OF

ENVIRONMENT CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: J-11011/135/2013-IA II (I), Dtd: 12th May, 2015

FOR

EXPANSION OF REFINERY CAPACITY FROM 7.5 MMTPA TO 7.8 MMTPA OF M/S. BHARAT OMAN REFINERIES LIMITED (BPCL-BINA REFINERY) AT BINA, MP CONSIDERING AN INCREASE IN ANNUAL OPERATING DAYS FROM 333 DAYS TO 345 DAYS AND MAINTAINING THE SAME DAILY PROCESSING RATE- AMENDMENT

S. No	EC Conditions	Compliance Status
2.	The Proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 32 nd meeting held during 20 th -21 st January, 2015. EIA report preparation/public hearing is exempted as per para 7(ii) of EIA Notification, 2006. The committee recommended the proposal for amendment in environmental clearance.	Noted.
3.	The ministry accepts the recommendation of the expert appraisal committee (industry) for amendment in the existing clearance subject to compliance of specific conditions and general conditions.	Noted.
4.	All other conditions will remain unchanged	We have noted the condition.
5.	You are requested to keep this letter with the Environmental Clearance accorded vide letter No. J-11011/135/2013-IA II (I) dated 28 th November, 2014.	We have noted the condition.
6.	In future, in case of change in the scope of the project, the company shall obtain fresh environmental clearance	We have noted the condition.
7.	This issues with the prior approval of the competent authority	Noted.

OF

ENVIRONMENT CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: J-11011/135/2013-IA II (I), Dtd: 28th November, 2014

FOR

EXPANSION OF REFINERY (FROM 6 MMTPA TO 7.5 MMTPA CRUDE PROCESSING) BY DEBOTTLENECKING OF M/S. BHARAT OMAN REFINERIES LIMITED(BPCL-BINA REFINERY) AT VILLAGE AGASOD, TEHSIL BINA, DISTRICT SAGAR, MADHYA PRADESH.

S. No.	EC Conditions	Compliance Status
Α	Specific Conditions	
i.	Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J-11011/121/1994-IA II (I) dated 16 th February 1995 and 20 th march, 2009 shall be satisfactorily reports submitted to the Ministry of Regional office at Bhopal.	Complying with. Six monthly monitoring reports are regularly submitted to the RO-MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance. Receipts of the same for the 3 consecutive submissions are attached as Annexure-1
ii	M/s BPCL-BINA REFINERY shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R 186 (E) dated 18 th March, 2008	 Environment Management Plan is designed in compliance to Norms as per G.S.R 186 (E) dated 18thMarch, 2008. The Category wise compliance of Environmental Parameters/ standards are given below: a. It is to mention that the Bina Refinery is maintaining Zero Liquid Discharge, thus complying Effluent standards prescribed in Schedule-I of 2 of said rules in respect of effluent discharge to surface water bodies. b. Mixed fuels (gas & liquid) are presently being used for operations at Bina Refinery, the applicable emission standards are being complied as prescribed in Part B of schedule-I of the said rules. The plant is designed and operated with Hydrogen cracking technology. Emissions are in compliance w.r.t. Sulphur recovery unit. Monthly manual monitoring is conducted for SO₂ and online Continuous Emission Monitoring System is connected to stack. The monitored data of SO₂ emissions are regularly being submitted to MPPCB and a summary statement of SO₂ emissions is submitted MoEF&CC in six monthly compliance report. The assessment of efficiency of sulphur recovery is on the basis of quantity of the feed and sulphur recovered which is the data collected from the SRU process unit. c. All installations to control fugitive emissions in respect of storage of general petroleum products are in place, with applicable engineering & regulatory standards like ASTM, OISD etc. d. Presently, no Tar distillation is in process, thus no production of benzene & benzene-based products. e. All leak detection measures as per the engineering design for refineries are implemented. f. Waste water collection and treatment. g. There is no aromatic plant installed. Monitoring reports of Effluent and Emissions are enclosed as Annexure-2
iii	Continuous on-line stack monitoring for SO ₂ , NOx, HC and CO of all the stacks shall be carried out. Low NOx burners shall be	Continuous on-line stack monitoring for SO2, NOx, PM and CO is being installed and connected to CPCB & MPPCB. Photographs of the same are attached as Annexure-3 Low NO _x burners installed in all new heater / furnaces to minimize the NOx emissions.

