HARYANA STATE POLLUTION CONTROL BOARD
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HSPCB/SEE-I/2020/SPL-1 **Dated: 23.04.2020**

To

The Registrar,
Hon'ble National Green Tribunal,
New Delhi

Sub: Final report of the Joint Committee of CPCB, HSPCB and CSIR-NEERI in compliance of Hon'ble NGT Order dated 26.11.2019 in the matter of OA No. 738 of 2018 titled as Satpal Singh, Sarpanch, Gram Panchayat Singhpura Sithana, Panipat Versus Indian Oil Corporation Limited, Panipat Refinery.

Kindly refer to the subject noted above.

In this connection, please find enclosed herewith a fresh report of the Joint Committee of CPCB, HSPCB and CSIR-NEERI in compliance of Hon'ble NGT Order dated 26.11.2019 in the matter of OA No. 738 of 2018 titled as Satpal Singh, Sarpanch, Gram Panchayat Singhpura Sithana, Panipat Versus Indian Oil Corporation Limited, Panipat Refinery along with annexures (1-16), video and photographs (annexure 17) for your reference.

It is submitted for information and further necessary action please.

DA.1. Fresh Report

2. Annexures (1-16)

3. Video and Photographs (annexure 17)

Bhupender singh (SEE HSPCB)
Nodal Officer Joint committee

Report of the Joint Committee of CPCB, HSPCB and CSIR-NEERI in compliance of Hon'ble NGT Order dated 26.11.2019 in the matter of OA No.738/2018; Satpal Singh, Sarpanch, Gram Panchayat Singhpura Sithana, Panipat Versus Indian Oil Corporation Limited, Panipat Refinery

Hon'ble NGT in its order dated 26/11/2019 (Copy attached as **Annexure-1**) observed and directed as under:

> *"As regards liability for quantum of compensation, we propose to consider the same at the later stage, after necessary remedial action for restoration of environment and compliance of norms, has been taken by the unit.*
>
> *We accept the suggestions for improvement which are almost unanimous and which have also been earlier pointed out. No doubt the State PCB has given revised consent, subject to certain conditions, but even in the latest report the State PCB has suggested further remedial measures. Even Deputy Commissioner, Panipat has suggested remedial measures. Let such remedial measures be taken forthwith. The Joint Committee of CPCB, State PCB and NEERI may verify the latest status of compliance within one month and give its fresh report. The Nodal Agency will be the State PCB. The report may be furnished by email at judicial-ngt@gov.in by 31.01.2020"*

The Joint Committee comprising members from HSPCB, CPCB and CSIR-NEERI visited the site from 14/01/2020 to 16/01/2020 and observed that no progress has been made by IOCL towards restoration of environment and implementation of the recommendations given by the members of the joint committee. The joint committee requested IOCL to provide the compliance status alongwith other related information. However, the statement submitted by IOCL didn't indicate any actions taken on the recommendations/suggestions of the Joint Committee. The committee revisited the site from 12.02.2020 to 14.02.2020. The Compliance status as provided by IOCL to the Committee during inspection is attached as **Annexure-2.**

The observations of the Joint Committee recorded during both the visits have been consolidated and are presented as under:

S. No.	Recommendations of the Joint Committee and Members of the Joint Committee	Date of recommend-dation by Joint Committee	Status as on 13/2/2020
1.	To stop Illegal discharge into the thirana drain	15/11/2018	HSPCB has granted revised Consent to Operate for the discharge of 255 m3/hr of treated effluent from PTA plant in to Thirana drain vide CTO No. HSPCB/Consent/ 313105619/PITCTO679658 dated 25/7/2019 ***with the condition that the industry will obtain permission from Irrigation department for the discharge of the treated PTA effluent into the Thirana drain*** **(Annexure-3)** IOCL started discharge of effluent into the Thirana drain w.e.f 18/8/2019 as intimated by IOCL to Regional Office of HSPCB vide letter No. PR/HSE/HSPCB/2019 dated 19.08.2019 **(Annexure-4)** ***However, the IOCL has not obtained permission from irrigation department, for discharge of effluent into the Thirana drain.*** In view of the non-compliance of the condition of Consent to operate by IOCL, Regional Office of HSPCB has issued reminder letters No. HSPCB/PR/2019/2414 dated 15/11/2019 and No. HSPCB/PR/2019/2948 dated 27/12/2019, requesting IOCL to provide the permission of Irrigation Department for discharging effluent into the thirana drain **(Annexure-5 and 6)**. However, no permission letter has been submitted by IOCL. ***Now, HSPCB has issued letter to IOCL vide No. HSPCB/PR/2020/3324 dated 11/2/2020 directing the industry to treat it as last opportunity for submission of the permission of Irrigation department for discharging effluent into the Thirana drain, within 7 days failing which, necessary action will be initiated as per the provisions of Water Act 1974*** **(Annexure-7)** It was also informed by the Regional Officer, HSPCB, Panipat that Irrigation Department has also been requested to provide copy of the

			permission granted to IOCL, if any, for discharging effluent into the Thirana drain vide letter No. HSPCB/PR/2020/3085 dated 14/1/2020 (**Annexure-8**). However, no feedback has been received from irrigation department, so far. ***Therefore, effluent is being discharged into the drain by IOCL, without obtaining permission from the irrigation department, which is a non-compliance of the condition of consent to operate granted by HSPCB.*** ***Further, during inspection of the thirana drain on 14.01.2020, the Joint Committee observed that effluent is also being discharged by IOCL Panipat Naphtha Cracker Unit (Another unit of IOCL) through a 36" diameter pipe line*** (Photograph attached in **Annexure-17**). The discharge of the effluent in to the Thirana drain was recorded by the joint committee in the presence of RO HSPCB Panipat **(Video is attached).** It was informed by RO HSPCB Panipat the Consent to Operate was granted to the Naphtha Cracker unit only for Recycle and Reuse of the treated effluent and no permission has been granted for the discharge in to the Thirana Drain to this unit. After observing discharge in to the drain, the committee asked the representative of the IOCL to come at discharge point so that Sample could be collected in the presence of the representative of the unit. But, by the time, the representative of IOCL came at site, another team of IOCL Naphtha Cracker unit stopped the discharge by blinding the pipe with the help of MS plate. **Photograph** of the team & the vehicle by which they arrived attached in **Annexure-17.** Thereafter representative of the unit came and informed that the effluent discharged into Thirana drain is Storm Water from Naphtha Cracker Unit.

