept key. 2014-CH-61384, dt. 09.03.2015
6	-	-	-	Rs. 7,78,27,657	DD. 017509, IDBI, dt. 24.03.2016 Rept key. 2015-CH-19551, dt. 24.03.2016
7	-	-	-	Rs. 2,99,49,707	DD. 579752, SBI, 11.10.2017 Rept key. 2017-CH-15245, dt. 20.11.2017
		Total Amount		Rs. 22,46,22,801	

Advance Consumption Charges shall be paid by HPCL to GVMC for the additional 30 LIGD (13.64 MLD) requirement of Product sought by HPCL which shall be calculated as follows: 13640 KL x 183 days x Supply Price for the Product. = Rs. 14.23 Crores. The ACC will be interest free deposit with GVMC.

(b) The ACC shall be deposited 15 days prior to the Effective Date.

(c) **Product:**

i. HPCL has to pay the difference in amount of 183 days' Advance Consumption charges (Security Deposit) to take into consideration the yearly escalation in Supply Price of the Product. This differential amount shall be payable upon every three years of the Effective Date.

(d) **Clear Water:**

i. HPCL has to pay the difference in amount of 183 days Advance Consumption charges (Security Deposit) whenever a revision in the Supply Price takes place, even though the renewal of this Agreement is not due by that time.

(e) **Payable ACC from HPCL to GVMC:**

The details of ACC payable by HPCL to GVMC for additional 30 LIGD (13.64 MLD) product after reconciliation of payment already made to GVMC towards ACC for the executed agreements

	Existing Refinery		*VRMP*
	Clear Water	*Product Water*	*Product Water*
Quantity	*8.8 LIGD (4 MLD)*	*36.2 LIGD (16.46 MLD)*	*30 LIGD (13.64 MLD)*
Price per KL	*60*	*57*	*57*
ACC for 183 days	*Rs. 4,39,20,000*	*Rs. 17,16,94,260*	*Rs. 14,22,78,840*

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam

वी. रत्नराज
V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी) - वि
Chief General Manager (I/C)
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम पी
Executive Director-VRMP
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery

14 Disconnection

(a) Product:

i. If the monthly consumption charges for the Product are not paid within the due date, Product supply to HPCL will be disconnected after giving a notice of 7 days and penalty of Rs. 10,000/- will be levied on HPCL for reconnection, after clearing the bill.

ii. Further, if the connection is disconnected, HPCL shall be charged an interest @ 18% from the due date to the date of actual payment over the outstanding due amount, in addition to the penalty of Rs. 10,000/- for reconnection.

(b) Clear Water:

i. If the monthly consumption charges for Clear Water are not paid within the due date, Clear Water supply to HPCL will be disconnected after giving a notice of 7 days and penalty of Rs. 10,000/- will be levied on HPCL for reconnection, after clearing the bill.

ii. Further, if the connection is disconnected, HPCL shall be charged an interest @ 18% from the due date to the date of actual payment over the outstanding due amount, in addition to the penalty of Rs. 10,000/- for reconnection.

15 Dispute Resolution, Governing Law and Jurisdiction

(a) In the case of any dispute pertaining to the bills raised by GVSCCL or GVMC, HPCL should bring it to the notice of the concerned Parties within 7 (seven) days from the receipt of the bill, otherwise no objections will be admitted after 7 (seven) days.

(b) Even if any bill raised by GVSCCL or GVMC is disputed, HPCL should pay the full amount of such disputed bill, pending settlement of the dispute through mutual understanding or arbitration and excess payment, if any, will be adjusted in subsequent bills.