S. No.	EC Conditions	Complian	Compliance Status		
	installed in heaters/furnaces/boiler to	Photogra	phs of the same	are attached as Annexure-4	
	minimize NOx emissions.				
	The process emissions [SO ₂ , NOx, HC	As given i	n condition no. i	all emissions are in compliance	with G.S.R 186(E) standards.
	(methane & Non-methane)], VOC 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				
iv	failure of pollution control system(s)				
	adopted by the unit, the unit shall be				
	immediately put out of operation and				
	shall not be restarted unit the desired				
	efficiency of the pollution of the				
	pollution control device has been achieved.				
	acriieved.				
	Leaks detection and repair programme	As given i	n condition no. ii	all emissions are in compliance	with G.S.R 186(E) standards.
	shall be prepared and implemented to			·	• •
	control HC/VOC emissions. Focus shall be	Leak Dete	ection and Repair	(LDAR) program is implemented	I since 2011 for monitoring of fugitive emissions in
	given to prevent fugitive emissions for	refinery 8	kdispatch termin	al and the reports are submitted	I along with Six monthly monitoring reports to the
	which preventive maintenance of	RO-MoEF	&CC, Bhopal an	d other authorities along with	Six Monthly Compliance Report of Environment
	pumps, valves, pipelines are required.	Clearance	2.		
	Proper maintenance of mechanical seals				fied leaks from March'24 to July'24 is given below:
V	of pumps and valves shall be given. A	S. No.	Total points	Equipment's checked	
	preventive maintenance schedule for		checked		-
	each unit shall be prepared and adhered	1	11768	Pump, compressors, valves,	
	to. Fugitive emission of HC from product			flanges, exchangers, PSV,	
	storage tank yards etc. must be regularly	No local of		PRV etc.]
	monitored sensors for detecting HC		•	e GSR 186(E) dtd. 18.03.24	
	leakage shall be provide at strategic	HC detect	tors installed at s	trategic locations as per requirer	ment.
	location.				

S. No.	EC Conditions	Compliance S	Compliance Status		
vi	SO ₂ emission after expansion from the plant shall not exceed 29.25 TPD. Sulphur recovery efficiency of sulphur recovery unit with tail gas treating shall not be less than 99.9%.	The sulphur processing. Su which is forme Combustion C	present in crude oil gets evolus algebrates in crude oil gets evolus lighter than the content of	vers the Sulphur from Hydroge ing units. H2S rich gas is the fee tage Clause reaction to conve	2S gas during various stages of n Sulphide (H2S) rich gas streamed to SRU & is treated in the Main ert H2S into elemental Sulphur. (TGTU) in presence of catalyst.
		2023-24	1743.8	4.77	_
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, by-product (elemental sulphur), atmospheric emissions etc.	•		in Environment Management for FY 23-24 has been given con	Cell based on the process feed, dition no. vi above.
viii	Ambient air quality monitoring stations, [PM ₁₀ , PM _{2.5} , NOx, H ₂ S, mercaptan, nonmethane-HC and Benzene] shall be set up in the complex in consultation with Maharashtra Pollution Control Board, based on occurrence of maximum ground level concentration and downwind direction of wind. The monitoring network must be decided based on modelling exercise to represent short term GLCs.	premises and monitoring.		eing deputed outside the proje	PPCB namely 4 inside the plant ect area with regular & random

S. No.	EC Conditions	Compliance Status
ix	Ambient air quality data shall be collected as per NAAQMS standard notified by the ministry on 16 th November, 2009 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 air quality in the project area.	Regular monitoring is being conducted; Ambient Air quality is within prescribed limits within and outside the plant premises. Six Months Ambient Air Quality reports are enclosed as Annexure-6
х	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 mitigate the noise pollution. Besides, acoustic enclosure /silencer shall be installed wherever noise levels exceed the limit.	Complied with. Adequate stack height provided to the proposed DG sets as part of refinery expansion. Acoustic enclosures / silencers incorporated as part of the design of the DG sets.
хi	Total raw water requirement from Betwa river shall not exceed 6.26 MGD. Industrial effluent shall be treated in the effluent treatment plant. Treated effluent shall be recycled/reused as make up for the raw water to cooling tower. Domestic sewage shall be treated in sewage treatment plant (STP). As proposed, no effluent shall be discharged outside the plant premises and zero discharge concepts shall be followed.	Complied with. Last six-month average raw water consumption is 6.13 MGD. The effluent generated from the proposed expansion is treated within the existing Effluent Treatment Plant. Domestic sewage generated is treated along with the process effluent in Sequential Batch reactor. The entire treated water is reused for production of DM water in RO_DM plant and for horticulture purpose. Hence, Zero Discharge Condition followed.