			To identify the source of effluent discharged from Naphtha Cracker, Joint committee visited the unit along with representative of the IOCL on 15/1/2020. It was found that the Unit has constructed a huge pond for storage of Storm Water, as informed by the representatives of the industry. It was observed that number of jet sprinklers were installed in the pond and on enquiry Naphtha Cracker unit's official stated that the jet sprinklers are installed to reduce the BOD & COD level of the effluent stored in the Pond. **(Photograph attached in Annexure-17).** The sample of the effluent stored in the storm water storage pond collected on 15/1/2020. The joint committee also re-inspected the discharge point of Naphtha Cracker unit in thirana drain on 15.01.2020, which was found non operational. However, it was observed that stagnated effluent is having odour and therefore the sample of the effluent of Thirana drain at 100 meters downstream of the discharge point was collected. Both the samples i.e sample collected from the storm water pond and the sample collected from the Thirana drain were sent to the Laboratory of HSPCB for analysis. ***The results of analysis of both the samples showed high levels of BOD, COD and SAR, which are not expected from storm water, thereby indicating that storm water is contaminated with industrial effluent*** (Copy of the analysis reports attached as **Annexure-9 & 10**). ***HSPCB has issued two show cause notices vide No. 3129 dated 17.01.2020 and No. 3311 dated 10.02.2020 for on account of non-compliance of conditions of consent to operate granted to Naphtha Cracker Unit (Annexure – 11 & 12)***
2.	The unit needs to make arrangement to cover all open potential sources of VOCs emissions in	15/11/2018	***Not implemented as on date.*** As per IOCL, installation of VOC recovery system at ETP 1 & 2 is expected to be completed by May, 2021.

	effluent treatment plant and recovery of VOCs after carrying out the study regarding VOC emitting potential/study of different components of effluent treatment plant.		*As per IOCL, EOI for studying the feasibility to cover the polishing pond A (Untreated effluent) will be published by April 2020 and based on the outcome of EOI, suitable action will be initiated by Dec, 2020.*
3.	State Government may further get the study done w.r.t to plan for restoration of ground water quality based on the usage schedule of the ground water in Panipat area, in consultation with district administration, State pollution control board and other concerned departments, to ensure ill effects of contaminated ground water on the health of local people. The cost of restoration would be finalized after appropriate study for restoration of ground water quality based on the usage schedule of the ground water in Panipat area by State Govt. As proposed in report of CGWB Engineering feasibility of dewatering and refilling of aquifers, as proposed in the report of CGWB, shall be relooked for its environmental implications	26/11/2019	***No progress made.*** Nodal Officer, HSPCB has been requested for getting details from State Government.
4.	IOCL may be directed to provide safe drinking water to	26/11/2019	***As on today, no arrangement made to supply drinking water to the effected villages.***

	nearby villages affected by Drinking Water quality issues till the restoration of the ground water quality.		As per Letter dated 11/2/2020, provided by IOCL to the joint Committee, *IOCL has requested District Administration, Panipat to provide a proposal with estimate of cost incurred for providing safe drinking water to nearby affected villages* (**Annexure-13**).
5.	Extensive rainwater harvesting may be more sustainable solution to restore the quality of ground water. Panipat on an average receives 600mm of rain annually. If the same can be harvested in an efficient way, the same can prove to restore the quality of groundwater in lesser time and cost with no further environment implication.	26/11/2019	**No Initiatives have been taken in this regard as on date.** However, the compliance status submitted by IOCL on 13.02.2020 states that Rain Water Harvesting is not advisable for total plant areas due to presence of hydrocarbons. Therefore, it is planned to install rain water harvesting facilities for all plant & non plant buildings within the Refinery. ***As informed by the Unit, there are total 38 potential locations identified in Refinery area out of which installation of 04 Nos. RWH aquifer recharging facility shall be completed in FY 2019-20 and balance by next two years.***
6.	Green Belt Development is another sustainable solution to the Environmental Issues over the decades. Yearly targets and monitoring of them can give long term sustainable solutions. The action to be taken by the IOCL should be monitored quarterly, quantitatively and qualitatively by the District Administration and State Pollution Control Board.	26/11/2019	15000 trees plantation have been done and proposing to add additional 50000 trees will be planted for green belt development. ***The Joint Committee has observed plantation done by IOCL at various locations.***
7.	Water stored in multiple lagoons/ponds inside the plant should be treated and recycled before lining the lagoons to make these lagoons impervious as	26/11/2019	***The storm water contaminated with oily waste water storage ponds are not lined. Polishing pond C is not lined and according to IOCL officials it will be lined by March, 2022.*** ***The joint committee has observed that there are no separate drains for storm water and waste water. Everything flowing in open drains within the premises, irrespective of the source, is***

	mandated in COT dated 25-07-2019.		***considered as storm water by the industry and is not treated in ETP before reusing and discharging into the drain, except passing through oil traps.*** IOCL needs to segregate waste water drains from storm water drains, to prevent cross contamination of storm water and to ensure treatment of waste water in ETP before recycle/ reuse. ***No waste water is to be discharged in the drain in the name of storm water, as per conditions of the consent to operate granted by HSPCB.*** ***The industry may be directed by HSPCB to create adequate effluent treatment capacity to take care of entire effluent.***
8.	No untreated water will be stored in the lagoons/ponds except in the tanks, which are components of effluent treatment plant. "	26/11/2019	***Still practising to store the untreated waste water and partially treated waste water in ponds, this indicates that effluent treatment capacity is inadequate.***
9.	The State PCB has given revised consent, subject to certain conditions, but even in the latest report the State PCB has suggested further remedial measures.	26/11/2019	As per the IOCL, expression of Interest (EoI) had been floated for feasibility of ZLD facility for PTA-ETP treated effluent in November, 2019. Eight vendors participated (details enclosed) and made technical presentation in January, 2020. The vendors have been asked to submit budgetary quotation. Based on the same, tender will be floated. **ZLD facility installation targeted by March, 2023, as informed by the representative of the industry.**

Other observations of Joint Committee:

i. The samples of treated waste water were collected from six locations within the plant premises were collected by joint Commitee and sent to two laboratories viz. HSPCB Laboratory and Environment & Climate Change Department laboratory, Govt. of Haryana. The results of analysis of samples of treated effluent have been received from both the laboratories **(Annexure 14 & 15)**, which have been summarized in the following **Table 1**.

Table 1: Results of analysis of treated effluent samples collected by the Joint Committee

*Haryana State Pollution Control Board Laboratory; ** Environment & Climate Change Department laboratory

The evaluation of the results of analysis of samples collected by Joint Committee shows

Parameters	Final Discharge of PTA-ETP into Thirana Drain		Polishing Pond-B (Treated Effluent of PTA-ETP)		Final discharge of PTA-ETP at the Inlet of Guard Pond B		Storm Water Pond near PTA-ETP		Guard Pond A of PTA ETP		Guard Pond C of PTA ETP		Prescribed Limits
	HSPCB Lab *	ECCD Lab**	HSPCB Lab	ECCD Lab	HSPCB Lab	ECCD Lab	HSPCB Lab	ECCD Lab	HSPCB Lab	ECCD, Lab	HSPCB Lab	ECCD Lab	
Appearance	Brownish	Turbid	Pink	Reddish	Brownish	Turbid	Blackish	Turbid	Brownish	Turbid	Brownish	Turbid	-
Odour	Mild	Mild	Mild	Mild	Mild	Mild	Light Foul	Mild	Mild	Mild	Mild	Mild	-
pH	8.75	7.24	8.77	7.59	8.64	7.8	8.96	7.32	8.53	7.26	8.26	7.06	6.5-8.5
TSS, mg/l	18	32	160	174	19	23	158	70		13		12	100
COD, mg/l	86	77	923	568	129	134	328	342	56	76	71	68	250
BOD, mg/l	19	11	230	345	34	46.5	82	70	15	12	17	11	30

that:

