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भारत सरकार / Govt. of India
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forests & Climate Change
बेज नं. 24-25, सेक्टर 31-ए
Bays No. 24-25, Sec-31 A
चण्डीगढ़/Chandigarh



Date: 6th Dec'19

Ref: HMEL-TS-40-ENV 653

To,
The Director,
Ministry of Environment, Forest & Climate Change,
Northern Regional Office,
Bays No. 24-25, Sector 31-A,
Dakshin Marg,
Chandigarh – 160 030.

Subject: Six Monthly Compliance Report (From Apr'19 to Sep'19) for Guru Gobind Singh Refinery at Phullokhari, Bathinda District, Punjab.

Ref: EC No: F. No. J-11011/386/2016-IA-II (I) dated 7th August 2018.

Dear Sir,

This is with reference to the Environmental Clearance letter No. J-11011/386/2016-IA-II (I) dated August 7, 2018 on the above subject.

Please find enclosed six monthly compliance report (from Apr'19 to Sep'19) of Guru Gobind Singh Refinery (along with Annexures) on the environmental conditions stipulated by MoEF&CC.

Thanking you,

Very Truly Yours,

Satish Kumar Kalra
(DGM-Technical Services)

Cc: Central Pollution Control Board, New Delhi and Punjab Pollution Control Board, Bathinda Punjab.
Cc: Punjab Pollution Control Board, 3rd Floor, Room No: 406E, Regional Office, Bathinda.

Enclosures:

- Annexure-I** : Soft copy of original test reports of manual monitoring in CD.
- Annexure-II** : Ambient Air Quality Data (from Apr'19 to Sep'19).
- Annexure-III**: CSR activities carried out for improving socio-economic conditions (from Apr'19 to Sep'19).
- Annexure-IV**: CSR activities carried out for community welfare including eco-developmental measures in the surrounding areas (from Apr'19 to Sep'19).
- Annexure- V** : Copy of the advertisement publishing the accordance of Environmental Clearance by MoEF&CC.
- Annexure- VI**: Copy of mail to MoEF&CC for action plan of Corporate Environment Responsibility (CER).
- Annexure-VII**: Copy of Air & Water Consent.

Annexure-III : Acknowledgement copy submitted ^{last} Six Monthly Compliance Report to MoEF&CC, Chandigarh.

HPCL-Mittal Energy Limited

Compliance Report for the conditions stipulated in Environmental Clearance for 9 MMTPA Grass Root Refinery Project at Phullo Khari, Bhatinda Dist, Punjab for the period of April'2019 to September'2019

EC Letter No.: J.11011/24/98-IA II dated 6th Nov'1998

Status of the project: The refinery was operational since April' 2012.

S.No.	Conditions	Compliance Status
i.	No construction of the Refinery Project shall be undertaken till environmental clearance for the linked proposal viz. Captive Power Plant, COT and Crude Oil Pipeline and SPM are accorded by this Ministry.	As per the requirement of this condition, the construction of the refinery project was initiated after obtaining the environmental clearance by MoEF vide letter no. J-16011/17/98-IA-II dated 24 th April 2000 for COT and SPM and vide letter no J.11011/25/98-IA II dated 24 th April 2000 for Crude Oil pipeline. Hence, this condition has been complied with.
ii.	The gaseous emissions (SO ₂ , NO _x , HC, CO) and particulate matters, from various process units should conform to the standards prescribed by the concerned authorities from time to time. The total SO ₂ emission from the refinery including power plant shall not exceed 1000 kg/hr (maximum). At no time, the emission level should go beyond the stipulated standards. In the event of failure of pollution control systems (s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	The continuous emission monitoring systems (CEMS) data on gaseous emissions and particulate matter from various units are being transmitted online to CPCB servers. Manual monitoring for gaseous emissions and particulate matter in stacks are also being monitored by third party MoEFCC & NABL approved laboratory, the data of which is enclosed as Annexure – I . The total SO ₂ emission from the Guru Gobind Singh Refinery has been modified to 23.8 TPD, vide MoEF letter no. J-11011/386/2016-IA-II (I) dated 07 th August 2018, which includes emissions from the expansion projects. Currently SO ₂ emission from the refinery complex is 11.7 TPD to 14.24 TPD. In case of failure of any of the pollution control system, the company will comply with the condition that the respective unit will be stopped and will be restarted only after the pollution control system is brought in line with desired efficiency. Hence, this condition is being complied with.
iii.	Sulphur recovery units with more than 99% efficiency shall be provided.	Two nos. of Sulphur Recovery Units (SRU) with sulphur recovery efficiency of >99.9% has been installed and is operational. Hence, this condition has been complied with.
iv.	A minimum of five Ambient Air Quality Monitoring Stations should be set up and around the refinery area based on the micro meteorological conditions as well as where maximum ground level concentration of SPM, SO _x , NO _x , HC and RPM are anticipated in consultation with the State Pollution Control Board . In addition, a mobile van with adequate facilities to monitor ambient air quality outside the refinery premises should be provided.	Five (5) nos. of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed at the periphery of the refinery in consultation with Punjab Pollution Control Board (PPCB), for monitoring GLC's of PM, SO ₂ , NO ₂ , and HC in ambient air. Mobile van is deployed for monitoring of ambient air quality outside the refinery. The GLC's (min-max) for various parameters for the period of Apr'2019 to Sept' 2019 are given below:

		Parameters	Range	CPCB Limit																		
		PM ₁₀ (µg/m ³)	45.13 – 82.20	100																		
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		SO ₂ (µg/m ³)	7.32 – 9.45	80																		
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		Benzene (µg/m ³)	0.04– 0.42	05																		
		Non – Methane HC (µg/m ³)	0.488 – 0.579	-																		
		<p>The ambient air quality in and around the refinery for the period Apr'19 – Sep'19 is attached as Annexure – II.</p> <p>Hence, this condition has been complied with.</p>																				
v.	Fugitive emission of HC from product storage tank yard, crude oil tanks etc. must be regularly monitored. Sensors for detecting HC leakage should also be provided at strategic locations.	<p>LDAR program for the refinery has been prepared and implemented for monitoring and control of HC/VOC emissions. The program focuses on preventive maintenance of pumps, compressors, flanges, valves, tank seals etc.</p> <p>During Apr'19 to Sep'19, total of 10,000 points have been monitored under LDAR program and no major leak was found.</p> <p>Sensors for detecting HC leakage have been provided at strategic locations within ISBL area.</p> <p>Hence, this condition has been complied with.</p>																				
vi.	Liquid effluent generated from the refinery should be treated comprehensively to conform to the load based standards and concentration limits prescribed under EPA rules. The treated wastewater should be recycled to the maximum extent for reuse in the plant operation and green belt development.	<p>The effluent generated from the refinery is being treated in Effluent Treatment Plant consisting of primary treatment section followed by the biological treatment section comprising of Sequential Batch Reactor & Membrane Bio Reactor. The treated effluent is reused in green belt development.</p> <p>Hence, this condition has been complied with.</p>																				
vii	Influent and effluent quality monitoring stations should be set up in consultation with the State Pollution Control Board. Regular monitoring should be carried out for MINAS parameters.	<p>The influent and treated effluent quality of various wastewater streams are monitored in-house daily. The treated effluent quality is also being monitored by third party CPCB approved laboratory and the report of which is attached as Annexure - I. The summary of the treated effluent and emissions are summarized below:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Range Typical Values</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td colspan="3">ETP treated Water</td> </tr> <tr> <td>pH</td> <td>7.41-7.76</td> <td>6.0-8.5</td> </tr> <tr> <td>COD</td> <td>72-78 mg/l</td> <td>125 mg/l</td> </tr> <tr> <td>BOD</td> <td>6 -10 mg/l</td> <td>15 mg/l</td> </tr> <tr> <td>TSS</td> <td>12.6-18.2mg/l</td> <td>100 mg/l</td> </tr> </tbody> </table>			Parameters	Range Typical Values	Limits	ETP treated Water			pH	7.41-7.76	6.0-8.5	COD	72-78 mg/l	125 mg/l	BOD	6 -10 mg/l	15 mg/l	TSS	12.6-18.2mg/l	100 mg/l
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		<p>Continuous Effluent Monitoring Systems (CEMS) has been installed to monitor the treated effluent flow at the outlet of ETP, pH, BOD, COD and TSS. The data is being transmitted to CPCB servers, as per CPCB directions</p> <p>Hence, this condition has been complied with.</p>
viii.	<p>The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. On all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA(day time) and 70 dBA (night time) .</p>	<p>The overall noise levels in and around the plant areas are well within the standards. Various noise control measures such as acoustic hoods, enclosures etc. have been provided for reducing noise impact from high noise generating equipment. The day time and night time noise level for the period Apr'19 to Sep'19 was in the range of 65-73 dBA and 58-67 dBA respectively.</p> <p>The detailed monitoring reports for the period of Apr'19 to Sep'19 is given in Annexure-I.</p> <p>Hence, this condition has been complied with.</p>
ix.	<p>The Company must submit a report on the Black Dust Generation from the refinery and its analysis including RPM, chemical composition within 6 months of plant operation.</p>	<p>The analysis report of PM/RPM generated from the refinery was submitted to MoEF&CC vide letter no. Ref: HMEL-TS-40-ENV 231, dated 8th Dec'2014.</p> <p>Hence, this condition has been complied with.</p>
x.	<p>The Company must take up a detailed study regarding the Bio-Monitoring aspect of the dust emissions including its particle size distribution, RPM content, chemical characteristics etc. in consultation with an Expert Institute / Organization in order to assess the health impact due to the RPM emissions from the project within 6 months of project commissioning.</p>	<p>The detailed study regarding the bio-monitoring aspect of the dust emissions including the particle size distribution, RPM content, chemical characteristics etc. has been prepared by M/s. 21st Century Engicon Pvt. Ltd., after commissioning of the project. A copy of the report has been submitted to MoEF&CC vide letter no. Ref: HMEL-TS-40-ENV 231, dated 8th Dec'2014.</p> <p>Hence, this condition has been complied with.</p>
xi.	<p>Comprehensive EIA must be carried out and EMP drawn. The report should be submitted to the Ministry within 1 year incorporating firmed up action plans on pollution control and environmental management for the refinery.</p>	<p>Comprehensive EIA has been carried out within 1 year of incorporating firmed up action plans on pollution control and environmental management for the refinery.</p> <p>This condition is complied with.</p>
xii.	<p>In addition to obtaining statutory clearances from CCF, Chief Inspectorate of factories, in the first instances, the project authority must obtain the recommendations of Chief Fire Adviser, Government of India (Ministry of Home Affairs) with regard to the Refinery Safety and fire protection measures. A report in this regard may be submitted to the ministry within 6 months.</p>	<p>Necessary approval and recommendation from Chief Fire Advisor, Government of India (Ministry of Home Affairs) has been obtained vide letter no. VIII-11011/01/07-DGCD (F) dated 14th July 2010.</p> <p>This condition is complied with.</p>
xiii.	<p>Detailed Risk Analysis of the Refinery and associated facilities must be done once the engineering design and layout is frozen. Specifically, comprehensive safety and fire protection measures must be taken with respect to LPG tank area and crude oil storage areas in the plant lay out. Based on this, onsite and off-site emergency preparedness plan must be</p>	<p>This condition is complied with.</p> <p>Detailed Risk Analysis of the Refinery and associated facilities is done. Comprehensive Safety and Fire protection measures have been adopted in the Refinery design.</p> <p>Off Site and Offsite emergency plan is prepared</p>