S. No.	EC Conditions	Compliand	e Status			
	Oil catchers/oil traps shall be provided at	Complied with.				
	all possible locations in rain/ storm water	Three numbers of oil catchers are already in place on storm water drainage system inside the factory				
	drainage system inside the factory	premises.	premises.			
xii	premises.	S. No.	Oil Catcher		Location	
		1	Oil Catcher-1	ETP, to handle	the storm water flowing from the process plants	
		2	Oil Catcher-2	ETP, to cater th	e storm water from Crude Receipt Terminal	
		3	Oil Catcher-3	Near Flare stac	k, to cater the storm water near flare stack	
	As proposed, BPCL-BINA REFINERY shall	Complied	with.	•		
viii	be developed rain water harvesting pond	Rainwater	harvesting measi	ures have been i	mplemented in refinery township.	
xiii	in an area of 6 acres.	Rainwater	harvesting pond	in 12 acres with	10 recharge wells having a capacity of 173156	6 m3 and recharge
		capacity of	f 25973 m3 is con	structed in refin	ery premises.	
	As proposed, oily sludge shall be	Complied				
	disposed-off through bio-remediation.	•			Effluent Treatment Plant, is reprocessed in De	elayed Coker Unit
	Annual oily sludge generation and	(DCU). Details of generation and reprocessing from March 24 to July 24 is given below:				
	disposal data shall be submitted to					
	Ministry's Regional Office and CPCB	S. No.	Month	Quantity, MT		
xiv		1	Mar-24	19		
		2	April-24	24		
		3	May-24	14.3		
		4	June'24	14.3		
		5	July'24	13.8		
		There is als	so a provision in e	existing ETP to re	process the Oily sludge in Bioremediation Unit	
		Annual oil	y sludge generation	on and disposal o	data is submitted in the form of Form-4 to boar	d.
	The company should strictly comply with	No hazard	ous chemical, wh	ich satisfies the	criteria laid down in Part I of schedule 1 or list	ed in column 2 of
	the rules and guidelines under	Part II is be	eing imported.			
	Manufacture, storage and import of					
	Hazardous chemicals rules, 1989 as		•	•	d as per the Hazardous and Other Wastes (N	•
xv	amended in October, 1994 and			Rules, 2016. Ha	zardous Waste authorisation is also obtained fi	rom MPPCB, valid
	January,2000 hazardous waste should be	till 30.06.2				
	disposed of as per Hazardous waste	The Hazard	dous Waste Auth	orisation is attac	hed as Annexure-7	
	(management, Handling and trans-					
	boundary movement) rules, 2008 and					
	amended time to time.					

S. No.	EC Conditions	Compliance Status
xvi	The membership of common TSDF shall be obtained for the disposal of hazardous waste. Copy authorization or membership of TSDF shall 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 authorized recyclers/re-processors.	Complied with. BPCL-Bina Refinery has already taken TSDF membership with M/s. Pithampur Industrial Waste Management Private Limited, Dhar, MP. The details of spent catalyst handled in FY 23-24 is also submitted in Form-IV, as attached in condition xiv and attached as Annexure-8
xvii	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum product and ensure regular monitoring.	Complied with. Emergency Response and Disaster Management Plan has been prepared. ERDMP is attached as per Annexure-9 Necessary features incorporated in expansion refinery to prevent and collect oil spills etc.
xviii	The company shall strictly follow all the recommendation mentioned in the charter on corporate responsibility for Environment protection.	Complied with. The compliance status of CREP recommendations date 01.06.2013 is attached as Annexure-10
xix	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 as per the CPCB guidelines.	Complied with. For refinery expansion, separation distance between various facilities in the refinery has been kept in accordance with applicable OISD standards (OISD-STD-118).
xx	Green belt shall be developed at least in 255 ha area in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines.	Complied. Green belt development is a continuous activity in and around boundaries of refinery. Green belt of 200m width along the boundary of refinery is developed with local species like Neem, Sheesham, Kadamba, Arabic gum, scholar tree, Indian rosewood, red forest gum etc. A total of 5 Lakh + saplings are planted so far inside refinery and outside premises in phase wise manner. 290 Ha of green belt is already developed and additionally 90 ha of green belt is developed in Forest land in collaboration of MP Forest Department. Total 380 Ha of green belt area as against 1015 Ha (37.43% of total area of 1015 Ha).