(c) In case a dispute regarding a bill raised by GVSCCL or GVMC has to be resolved through arbitration, two arbitrators shall be appointed, one by GVSCCL or by GVMC (as the case maybe) and the other by HPCL, who shall jointly appoint a presiding arbitrator who shall lead the arbitral tribunal. The award passed by the arbitral tribunal shall be final and binding on the concerned Parties. This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at Visakhapatnam shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

वी. रतनराज
V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी)
Chief General Manager (I/C)
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा S. RAJA
कार्यकारी निदेशक-वी आर एम
Executive Director-VRM
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery

16 **Force Majeure**

"**Force Majeure**" shall mean any event or circumstance or combination thereof which prevents the Party claiming Force Majeure (the '**Affected Party**') from performing its obligations under this Agreement and which event or circumstance:

(i) is beyond the reasonable control and not arising out of the default of the Affected Party;

(ii) the Affected Party has been unable to overcome such circumstance or event by the exercise of due diligence and reasonable efforts, skill and care; and

(iii) has a material adverse effect on the subsistence of this Agreement.

Such events or circumstances shall include, without limitation, the effect of any natural element or other acts of State or God, including but not limited to, fire, flood, earthquake, lightning, cyclone, landslides or other natural disasters, strikes or other industrial disturbances, war, riots, civil commotion, terrorist attacks, embargoes, blockades, governmental restriction, intervention of civil, naval or military authorities or any change in laws applicable to any Party hereto or to the Project.

(a) A Party shall not be liable to the other Party for any loss, injury, delay, damages or other casualty suffered or incurred by the latter due to Force Majeure, and any failure or delay by any Party in performance of its obligations under this Agreement due to Force Majeure shall not be considered as a breach of this Agreement.

(b) The Party suffering Force Majeure shall notify the other Parties in writing promptly after the occurrence of such Force Majeure event. Such Party shall, to the extent reasonable and lawful, use its best efforts to remove or remedy such cause. Upon the occurrence of a Force Majeure event, the Party claiming Force Majeure shall use all reasonable endeavours to continue to perform its obligations under this Agreement and to minimize the adverse effects of such circumstances. Such a Party shall notify the other Parties of the steps it proposes to take including any reasonable alternative means for performance. In the event any obligation cannot be performed due to continuance of a Force Majeure event for a period of 7 days or more, the Parties agree that the time period for the performance of such obligation shall stand extended for an equivalent period after such time as the Force Majeure event ceases to exist.

(c) If, as a result of a Force Majeure event, the Project has been rendered unviable or un-bankable or the Force Majeure event is not likely to be cured within a reasonable foreseeable period, the Parties may decide to terminate this Agreement in respect of such Project in which case the Parties shall be entitled to receive payments accrued and due to them, before the occurrence of the Force Majeure event.

17 **Validity, Effectiveness and Operation of this Agreement**

This Agreement:

a) commences and becomes effective on the date it is signed by the last party to do so and shall be valid, effective and binding on the Parties for a period of 5 (five) years from the date of its execution ("**Validity Period**"),

b) will remain in place until such time as one or all Parties determine otherwise,

c) shall be executed in English in three originals, one for each Party, and

d) can be amended at any time by a written agreement between the Parties or may be mutually extended by the Parties in writing.

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

एस. राजा / S. RAJA
वी. रतनराकार्यकारी निर्देशक-वी आर एम
V. RATANRAJ Executive Director-VRM
मुख्य महाप्रबन्धक (प्रभारी) / Chief General Manager (I/C) - VR
एच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

Further, the Parties agree that:

a) GVSCCL and GVMC will take all measures to ensure smooth and regular supply of Product and Clear Water respectively to HPCL but GVSCCL and GVMC shall not be responsible for loss of property or life or what so ever it may be due to shortage in supply due to accidental or unforeseen circumstances or matters beyond the control of GVSCCL and GVMC.

b) GVSCCL and GVMC will inform in advance to HPCL about the stoppage of Product and Clear Water respectively for maintenance of various water supply installations.

c) HPCL shall not resort for direct pumping from the GVSCCL and GVMC mains unless otherwise it is permitted by GVSCCL or GVMC as the case may be.

HPCL should approach GVSCCL and GVMC at least one month in advance before the expiry date, for renewal of this Agreement.