prepared. Approval from the nodal agency must be obtained before commissioning the project.

General Conditions

S.No.	Conditions	Compliance
i.	The project authorities must strictly adhere to the stipulations made by the Punjab Pollution Control Board and State Government.	<p>The stipulations made by PPCB vide its below cited Consent to Operate and Authorization are being adhered to:</p> <ol style="list-style-type: none"> 1. Letter no. CTOA/Renewal/BTI/2019/9511030 dated 29/07/2019 (valid till 31/03/2022) 2. Letter no. CTOW/Renewal/BTI/2019/9511579 dated 29/07/2019 and; 3. Letter no. HWM/renew/BTI/2019/9564797. <p>Hence, this condition is being complied with.</p>
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment of Forests.	<p>Prior Environmental Clearances have been obtained from MoEF&CC before implementing the modification/expansion of the existing refinery. The list of various EC's that have been granted by MoEF&CC for implementing refinery expansion/modification are given below:</p> <ol style="list-style-type: none"> 1. Letter No. F.No. J-11011/275/2007-IA II (I) dated 16th July 2007. 2. Letter No. F.No. J-11011/275/2007 IA II (I) dated 22nd June 2015 and; 3. Letter No. F.No. J-11011/386/2016-IA-II (I) dated 7th August 2018. <p>Hence, this condition is complied with.</p>
iii.	In case of deviations or alterations in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	<p>The company has implemented the projects as per the application made and EC obtained by MoEF. In case of any deviations, in the projects proposed from those submitted to MoEF for clearances, a fresh reference shall be made to the Ministry</p> <p>Hence, this condition is complied with.</p>
iv.	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals (MSIHC) Rules, 1989 as amended on 3 rd October, 1994. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained.	<p>The rules and regulations specified under MSIHC Rules, 1989, have been incorporated in the design requirements of refinery and its associated facilities and accordingly implemented. The necessary approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. had been obtained.</p> <p>Hence, this condition is complied with.</p>
v.	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management & Handling) Rules, 1989. Authorization from the State Pollution Control Board must be obtained for collections/ treatment/storage/disposal.	<p>The hazardous waste is being stored, handled transported and disposed in compliance to the Hazardous & Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the authorization no. HWM/renew/BTI/2019/9564797 dated</p>

S.No.	Conditions	Compliance
		30/07/2019 received from Punjab Pollution Control Board, which is valid till 30/07/2020. Hence, this condition is complied with.
vi.	Occupational health surveillance program should be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances.	A full-fledged Occupational Health Centre (OHC) is established at GGSR for health surveillance and records are maintained on regular basis. Health check-up is done six (6) monthly for employees working in operations area and yearly once for employees working in non-operational area. Hence, this condition is complied with.
vii.	A green belt of adequate width and density should be developed using native plant species, within and around plant premises in consultation with State Forest Department. A norm of 2000-2500 plants per ha may be followed.	This condition is complied with Green belt has been developed in consultation with Forest Department, Bathinda, as per the CPCB guidelines. At present approx. 3,06,500 saplings have been planted in about 356 acre. It is further being increased as per direction of SPCB.
viii.	Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc. should be ensured for construction workers during the construction phase so as to avoid felling of trees and pollution of water and the surroundings.	Adequate provisions such as water supply, sanitation facilities and provisions for fuel supply were provided to the construction workers. Hence, this condition has already been complied with.
ix.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA and Risk Analysis report.	The Environmental protection measures and safeguards recommended in the EIA and Risk Analysis report are complied with. Hence, this condition is complied with.
x.	The project proponent should have a scheme for social upliftment in the nearby village with reference to contribution in road construction, education of children, festivals, health centers, sanitation facilities, drinking water supply, community awareness and employment to local people whenever possible both for technical and non-technical jobs.	Various measures taken till date by the project proponent are enclosed in Annexure-III & Annexure-IV . Hence, this condition is complied with.
xi.	A separate environmental management cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	A dedicated Environment Department headed by Deputy General Manager (Environment) and supported by experienced Environmental Engineers look after the environmental management and monitoring functions of the refinery. GGSR is also having state of the art laboratory with environment pollution analysis equipment. Hence, this condition is complied with.
xii.	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	Dedicated funds for adhering to the conditions stipulated by MoEF and PPCB have been allocated and are not diverted for any other purpose. Hence, this condition is complied with.

S.No.	Conditions	Compliance
	<p>schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.</p>	
xiii.	<p>The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Chandigarh / State Pollution Control Board / Central Pollution Control Board. A Six monthly compliance status report should be submitted to monitoring agencies.</p>	<p>The six monthly compliance report for the period Apr-Sept and Oct-Mar is submitted on or before 1st July and 1st December of every year.</p> <p>Hence, this condition is complied with.</p>

Compliance Report for the conditions stipulated in Environmental Clearance for Modification of Refinery Configuration of 9 MMTPA Refinery Project at Village Phullokhari, Tehsil Talwandi Saboo in Dist. Bhatinda, Punjab for the period of April'2019 to September'2019

EC Letter No.: J-11011/275/2007-IA II (I) date 16th July 2007

Status of the project: The refinery modification project was completed and operational since April' 2012.