- *The final discharge of treated effluent collected from the thirana drain meets the prescribed limits of all the parameters prescribed in the Consent to Operate granted by HSPCB.*
- *Treated effluent of PTA-ETP stored in the Polishing Pond-B does not meet the prescribed limits of TSS (160 mg/l > 100 mg/l, HSPCB Lab; 175 mg/l > 100 mg/l, ECCD lab), COD (923 mg/l > 250 mg/l, HSPCB Lab; 568 mg/l > 250 mg/l, ECCD lab) and BOD (230 mg/l > 30 mg/l, HSPCB Lab; 345 mg/l > 30 mg/l, ECCD lab).*
- *The Treated effluent of PTA-ETP at the Inlet of Guard Pond B does not meet the prescribed limits of BOD (34 mg/l > 30 mg/l, HSPCB Lab; 46.5 mg/l > 30 mg/l, ECCD lab).*
- *Sample of Waste water from Storm Water pond near PTA-ETP does not meet the prescribed limits of COD (328 mg/l > 250 mg/l, HSPCB Lab; 342 mg/l > 250 mg/l, ECCD lab) and BOD (82 mg/l > 30 mg/l, HSPCB Lab; 70 mg/l > 30 mg/l, ECCD lab).*

ii. The exceedance of various parameter in the treated effluent stored at various locations within the premises of the Unit indicates that the capacity of the ETP is inadequate to take care of entire effluent generated by the Unit.

iii. *Waste water and the storm water are transported through the common drains and stored in the unlined storage ponds. Everything passing through open drains is considered as Storm water by IOCL.*

This contaminated waste water is not shown in the consent to operate granted.

This waste water should not be stored in the unlined ponds to avoid contamination of underground water. ***Presently, this contaminated waste water is passed through oil traps and is reused for fire fighting purpose and discharging in the drain, in the name of storm water. There is no effluent treatment plant (ETP) installed by IOCL for this contaminated waste water. The results of the analysis of the sample collected by the Joint Committee from the storm water pond also suggest that water stored in this pond is not the storm water but the untreated water contaminated with the industrial effluent.***

The IOCL is required to segregate the waste water and storm water. Waste water should be treated in proper effluent treatment to achieve the prescribed standards before recycle & reuse as per consent to operate granted by HSPCB. The IOCL should get this waste water included in the consent to operate, to ensure monitoring of prescribed standards by HSPCB. The contaminated waste water currently stored in this pond should be treated, recycled and reused.

iv. ***IOCL has not obtained and submitted permission from irrigation department, for discharge of effluent into the Thirana drain, as per precondition of the fresh consent to operate granted by HSPCB, despite issuance of reminder letter by HSPCB.***

Now, HSPCB has issued letter to IOCL vide No. HSPCB/PR/2020/3324 dated 11/2/2020 directing the industry to treat it as last opportunity for submission of the permission of Irrigation department for discharging effluent into the Thirana drain, within 7 days failing which, necessary action will be initiated as per the provisions

of Water Act 1974. Despite this, no permission from irrigation department has been submitted by the unit as on 18/3/2020.

Comments of Joint Committee w.r.t re-examination of the damage assessment made by NEERI and CPCB, as suggested by HSPCB Member, in the Final Report submitted to Hon'ble NGT :

As mentioned in Hon'ble NGT Order dated 26/11/2019, a separate report filed by the representative of State PCB concludes as follows:

*"After going through the assessment reports of CPCB, CSIR-NEERI, CGWB, and District Administration the undersigned opines that the **justification for doubling of the environmental compensation assessed by CPCB has not been clearly brought out in the report.** Further, the violation period accounted by CSIR-NEERI and CPCB are different and there is no uniformity in the period for which the violations have been counted for. Also, a component of the environmental compensation relating discharge of effluent indicated by CPCB Member has also been included by CSIR-NEERI in his report, thereby duplicating the same. **Therefore, this aspect may require re-examination by the Joint Committee further."***

As suggested by HSPCB Member, the above aspects were re-examined by the joint committee by revisiting the records available with Nodal Officer of HSPCB and the outcome is as under:

i. The interim compensation as calculated by CPCB Member was communicated to other two members of the Joint Committee viz. DC, Panipat and HSPCB Member (Nodal Officer). ***Other two members of the Joint Committee i.e DC, Panipat and then Nodal Officer, HSPCB decided to impose the compensation by considering the deterrent factor of 2.0, based on the paying capacity of the industry and quantum of damage caused to the environment and submitted the report to Hon'ble NGT on 09/05/2019. Therefore, deterrent factor was decided jointly by DC, Panipat and HSPCB, Nodal Officer, in compliance of the order of Hon'ble NGT in this matter.***

II. ***No non-uniformity has been found by the Joint Committee w.r.t violation period accounted by CSIR-NEERI and CPCB.*** NEERI has made assessment based on the details provided by Joint Committee and ***both these assessments are independent of each other.***

III. However, one of the Component i.e. Rs. 18,46,339/- for the damage caused on account of discharge of BOD was common in the reports of NEERI and CPCB. Therefore, it was decided by Joint Committee in its meeting held on 26/4/2019, to exclude the amount of Rs. 18,46, 339/= from the total amount of damage calculated by NEERI. ***This was also communicated to DC, Panipat by the Nodal Officer with copy to the members of the Joint Committee and Registrar, National Green Tribunal*** *vide Letter dated HSPCB/Sr.SC/2019/Spl/PNP-1 dated Sept 13, 2019* (**Annexure-16**). ***However, this correction was not incorporated by the HSPCB Nodal Officer while submitting the Final Report to Hon'ble NGT.***

Therefore, in view of the above, the cost towards of damage caused to public health & environment as calculated by NEERI may be considered as 92.59-0.1846 = Rs.92.40 Crores in place of Rs. 92.59 Crores as submitted in the earlier report.

There is no change in the damage assessment calculated by CPCB member submitted in the earlier report to Hon'ble NGT, towards oxygen depletion and pollution caused to the surface water due to illegal discharge of waste water.

This report of the Committee is submitted for consideration of Hon'ble NGT.

(Sh. Bhupender Singh)	**(Dr. Narender Sharma)**	**(Dr. M. Suresh Kumar)**
S.E.E, HSPCB	Scientist 'E' CPCB	Chief Scientist, CSIR-NEERI

22/4/2020

Date: April 22, 2020.