Similarly, in respect of each of the Executed Agreements, GVMC and HPCL shall:

(a) at least one month prior to the respective expiry dates mentioned in the said Executed Agreements, enter into discussions for extending the validity of the relevant Executed Agreement(s), on mutually agreed terms and conditions, during the validity of this agreement; OR

(b) in the event of enhancement of Bulk Water Supply Charges under one or all of the Executed Agreements, enter into discussions at the earliest for extending the validity of the relevant Executed Agreement(s), on mutually agreed terms and conditions, during the validity of this agreement

18. Termination

(a) Any Party may terminate this Agreement prior to expiry of its Validity Period, by a 3 months' written notice to the other Parties.

(b) This Agreement is terminable upon the occurrence of a Material Breach which has a Material Adverse Effect. This Agreement will also terminate automatically upon the bankruptcy of any Party hereto.

For the purpose of this clause:

"**Material Breach**" means a breach of the obligations, terms and conditions of this Agreement or covenants by a Party, which materially and substantially affects the performance of the transactions contemplated by this Agreement and results in a Material Adverse Effect.

"**Material Adverse Effect**" means circumstances which may or do **(i)** render any right vested in a Party by the terms of this Agreement ineffective; or **(ii)** adversely affect or restrict or frustrate the ability of any Party to observe and perform in a timely manner its obligations under this Agreement; or **(iii)** adversely affects the legality, validity, binding nature or enforceability of this Agreement.

(c) The termination of this Agreement shall not affect the rights of the Parties accrued prior to such termination.

The Parties confirm that they have carefully gone through the contents of this Agreement and agree to abide by the terms and conditions as laid down herein.

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam

वी. रत्नराज / S. RAJA
V. RATANRAJ कार्यकारी निदेशक-वी ओर ए
मुख्य महाप्रबन्धक (प्रभारी) Executive Director-VR
Chief General Manager (हेच.पी.सी.एल.-विशाख रिफाइ
हेच.पी.सी.एल - विशाख रिफाइ HPCL - Visakh Refiner
HPCL - Visakh Refinery

Signed for and on behalf of **GVSCCL** by:	Signed for and on behalf of **GVMC** by:	Signed for and on behalf of **HPCL** by:	
DIRECTOR GVSCCL Name: Designation: Date of signing:	COMMISSIONER Greater Visakhapatnam Municipal Corporation Name: Designation: Date of signing:	वी. रतनराज V. RATANRAJ मुख्य महाप्रबन्धक (प्रभारी) - वि Chief General Manager (I/C) हेच.पी.सी.एल - विशाख रिफाइनरी HPCL - Visakh Refinery Name: Designation: Date of signing:	एस. राजा / S. RAJA कार्यकारी निर्देशक-वी आर एम पी Executive Director-VRMP हेच.पी.सी.एल.-विशाख रिफाइनरी HPCL - Visakh Refinery Name: Designation: Date of signing:

Witness:

GVSCCL

1.

2.