A. SPECIFIC CONDITIONS:

S.No.	Conditions	Compliance Status												
i.	All the conditions stipulated by this Ministry vide its letter no. J-11011/24/98-IA-II (I) dated 6 th November, 1998 shall be strictly implemented.	<p>The compliance to all the environmental conditions stipulated in the environmental clearances granted in 1998 and 2007 has been certified by MoEFCC, Regional Office, Chandigarh vide the letter no. 4-81/2004-RO (NZ)/293-294 dated 14.07.2017. The summary status of the compliances as stipulated in the said letter is given below:</p> <table border="1"> <thead> <tr> <th>EC grant year</th> <th>No. of Conditions</th> <th>No of Conditions Complied</th> <th>No of conditions pending</th> </tr> </thead> <tbody> <tr> <td>2007</td> <td>24</td> <td>24</td> <td>Nil</td> </tr> <tr> <td>1998</td> <td>26</td> <td>26</td> <td>Nil</td> </tr> </tbody> </table>	EC grant year	No. of Conditions	No of Conditions Complied	No of conditions pending	2007	24	24	Nil	1998	26	26	Nil
EC grant year	No. of Conditions	No of Conditions Complied	No of conditions pending											
2007	24	24	Nil											
1998	26	26	Nil											
ii.	The gaseous emissions (SO ₂ , NO _x , HC, H ₂ S and Benzene), from various process units shall conform to the standards prescribed under Environment (Protection) Rules, 1986 or norms stipulated by the SPCB whichever is more stringent. At no time, the emission level should go beyond the stipulated standards. In the event of failure of pollution control systems (s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	<p>The continuous emission monitoring systems (CEMS) data on gaseous emissions and particulate matter from various units are being transmitted online to CPCB servers. Manual monitoring for gaseous emissions and particulate matter in stacks are also being monitored by third party MoEFCC & NABL approved laboratory, the data of which is enclosed as Annexure – I.</p> <p>In case of failure of any of the pollution control system, the company will comply with the condition that the respective unit will be stopped and will be restarted only after the pollution control system is brought in line with desired efficiency.</p> <p>Hence, this condition is being complied with.</p>												
iii.	Adequate Ambient Air Quality Monitoring Stations [SPM, SO ₂ , NO _x , HC, and Benzene] shall be set up in consultation with SPCB, based on occurrence of maximum ground level concentration and down wind direction i.e. maximum impact zone. 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 , NO _x . The company shall install online monitors for VOC measurements. Data on VOC shall be monitored and submitted to the SPCB/Ministry.	<p>Five (5) nos. of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed at the periphery of the refinery in consultation with Punjab Pollution Control Board (PPCB), for monitoring GLC's of PM, SO₂, NO₂, and HC in ambient air. Mobile van is deployed for monitoring of ambient air quality outside the refinery.</p> <p>The GLC's (min-max) for various parameters for the period of Apr'2019 to Sept' 2019 are given below:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Range</th> <th>CPCB Limit</th> </tr> </thead> <tbody> <tr> <td>PM₁₀ (µg/m³)</td> <td>45.13 – 82.20</td> <td>100</td> </tr> </tbody> </table>	Parameters	Range	CPCB Limit	PM ₁₀ (µg/m ³)	45.13 – 82.20	100						
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iv.	Measures for fugitive emissions control shall be taken by provision of double mechanical seals to all pumps handling high vapor pressure materials, sensors for detecting HC/toxic leakages at strategic locations, regular inspection of floating roof seals, maintenance of valves and other equipment and regular skimming of separators/equalization basin.	<p>The following measures have been implemented for the control of fugitive emissions:</p> <ol style="list-style-type: none"> The hydrocarbon pumps have been provided with double mechanical seals. HC & Toxic gas detectors have been installed at strategic locations for the detection of leaks. Inspection of floating roof seals, maintenance of valves and other equipment is done as a standard practice. The API unit at ETP have been covered and all the VOC emissions from API, TPI and DAF are scrubbed in VOC control system. Vapour recovery system has been provided at rail/road gantry. Closed blowdown systems have been provided to minimise hydrocarbon emissions. Sensors for detecting HC leakage have been provided at strategic locations within ISBL area. <p>Hence, this condition has been complied with.</p>															
v.	All new standards /norms that are being proposed by CPCB for oil refineries and petrochemicals shall be applicable for the proposed refinery configuration. The project authorities shall take necessary measures to comply with the above proposed emission norms including monitoring facilities and intimate the same to the ministry.	<p>All the standards/norms for oil refinery notified under the EP Rules 1986 vide GSR 186 E dated 18th March 2008 are being complied with.</p> <p>CEMS (Continuous Emission/Effluent Monitoring Systems) have been installed to monitor the gaseous emission and particulate matter at stacks; flow, pH, BOD, COD and TSS at ETP outlet. The online data is being transmitted to CPCB servers continuously.</p> <p>Stack emission and effluent sampling is also being carried out by MoEFCC and NABL approved third party laboratory, the data of which are presented in Annexures I.</p> <p>Hence, this condition has been complied with.</p>															

vi.	The company shall adopt Leak Detection and Repair (LDAR) programme for quantification and control of fugitive emissions.	LDAR programme is being carried out throughout the year for quantification and control of fugitive emissions. During Apr'19 to Sep'19, total of 10000 points has been monitored under LDAR programme.																								
vii.	The Company shall also ensure that the total SO ₂ emissions shall not exceed 1,000 kg/hr. Sulphur recovery units with more than 99% efficiency shall be installed.	The total SO ₂ emission from the Guru Gobind Singh Refinery has been modified to 23.8 TPD, vide MoEF letter no. J-11011/386/2016-IA-II (I) dated 07 th August 2018, which includes emissions from the expansion projects. Currently SO ₂ emission from the refinery complex is 11.7 TPD to 14.24 TPD. Two nos. of Sulphur Recovery Units (SRU) with sulphur recovery efficiency of >99.9% has been installed and is operational. This condition is complied with.																								
viii.	To mitigate NO _x emission, the company shall install low NO _x burners.	Low NO _x burners have been installed in all the boilers and heaters. Hence, this condition is complied with.																								
ix.	The waste-water effluent shall not exceed 450 m ³ /hr. The waste-water shall be segregated in different streams at the source. The treated effluent shall comply with the standards stipulated by PSPC/CPCB for discharge on land for irrigation. The treated effluent shall be recycled and reused for cooling, service, green belt, dust suppression and fire water etc.	The effluent generated from the refinery complex doesn't exceed 450 m ³ /hr. The waste water generated is segregated in different streams at source itself such as stripped sour water, contaminated rain water and oily waste water etc., which are treated separately in the ETP. The treated effluent complies with the standards stipulated by CPCB under the EP Rules 1986 vide GSR 186 E dated 18 th March 2008. The treated effluent is being reused and recycled for green belt development within the refinery. The summary of ETP treated effluent for the period Apr'19 to Sept'19 is presented below: <table border="1" data-bbox="954 1429 1522 1697"> <thead> <tr> <th>Parameters</th> <th>Range Values</th> <th>Typical</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td colspan="4">ETP treated Water</td> </tr> <tr> <td>pH</td> <td>7.41-7.76</td> <td></td> <td>6.0 – 8.5</td> </tr> <tr> <td>COD</td> <td>72-78 mg/l</td> <td></td> <td>125 mg/l</td> </tr> <tr> <td>BOD</td> <td>6 -10 mg/l</td> <td></td> <td>15 mg/l</td> </tr> <tr> <td>TSS</td> <td>12.6-18.2mg/l</td> <td></td> <td>20 mg/l</td> </tr> </tbody> </table> The detailed analysis report of treated effluent is attached as Annexure-I . Hence, the condition is complied with.	Parameters	Range Values	Typical	Limits	ETP treated Water				pH	7.41-7.76		6.0 – 8.5	COD	72-78 mg/l		125 mg/l	BOD	6 -10 mg/l		15 mg/l	TSS	12.6-18.2mg/l		20 mg/l
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x.	The oily sludge generated from the ETP after oil recovery shall be disposed in the secured land fill as per CPCB requirement. The spent catalyst from various units shall be returned to the manufacturers for reuse/recycle. The pet coke generated should be sold. The design of the secured landfill site shall be as per the Central Pollution Control Board guidelines.	<p>The oily sludge generated from ETP is partially processed / recycled to Delayed Coker Unit (DCU) and the balance sludge is disposed in secured landfill facility within the refinery. The spent catalyst from the various process units are returned to the licensor or manufacturers or CPCB approved recyclers/reprocessors. The pet coke generated from DCU is utilized as fuel in utility boilers and the balance inventory is being sold. A secured land fill (SLF) has been developed for disposal of hazardous waste complying with all the applicable regulations/guidelines issued by MoEF/CPCB.</p> <p>During Apr'19-Sept'19, 1200 MT of oily and chemical sludge and 150 MT of spent catalyst has been disposed in SLF.</p> <p>This condition has been complied with.</p>
xi.	Green belt shall be provided to mitigate the effects of fugitive emissions all around the plant in an area of 300 acres in consultation with DFO as per CPCB guidelines.	<p>Green belt has been developed in consultation with Forest Department, Bathinda, as per the CPCB guidelines. At present approx. 30,65,00 saplings have been planted in about 356 acre.</p> <p>A greenbelt of about 125 meters wide in predominant wind direction i.e East, South East, South, South West, & West direction and 70 meters wide green belt in the remaining directions i.e North West, North, and North East direction have been established.</p> <p>Hence, this condition is complied with.</p>
xii.	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories act.	<p>A full-fledged Occupational Health Centre (OHC) is established at GGSR for health surveillance and records are maintained on regular basis.</p> <p>Health check-up is done six (6) monthly for employees working in operational area and yearly once for employees working in non-operational area.</p> <p>Hence, this condition is complied with.</p>
xiii.	The company shall prepare comprehensive EIA/EMP report and should be submitted to the Ministry within 1 year.	<p>This condition is complied with.</p> <p>EIA / EMP report is already submitted to Ministry.</p>
xiv.	Detailed Risk Analysis of the Refinery and associated facilities shall be prepared once the engineering design and layout is frozen. Onsite and off-site emergency preparedness plan must be prepared and approval from the nodal agency shall be obtained before commissioning the project.	<p>This condition is complied with.</p> <p>Detailed Risk Analysis of the Refinery and associated facilities was prepared by Engineers India Limited in 2008.</p> <p>The Onsite and Offsite emergency management plans have now been unified and a single plant – Emergency Response and Disaster Management Plan (ERDMP) has been formulated as per the guidelines of Petroleum and Natural Gas Regulatory Board (PNGRB) Regulations. The ERDMP is Approved by “Disaster Management Institute – Bhopal” by their letter No. 1526/HMEL/ERDMP/PNGRB/DMI/2015-16 dtd. 12/10/2016.</p>