Item No. 02 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 738/2018

(With Report dated 23.11.2019)

Satpal Singh, Sarpanch, Gram
Panchayat Singhpura Sithna, Panipat Applicant(s)

Versus

Indian Oil Corporation Ltd. Panipat Refinery Respondent(s)

Date of hearing: 26.11.2019

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER
HON'BLE MR. SAIBAL DASGUPTA, EXPERT MEMBER

For Respondent(s): Mr. Raj Kumar, Advocate for CPCB
Mr. Anil Grover, AAG, Haryana with Mr. Rahul Khurana, Advocate for HSPCB and State of Haryana with Mr. Rajesh Garhia, Sr. Environment Engineer
Mr. Ankur Sood, Advocate with Ms. Romila Mandal, Advocate for IOCL

ORDER

1. This order is being passed in continuation of order dated 10.05.2019 dealing with the violation of environmental norms by the Indian Oil Corporation Ltd. (IOCL) Panipat Refinery, Panipat.

2. After considering a complaint that air and water pollution by Panipat Refinery was causing large scale diseases affecting the inhabitants of the area, a joint team comprising Central Pollution Control Board (CPCB), Haryana State Pollution Control Board (HSPCB) and Deputy Commissioner, Panipat was required to furnish an action taken report vide order dated 15.11.2018.

3. The report dated 15.01.2019 acknowledged enormous pollution. The samples from the Effluent Treatment Plant (ETP) were found to be non-compliant. Ambient air quality was exceeding the norms. VOCs were resulting in irritation to eyes and odour which was observed by the joint team during inspection. Untreated effluent was found to be discharged in the green belt areas. Unit was not complying with the conditions of recycling and reusing treated water. ETP was not being operated efficiently and was not adequate. Untreated effluents were being stored in open storage lagoon without VOC recovery system. The ground water samples were not complying with the norms. Relevant observations in the report are as follows:

"conclusions and recommendations:-

1. *The Online Analyzers provided by the unit for monitoring of treated effluent quality and for air emission was found in working condition and transmitting real time data to CPCB/HSPCB server.* ***However, the samples collected for analysis from the outlet of ETP and from Thirana Drain were found to be non-complying with the prescribed norms whereas results of the stream diverted to OCEMS in a room was found to be complying with the norms as per values recorded in OCEMS, which indicate that effluents stream used for online monitoring may not be the same as the final outlet of ETP. Therefore, sensors of Online Continuous Effluent Monitoring system needs to be installed directly into the final discharge rather than taking one small pipe line to a room for OCEMS as presently being done by the unit, to prevent tempering of the representative discharge sample.***
2. *The ambient air quality data collected at different points at villages and within premises was found exceeding in PM_2 and* ***PM_{10} value of ambient air was found to be 290.0, 165.0, 123.5 and 176.5 against the limit of 100 mg/Nm3 which indicates that unit might be contributing to increase in PM value in ambient air the adjoining areas****.*
3. *State Pollution Control Board does not have the facility to monitor VOCs in the ambient air to know the impact of Unit w.r.t. VOCs in the surrounding area.* ***However, irritation***

to eyes and odour was observed by the team in the vicinity of the Unit. *A study to identify all possible sources of VOC emissions in the Unit including open untreated effluent storage earth tanks & other components of ETP for taking control measures periodical monitoring of the VOCs in the surrounding areas by external agency is strongly recommended.*

4. ***The untreated effluent was found discharged in Green Belt area outside the premises of the unit and was lying stagnant in the form of Cess Pool which may cause spread of odour in the nearby areas. The analysis of the sample collected from the Cess Poll reveals that the parameters are exceeding w.r.t. BOD (102, 1200, 880, 990 in mg/l) against the limit of 30 mg/l, COD (360,3580,2872,5472 in mg/l) against the limit of 250 mg/l, TSS (194, 124, 552, 252, 156 in mg/l) against the limit of 100 mg/l, Oil & Grease (16,13,17.5 in mg/l) against the limit of 10 mg/l & TDS (2520, 2824,2224,3050 in mg/l) against the limit of 2000 mg/l, which clearly shows that untreated effluent is being discharged into Green Belt.*** *The unit has been granted consent to operate by Haryana State Pollution Control Board only for "Recycle and Reuse" of the trade effluent. Therefore, HSPCB need to direct the Unit to comply with the condition of "Recycle and Reuse" and stop all illegal means of discharge to avoid stagnation of treated effluent for preventing emission of VOCs and deterioration of ground water quality.*

5. *The unit is showing Zero Liquid Discharge in Environment Statement submitted by the unit for the year 2017-18 vide letter dated 24.09.2018. In compliance report submitted of MoEF&CC letter dated 05.07.2018 and as verified by the Regional Office of MoEF&CC vide letter dated 13.11.2017, it was verified that* ***the unit is reusing the treated effluent from PTA-ETP (ETP-III) as a makeup to cooling towers and balance is used for irrigation in green belt. Whereas, the Unit has been granted consent to operate only for reuse and recycle of treated trade effluent. The Units needs to dismantle all the illegal effluent discharge points immediately to comply with the terms of the consent granted by the State Pollution Control Board.***

6. ***The units not complying the conditions of the Recycle and Reuse as per the condition of Consent to Operate granted by the HSPCB as the unit is discharging effluent from PTA-ETP (ETP-III) into Thirana Drain. The discharge of the trade effluent in the open Thirana Drain has been found to be a major source of odour in the nearby area****. This becomes most significant and critical in view of the fact that the drain is open and there is no dilution in the Thirana Drain for any other source and flow of industrial effluent with high potential of emitting VOCs across the drain may adversely affect the surrounding environment. The illegal discharge of effluent in to the Open Thirana Drain should be immediately stopped to avoid the contamination of ambient air and surface water.*

7. ***The Concrete Lining of Thirana Drain was found ruptured at one point*** *due to which effluent discharged in green belt by the unit was flowing in Thirana drain through the point of rupture. The unit needs to stop the discharge from this ruptured point along the green belt and shall close such illegal discharge point.*
8. *The details of the effluent samples collected from final outlet of ETP-I, ETP-II, ETP-III by the team are given below in Table IV with exceeding values shown in bold.*

Table – IV

Parameter (mg/l)	*Limit as per EP Act, 1986*		*ETP-I*	*ETP-II*	*ETP-III*
	ETP-I, ETP-II,	*ETP-III*			
TSS	*20*	*100*	*11*	*24.0*	*142*
BOD	*15*	*30*	*21*	*48.0*	*170*
COD	*125*	*250*	*120*	*179*	*460*
O&G	*5*	*10*	*3.5*	*7.0*	*8.5*
TDS	*2000*	*2000*	*1090*	*1491.0*	*2224*

The unit is not meeting the discharge Norms for BOD in ETP-I (21>15), ETP-II (48>15) and ETP-III (170>30) ; COD in ETP-II (179>125) and ETP-III (460>250); Oil and Grease in ETP-II (7>5) ; TDS in ETP-III (2224>2000). ***The results in above table show that either the unit is not operating its effluent treatment plant efficiently or the ETP installed by the Unit is not adequate.*** *The unit is discharging untreated effluent in Green Belts, outside the premises of the unit and into Thirana Drain which may result in odour problem in the nearby areas besides deterioration of ground water quality. The unit need to get the adequacy report of the effluent treatment plant done including adequacy for control, of VOCs from various ETP components for upgradation of effluent. The unit also needs to operate only legal and permitted mode of discharge/reuse of treated effluents. The HSPCB needs to issue necessary directions to the unit in this regard to comply with the terms of consent granted to the unit.*