S. No.	EC Conditions	Compliance Status
xxi	All the commitment made regarding issues raised during the public hearing/consultation meeting held on 19th February, 2014 shall be satisfactorily implemented.	Complied. Public hearing was conducted on 19.02.2014. All the issues have been addressed adequately and to the satisfaction of the stakeholders.
xxii	At least 5% of the total cost of the project 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 Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.	Complied. We wish to submit that 5 % of the total project cost amounts to Rs 150 Crore with the approved cost of the Project being Rs 3000 Crore. Such an allocation is not feasible considering the economics of the project. We would like to inform that after commissioning of greenfield refinery in 2011, company continued to have accumulated losses and hence we had undertaken the capacity expansion project to overcome our weak financial position. Hence allocation of 5 % of the total project cost towards Enterprise Social Responsibility (ESR) amounting to Rs 150 Crore will further burden the project and impact the project economics. Subsequently, vide MoEFCC Memorandum – F. No. 22-65/2017-IA.III dated May 1, 2018, capital investment prescribed for a brown field project of greater than Rs 1,000 Crores to Rs. 10,000 crores are 0.25 % on Corporate Environmental Responsibility (CER). It may be noted that we have applied for waiver of this condition with MoEF&CC and EAC committee recommended the same. Further, MoEFCC circular dated 30/09/2020 allocation of funds under CER is not required. As on date we have spent more than 6.35 crores against 6.25 Crores under ESR towards protection of Environment. Apart from above, company is doing CSR jobs in surrounding areas in four thematic areas which includes Environment also. Various projects executed under CER are attached as Annexure-11
xxiii	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.	Being Complied. Compliance status of Rapid Risk Assessment report is attached as Annexure-12 .
xxiv	Company shall adopt corporate Environment policy as per the ministry's O.M. no. J-11013/41/2006 –IA.II (I) dated 26 th April, 2011 and implemented.	Company has well laid QEHS Policy. Copy of Policy is attached as Annexure-13 A hierarchical system of the company to deal with environmental issues and for ensuring the compliance of Environmental clearance conditions is developed with environmental engineers in place. Periodical review of Environmental performance takes place at APEX meetings.
xxv	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and	Implemented and complied.

S. No.	EC Conditions	Compliance Status
	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.	
В	General Conditions	
	The project authorities must strictly	Complying with all the stipulations made by the MP Pollution Control Board and compliance reports are
	adhere to the stipulations made by the	submitted to MPPCB regularly.
1	State Pollution Control Board (SPCB),	
	State Government and any other	
	statutory authority.	
	No further expansion or modification in	We have noted the condition.
	the project shall be carried out without	
	prior approval of the ministry of	
	Environment & forests. In case of	
	deviations or alterations in the project	
ii	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.	
	The project authorities must strictly	Rules and regulations under MSIHC rules 1989, as amended in 2000 are compiled and approvals from The
	comply with the rules and regulation	Petroleum and Explosives Safety Organization (PESO) and Fire safety inspectorate have been obtained for
	under Manufacture, storage and import	the project.
	of hazardous chemicals rules, 2000 as	
iii	amended subsequently. Prior approvals	Additionally, copy of License to Work a Factory and PESO is attached as Annexure-14
	form chief inspectorate of factories,	
	Chief controller of Explosives, Fire safety	
	inspectorate etc. must be obtained,	
	wherever applicable.	
	The overall noise levels in and around the	Adequate measures are incorporated during the detailed engineering of the project such that noise levels in
iv	plant area shall be kept well within the	and around the plant shall be within the noise levels. Summary of the noise survey reports is as below:
	standards by providing noise.	Detailed reports are attached as Annexure-15

S. No.	EC Conditions	Compliance Status
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.	Complied with. Environment Management Cell has been set up with qualified staff to ensure the effective implementation of environmental safeguards.
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.	 Separate budget has been allocated to the Environment Department. Allocated budget for the FY: 2024-25 is INR 243 Lakhs. Detail of the environment budget and expenditure for FY 22-23 and FY 23-24 the is enclosed below: Year Budget Expenditure 2022-23 700 L 700 lakhs 2023-24 558 L 420 Lakhs
vii	The Regional office of this Ministry/Central 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.	Six monthly monitoring reports are regularly submitted to the RO-MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance as given Specific condition no.i.
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 suggestion/ representations, if any were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent	Copy of clearance letter sent to panchayat, zila parishad/municipal corporation, urban local body.
ix	The project proponent shall upload the status of compliance of the stipulated	