B. GENERAL CONDITIONS:

S.No.	Conditions	Compliance Status
i.	The project authorities must strictly adhere to the stipulations made by the Punjab Pollution Control Board and State Government.	<p>The stipulations made by PPCB vide its below cited Consent to Operate and Authorization are being adhered to:</p> <ol style="list-style-type: none"> 1. Letter no. CTOA/Renewal/BTI/2019/9511030 dated 29/07/2019 (valid till 31/03/2022) 2. Letter no. CTOW/Renewal/BTI/2019/9511579 dated 29/07/2019 and; 3. Letter no. HWM/renew/BTI/2019/9564797. <p>Hence, this condition is being complied with.</p>
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment of Forests.	<p>Prior Environmental Clearances have been obtained from MoEFCC before implementing the modification/expansion of the existing refinery. The list of various EC's that have been granted by MoEFCC for implementing refinery expansion/modification are given below:</p> <ol style="list-style-type: none"> 1. Letter No. F.No. J-11011/275/2007-IA II (I) dated 16th July 2007. 2. Letter No. F.No. J-11011/275/2007 IA II (I) dated 22nd June 2015 and; 3. Letter No. F.No. J-11011/386/2016-IA-II (I) dated 7th August 2018. <p>Hence, this condition is complied with.</p>
iii.	At no time, the emission level should go beyond the stipulated standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	<p>The emission levels from various operating units have been within the stipulated standards as per the norms stated by the CPCB.</p> <p>In case of failure of any of the pollution control system, the company will comply with the condition that the respective unit will be stopped and will be restarted only after the pollution control system is brought in line with desired efficiency.</p>
iv.	The overall noise levels in and around the plant area should be kept well within the 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).	<p>The overall noise levels in and around the plant areas are well within the standards. Various noise control measures such as acoustic hoods, enclosures etc. have been provided for reducing noise impact from high noise generating equipment. The day time and night time noise level for the period Apr'19 to Sep'19 was in the range of 65-73 dBA and 58-67 dBA respectively.</p> <p>The detailed monitoring reports for the period of Apr'19 to Sep'19 is given in Annexure-I.</p> <p>Hence, this condition has been complied with.</p>

v.	The project authorities must strictly comply with 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 project.	The rules and regulations specified under MSIHC Rules, 1989, have been incorporated in the design requirements of refinery and its associated facilities and accordingly implemented. The necessary approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. had been obtained. Hence, this condition is complied with.
vi.	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management & Handling) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of Hazardous wastes.	The hazardous waste is being stored, handled transported and disposed in compliance to the Hazardous & Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the authorization no. HWM/renew/BTI/2019/9564797 dated 30/07/2019 received from Punjab Pollution Control Board, which is valid till 30/07/2020. Hence, this condition is complied with.
vii.	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 purpose.	Dedicated funds for adhering to the conditions stipulated by MoEF and PPCB have been allocated and are not diverted for any other purpose. Hence, this condition is complied with.
viii.	The stipulated conditions will be monitored by regional office of this ministry at Chandigarh/Central Pollution Control Board/State Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly.	The compliance of the EC conditions have been monitored by the The six monthly compliance report for the period Apr-Sept and Oct-Mar is submitted on or before 1 st July and 1 st December of every year. Hence, this condition is complied with.
ix.	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 issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in vernacular language of the locality concerned and a copy the same should be forwarded to the regional office.	The copy of the advertisement publishing the accordance of Environmental Clearance by MoEF&CC in the two local widely circulated newspaper is attached as Annexure-V . Hence, this condition has been complied with.
x.	The Project Authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	The financial closure of the Project was achieved on July 2007. The project work commenced on Nov 14, 2007 The above was already informed to Regional office as well to the Ministry. Hence, this condition is complied with.

Compliance Report for the conditions stipulated in Environmental Clearance for Expansion of Refinery from 9 MMTPA to 11.25 MMTPA by HMEL at Village Phullokhari, Tehsil Talwandi Saboo, Dist. Bhatinda, Punjab for the period of April'2019 to September'2019

EC Letter No.: J-11011/275/2007 IA II (I) date 22nd June 2015

A. Specific Conditions

S. No.	Specific Conditions as per EC dated 22 nd June 2015	Compliance																																	
i	Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J 11011/24/98-IA II dated 6 th November 1998 and J-11011/275/2007-IA II dated 16 th July 2007 shall be satisfactorily implemented and compliance reports submitted to the Ministry's regional office at Chandigarh.	<p>The compliance to all the environmental conditions stipulated in the environmental clearances granted in 1998 and 2007 has been certified by MoEFCC, Regional Office, Chandigarh vide the letter no. 4-81/2004-RO (NZ)/293-294 dated 14.07.2017. The summary status of the compliances as stipulated in the said letter is given below:</p> <table border="1"> <thead> <tr> <th>EC grant year</th> <th>No. of Conditions</th> <th>No of Conditions Complied</th> <th>No of conditions pending</th> </tr> </thead> <tbody> <tr> <td>2007</td> <td>24</td> <td>24</td> <td>Nil</td> </tr> <tr> <td>1998</td> <td>26</td> <td>26</td> <td>Nil</td> </tr> </tbody> </table>	EC grant year	No. of Conditions	No of Conditions Complied	No of conditions pending	2007	24	24	Nil	1998	26	26	Nil																					
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ii	M/s HPCL-Mittal Energy Limited shall comply with new standards/norms for oil refinery industry notified under the Environment (Protection) Rules, 1986 vide G.S.R 186E dated 18 th March 2008.	<p>All the standards/norms for oil refinery notified under the EP Rules 1986 vide GSR 186 E dated 18th March 2008 are being complied with. The summary of the treated effluent and emissions are summarized below:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Range Typical Values</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td colspan="3">ETP treated Water</td> </tr> <tr> <td>pH</td> <td>7.41-7.76</td> <td>6.0-8.5</td> </tr> <tr> <td>COD</td> <td>72-78 mg/l</td> <td>125 mg/l</td> </tr> <tr> <td>BOD</td> <td>6 -10 mg/l</td> <td>15 mg/l</td> </tr> <tr> <td colspan="3">Stack Emissions*</td> </tr> <tr> <th>Parameters</th> <th>Range Typical Values</th> <th>Upper Range Limits</th> </tr> <tr> <td>SO_x</td> <td>39-131 mg/Nm³</td> <td>500- 645 mg/Nm³</td> </tr> <tr> <td>NO_x</td> <td>56-117 mg/Nm³</td> <td>250 - 335 mg/Nm³</td> </tr> <tr> <td>PM</td> <td>9 - 40 mg/Nm³</td> <td>39 – 50 mg/Nm³</td> </tr> <tr> <td>CO</td> <td>25 - 58 mg/Nm³</td> <td>100 – 300 mg/Nm³</td> </tr> </tbody> </table> <p>* Stack emissions limits has been computed based on mixed firing.</p>	Parameters	Range Typical Values	Limits	ETP treated Water			pH	7.41-7.76	6.0-8.5	COD	72-78 mg/l	125 mg/l	BOD	6 -10 mg/l	15 mg/l	Stack Emissions*			Parameters	Range Typical Values	Upper Range Limits	SO _x	39-131 mg/Nm ³	500- 645 mg/Nm ³	NO _x	56-117 mg/Nm ³	250 - 335 mg/Nm ³	PM	9 - 40 mg/Nm ³	39 – 50 mg/Nm ³	CO	25 - 58 mg/Nm ³	100 – 300 mg/Nm ³
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CO (mg/Nm ³)	20-34	100															
iii	Continuous online stack monitoring of SO ₂ , NO _x & CO of all stacks shall be carried out. Low NO _x burners shall be installed.	<p data-bbox="884 622 1452 779">Continuous online stack monitoring analyzers for SO₂, NO_x, CO and SPM have been installed in all stacks and the data is being transmitted online to CPCB servers. Low NO_x burners have been installed in all the boilers and heaters.</p> <p data-bbox="884 819 1385 846">Hence, this condition has been complied with.</p>															
iv	ESP along within stack of adequate height shall be provided to pet coke/coal fired boiler. Limestone will be injected to pet coke/coal fired boiler to control SO ₂ emission.	<p data-bbox="884 851 1452 976">ESPs and stacks of 130 meter height have been provided to petcoke/coal fired boilers. Limestone injection facility is installed in the pet coke/coal fired boilers to control SO₂ emission.</p> <p data-bbox="884 1016 1331 1043">Hence, this condition has been complied.</p>															
v	The process emissions SO ₂ , NO _x , HC (Methane & non methane), VOC's & Benzene from various units shall conform to the standards prescribed under Environmental (Protection) Act. At no time shall emission levels shall go beyond the stipulated standards. In the event of failure of pollution control systems adopted by the units, the unit shall be immediately put out of operation and should be not restarted until the desired efficiency of the pollution control device has been achieved.	<p data-bbox="884 1048 1452 1303">The continuous emission monitoring systems (CEMS) data on gaseous emissions and particulate matter from various units are being transmitted online to CPCB servers. Manual monitoring for gaseous emissions and particulate matter in stacks are also being monitored by third party MoEFCC & NABL approved laboratory, the data of which is enclosed as Annexure – I.</p> <p data-bbox="884 1339 1452 1496">In case of failure of any of the pollution control system, the company will comply with the condition that the respective unit will be stopped and will be restarted only after the pollution control system is brought in line with desired efficiency.</p> <p data-bbox="884 1536 1385 1563">Hence, this condition has been complied with.</p>															
vi	Leak Detection & 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 seals 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 e.t.c must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.	<p data-bbox="884 1568 1452 1693">LDAR program for the refinery has been prepared and implemented for control of HC/VOC emissions. The program focuses on preventive maintenance of pumps, compressors, flanges and valves.</p> <p data-bbox="884 1697 1452 1792">During Apr'19 to Sep'19, total 10,000 nos. of points has been monitored under LDAR program and no major leak was found.</p> <p data-bbox="884 1796 1452 1854">Sensors for detecting HC leakage has been provided at strategic locations with ISBL area.</p>															
vii	SO ₂ emissions after expansion from the plant shall no exceed 23.64 TPD and further efforts	<p data-bbox="884 1989 1452 2049">The total SO₂ emission from the Guru Gobind Singh Refinery has been modified to 23.8 TPD, vide MoEF</p>															