GVMC

HPCL

N Ramachandran HPCL VR

P.V. VARA PRASAD HPCL VR

Annexure - I

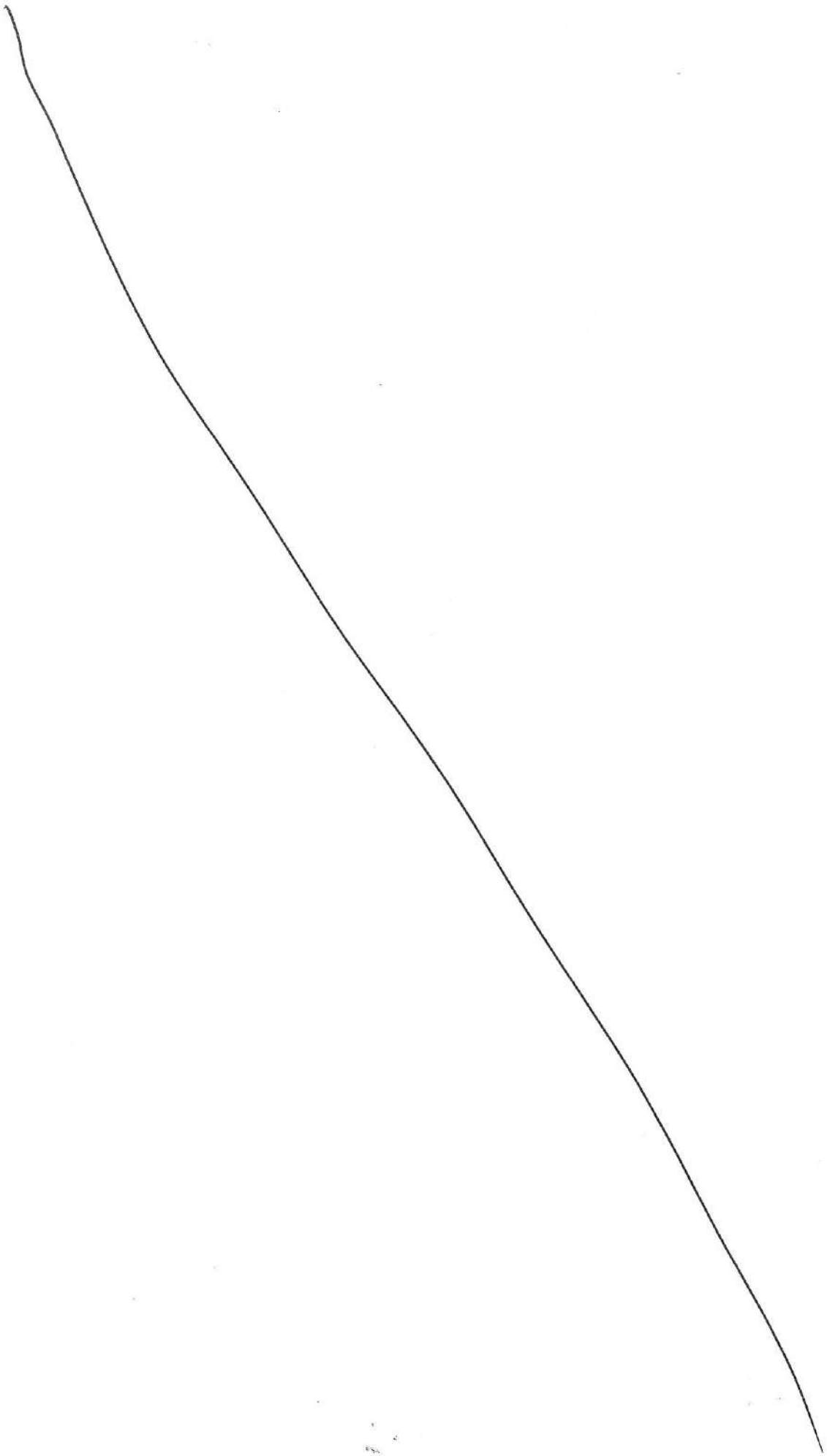
[Attached all the 3 Executed Agreements here]

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

वी. रतनराज
V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी) - वि
Chief General Manager (I/C)-VI
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम्पी
Executive Director-VRMP
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery



Annexure-II

Product (Recycled Water) Quality and Specifications

Sl. No.	Parameter	Unit	Specification
1	Ph		7.5 - 8.5
2	M-Alkalinity	PPM	60 max
3	Chlorides as Cl	PPM	60 max
4	Ca Hardness	PPM	60 max
5	Mg Hardness	PPM	40 max
6	Sulphates	PPM	17 max
7	Total Hardness	PPM	100 max
8	TDS	PPM	225 max
9	Organic Matter	PPM	3 max
10	TSS	PPM	2 max
11	Turbidity	NTU	1 max
12	Total Iron	PPM	0.02 max
13	Total Copper	PPM	0.02 max
14	Sodium as Na	PPM	Na+K =178.6 max
15	Potassium as K		
16	Total Organic Carbon	PPM	1 max
17	Manganese	PPM	0.1 max
18	KMnO4 value at 100 deg C	PPM	5 max
19	Nitrates as NO3-N	PPM	0.9 max
20	COD	PPM	10 max
21	BOD	PPM	2.5 max
22	Reactive Silica as SiO2	PPM	15 max
23	Colloidal Silica as SiO2	PPM	20 max
24	Organophosphates as PO4	PPM	0.1 max
25	Inorganophosphates as PO4	PPM	0.3 max