9. ***The unit was found storing untreated effluent in open storage lagoon without any VOC recovery system for avoiding emission of VOCs.*** *This may be another source of VOC emissions and odour in nearby areas. Therefore, unit needs to make arrangement to cover all open potential sources of VOCs emissions in effluent treatment plant and recovery of VOCs after carrying out the study regarding VOC emitting potential/study of different components of effluent treatment plant.*
10. ***The ground water samples collected from various locations in the vicinity of the Unit was found to be not complying with the acceptable norms prescribed by BIS for Drinking water in IS 10500 (2012).*** *The most of the*

*samples were found to have significant values of Chemical Oxygen Demand (COD), which clearly indicate contamination of the ground water with the external sources. A detailed study is required to be done in this regard to know the extent of damage done so far and the remediation required to restore the ground water quality beside monitoring of the ground water of the area to prevent further deterioration. This is extremely important and necessary to ensure supply of uncontaminated natural resources to surrounding areas.***"**

4. This Tribunal considered the matter on 01.03.2019 and found that the statutory regulator i.e. the State PCB was required not only to prohibit the polluting activities but also to recover exemplary compensation as well as take further punitive action. The Tribunal directed an assessment of damage caused to the public health and the environment be made by the Committee. The compensation was expected to be adequate to meet the cost of restoration of the environment and public health and deterrent.

5. Thereafter, the matter was considered on 10.05.2019 in the light of joint report of CPCB, HSPCB and the District Collector dated 09.05.2019 assessing compensation of damage to the environment at Rs. 17.31 crores against which the IOCL filed objections.

6. The Tribunal observed:

"5. As per the interim report dated 09.05.2019 filed by the HSPCB, prepared by the joint Committee comprising CPCB, HPCB and the Collector damage on account of oxygen depletion due to illegal discharge of effluent into the Thirana Drain from PTA Plant, as calculated by the joint Committee is Rs. 83.33 lakhs, damage due to untreated effluent in Cess Pool is Rs. 4.87 lakhs, cost of restoration of the environment is Rs. 9.96 crores, cost of damage due to discharge of TDS in Thirana drain is Rs. 7.34 crores. The total amount of compensation is Rs. 17.31 Crores. The Committee also observed as follows:

"The above cost of restoration is tentative and only on account of damage to the Environment with special reference to surface water. The damage caused to Public Health & Ground Water and the cost of Restoration are

to be added once estimated by the Expert members from NEERI and CGWB co-opted by the Joint Committee as per order of Hon'ble National Green Tribunal.

"This means that the Unit has produced 15073.8 MT production without meeting the norms during the non compliance period of 120 days , which is equivalent to (I/E i.e. 15073.8/1047) = 14.32 days of production of PTA Plant(J)."

6. *The conclusion and recommendations of the Committee are as follows:*

"Conclusions and Recommendations:

- *According to Joint Committee,* ***the total cost of environmental damage caused by IOCL, Panipat Refinery, on account of illegal Discharge of Effluent into the Thirana Drain and on land in monetary terms is Rs. 88.21 lacs.***

- ***The quantum of production made by Panipat Refinery by not complying with the environmental conditions prescribed in the Consent to Operate issued by Haryana State Pollution Control Board is 15073.8 MT which is equivalent to 14.32 days production of PTA Plant of Panipat Refinery. The unit may be directed to submit the amount of profit earned by him per day from the PTA Plant, so that total amount of profit earned by the unit from the production made without complying with the environmental norms could be calculated during non-compliance period i.e. 120 days.***
- *The estimated tentative Cost of Restoration of the Environmental damage caused on illegal discharge of effluent into the environment* ***is Rs. 17.31 Crores. At this stage, the Joint Committee has proposed Tentative cost of Restoration equivalent to "Calculated cost of restoration x 2 times" to make it deterrent to some extent. However, once the assessment of environmental damage to public health and Ground water is concluded with the assistance of Co-opted Experts and the details of the profits earned by the Unit from the production made by violating the environmental norms, the Join Committee may further enhance the deterrent effect for continuous and long term violations made by the unit by proposing the cost of Restoration/Environmental Compensation on exponential basis.***
- *Additional Time of 8 weeks and 3 months is required by the Expert co-opted by the Joint Committee for assessing the environmental damage caused to*

Ground Water and Public Health respectively. The cost of restoration will be updated and submitted to Hon'ble National Green Tribunal, based on the assessment of damage caused to Public Health and Ground Water, as per time line proposed by the Expert Members co-opted by the Joint Committee.

- ***It is recommended to impose tentative cost of restoration of Rs. 17.31 Crores on IOCL Panipat Refinery which may be utilised for plantation of Forest Trees and Monitoring & planning for restoration of ground water quality. The Joint Committee will be submitting the update Cost of Restoration after concluding the assessment of environmental damage to Public Health and Ground Water within 3 months.***
- *The Discharge of effluent into the Thirana drain has been stopped by the Unit from the Point observed by the Joint Committee w.e.f. 02/04/2019 in compliance of the directions issued by HSPCB.*
- *The Joint Committee will abide by all the further directions of Hon'ble NGT in this matter."*

7. *Shri Aman Lekhi, learned Additional Solicitor General appearing for the IOCL has handed over a note giving response to the findings in the report dated 15.01.2019 as follows:*

"Findings in the Report and IOCL's Response

No.	***FINDINGS IN THE REPORT***		***RESPONSE***
1.	*Page 7, point 4 (2nd Para)*	*The Respondent could not produce document of permission for discharge into Thirana Drain from Irrigation Department*	*i. The issue has been needlessly added into the Report since the document was duly submitted to the Committee.* *ii. The permission was granted vide Dept. Of Irrigation, Govt. of Haryana's letter dated 24.01.2003 and has been submitted to the Joint Team on 07.01.2019.[Pg. 403 of Vol-I of the Reply]*
2.	*Page 12, Point 7*	*The Concrete lining of Thirana Drain was found to be ruptured.*	*i. The rupture was in the area where the Drain passes through the Green Belt, which is an open area outside IOCL's boundary wall and is accessible to the general public. IOCL is not liable for maintenance of the Drain in this area.* *ii. Nevertheless, the alleged rupture was a normal course wear and tear and was repaired and fixed by IOCL by 13.12.2018. Repair of the rupture has been confirmed to*