S. No.	EC Conditions	Compliance Status
	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 _{2.5} , SO 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.	Six monthly monitoring reports are regularly submitted to the RO-MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance. The Continuous Ambient Air Quality Monitoring data and Continuous Emission Monitoring of Stacks is displayed in the digital display board at the main gate of refinery.
х	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 of office of this Ministry/CPCB /SPCB shall monitor the stipulated conditions.	Six monthly monitoring reports are regularly submitted to the RO-MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance as given Specific condition no. i.
xi	The environmental statement for each financial year ending 31 st 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	Complied. The Environment Statement in Form-V for the Financial Year: 2023-24 is submitted to MPPCB vide letter No.: BPCL/MPPCB/Consents/2024/13 dated 30.08.2024 https://www.bharatpetroleum.in/sustainability/environmental-clearance.aspx

S. No.	EC Conditions	Compliance Status
	conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	
xii.	The Project Proponent shall inform the public that the project has been accorded environment 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 with. Informed to public by publishing in two local newspapers of Hindustan Times and Dainik Bhaskar on 21 st & 23 rd June 2015. Newspaper Clippings are attached as Annexure-16
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 concerned authorities and the date of commencing the land development work.	Date of Commencement of land development: September 2015
8.0	The Ministry may revoke or suspend the clearance, if implementations of any of the above conditions are not satisfactory.	We have noted the condition.
9.0	The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	We have noted the condition.

S. No.	EC Conditions	Compliance Status
10.0	The above conditions will be enforced, inter-alia under the provisions of the water (prevention & control of pollution) Act. 1974 Air (prevention & control water of pollution) Act, 1981, the Environment (protection) Act, 1986, Hazardous waste (Management, Handling and Transboundary Movement) Rules, 2008 and the public liability insurance Act, along	Noted.
	with their amendments and rules.	

OF

ENVIRONMENT CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: J-11011/21/1994-1A II (I), Dtd: 20^{th} March, 2009

S. No	EC Conditions	Compliance status			
Specific	pecific Conditions				
i	M/s BPCL-BINA REFINERY shall comply with new standards/ norms for Oil Refinery Industry notified under the Environment (Protection) Rules 1986 vide G.S.R. 186 (E) dated 18 th March 2008. M/s BPCL-BINA REFINERY shall comply with all the conditions stipulated vide Ministry's letter of even no. dated 16.02.1995.	New norms prescribed for the refineries were incorporated into the design of the project and are being complied with. Gaseous emissions from all the process units are continuously monitored through Online Continuous Emission Monitoring System available in all the stacks for ensuring compliance with the stipulations. Point has been noted. Compliance Status is enclosed in the preceding section.			
iii	The process emissions (SO2, NOX, HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the Madhya Pradesh State Pollution Control Board from time to time. 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 immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Gaseous emissions from all the process units are continuously monitored through an online stack monitoring system for ensuring compliance with the stipulations. In addition, the monthly Stack monitoring/analysis is being done through a MoEF&CC approved laboratory.			
iv	Ambient air quality monitoring stations (SPM, SO ₂ , NOx, H ₂ S, Mercaptans, NMHC and Benzene) shall 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 shall be installed for measurement of SO ₂ , NOx, CO and O ₂ . Data should be displayed on the gate of the refinery and important public places through sign boards. The data should be displayed on the web industry and e-mailed to the Regional office of the Ministry/CPCB/State Pollution Control Board.	Complied with. BPCL-Bina Refinery has installed and commissioned 4 nos. of continuous AAQMS in consultation with MPPCB. And connected to MPPCB. One station shifted to MPPCB- Sagar as per the directions of MPPCB. The data is displayed at the main gate through a digital display board.			
V	Monitoring of fugitive emissions shall be carried out as per the guidelines of CPCB by fugitive emission detectors and reports shall be submitted to the Ministry's regional office at Bhopal. For control of fugitive emission all unsaturated hydrocarbon will be routed to the flare system and the flare system shall be designed for smoke less burning.	Complied with. Leak Detection and Repair (LDAR) program is implemented since 2011 for monitoring of fugitive emissions in refinery & dispatch terminal and the reports are submitted along with Six monthly monitoring reports to the RO - MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance. All unsaturated hydrocarbons are routed to the flare system and the flare system is designed for smoke less burning			