DIRECTOR
GVSCCL

COMMISSIONER
Greater Visakhapatnam
Municipal Corporation

वी. रतनराज
V. RATANRAJ
मुख्य महाप्रबन्धक (प्रभारी) - रि
Chief General Manager (I/C)
हेच.पी.सी.एल - विशाख रिफाइनरी
HPCL - Visakh Refinery

एस. राजा / S. RAJA
कार्यकारी निर्देशक-वी आर एम पी
Executive Director-VRMP
हेच.पी.सी.एल.-विशाख रिफाइनरी
HPCL - Visakh Refinery

HPCL-VISAKH REFINERY (PS&E DIVISION)

Overall Refinery Sulphur Balance:Oct 2024

						Oct-24	31	Days
	Crude run (TMT)	Sulphur content (wt%)	Sulphur in (MT)		Production (TMT)	Sulphur Standard (wt%)	Sulphur Actual (wt%)	Sulphur out (MT)
CRUDE				**PRODUCTS**				
Low Sulphur :								
MH	86.2	0.15	130.16	**Propylene**	1.5	0.005	0.004	0.06
KGB	61.0	0.05	30.50	**LPG**	37.5	0.02	0.01	3.63
Novy Port	51.7	0.12	59.46	**Naphtha**	16.4	0.28	0.01	1.67
Agbami	112.5	0.05	58.50	**MS EVI**	175.1	0.001	0.001	1.10
Pazflor	111.7	0.49	549.56	**ATF**	14.6	0.30	0.18	26.27
				HSD (1 Wt% S)	7.3			
				HPCK (LS SKO)	1.6	0.10	0.0001	0.00
High Sulphur :				**SKO**	5.5			
Sib Lt	150.1	0.57	858.57	**BS-6 HSD**	609.3	0.001	0.001	3.96
ESPO	4.6	0.63	29.2	**HFHSD**	4.6	0.20	0.12	5.49
Arab Ex Lt	136.4	1.09	1486.8	**LDO**	17.5	-	0.32	55.84
Murban	15.2	0.74	112.5	**JBO**	1.9	-	2.50	48.14
Basrah Medium	140.5	3.27	4597.2	**MTO**	0.9	0.11	0.03	0.26
URAL	229.1	1.67	3820.2	**FO**	187.7	4.00	1.91	3589.76
DAS BLEND	85.6	1.21	1034.0	**VLS FO**	2.6	0.50	0.36	9.51
				LSFO	2.5	-	0.75	18.75
				LSHS	10.4	-	0.60	62.40
				BIT 80/100 & 60/70	36.4	-	6.85	2493.40
				Sulphur	6.5		100.00	6500.00
				ISD	-40.4	-	0.42	-169.66
				VGO	0.00	-	1.01	
				Fuel	78.90	-	0.14	112.83
				Loss	6.41	-	0.05	3.20
TOTAL	**1184.6**		**12766.61**	**TOTAL**	**1184.6**			**12766.62**

SUMMARY

Sulphur in:	**12766.61**	MT
Sulphur out:	**12766.62**	MT
Unaccounted sulphur quantity	**-0.02**	MT

This unaccounted quantity plus the sulphur present in "Fuel" will be released in the form of SO2=	**7.5**	**MT Per day**

ANNEXURE-4

HPCL-VISAKH REFINERY (PS&E DIVISION)