			HSPCB on 16.01.2019.[Pg.524@526, 527 of Reply]
3.	*Pages 4,5,11*	*Ambient air quality was found exceeding in PM against the prescribed limit of 100 mg/Nm3*	*i. Ambient air quality is an issue all over Northern India is not attributable to the Respondent. The Report itself acknowledges the fact that the Joint Team is unable to attribute the same to IOCL and only says that "the unit might be contributing to increase in PM values".* *ii. The sampler used by the Joint Team was placed at ground level, whereas the Guidelines for Measurement of Ambient Air Pollutants (NAAQMS/36/2012-13) issued by the CPCB provide that the inlet of the sampler should be at a height of 3-10 mts.*
4.	*Pages 10 & 11*	*While IOCL's Online Analysers were found to be in working order, the Joint Team found that samples collected from the outlet of ETP and Thirana Drain were found non-compliant whereas results of the online analysers were found compliant.*	*i. There was no violation or deviation from the prescribed norms in installing the online analysers. The online analysers were installed inside the plant premises under supervision and instructions of HSPCB. [Ref. CPCB Directions dated 05.02.2014].* *ii. In any event, IOCL has already complied with the suggestion of the Joint Team and shifted the online analysers to the new locations as suggested.*
5.	*Page 12 & 13, point 8*	*ETP 1 & 2: Table IV mentions TDS limit as 2000 mg/1 for treated effluent ex refinery.* *ETP 3: Table IV mentions limit of oil and grease for Petrochemical ETP (ETP 3) as 10mg/1 and limit of TDS as 2000 mg/1.*	*i. The report does not give any sources for the prescribed limits and has used wrong limits.* *ii. The applicable limits for ETP 1 & 2 (refinery units) are prescribed under Minimum National Standards for Petroleum Oil Refineries (Refineries MINAS).* *Under Refineries MINAS, there is no limit prescribed for TDS (applicable for ETP 1 & 2). [Ref. EPA Notification 18.03.2008]* *iii. The applicable limits for ETP 3 (Petrochemical unit) are*

			prescribed for oil & grease and TDS (applicable for ETP 3). [Ref. EPA Notification 18.03.2008]
6.	*Page 12, 18*	*Certain effluent samples collected from ETP-I, ETP-II and ETP-III are exceeding permissible limits.*	*i. The sample collection and testing by the Joint Team has not been done in accordance with the legally prescribed norms and parameters. [Ref. Pg. 299 & 300 of Vol. I of Reply & Pgs. 100, 102, 104 & 106 of the Report]* *ii. Under the applicable regulations/standards, the quantum of pollutants has to be calculated on the basis of daily average of concentration values (one 24-hourly composite sample or average of three grab samples), average flow of effluent during the day and crude capacity of the refinery. The Joint Team has not followed the prescribed methodology and has tested single samples rather than composite or grab samples as prescribed. [EPA Notification dated 18.03.2008]* *iii. The continuous testing and monitoring by approved laboratories and periodic inspections by HSPCB and CPCB have all found the Respondent's effluent discharge to be within the prescribed parameters. [Lab Results-Pg. 335, Vol-I of Reply and OCEMS-Pg. 341, Vol-I of the Reply]*
7.	*Page 12, Point 4*	*Untreated effluent was found discharged into the Green Belt and was stagnated in the area.*	*i. Untreated effluent is not discharged into the Green Belt. The finding is based on a single instance of accidental leakage caused by underground pipe burst due to civil/digging work by M/s. JCB (a civil contractor) in end of November 2018.* *ii The Report itself notes that the representatives of Panipat Refinery informed the Joint Team that the untreated effluent will be taken back into the ETP and the arrangement for the same was also shown to the*

			Joint Team.[Ref. Pg. 9 of the Report]. *iii. The entire leakage was evacuated into ETP by 13.12.2018. [Pg.524@526, 527 Vol. II of Reply].* *iv. The regulations prescribed in MoEF Gazette Notification dated 18.03.2008 contemplate the possibility of accidental leakage and in such cases, the unit has to ensure repair within reasonable time frame.*
8.	*Page 8*	*Consent to Operate granted by HSPCB does not allow discharge of effluent into Thirana Drain.*	*The finding is ex facie erroneous. The Respondent has permission to discharge treated effluent into the Thirana Drain in terms of:* *(i) Consent to Establish dated 11.08.2000; [Pg 389@389, 390 of Vol. I of Reply.* *(ii) MoEF's Environment Clearance letter dated 30.04.2001; [Pg. 399 of Vol.I of Reply].* *(iii) Dept. Of Irrigation, Govt. of Haryana's letter dated 24.01.2003;[Pg. 403 of Vol. I of Reply]* *(iv)HSPCB's Consent to Operate as amended on 12.09.2017;[Pg. 420 of Vol. I of Reply].* *(v) MoEF letter dated 26.03.2018; [Pg. 435 of Vol. I of Reply].* *(vi) MoEF's Monitoring Report dated 13.11.2017; [Pg. 83 @ 84, 85 of the Reply].*

"

8. A reply affidavit has also been filed by the IOCL with reference to report dated 15.01.209 stating that the unit has Consent to Establish and permission to discharge effluents into the drain. Monitoring report submitted by the unit on 13.11.2017 mentions discharge of effluents into the drain. The unit has undertaken social welfare measures for safe drinking water, health, air and sanitation, education and employment enhancing skills, empowering women and socially/economically backward

groups. It has been awarded many awards and commendations for commitment to the environment. In its response to the HSPCB, the unit has placed on record future action plan undertaking to reduce carbon footprint by 18% and water footprint by 20% by 2020, covering drains with concrete slabs, installing VOC systems, reduction in water consumption, improving air quality, installing Ethanol Plant, etc. The unit also submitted letter dated 16.04.2019 to the HSPCB explaining its plan. The unit has hired services of Bio Petro Clean, an expert in the field for remedial measures and services of TERI to conduct environment damage assessment in the vicinity and services of NEERI to conduct environment impact study on air, water and soil from the refinery.

8. According to Respondent No. 1, the report of the joint Committee dated 09.05.2019 is unwarranted as impact of other industries in the vicinity has not been considered and the joint Committee did not give notice to the respondent.

9. Letter dated 05.04.2019 addressed to HSPCB by the Chief General Manager (Health, Safety and Environment) of the IOCL purports to give an action plan for complying with the observations of the inspection Committee deputed by this Tribunal. Even permission to discharge effluents in drain, relied upon by Respondent No. 1, cannot justify discharge of polluting effluents. Permission by Pollution Control Board can be only to discharge effluents as per laid down norms. No dilution is available in the drain and norms are being violated. The unit has now sought time to complete ZLD project. A public sector unit is expected to be a model for compliance of environmental norms. For pollution caused, liability is unavoidable.

10. We find that there is adequate material on record to hold that there is violation of environmental norms by Respondent No. 1. The inspection was carried out by the credible experts of the regulatory authorities, namely, the CPCB, the HSPCB under the direction of this Tribunal. Response of the unit itself shows that observations in the inspection report needed action on account of which an action plan has been submitted. The unit has also been served a show cause notice by HSPCB in exercise of statutory powers on 08.01.2019 to which reply has been submitted which may be dealt with as per law.

11. We are, thus, unable to accept the submission that no compensation may be required to be paid or that no further action be taken. Even if pollution is contributed by others, Respondent No. 1 cannot avoid responsibility. Only question is the quantum. The Committee has assessed interim compensation to be Rs. 17.31 Crores. Final assessment is to be made. If Respondent No. 1 wishes to object to the quantum determined in the interim report, it will be open to it to do so before the next date. However, pending further consideration, the interim amount must be deposited.