S. No.	Specific Conditions as per EC dated 22 nd June 2015	Compliance																					
	shall be made for reduction of SO ₂ load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H ₂ S emissions. The overall sulphur recovery efficiency of sulphur recovery unit with tail gas treating shall not be less than 99.9%.	letter no. J-11011/386/2016-IA-II (I) dated 07 th August 2018, which includes emissions from the expansion projects. SO ₂ emission from the existing refinery remains in the range of 11.7 TPD to 14.24 TPD against the limit of 23.64 TPD. The overall sulphur recovery efficiency of Sulphur Recovery Unit with tail gas treatment for the compliance period has exceeded 99.9%.																					
viii	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 unit through feed (sulphur content in crude oil), sulphur output from refinery through products, byproducts (elemental sulphur), atmospheric emissions etc. will be maintained.	The sulphur balance of the refinery is calculated considering the sulphur content in crude, atmospheric SO ₂ emissions from various units, solid sulphur produced and the sulphur content in various products. The sulphur balance is regularly computed and the data maintained.																					
ix	Flare gas recovery system shall be installed.	Flare recovery system has been installed and is in operation. The month wise HC recovery is given below: <table border="1" data-bbox="887 936 1469 1279"> <thead> <tr> <th>Month</th> <th>HC Recovery (MT)</th> </tr> </thead> <tbody> <tr> <td>Apr'19</td> <td>381</td> </tr> <tr> <td>May'19</td> <td>376</td> </tr> <tr> <td>Jun'19</td> <td>378</td> </tr> <tr> <td>Jul'19</td> <td>498</td> </tr> <tr> <td>Aug'19</td> <td>366</td> </tr> <tr> <td>Sep'19</td> <td>216</td> </tr> <tr> <td>Average</td> <td>369</td> </tr> </tbody> </table>	Month	HC Recovery (MT)	Apr'19	381	May'19	376	Jun'19	378	Jul'19	498	Aug'19	366	Sep'19	216	Average	369					
Month	HC Recovery (MT)																						
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x	Ambient air quality monitoring stations, (PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , H ₂ S, Mercaptans, non-methane-HC and Benzene) shall be set up in the complex in consultation with State 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. 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.	The GLC's (min-max) for various parameters for the period of Apr'19 to Sep'19 are given below: <table border="1" data-bbox="887 1379 1449 1778"> <thead> <tr> <th>Parameters</th> <th>Range</th> <th>CPCB Limit</th> </tr> </thead> <tbody> <tr> <td>PM₁₀ (µg/m³)</td> <td>45.13 – 82.20</td> <td>100</td> </tr> <tr> <td>PM_{2.5} (µg/m³)</td> <td>25.95 – 48.53</td> <td>60</td> </tr> <tr> <td>SO₂ (µg/m³)</td> <td>7.32 – 9.45</td> <td>80</td> </tr> <tr> <td>NO₂ (µg/m³)</td> <td>22.12– 25.47</td> <td>80</td> </tr> <tr> <td>Benzene (µg/m³)</td> <td>0.04 – 0.42</td> <td>05</td> </tr> <tr> <td>Non – Methane HC (µg/m³)</td> <td>0.488 – 0.579</td> <td>-</td> </tr> </tbody> </table> The ambient air quality in and around the refinery for the period Apr'19 – Sep'19 is attached as Annexure – II . Hence, this condition has been complied with.	Parameters	Range	CPCB Limit	PM ₁₀ (µg/m ³)	45.13 – 82.20	100	PM _{2.5} (µg/m ³)	25.95 – 48.53	60	SO ₂ (µg/m ³)	7.32 – 9.45	80	NO ₂ (µg/m ³)	22.12– 25.47	80	Benzene (µg/m ³)	0.04 – 0.42	05	Non – Methane HC (µg/m ³)	0.488 – 0.579	-
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S. No.	Specific Conditions as per EC dated 22 nd June 2015	Compliance																
xi	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/silencer shall be installed wherever it is possible.	<p>In the existing refinery, one emergency DG set (for use in case of power failure) of capacity 6 MW has been installed near Main Control Room with stack height of 30 meter.</p> <p>Acoustic enclosure has been provided to the DG set to mitigate the noise pollution.</p> <p>No addnl. DG set is provided under this project.</p>																
xii	Total water requirement from Kotla Canal after expansion shall not exceed 2,420 m ³ /hr and prior permission shall be obtained from the competent authority. Industrial effluent generation shall not exceed 720m ³ /h and treated in the effluent treatment plant. Out of which 376 m ³ /h of industrial effluent generated from cooling tower blow down and boiler blow down shall be treated through Reverse Osmosis (RO) and Demineralize Plant (DM) and permeate shall be recycled for cooling tower make up and boiler blow down. RO rejects shall be evaporated in the Multiple effect evaporator (MEE). Process effluent and condensate from MEE shall be treated in the ETP comprising API and TPI oil removal units, biological treatment units such as SBR, MBR and tertiary treatment unit. Treatment effluent shall be recycled for cooling tower make up water and reused for horticulture/gardening. Domestic sewage shall be treated in sewage treatment plant (STP).	<p>The total water usage and industrial effluent generation/reuse quantities are well within the stipulated limits.</p> <p>Average consumption of raw water for the period Apr'19-Sep'19 is 1,861 m³/hr, the data of which is given below:</p> <table border="1" data-bbox="874 786 1473 1137"> <thead> <tr> <th data-bbox="874 786 1193 846">Month</th> <th data-bbox="1193 786 1473 846">Raw water consumption (m³/hr.)</th> </tr> </thead> <tbody> <tr> <td data-bbox="874 846 1193 891">Apr'19</td> <td data-bbox="1193 846 1473 891">1821</td> </tr> <tr> <td data-bbox="874 891 1193 936">May'19</td> <td data-bbox="1193 891 1473 936">1724</td> </tr> <tr> <td data-bbox="874 936 1193 981">Jun' 19</td> <td data-bbox="1193 936 1473 981">1862</td> </tr> <tr> <td data-bbox="874 981 1193 1025">Jul' 19</td> <td data-bbox="1193 981 1473 1025">1792</td> </tr> <tr> <td data-bbox="874 1025 1193 1070">Aug' 19</td> <td data-bbox="1193 1025 1473 1070">1940</td> </tr> <tr> <td data-bbox="874 1070 1193 1115">Sept' 19</td> <td data-bbox="1193 1070 1473 1115">2027</td> </tr> <tr> <td data-bbox="874 1115 1193 1137">Average</td> <td data-bbox="1193 1115 1473 1137">1861</td> </tr> </tbody> </table> <p>The permission for drawl of water from Kotla canal is obtained vide letter no. 021/2014- (2) 1128-4426/1 dated 30.07.2018.</p> <p>The treated effluent generated is in the range of 390 – 415 m³/hr and boiler blow down/cooling tower blow down is in range of 225 – 265 m³/hr. Boiler blow down and cooling tower blow down are treated in RO/DM units and the permeate is recycled back into process. The RO rejects are evaporated in solar pond / evaporation plant.</p> <p>During Apr'19 to Sep'19, entire treated effluent from ETP was used for horticulture /green belt development.</p> <p>Average 60m³/day of sewage was treated in domestic sewage treatment plant.</p>	Month	Raw water consumption (m ³ /hr.)	Apr'19	1821	May'19	1724	Jun' 19	1862	Jul' 19	1792	Aug' 19	1940	Sept' 19	2027	Average	1861
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xiii	All the effluents after treatment shall be routed to a properly lined guard pond for equalization and final control. In the guard pond, automatic monitoring system for flow rate, pH and TOC shall be provided. Data shall be uploaded on company's website and provided to respective regional Office of MoEFCC and SPCB.	<p>All the effluent after treatment are routed to treated effluent tank. The online flow meter, pH, COD, BOD & TSS analysers are installed at ETP outlet and data is transmitted to CPCB portal. The ETP outlet data is uploaded along with six monthly compliance report on company's website and also submitted to RO, MoEFCC.</p> <p>The summary of the treated effluent quality for the period Apr'19-Sep'19 is given below:</p> <table border="1" data-bbox="879 577 1453 779"> <thead> <tr> <th>Parameters</th> <th>Range</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td colspan="3">ETP treated Water</td> </tr> <tr> <td>pH</td> <td>7.41-7.76</td> <td>6.0-8.5</td> </tr> <tr> <td>COD</td> <td>72-78 mg/l</td> <td>125 mg/l</td> </tr> <tr> <td>BOD</td> <td>6 -10 mg/l</td> <td>15 mg/l</td> </tr> <tr> <td>TSS</td> <td>12-16 mg/l</td> <td>20 mg/l</td> </tr> </tbody> </table>	Parameters	Range	Limits	ETP treated Water			pH	7.41-7.76	6.0-8.5	COD	72-78 mg/l	125 mg/l	BOD	6 -10 mg/l	15 mg/l	TSS	12-16 mg/l	20 mg/l
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xiv	Oil catchers / oil traps shall be provided at all possible locations in rain / storm water drainage system inside factory premises.	Presently 2 nos. of oil catchers are provided at upstream of storm water pond within refinery complex.																		
xv	Oily sludge shall be disposed off into coker and balance oily sludge will be treated in the bioremediation facility. Annual oily sludge generation and disposal data shall be submitted to the Ministry's Regional office and CPCB.	<p>The oily sludge generated is disposed in Delayed Coker Unit (DCU) and balance oily sludge is disposed in Secured Landfill Facility within the refinery complex.</p> <p>The annual returns (Form IV) of hazardous waste containing the data for oily sludge that is generated & disposed for the period of 2018-19 was submitted vide letter no. HMEL-TS-40-ENV 640 on dated 20th May 2019.</p> <p>During Apr'19-Sept'19, 1200 MT of oily and chemical sludge and 150 MT of spent catalyst has been disposed in SLF</p>																		
xvi	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 be disposed of as per Hazardous Waste (Management, Handling & Trans - Boundary movement) rules 2008 & amended time to time.	<p>The rules and regulations specified under MSIHC Rules, 1989, have been incorporated in the design requirements of refinery and its associated facilities and accordingly implemented. The hazardous waste is handled, stored, transported and disposed as per the Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2016 and the hazardous waste authorization issued by PPCB.</p> <p>Hence, this condition is complied with.</p>																		
xvii	The membership of common TSDF should be obtained for the disposal of the hazardous waste. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Chandigarh. 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.	<p>The refinery has an operational Secured Landfill (SLF) facility within the complex. Non-recyclable or non-reprocessible hazardous waste from the existing as well as expansion units are disposed in this SLF. Hence, membership for the common TSDF has not been taken.</p> <p>Spent catalyst from various units are disposed to SPCB authorized recyclers/reprocessors.</p> <p>Hence, this condition is complied with.</p>																		