Overall Refinery Sulphur Balance:Nov 2024

						Nov-24	30	Days
	Crude run (TMT)	Sulphur content (wt%)	Sulphur in (MT)		Production (TMT)	Sulphur Standard (wt%)	Sulphur Actual (wt%)	Sulphur out (MT)
CRUDE				**PRODUCTS**				
Low Sulphur :								
MH	86.2	0.15	130.16	**Propylene**	1.5	0.005	0.004	0.06
KGB	61.0	0.05	30.50	**LPG**	37.5	0.02	0.01	3.63
Novy Port	51.7	0.12	59.46	**Naphtha**	16.4	0.28	0.01	1.67
Agbami	112.5	0.05	58.50	**MS EVI**	175.1	0.001	0.001	1.10
Pazflor	111.7	0.49	549.56	**ATF**	14.6	0.30	0.18	26.27
				HSD (1 Wt% S)	7.3			
				HPCK (LS SKO)	1.6	0.10	0.0001	0.00
High Sulphur :				**SKO**	5.5			
Sib Lt	150.1	0.57	858.57	**BS-6 HSD**	609.3	0.001	0.001	3.96
ESPO	4.6	0.63	29.2	**HFHSD**	4.6	0.20	0.12	5.49
Arab Ex Lt	136.4	1.09	1486.8	**LDO**	17.5	-	0.32	55.84
Murban	15.2	0.74	112.5	**JBO**	1.9	-	2.50	48.14
Basrah Medium	140.5	3.27	4597.2	**MTO**	0.9	0.11	0.03	0.26
URAL	229.1	1.67	3820.2	**FO**	187.7	4.00	1.91	3589.76
DAS BLEND	85.6	1.21	1034.0	**VLS FO**	2.6	0.50	0.36	9.51
				LSFO	2.5	-	0.75	18.75
				LSHS	10.4	-	0.60	62.40
				BIT 80/100 & 60/70	36.4	-	6.85	2493.40
				Sulphur	6.5		100.00	6500.00
				ISD	-40.4	-	0.42	-169.66
				VGO	0.00	-	1.01	
				Fuel	78.90	-	0.14	112.83
				Loss	6.41	-	0.05	3.20
TOTAL	**1184.6**		**12766.61**	**TOTAL**	**1184.6**			**12766.62**

SUMMARY

Sulphur in: **12766.61** MT

Sulphur out: **12766.62** MT

Unaccounted sulphur quantity **-0.02** MT

This unaccounted quantity plus the sulphur present in "Fuel" will be released in the form of SO2=	**7.5**	**MT Per day**

HPCL-VISAKH REFINERY (PS&E DIVISION)

Overall Refinery Sulphur Balance:Dec 2024

						Dec-24	31	Days
	Crude run (TMT)	Sulphur content (wt%)	Sulphur in (MT)		Production (TMT)	Sulphur Standard (wt%)	Sulphur Actual (wt%)	Sulphur out (MT)
CRUDE				**PRODUCTS**				
Low Sulphur :								
KG DWN	116.2	0.10	112.70	**Propylene**	4.0	0.005	0.004	0.15
Novy Port	253.7	0.11	281.58	**LPG**	51.2	0.02	0.01	5.07
Jubilee	17.9	0.27	47.38	**Naphtha**	27.8	0.28	0.02	6.28
Quaiboe	172.3	0.13	229.11	**MS EVI**	227.5	0.001	0.001	1.84
Pazflor	42.4	0.11	47.12	**ATF**	10.2	0.30	0.29	29.63
				HSD (1 Wt% S)	47.1			
				HPCK (LS SKO)	0.0	0.10	0.0002	0.00
High Sulphur :				**SKO**	6.1			
Arab Ex Lt	112.8	1.08	1216.76	**BS-6 HSD**	654.2	0.001	0.001	4.25
Basrah Heavy	26.8	4.00	1071.0	**HFHSD**	0.1	0.20	0.04	0.04
Basrah Medium	196.8	2.85	5608.9	**LDO**	11.4	-	0.71	81.26
URAL	416.9	1.73	7212.6	**JBO**	0.0	-	2.50	0.00
Das	1.6	1.21	19.2	**MTO**	2.1	0.11	0.03	0.59
				FO	166.6	4.00	2.95	4913.82
				VLS FO	8.3	0.50	0.36	29.64
				LSFO	9.4	-	0.75	70.50
				LSHS	4.7	-	0.64	30.10
				BIT 80/100 & 60/70	62.9	-	6.95	4374.07
				Sulphur	6.3		100.00	6331.55
				ISD	-40.4	-	0.41	-165.62
				VGO	0.00	-	1.01	
				Fuel	90.66	-	0.14	129.65
				Loss	7.03	-	0.05	3.52
TOTAL	**1357.3**		**15846.34**	**TOTAL**	**1357.3**			**15846.34**