12. Accordingly, we direct that a sum of Rs. 17.31 Crores assessed by the Committee may be deposited by the unit within

one month from today with the CPCB by way of interim compensation for restoration of the environment subject to further orders. Further action may be taken by the HSPCB in accordance with law and a report filed to this Tribunal by e-mail at ngt.filing@gmail.com. The Committee may also furnish its final report before the next date with a copy to Respondent No. 1 preferably a week in advance so that Respondent No. 1 can respond to the same."

7. We are informed that *Civil Appeal No. 5108/2019* was filed by the IOCL against the order of this Tribunal which was dismissed leaving the IOCL free to raise the objections before this Tribunal.

8. In pursuance of order dated 10.05.2019, an action taken report has been filed by the State PCB on 16.08.2019 to the effect that vide order dated 23.07.2019, the revised Consent to Operate has been granted. Prosecution has been initiated against the unit and responsible officers on 05.08.2019. Further report has been filed by the State PCB on behalf of the joint Committee (not signed by CPCB) annexing three reports:

a) CPCB report on assessment of damage and cost of restoration with respect to Oxygen depletion and Pollution caused to the surface water due to illegal discharge of effluent dated 09.08.2019 (Annexure-A).

b) CSIR-NEERI report on assessment of damage caused to public health & environment dated 02.08.2019 (Annexure-B).

c) CGWB report on assessment of damage caused to ground water and cost of restoration dated 08.08.2019 and subsequent modified report dated 05.09.2019 (Annexure-C1 & C2).

9. The report further states that Deputy Commissioner, Panipat, one of the member of the Committee, engaged M/s Engineers India Limited (EIL) for expert advice to understand the technicalities in the report submitting by CPCB, CSIR-NEERI and CGWB. The Joint Committee held further meeting on 15.11.2019 with co-opted Experts and EIL. The member representing CPCB has given a separate report dated 20.11.2019. HSPCB has also given a separate report dated 20.11.2019. The difference in the approach of the members of the Joint Committee inter-alia has been mentioned to be as follows:

"

1. CPCB Member has assessed the compensation towards the damages relating to discharge of effluent and doubled the actual cost of damage as a deterrent factor. However there is no specific justification for such doubling provided.

2. CSIR-NEERI has assessed the environmental compensation due to the environment damage by way of discharge of effluent by considering 506 days as violation period whereas CPCB Member has calculated the same for 120 days. Now, this is also not uniformly adopted by all technical agencies and therefore requires a clarity on the same for uniformity.

3. The component of environmental compensation relating to discharge of effluent indicated by CPCB Member has also been included by CSIR - NEERI Member also in his report, thereby duplicating the same. It has also been observed though the compensation has been worked out for the same cause, the amount is not the same, differing considerably. Therefore this also needs to be revisited.

4. The assessment of CSIR-NEERI on the environmental compensation due to the damage done on the health of the people in the area may again need to be re-examined since the expert himself was unsure of all the other sources of pollutants, but assumed that all the reported air borne diseases to be the result of pollutants emitted from PRPC stacks of the unit. Further, the calculation of cost on health damage has been computed from the year 2015 but no specific justification has been provided for the same.

5. CGWB assessment also requires to be re examined since the expert who has taken a study area of more than 70 sq km, has proposed for withdrawal of aquifers and refilling of the same, the process of which has to be studied for its feasibility at ground level. Further, the quantum and proportion of actual

damage caused by IOCL vis-a-vis other industrial and agriculture activities have not been clearly brought out in the report."

10. The report signed by HSPCB and DC, Panipat suggests re-verification exercise. The report and the annexures to the report, as mentioned above, are reports respectively by CPCB, CSIR-NEERI and CGWB.

11. The report of CPCB concludes the liability for environmental compensation as follows:

"The following may also be incorporated in the Conclusion Section

The environmental compensation (EC) calculated by the Joint team is as under:

i) EC for Oxygen depletion and Pollution caused to the surface water due to illegal discharge of effluent: ***Rs. 26.90 Crores***
ii) EC for damage caused to public health & environment : ***Rs. 92.59 Crores***
iii) EC on account of damage caused to ground water : ***Rs. 540 Crores***

Total Environmental Compensation as calculated by the Joint team is : 26.90 + 92.59 + 540 = Rs. 659.49 Crores*, out of which IOCL has already deposited* ***Rs. 17.31 Crores****, as interim compensation in compliance of Hon'ble NGT Order.*

Therefore, balance environmental compensation to be deposited is: 659.49-17.31 = Rs. 642.18 Crores, if approved by Hon'ble NGT."

12. The above conclusion relies on the report of CSIR-NEERI with regard to public health and environment assessing and on report of the CGWB on the subject of compensation for damage to the ground water. The basis of assessment under the head of damage to public health is as follows:

"

13. Table 8: Health damage cost due to respiratory diseases

Year	***Cost per person (COT)***	***Total Cases***	***Total cost (INR)***
2015	*34546.12*	***1911***	*66017635*
2016	*36730.87*	*2449*	*89953900*
2017	*37550.12*	*505*	*18962810*
2018	*39052.14*	*1157*	*45183325*
2019	*41100.35*	*2495*	*102545373*
Average (Rounded)			*64532600 i.e. Rs. 6.45 Crore*

Water damages are not valued as diseases can happen due to many reasons and cannot be directly attributed to Panipat plants.
Hence total impacts caused by the refinery is = 1.39 + 59 + 32.2 = Rs. 92.59 Crore
In an year, refinery has caused damage of = 1 + 6.45 + 59 (assuming all cess poll water is released in an year) = Rs. 66.45 Crore."

13. Apart from assessing the compensation for contamination of ground water, the report also suggests remedial action by way of Environmental Management Plan which is suggested as follows:

> ***"Environmental Management Plan proposed:*** *Dewatering and refilling of contaminated aquifers is proposed in this management plan. It is suggested that for dewatering of 270 MCM of water, 170 tubewells need to e constructed which are yielding about 36 Cu.mt/hour. These tubewells need to be pumped 24 hours throughout the year for a minimum period of 5 years to dewater contaminated water of 270 MCM. At the same time, surface water from the Western Yamuna Canal need to be recharged through the same number of tubewells so that the aquifers will be filled with fresh and non-contaminated water. The de-watered 270 MCM of water can be put to irrigational requirements in the surrounding areas and partly can be used for industrial requirements in Panipat Refinery. Environmental compensation amount collected from the refinery can be used for this purpose."*

14. Separate report filed by the District Magistrate, Panipat dated 20.11.2019 based on opinion of EIL is that Source Apportionment study was required on the subject of vehicular emissions and multiple samples are required to be taken from various locations for

determining the level of water pollution. The report suggests as follows:

"

1. District administration agrees with EIL report and strongly back that a Source Apportionment Study shall be carried out to finalise the various causes and factors responsible for degradation to the environment so that a wholesome plan can be prepared to mitigate such activities/factors in future. The whole onus of environmental degradation shall be a shared responsibility of the society which can be ascertained by such source apportionment study. This can be a lynchpin study to strengthen the efforts of various agencies including Pollution board Haryana, CPCB and IOCL to mitigate environmental pollution. Therefore source apportionment study to be conducted by IOCL should focus not just on Air Quality but also on the Ground and Surface water. The State Pollution Control Board should monitor closely the status of source apportionment study. The study should be completed within next six months by IOCL.