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xviii	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.	<p>The oil spillage/leakage prevention management plan is in place. HC and toxic gas detectors are installed in the process area, the details of which are given below:</p> <table border="1" data-bbox="887 322 1477 465"> <thead> <tr> <th>Type of Detector</th> <th>Numbers</th> </tr> </thead> <tbody> <tr> <td>Hydrocarbon (process area)</td> <td>740</td> </tr> <tr> <td>Hydrocarbon (analyzer shelter)</td> <td>74</td> </tr> <tr> <td>Toxic gases + Hydrogen</td> <td>285</td> </tr> </tbody> </table> <p>In addition to the above 72 nos. of visual camera are also installed in the process area for early detection of leak/fire.</p>	Type of Detector	Numbers	Hydrocarbon (process area)	740	Hydrocarbon (analyzer shelter)	74	Toxic gases + Hydrogen	285										
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xix	The company shall strictly follow all the recommendations mentioned in Charter on Corporate Responsibility for Environmental Protection (CREP).	<p>The CREP recommendations implementation status is as under:</p> <table border="1" data-bbox="887 689 1477 2063"> <thead> <tr> <th>Sr No</th> <th>Requirement of CREP</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Installation of online monitoring system</td> <td>Completed. Continuous Emission/Effluent Monitoring System have been installed in stacks and ETP outlet. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are also installed. The CEMS and CAAQMS data is transmitted online data to CPCB servers since March 2016.</td> </tr> <tr> <td>2</td> <td>Zero Liquid Discharge</td> <td>Completed. GGSR is ZLD refinery. Entire treated water from ETP is used for greenbelt / horticulture development and dust suppression in petcoke yard within refinery.</td> </tr> <tr> <td>3</td> <td>Oily Sludge management</td> <td>Oily sludge generated from ETP is processed in DCU or sold to offsite reprocessors or disposed in SLF.</td> </tr> <tr> <td>4</td> <td>Installation of VOC collection and treatment system in ETP.</td> <td>Completed. Since design stage VOC collection and treatment system is installed and operational in ETP.</td> </tr> <tr> <td>5</td> <td>Air Emission reduction measures adopted.</td> <td>a. Use of Low Sulphur Fuel Oil and Fuel Gas in Refinery (<0.5 % sulphur in FO</td> </tr> </tbody> </table>	Sr No	Requirement of CREP	Status	1	Installation of online monitoring system	Completed. Continuous Emission/Effluent Monitoring System have been installed in stacks and ETP outlet. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are also installed. The CEMS and CAAQMS data is transmitted online data to CPCB servers since March 2016.	2	Zero Liquid Discharge	Completed. GGSR is ZLD refinery. Entire treated water from ETP is used for greenbelt / horticulture development and dust suppression in petcoke yard within refinery.	3	Oily Sludge management	Oily sludge generated from ETP is processed in DCU or sold to offsite reprocessors or disposed in SLF.	4	Installation of VOC collection and treatment system in ETP.	Completed. Since design stage VOC collection and treatment system is installed and operational in ETP.	5	Air Emission reduction measures adopted.	a. Use of Low Sulphur Fuel Oil and Fuel Gas in Refinery (<0.5 % sulphur in FO
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S. No.	Specific Conditions as per EC dated 22 nd June 2015	Compliance	
			<p>& < 150 mg/nm³ sulphur in FG).</p> <p>b. Use of low NOx burners in all heaters and boilers to minimize NOx emissions.</p> <p>c. Stack heights have been provided in line with minimum stack height criteria as per CPCB Standards</p> <p>d. Installation of Third Stage Separator (TSS) and Fourth Stage Separator (FSS) in FCC to minimize particulate matter emissions</p> <p>e. Floating roofs are provided in storage tanks to minimize the fugitive emissions.</p> <p>f. VOC emission treatment at ETP to minimize fugitive emissions.</p> <p>g. Closed Blow down System to minimize hydrocarbon emissions.</p> <p>h. LDAR program implemented.</p>
xx	Occupational Health Surveillance of the workers should be done on regular basis and records maintained as per Factories Act.	Health check is done once in six (6) months for workers working in operation area and yearly once for workers working in non-operational area. The health checkup records are being maintained as per Factories Act. The condition is complied with.	
xxi	As proposed Green Belt over 33 % of the total project area shall be developed within the plant premises with at least 10 metre wide green belt on all sides along the periphery of the project area, in downwards direction, and along road sides etc. Selection of plant species shall be as per CPCB guidelines in consultation with the DFO.	Green belt has been developed in consultation with Forest Department, Bathinda and as per the CPCB guidelines. Approx. 3,06,500 saplings have been planted in about 356 acre. Greenbelt of 125 meters wide has been developed in predominant wind directions i.e. East, South East, South, South West & West direction and 70 meters wide in the remaining directions i.e. North West, North, and North East directions.	
xxii	Company shall prepare project specific environmental manual and a copy shall be made available at the project site for the compliance.	Project Environmental Requirements was furnished to the Design and Engineering Contractor and the Projects Team for incorporating the environmental specifications/requirements during the design	

S. No.	Specific Conditions as per EC dated 22 nd June 2015	Compliance
		engineering phase of the project so as to ensure compliance to the regulatory requirements.
xxiii	All the recommendations mentioned in the Rapid Risk Assessment report, disaster management plan & safety guidelines shall be implemented. The company should make the arrangement for protection of possible fire and explosion hazards during manufacturing process in material handling.	External Safety Audit was conducted by M/s Chola Mandalam 28.09.2016 to 01.10.2016. The status of compliance as mentioned in the report is given below: Total number of recommendations recorded = 43 Recommendations completed = 43.
xxiv	All commitment made regarding issues raised during the public hearing/consultation meeting held on 14 th October, shall be satisfactorily implemented. Accordingly provision of budget to be kept.	Total 13 queries were raised during Public Hearing for the expansion project. 12 queries has been completed. 1 query was related to shifting of Kanakwal village and the same was closed by the District Administration. Hence, the condition is complied with.
xxv	At least 2.5% (54 crores) 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 Ministry's Regional Office at Chandigarh.	The details of Enterprise Social Responsibility are enclosed as Annexure-III . The time bound action plan of which has been submitted to RO, MoEFCC, Chandigarh Hence, the condition is complied with.
xxvi	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.	We have already adopted & implemented Corporate Environment Policy.
xxvii	Provision shall be made for the housing of construction labour within site with all necessary infrastructure and facility 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 completion of the project.	The project was completed in the year of 2017. During the project, canteen facility, toilet facility, RO drinking water & medical health care facility etc. was provided. Hence, this condition is complied with.