SUMMARY

Sulphur in: **15846.34** MT

Sulphur out: **15846.34** MT

Unaccounted sulphur quantity **0.00** MT

This unaccounted quantity plus the sulphur present in "Fuel" will be released in the form of SO2=	**8.6**	**MT Per day**

HPCL-VISAKH REFINERY (PS&E DIVISION)

Overall Refinery Sulphur Balance:Jan 2025

						Jan-25	31	Days
	Crude run (TMT)	Sulphur content (wt%)	Sulphur in (MT)		Production (TMT)	Sulphur Standard (wt%)	Sulphur Actual (wt%)	Sulphur out (MT)
CRUDE				**PRODUCTS**				
Low Sulphur :								
KG DWN	173.7	0.05	86.85	**Propylene**	2.7	0.005	0.004	0.10
Novy Port	141.6	0.11	155.76	**LPG**	49.0	0.02	0.01	5.25
MH	0.2	0.15	0.30	**Naphtha**	54.8	0.28	0.03	14.42
Quaiboe	111.9	0.41	456.55	**MS EVI**	200.0	0.001	0.001	1.50
Pazflor	100.2	0.11	111.22	**ATF**	17.8	0.30	0.16	29.06
				HSD (1 Wt% S)	54.7			
				HPCK (LS SKO)	4.7	0.10	0.0002	0.01
High Sulphur :				**SKO**	0.0			
Arab Ex Lt	162.8	1.19	1933.51	**BS-6 HSD**	676.6	0.001	0.001	3.52
Basrah Heavy	49.9	3.35	1671.3	**HFHSD**	1.8	0.20	0.03	0.55
Basrah Medium	252.4	2.67	6740.0	**LDO**	12.7	-	0.80	102.04
URAL	308.4	1.77	5459.3	**JBO**	1.9	-	1.50	28.92
Das	122.0	1.20	1463.2	**MTO**	2.3	0.11	0.03	0.66
				FO	164.8	4.00	2.95	4861.35
				VLS FO	3.9	0.50	0.36	13.70
				LSFO	7.5	-	0.75	56.25
				LSHS	6.5	-	0.77	50.63
				BIT 80/100 & 60/70	73.7	-	6.76	4988.15
				Sulphur	7.9		100.00	7852.06
				ISD	-17.8	-	0.41	-73.00
				VGO	0.00	-	1.01	
				Fuel	97.44	-	0.14	139.33
				Loss	6.85	-	0.05	3.42
TOTAL	**1423.1**		**18077.94**	**TOTAL**	**1430.0**			**18077.94**

SUMMARY

Sulphur in: **18077.94** MT

Sulphur out: **18077.94** MT

Unaccounted sulphur quantity **0.00** MT

This unaccounted quantity plus the sulphur present in "Fuel" will be released in the form of SO2=	**8.1**	**MT Per day**

HPCL-VISAKH REFINERY (PS&E DIVISION)

Overall Refinery Sulphur Balance:Feb 2025

						Feb-25	28	Days
	Crude run (TMT)	Sulphur content (wt%)	Sulphur in (MT)		Production (TMT)	Sulphur Standard (wt%)	Sulphur Actual (wt%)	Sulphur out (MT)
CRUDE				**PRODUCTS**				
Low Sulphur :								
KG DWN	31.8	0.06	18.45	**Propylene**	3.9	0.005	0.004	0.15
Novy Port	300.4	0.11	343.96	**LPG**	43.5	0.02	0.01	4.26
MH	0.0	0.15	0.00	**Naphtha**	14.0	0.28	0.02	3.16
Ravva	54.2	0.00	0.00	**MS EVI**	214.7	0.001	0.001	1.27
Etame	61.2	0.08	48.95	**ATF**	18.4	0.30	0.18	33.45
Rabi Blend	123.6	0.08	98.89					
				HSD (1 Wt% S)	33.3			
				HPCK (LS SKO)	6.2	0.10	0.0002	0.01
High Sulphur :				**SKO**	0.0			
ESPO	99.4	0.64	634.34	**BS-6 HSD**	601.9	0.001	0.001	3.31
Arab Ex Lt	34.3	1.19	407.3	**HFHSD**	1.1	0.20	0.07	0.80
Murban	217.2	0.75	1629.4	**LDO**	13.5	-	0.80	108.08
Basrah Heavy	73.8	3.35	2471.2	**JBO**	1.9	-	1.50	27.85
Basrah Medium	162.3	2.67	4334.6	**MTO**	1.1	0.11	0.03	0.32
URAL	139.3	1.77	2465.4	**FO**	154.5	4.00	2.03	3137.24
Das	10.7	1.20	128.7	**VLS FO**	10.6	0.50	0.36	37.73
				LSFO	7.5	-	0.75	56.25
				LSHS	1.7	-	0.64	10.73
				BIT 80/100 & 60/70	65.9	-	5.35	3528.58
				Sulphur	5.4		100.00	5424.58
				ISD	17.6	-	0.41	72.13
				VGO	0.00	-	1.01	
				Fuel	89.40	-	0.14	127.84
				Loss	6.85	-	0.05	3.42
TOTAL	**1308.3**		**12581.15**	**TOTAL**	**1313.2**			**12581.15**