vi	Fugitive emissions in the form of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting H_2S , HC leakage shall also be provided at strategic locations. The company shall use low sulphur fuel to minimize SO_2 emission. Leak Detection and Repair program shall be implemented to control HC/VOC emissions. Work zone monitoring shall be carried out near the storage tanks besides monitoring HCs/VOCs in the work zone.	 All floating roof tanks along with crude oil tanks are provided with primary and secondary seals and all fixed roof tanks are provided with N₂ blanketing to reduce fugitive emissions. Sensors for detecting H₂S, HC leakage have been installed in the refinery. Fuel with low sulphur is used for refinery operation. Leak Detection and Repair program is implemented to control HC/VOC emissions.
vii	The flare area shall have H_2S and HC detectors with fire alarm system at fire station/ control room. Flare gas recovery system shall be installed. All process units shall have knockout drums in every battery area. The safety release system of light hydrocarbons which are open to atmosphere shall be connected to flare system.	 Complied H2S and HC detectors are installed at flare area and are connected to control room with alarm system. Flare gas recovery system is installed. Knockout drums are available in all process units The safety release system of hydrocarbons is connected to flare system.
viii	The wastewater shall be treated in the waste water treatment plant and the treated effluent shall meet the prescribed standards. Efforts shall be made to recycle the treated effluent to achieve zero discharge.	 The wastewater after suitable treatment in ETP is being recycled to RO-DM plant. Balance if any, are being utilized for gardening / horticulture use within refinery. The Continuous Effluent Quality Monitoring System is installed at the outlet of ETP and these analyzers are connected to CPCB and MPPCB for real time monitoring.
ix	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.	The hazardous waste generated is disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Hazardous Waste authorization is also obtained from MPPCB, valid till 30.06.2029.
X	The company shall strictly follow all the recommendation mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP).	Complied with.
xi	The Company shall 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 shall be installed to minimize gaseous emissions during flaring.	Necessary features have been incorporated in refinery design to prevent fire hazards, oil spills etc. Firefighting facilities have been designed confirming to the relevant OISD standards (OISD-STD-116, OISD-GDN-115 & 200). Additionally, a Vacuum truck has been procured for handling of oil spills. All flare lines are routed to an overhead flaring stack with knockout drum.
xii	To prevent fire and explosion at Oil and Gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance	Complied with.

	between potential ignition sources and flammable material shall be in	For refinery expansion, separation distance between various facilities in the
	place.	refinery has been kept in accordance with applicable OISD standards (OISD-
		STD-118).
xiii	Occupational health surveillance of worker shall be done on a regular	Periodical medical surveillance of workers is done regularly, and records
	basis and records maintained as per the Factories Act.	are being maintained.
xiv	Greenbelt shall be developed to mitigate the effect of fugitive emission all	Complied.
	around the plant in a minimum 33% plant area in consultation with DFO	Green belt development is a continuous activity in and around boundaries
	as per CPCB guidelines.	of refinery. Green belt of 200m width along the boundary of refinery is
		developed with local species like Neem, Sheesham, Kadamba, Arabic gum,
		scholar tree, Indian rosewood, red forest gum etc. A total of 5 Lakh +
		saplings are planted so far inside the refinery and outside premises in phase
		wise manner.
		290 Ha of green belt is already developed and additionally 90 ha of green
		belt is developed in Forest land in collaboration of MP Forest Department.
		Total 380 Ha of green belt area as against 1015 Ha (37.43% of total area of
		1015 Ha).
XV	M/s BPCL-BINA REFINERY shall undertake measures for rain water	Rainwater harvesting measures have been implemented in refinery
	harvesting to recharge the ground water and minimize fresh water	township.
	consumption.	Rainwater harvesting pond in 12 acres with 10 recharge wells having a
		capacity of 1,73,156 m3 and recharge capacity of 25,973 m3 is constructed
		in refinery premises.
6	In case of change in the scope of the project, M/s, BPCL-BINA REFINERY	Point has been noted.
	shall obtain fresh environment clearance under the provisions of EIA	
	Notification, 2006	

OF

ENVIRONMENT CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: No: J-11011/21/94-IA-II (I), Dtd: 16-02-1995

FOR

6 MMTPA GRASSROOT REFINERY, INCLUDING CAPTIVE POWER PLANT (CPP) AND MARKETING TERMINAL (BY BPCL) AT BINA, M.P. OF BHARAT OMAN REFINERIES LIMITED