B. General Conditions

S. No.	General Conditions as per EC dated 22 nd June 2015	Compliance
i	The project authorities shall strictly adhere to the stipulations made by the State Government & Punjab Pollution Control Board.	All the stipulations made by the State Government and Punjab Pollution Control Board are being complied with.
ii	No further expansion or modification in the plant shall be carried out with our prior approval of the Ministry of Environment and Forest. 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.	Pursuant to obtaining this clearance, prior Environmental Clearance (EC) has been obtained from MoEFCC before implementing the BS VI project vide EC letter no. letter no. F.No. J-11011/386/2016-IA-II (I) dated 7 th August 2018. There have been no deviations or alterations made in the project proposal from those submitted to MoEFCC. Hence, this condition is complied with.

S. No.	General Conditions as per EC dated 22 nd June 2015	Compliance
iii	The locations of ambient air quality monitoring stations shall be decided in consultation with the Punjab Pollution Control Board (PPCB) and it shall be insured that at least one station is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Five (5) nos. of Continuous Ambient Air Quality Monitoring stations have been installed in consultation with PPCB in upwind & down wind direction of the existing Refinery. Hence, this condition is complied with.
iv	The overall noise levels in and around the plant area shall be kept 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 Environment (Protection) Act 1986 Rules, 1989 viz. 75 dBA (Day time) & 70 dBA (Night time).	The overall noise levels in and around the plant areas are well within the standards. Various noise control measures such as acoustic hoods, enclosures etc. have been provided for reducing noise impact from high noise generating equipment. The day time and night time noise level for the period Apr'19 to Sep'19 was in the range of 65-73 dBA and 58-67 dBA respectively. Please refer Annexure-I ambient noise monitoring reports.
v	The company shall harvest rainwater from the roof top of the building and storm drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	Total 6 nos. of rain water harvesting & ground water charging pits are installed inside the refinery premises. In refinery, storm water pond is provided to harvest rain water. Collected storm water is being utilized for firefighting and horticulture.
vi	The company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules 2008 and its amendment time to time and prior permissions from PPCB shall be obtained for disposal of solid/hazardous waste including boiler ash.	The authorization for collection, storage & disposal of Hazardous waste is available for refinery and is valid till 30 July'20.
vii	During transfer of materials, spillage shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic wastewater and storm water drains.	The condition is complied with. To avoid the mixing of accidental spillages with domestic wastewater and storm water drains during the transfer of material garland drains have been constructed.
viii	Usage of Personal Protection Equipment's by all employees/workers should be ensured.	PPE's has been provided to all the employees/workers. It is being ensured by all the plants that proper PPE's are worn by all concerned.
ix	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examination for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Each worker is imparted safety training before issuing gate pass and refresher training is done every 6 months. Periodic medical examination is done six monthly for workers working in operational area and yearly for workers working in non-operational area. This condition is being complied with.
x	The company shall also comply with all the environmental protection measures and safeguards proposed in the project report submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management risk mitigation measures and public hearing relating to the project shall be implemented.	This condition is complied with.

S. No.	General Conditions as per EC dated 22 nd June 2015	Compliance
xi	The company shall undertake CSR activities and all the relevant measures for improving the socio-economic conditions of the surrounding area.	This condition is being complied with. Details of activities undertaken for improving socio-economic conditions of the surrounding areas is attached as Annexure-III.
xii	The company shall undertake eco-developmental measures including community welfare measure in the project area for the overall improvement of the environment.	This condition is being complied with. Details of eco-developmental measures including community welfare measures in the project area is enclosed as Annexure-IV.
xiii	A separate Environmental Management cell equipped with full-fledged laboratory facilities shall be set up to carry out the environmental Management and Monitoring functions.	A dedicated Environment Management Cell headed by Deputy General Manager (Environment) looks after the Environmental Management and monitoring functions of the refinery. GGSR is also having state of the art laboratory with environment pollution analysis equipment.
xiv	As proposed the company shall earmark the sufficient funds toward capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment and Forest as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	This condition has been complied with.
xv	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad / Municipal Corporation Urban local Body and the local NGO, if any, from who suggestions /representations, if any, were received while processing the proposal.	This condition has been complied with. The company has not received any suggestions/representations while processing the proposal.
xvi	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as email) to the respective regional office of MoEF&CC, the respective zonal office of CPCB and the Punjab Pollution Control Board. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	This condition is being complied with. The six monthly compliance status reports of the stipulated Environmental Clearance conditions including results of the monitored data are being sent to regional offices of MoEF&CC, CPCB and PPCB. The copy of Environment Clearance and six monthly compliance reports has been uploaded on the HMEL website in the link given below: http://www.hmel.in/corporate-sustainability-disclosures-report
xvii	The environmental statement for each financial year ending 31 st March in Form - V as is mandated shall be submitted to the Punjab Pollution Control Board as prescribed under Environment (Protection) Rules, 1986, as amended subsequently, shall also be put up on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Chandigarh Regional offices of MOEF by e-mail.	This condition is being complied with. The environment statement for each financial year ending 31 st March in Form-V is being submitted to PPCB and the copy of the same is uploaded on the HMEL website in the link given below: http://www.hmel.in/corporate-sustainability-disclosures-report

S. No.	General Conditions as per EC dated 22 nd June 2015	Compliance
xviii	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 SPCB/committee and may also be seen at website of the ministry at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspaper 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 of Ministry.	The accordance of Environmental Clearance for the project was advertised in two widely circulated local newspaper namely Tribune Bathinda (English) and Ajit (Punjabi) on 30 th June 2015. A copy of these advertisement was submitted the Regional Office, MoEFCC, Chandigarh vide our letter no. 9112-000-TSHQ-009-2015-14 dated 7 th July 2015.
xix	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.	The requested projects milestones are as follows. <ol style="list-style-type: none"> 1. Date of Final Board Approval is 21-12-2012. 2. Date of financial closure is 20-03-2013. 3. Date of start of project construction activities is 09-09-2015.

Six Monthly Compliance Report from Apr'19 to Sep'19 for Environment Clearance in respect of Fuel Quality Up-gradation Project at Guru Gobind Singh Refinery, Village Phulokhari, Bathinda District, Punjab.

EC No: F. No. J-11011/386/2016-IA-II (I) dated 7th August 2018.

Status of the Project: The Fuel Quality Upgradation project for which the EC cited above is yet to be commissioned.

10.0: Specific Conditions

S. No. (As per EC letter)	Specific Conditions	Compliance Status
(i)	The project proponent shall take stringent mitigating and other remedial measure to minimize the incremental concentration of air pollution (mainly PM ₁₀ & PM _{2.5}) to extent possible.	The following measures have been implemented to minimize the emissions from the proposed project: <ol style="list-style-type: none"> 1. Regular Sprinkling of water on roads. 2. Enhancing green cover by planting 76,000 tree within the premises. 3. Additional greenbelt of 40 acres is also being developed by planting 40,000 tree saplings. 4. Widening and bitumen laying of roads. 5. Bitumen carpeting in vehicle parking areas at refinery main gate. 6. Discouraging of stubble burning by providing happy seeders to villagers.
(ii)	The project proponent shall develop local air quality management plan in consultation with SPCB and implemented to achieve desired standards.	The local air quality management plan has been prepared and submitted to PPCB vide letter no. HMEL-TS-40-ENV 644 no dated 24 th May'19. Thus, this condition is being complied with.
(iii)	The incremental ground level concentration (GLCs) for PM ₁₀ , PM _{2.5} , SO ₂ & NO _x due to the increased vehicular and other allied/developmental activities, shall be analysed and reported for actual impact of the project.	The project is yet to be commissioned. The condition will be complied with after commissioning.
(iv)	Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	The Consent to Establish for the project has been obtained from PPCB vide letter no. 2940 dated 6 th May'19. Consent to Operate for the project will be obtained before commissioning of the project. Hence, the condition is being complied with.
(v)	For the fuel quality up-gradation, as already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	The existing refinery complex is a Zero Liquid Discharge (ZLD) refinery. The additional effluent that will be generated from the project will be treated in the existing ETP. Treated effluent is recycled and re-used for greenbelt/horticulture etc. Hence, no waste/treated water is discharged outside the premises.
(vi)	Necessary authorization required under the Hazardous and other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in Rules shall be strictly adhered to.	This condition has been complied with.
(vii)	National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18 th March, 2008 and G.S.R. 595(E) dated	This condition is being complied with further also.