SUMMARY

Sulphur in: **12581.15** MT

Sulphur out: **12581.15** MT

Unaccounted sulphur quantity **0.00** MT

This unaccounted quantity plus the sulphur present in "Fuel" will be released in the form of SO2=	**8.3**	**MT Per day**

HPCL-VISAKH REFINERY (PS&E DIVISION)

Overall Refinery Sulphur Balance:Mar 2025

						Mar-25	31	Days
	Crude run (TMT)	Sulphur content (wt%)	Sulphur in (MT)		Production (TMT)	Sulphur Standard (wt%)	Sulphur Actual (wt%)	Sulphur out (MT)
CRUDE				**PRODUCTS**				
Low Sulphur :								
KG DWN	160.3	0.05	81.74	**Propylene**	4.7	0.005	0.004	0.17
Novy Port	3.8	0.11	4.37	**LPG**	46.0	0.02	0.01	4.41
Etame	23.4	0.08	18.74	**Naphtha**	24.8	0.28	0.03	6.63
Quaiboe	223.2	0.12	256.67	**MS EVI**	218.8	0.001	0.001	1.53
Rabi Blend	5.7	0.08	4.53	**ATF**	20.1	0.30	0.19	38.08
Clov	133.1	0.26						
Djeno	128.7	0.40		**HSD (1 Wt% S)**	34.5			
Amenam Blend	30.7	0.09		**HPCK (LS SKO)**	3.5	0.10	0.0001	0.00
High Sulphur :				**SKO**	0.0			
Arab Ex Lt	5.6	1.19	66.77	**BS-6 HSD**	666.7	0.001	0.001	4.47
Basrah Heavy	59.1	4.03	2376.9	**HFHSD**	2.2	0.20	0.09	2.00
Basrah Medium	306.6	3.21	9825.1	**LDO**	21.1	-	1.06	223.52
URAL	86.4	1.77	1529.0	**JBO**	0.0	-	1.50	0.00
CPC Blend	128.3	0.57	736.5	**MTO**	1.8	0.11	0.02	0.37
Murban	103.3	0.78		**FO**	133.5	4.00	1.93	2576.09
				VLS FO	24.3	0.50	0.45	110.31
				LSFO	12.9	-	0.45	57.48
				LSHS	2.1	-	0.48	9.82
				BIT 80/100 & 60/70	94.0	-	5.51	5176.14
				Sulphur	6.6		100.00	6614.97
				ISD	-16.7	-	0.41	-68.32
				VGO	0.00	-	1.01	
				Fuel	97.25	-	0.14	139.06
				Loss	6.96	-	0.05	3.48
TOTAL	**1398.2**		**14900.22**	**TOTAL**	**1405.1**			**14900.22**

SUMMARY

Sulphur in:	**14900.22**	MT
Sulphur out:	**14900.22**	MT
Unaccounted sulphur quantity	**0.00**	MT

This unaccounted quantity plus the sulphur present in "Fuel" will be released in the form of SO2=	**8.1**	**MT Per day**