S. No	EC Conditions [EC. No: J-11011/21/94-IA-II (I), Dtd: 16-02-1995]	Compliance status
i	The project authority must strictly adhere to the stipulations made by the M.P. Pollution Control Board and the State Government.	All the conditions stipulated by Pollution Control Board of Madhya Pradesh through Air, Water & Hazardous authorizations are strictly adhered to and compliance of same is submitted to MPPCB regularly.
ii	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 approval of this ministry.	Any expansion or modernization in the plant will be taken up only with the prior approval of the Ministry of Environment & Forests.
iii	Total emissions of SO ₂ from the entire refinery complex should not exceed the range 30 - 40 TPD.	Sulphur recovery efficiency of Sulphur Recovery Unit and Tail gas treatment (TGT) sections is >99.9%. The sulphur present in crude oil gets evolved mainly in the form of H2S gas during various stages of processing. The Sulphur Recover Unit (SRU) recovers the Sulphur from Hydrogen Sulphide (H2S) rich gas stream which is formed in various secondary processing units. H2S rich gas is the feed to SRU & is treated in the Main Combustion Chamber & followed by two stage Clause reaction to convert H2S into elemental Sulphur. Residual Sulphur compounds are further treated in Tail Gas Treating Unit (TGTU) in presence of catalyst. Overall, very high Sulphur recovery is achieved in SRU with efficiency of >99.9%.
iv	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 emissions level should go beyond the stipulated standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should be shut down immediately and should not be restarted until the control measures are rectified to achieve the desired efficiency.	Gaseous emissions from all the process units are continuously monitored through the Online Continuous Emission Monitoring System available in all the stacks for ensuring compliance with the stipulations. In addition, the monthly Stack monitoring/analysis is being done through a MoEF&CC approved laboratory.
V	Sulphur recovery units with more than 99% efficiency for sulphur recovery should be provided	Sulphur recovery unit with Tail Gas Treatment Unit (TGTU) with >99.5% efficiency for Sulphur recovery is operated
vi	Low NOx burners to avoid excessive formulation of NOx should be provided.	Low NOx burners are provided in all fired heaters of the refinery for reduction of NOx emissions.
vii	At least four 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 modeling exercise to represent the short term GLCs. A mobile van with adequate facilities to monitor ambient air quality outside the refinery premises should also planned.	Complied with. BPCL-Bina Refinery has installed and commissioned 4 nos. of continuous AAQMS in consultation with MPPCB. And connected to MPPCB. One station shifted to MPPCB- Sagar as per the directions of MPPCB. A mobile van with adequate facilities to monitor ambient air quality outside the refinery premises is available.

viii	Fugitive emissions of HC from storage tanks, crude oil tanks etc., should be minimized by adopting necessary measures. Action plan should be prepared for this purpose and submitted to this ministry.	secondary seals and reduce fugitive emissi	all fixed roof tanks a	anks are provided with primary and re provided with N_2 blanketing to being done to check the VOC
ix	Adequate facilities for monitoring the fugitive emissions should be planned	monitoring of fugitive are submitted along w	emissions in refinery & vith Six monthly monitous thorities along with S	m is implemented since 2011 for & dispatch terminal and the reports oring reports to the RO - MoEF&CC, six Monthly Compliance Report of
x	The stack should be of appropriate design and height and should be attached to pollution control system where ever necessary. Height of stacks attached to AVU, HCU, CPP etc. should not be less than 100m.	Stacks of appropriate Height of stacks attac Name of section	•	e height are provided in all units. CPP units is 100 m. Control equipment to be
	Stacks attached to 740, 1100, ciri etc. should not be less than 100m.	I value of section	Height (meters)	installed
		Boilers (CPP)	100	Cyclone, E.S.P, Green Belt
		Boiler (Utility)	100	Heater/Furnace-Low Sulphur Fuel, Low NOX Burner
		CDU/VDU Heater (Stack-1)	100	Green Belt, Heater/Furnace- Low Sulphur Fuel, Low NOX Burner
		HCU/Dhdt heater (Stack-6)	100	Green Belt, Heater/Furnace- Low Sulphur Fuel
		Furnace (Heaters in KHDS)	60	Green Belt Heater/Furnace- Low Sulphur Fuel, Low NOX Burner
		Furnace (NHT Auxiliary Reboiler)	60	Green Belt , Heater/Furnace- Low Sulphur Fuel, Low NOX Burner
		Furnace (Stack -2 DCU heaters)	60	Green Belt , Heater/Furnace- Low Sulphur Fuel, Low NOX Burner
		Furnace (Stack-4 Hot-oil	60	Green Belt , Heater/Furnace- Low Sulphur Fuel, Low NOX
		heater)		Burner