S. No. (As per EC letter)	Specific Conditions	Compliance Status																								
	21st August, 2009 as amended time to time shall be followed.																									
(viii)	Total SO ₂ emission from the refinery shall not exceed 990 kg/hr.	This condition will be complied with.																								
(ix)	The control source and the fugitive emissions, suitable pollution control devices shall be installed with different stacks (attached to DHDT, HGU, Prime G) to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	The DHDT and HGU plants are designed to meet prescribed CPCB/PPCB norms for the refinery. During emergency shutdown of these units, the gaseous emissions will be routed to the flare stack of height 140 m.																								
(x)	Total fresh water requirement shall not exceed 5,952 cum/hr (including 32 cum/hr for the proposed project) to be met from Kotla Canal. Necessary permission in this regard shall be obtained from the concerned regulatory authority.	The raw water consumption for the existing refinery for the period of Apr'19 to Sept'19 is given below: <table border="1" data-bbox="884 712 1458 1070"> <thead> <tr> <th>Sr. No.</th> <th>Month</th> <th>Consumption (m³/hr)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Apr'19</td> <td>1821</td> </tr> <tr> <td>2</td> <td>May'19</td> <td>1724</td> </tr> <tr> <td>3</td> <td>Jun'19</td> <td>1862</td> </tr> <tr> <td>4</td> <td>Jul'19</td> <td>1792</td> </tr> <tr> <td>5</td> <td>Aug'19</td> <td>1940</td> </tr> <tr> <td>6</td> <td>Sep'19</td> <td>2027</td> </tr> <tr> <td></td> <td>Average</td> <td>1861</td> </tr> </tbody> </table> <p>The additional water required after the implementation of proposed project for which the EC has been granted will not exceed 5,952 m³/hr. Necessary permission from the concerned regulatory authority is already obtained. This condition will be complied with.</p>	Sr. No.	Month	Consumption (m ³ /hr)	1	Apr'19	1821	2	May'19	1724	3	Jun'19	1862	4	Jul'19	1792	5	Aug'19	1940	6	Sep'19	2027		Average	1861
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(xi)	Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.	The process effluent from the proposed project will be routed to existing ETP for treatment through dedicated pipe network, whereas the storm water routed to separate network (open channels) to avoid mixing of process effluent with storm water. The same has been incorporated in the design engineering for the project. The condition is being complied with.																								
(xii)	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arrestors shall be provided on tank farm, and solvent transfer to be done through pumps.	All hydrocarbons are stored in tanks. No new tank is proposed to be installed in the project. Hydrocarbon transfer is done through pumps. This condition is complied with.																								
(xiii)	Process organic residue and spent carbon shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufacturers/cement industry.	Any additional ETP sludge generated will be recycled back in DCU. Fly ash generated from CFBC boilers is disposed to cement industries.																								
(xiv)	The company shall strictly comply with the rules and guidelines under Manufacture, Storage and import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation	As per the existing practice, this condition will be complied with.																								

S. No. (As per EC letter)	Specific Conditions	Compliance Status
	of Hazardous chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	
(xv)	Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly ash & dust should be avoided.	Fly ash generated from CFBC boilers is stored in 2 nos. of silos and is then sent to cement industries. Thus condition is being complied with.
(xvi)	The company shall undertake waste minimization measures as below:- <ul style="list-style-type: none"> a. Metering and control of quantities of active ingredients to minimize waste b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c. Use of automated filling to minimize spillage. d. Use of Close Feed system into batch reactors. e. Venting equipment through vapor recovery system f. Use of high pressure hoses for equipment clearing to reduce wastewater generation 	The condition will be complied with. <ul style="list-style-type: none"> a. All feed stream flow will be measured & auto controlled. b. No by-products will be produced in BS-VI fuel quality up-gradation project. c. Raw material and products will be transferred through pipe lines. d. As the process flow will be continuous, batch reactors are not proposed. Hence, not applicable. e. Ventilation equipment will be connected to closed flare system in which flared hydrocarbons are recovered. f. Noted and will be complied with.
(xvii)	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guideline in consultation with State Forest Department.	Green belt has been developed in consultation with Forest Department, Bathinda, as per the CPCB guidelines. At present approx. 3,65,000 saplings have been planted in about 356 acre of land. A greenbelt of about 125 meters wide in predominant wind direction i.e East, South East, South, South West, & West direction and 70 meters wide green belt in the remaining directions i.e North West, North, and North East direction have been developed. In the year 2019-20, greenbelt of about 40 acres is further being developed by planting 40,000 tree saplings. Selection of species for greenbelt development have been done based on the agro-climatic zone of Punjab prescribed by CPCB in its manual "Guidelines for Developing Greenbelts". Hence, this condition is complied with.
(xviii)	At least 0.25% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.	Rs. 275 lakhs i.e. about 0.25% of total project cost has been allocated for Corporate Environment Responsibility (CER) and the time bound action plan has been submitted to MoEFCC. The copy of the mail to MoEFCC is enclosed as Annexure-VI .

S. No. (As per EC letter)	Specific Conditions	Compliance Status
		A 250 KLD wastewater treatment plant has been installed and made operational by the Company in Phullokari village under Corporate Environmental Responsibility (CER). Till date, the Company has incurred an expenditure of Rs. 66 lakhs.
(xix)	For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	One D.G. set of 750 kVA has been proposed for emergency power for the fuel quality up-gradation project. The emission limits and the stack height will be in conformity with the CPCB guidelines. Acoustic enclosures will also be provided as noise control measures.
(xx)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	Firefighting system in manufacturing process and material handling areas are already installed as per OISD standards.
(xxi)	Continuous online (24*7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within premises	Online SO ₂ , NO _x , CO and SPM analysers for the existing refinery have been installed and the online data is being transmitted to CPCB servers. Similarly online continuous effluent monitoring systems and flow meters have been installed at the existing ETP and the online data is being transmitted to CPCB/PPCB. For stacks in the proposed project, CEMS for SO _x , NO _x , CO and PM have been installed & the online data will be transmitted to CPCB/PPCB after the commissioning of the project.
(xxii)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Complied. Occupation health surveillance is done once in six (6) months for employees working in operational area and yearly once for employees working in non-operational area, and records maintained as per the Factories Act. This condition is being complied with.

10.1: Generic Conditions

S. No. (As per EC letter)	General Conditions	Compliance Status
(i)	The project authorities must strictly adhere to the stipulations made by the State Government, Central Pollution Control Board, State Pollution Control Board and any other statutory authority.	All the conditions stipulated by the MoEFCC, CPCB and PPCB are being strictly adhered to.
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. 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.	Prior Environmental Clearances have been obtained from MoEFCC before implementing the modification/expansion of the existing refinery. Hence, this condition has been complied with.
(iii)	The locations of ambient air quality monitoring stations shall be decided in consultation with the	Five (5) nos. of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed at

	State Pollution Control Board (SPCB) and it shall be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	the periphery of the refinery in consultation with Punjab Pollution Control Board (PPCB). Hence, this condition is complied with.
(iv)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R No 826(E) dated 16 th November, 2009 shall be followed.	The National Ambient Air Quality Emission Standards issued by MoEFCC vide G.S.R. No 826 (E) dated 16 th November 2009 is being monitored and the data of which is being transmitted online to CPCB servers.
(v)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules viz. 75 dBA (day time) and 70 dBA (night time).	The overall noise levels in and around the plant areas are well within the standards. Various noise control measures such as acoustic hoods, enclosures etc. have been provided for reducing noise impact from high noise generating equipment. The day time and night time noise level for the period Apr'19 to Sep'19 was in the range of 65-73 dBA and 58-67dBA respectively. The detailed monitoring reports for the period of Apr'19 to Sep'19 is given in Annexure-I . Hence, this condition has been complied with.
(vi)	The company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water	Total 6 nos. of rain water harvesting & ground water charging pits are installed inside the refinery premises. In refinery, storm water pond is provided to harvest rain water. Collected storm water is being utilized for firefighting and horticulture.
(vii)	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Each worker is imparted safety training before issuing gate pass and refresher training is done every 6 months. Pre-employment and periodic medical examinations are done six monthly for workers working in operational area and yearly once for workers working in non-operational area. This condition is being complied with.
(viii)	The company shall also comply with all the environment protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management and risk mitigation measures relating to the project shall be implemented.	This condition is being complied with.
(ix)	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.	This condition is being complied with. Details of activities undertaken for improving socio-economic conditions of the surrounding areas is attached as Annexure-III .
(x)	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	This condition is being complied with. Details of eco-developmental measures including community welfare measures in the project area is enclosed as Annexure-IV .
(xi)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement conditions stipulated by the Ministry of Environment, Forest and Climate change as well as the State government along with the implementation schedule for all the conditions stipulated herein. The funds so	The company has earmarked sufficient funds towards capital cost and recurring cost per annum to implement conditions stipulated by the MoEFCC as well as PPCB will not be diverted for any other purpose.

	earmarked for environment management/pollution control measures shall no be diverted for any other purpose.	
(xii)	A copy of clearance letter shall be sent by the project 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 company did not received any suggestions/representations while processing the proposal. This condition has been complied with.
(xiii)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environment Clearance and six monthly compliance status report shall be posted on the website of the company.	This condition has been noted and is being complied with.
(xiv)	The environment statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be send to the respective Regional Offices of MoEF&CC by e-mail.	The environment statement for each financial year ending 31 st March in Form-V is being submitted to PPCB for the existing refinery project. Similarly, for the proposed project the environmental statement in Form – V as mandated will be submitted to PPCB.
(xv)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/committee and may also be seen at Website of the Ministry at http://moef.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to other concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry	The copy of the advertisement publishing the accordance of Environmental Clearance by MoEF&CC in the two local widely circulated newspaper is attached as Annexure-V . Hence, this condition has been complied with.
(xvi)	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.	This condition will be complied with.