		Furnace (CCR Auxiliary Inter Heater)	65	Green Belt , Heater/Furnace- Low Sulphur Fuel, Low NOX Burner
		Furnace (Stack -7 HGU heater)	70	Green Belt , Heater/Furnace- Low Sulphur Fuel, Low NOX Burner
		Incinerator (Stack - 3 SRU Incinerator)	80	Green Belt , Heater/Furnace- Low Sulphur Fuel, Low NOX Burner
		NHT/CCR heater (Stack-5 MS block Heaters)	75	Green Belt , Heater/Furnace- Low Sulphur Fuel, Low NOX Burner
xi	Designing of LPG spheres including the exclusion zone should be finalized in consultation and approval of the department of Explosives.	Not applicable as only of spheres.	/ LPG mounded bulle	ts are provided for storage instead
xii	Ground water should not be tapped for the industrial as well as domestic uses including the township. Alternate source has to be finalized keeping in view its impact on other competent users.	Betwa river water is township. Therefore,		vater requirement of refinery and pped.
xiii	Recycling/Reuse of the treated effluent to the maximum extent possible should be planned.		•	to RO-DM plant. Balance treated lopment inside refinery.
xiv	Adequate numbers 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,	•		arried out on a regular basis by in- EF approved laboratory.
	BOD, COD, pH and flow.	the parameters such a	is pH, BOD, COD, TSS a	Monitoring Station at ETP outlet for and Flow as per the CPCB guidelines and CPCB portals continuously.
XV	System to recover oil from the oily sludge and incinerator for burning the residues should be provided.	Delayed Coker Unit. A	Alternatively, Bio-rem	ETP Oily sludge is recycled to the ediation facility has been provided sludge. BPCL-Bina Refinery has also on of ETP sludge.
xvi	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 and Other	Wastes (Manageme	ndled and disposed of as per the nt and Transboundary Movement) on is also obtained from MPPCB,

xvii	Cutting of trees from the project sites should be kept to minimum while developing the site and planning the infrastructural facilities.	Cutting of trees has been kept minimum during the site and planning of infrastructural facilities
xviii	The industrial township should not be located in the down wind direction with respect to the refinery.	The residential colony is developed on southern side of the refinery with respect to predominant wind pattern
xix	Adequate sanitation facilities and cooking fuel should be provided to the laborers to avoid tree cutting and nuisance in the area.	Adequate sanitation facilities were provided to laborers
xx	The labours of the contractor should leave the place after completion of the work at site to avoid creation of slum in the adjoining areas of the project.	The temporary housing of the construction labour was removed from the project area to avoid creation of slum in the adjoining area
xxi	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.	Adequate measures are incorporated during the detailed engineering of the project such that noise levels in and around the plant shall be within the noise levels.
xxii	A green belt of at least 200 m and adequate density in the downwind direction using native plant species should be developed in consultation with the local DFO.	Green belt development is a continuous activity in and around boundaries of refinery. Green belt of 200m width along the boundary of refinery is developed with local species like Neem, Sheesham, Kadamba, Arabic gum, scholar tree, Indian rosewood, red forest gum etc.
xxiii	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.	Necessary approvals from concerned authorities are obtained and copies submitted to your office vide our letter No. BPCL-BINA REFINERY/MoEF/EC/2018/03 dated 01/01/2019.
xxiv	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.	The laboratory facility had been established with competent technical personnel reporting to senior management and is NABL accredited.
XXV	An Environmental Management Cell should be established with suitably qualified people to carry out various functions and should be set up under the control of a senior executive who will report directly to the head of the organization.	Environment Management Cell has been set up with qualified staff to ensure the effective implementation of environmental safeguards.
xxvi	Medical surveillance of workers should be done regularly to avoid possibility of contracting occupational diseases against the worker engaged in the various plants and record maintained.	Periodical medical surveillance of workers is done regularly, and records are being maintained.
xxvii	The project authorities should carry out a water balance study at the proposed weir site and submit the report within 12 months.	Water balance study has been carried out at the weir site and report submitted.
xxviii	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.	Complied.

3	The project authorities should also comply with the additional stipulations and conditions prescribed in the EIA and risk analysis reports.	Being Complied.
4	The ministry or any other competent authority may stipulate any further conditions, after assessing the pollution caused after the implementation of the project.	Noted and agreed to comply with the directions of the MoEF& CC, if any.
5	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Point has been noted.
6	The above conditions will be enforced inter-alia under the provisions of the water (prevention and control of pollution) Act 1974, the Air (Prevention and control of pollution) Act 1981, The Environment Protection Act – 1986.	Point has been noted.