2. Since CGWB has submitted the assessment of Qualitative & Quantitative damage to the ground water, now the State Government may further get the study done w.r.t to plan for restoration of ground water quality based on the usage schedule of the ground water in Panipat area, in consultation with district administration, State pollution control board and other concerned departments, to ensure ill effects of contaminated ground water on the health of local people. The cost of restoration would be finalized after appropriate study for restoration of ground water quality based on the usage schedule of the ground water in Panipat area by State Govt. As proposed in report of CGWB Engineering feasibility of dewatering and refilling of aquifers, as proposed in the report of CGWB, shall be relooked for its environmental implications.

3. The report on the action taken for restoration of ground water quality be submitted to NGT, CPCB and State government on quarterly basis by the IOCL. IOCL may be directed to provide safe drinking water to nearby villages affected by Drinking Water quality issues till the restoration of the ground water quality.

4. Extensive rainwater harvesting may be more sustainable solution to restore the quality of groundwater. Panipat on an average receives 600mm of rain annually. If the same can be harvested in an efficient way, the same can prove to restore the quality of groundwater in lesser time and cost with no further environment implication.

5. Green Belt Development is another sustainable solution to the Environmental Issues over the decades. Yearly targets and monitoring of them can give long term sustainable solutions. The action to be taken by the IOCL should be monitored quarterly, quantitatively and qualitatively by the District Administration and State Pollution Control Board.

6. Water stored in multiple lagoons/ponds inside the plant should be treated and recycled before lining the lagoons to make these lagoons impervious as mandated in COT dated 25-07-2019. Further No untreated water will be stored in the lagoons/ponds except in the tanks, which are components of effluent treatment plant."

15. Separate report filed by the representative of State PCB concludes as follows:

"After going through the assessment reports of CPCB, CSIR-NEERI, CGWB, and District Administration the undersigned opines that the justification for doubling of the environmental compensation assessed by CPCB has not been clearly brought out in the report. Further, the violation period accounted by CSIR-NEERI and CPCB are different and there is no uniformity in the period for which the violations have been counted for. Also, a component of the environmental compensation relating discharge of effluent indicated by CPCB Member has also been included by CSIR-NEERI in his report, thereby duplicating the same. Therefore this aspect may require re-examination by the Joint Committee further."

16. Disagreement with the District Administration has been explained as follows:

"The undersigned does not agree with the observations of District Administration with regard to the claims on the permission/consent/ clearance relating to discharge of effluent into Thirana drain by the unit, as indicated by M/s EIL (engaged by District Administration) in their report. The undersigned is of the view that the decision in this regard has already been taken by competent authority of the Board. After going through the record it was observed that unit in question has been granted CTO vide No. HSPCB/Consent/: 313105617PITCT03530800 Dated:13/06/2017 for the period 01/04/2017 - 30/09/2021 with the mode of discharge as "Reuse & Recycle" and the unit has obtained revised CTO vide No. HSPCB/Consent/: 313105619PITCT06796558 Dated:25/07/2019 for the period 23/07/2019 -

30/09/2021 but the CTO was granted with the condition "That the unit will not discharge any effluent inside or outside the premises except 255 m3/hr effluent of the treated effluent from PX-PTA plant into Thirana drain and will comply with the standards prescribed as per Environment (Protection) Rules, 1986 for Petrochemical (Basic & Intermediates) units." Which came in force w.e.f 23.07.2019, From which it is evident that before 23.07.2019 unit did not have any CTO for discharge of the treated effluent in to Thirana Drain."

17. In view of the above, the questions for consideration are:

    i. Assessment of compensation for the damage to the environment

    ii. The remedial action for restoration of the environment

18. We find that that District Magistrate, Panipat had no justification to charter a separate course without reference to this Tribunal. Moreover, the State PCB has given valid reasons in this regard. The District Magistrate was a member of the Committee and could have given even a separate opinion but could not appoint a separate expert. It is not clear as to who paid such separately hired expert. Moreover, the expert opinion given by EIL is unacceptable. Apart from being without jurisdiction, the report tries to avoid the issue and ignores the expert opinion already on record on untenable grounds. We refrain from making any further comments for the time being about the conduct of the District Magistrate in trying to divert the issue being dealt with by this Tribunal and going beyond the scope of the task assigned for reasons which are difficult to fathom.

19. As regards liability for quantum of compensation, we propose to consider the same at the later stage, after necessary remedial action for restoration of environment and compliance of norms, has been taken by the unit.

20. We accept the suggestions for improvement which are almost unanimous and which have also been earlier pointed out. No doubt the State PCB has given revised consent, subject to certain conditions, but even in the latest report the State PCB has suggested further remedial measures. Even Deputy Commissioner, Panipat has suggested remedial measures. Let such remedial measures be taken forthwith. The Joint Committee of CPCB, State PCB and NEERI may verify the latest status of compliance within one month and give its fresh report. The Nodal Agency will be the State PCB. The report may be furnished by email at judicial-ngt@gov.in by 31.01.2020.

List for further consideration on 17.02.2020.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

Saibal Dasgupta, EM

November 26, 2019
Original Application No. 738/2018
SN

STATUS OF COMPLIANCE OF VARIOUS POINTS MENTIONED IN ORDER OF HONOURABLE NGT IN THE MATTER OF OA NO. 738/2018 DTAED 26.11.2019 BY IOCL PANIPAT REFINERY AS ON 15.01.2020

SUBMISSION BEFORE JOINT TEAM COMPRISING REPRESENTATIVES OF:

CPCB, HSPCB AND NEERI

1. This submission is being filed by the Indian Oil Corporation Limited – Panipat Refinery and Petrochemical Complex (**IOCL PRPC**) to apprise the Joint Team of the measures and environment improvement initiatives taken to control, reduce pollution and to ameliorate its effects.

SUMMARY

2. Initiatives completed : 12 nos. costing Rs. 11.02 crores.
3. Initiatives under progress : 10 nos. costing Rs. 1513.64 crores.
4. Major Environmental Benefits envisaged:
   (i) Elimination of stubble crop burning: 2,10,000 MT per annum by May 2021 which will have a direct impact on NCR air quality
   (ii) Added Benefits
      - Increase in income of farmers by stubble sale
      - Reduction in dependence on imported crude oil
   (iii) Reduction of green-house gas (CO_2) emission: 27,040 MT per annum

5. IOCL PRPC has also engaged reputed and independent external agencies [M/s TERI, M/s NEERI, NIT–Kurukshetra, M/s Shriram] to conduct detailed studies to: (i) confirm that the refinery operations are in

15/1/2020

compliance with prescribed environmental standards and parameters; and (ii) suggest additional measures that may be taken by IOCL PRPC. In addition, IOCL PRPC has also engaged the services of:

(i) M/s Bio Petro Clean (BPC), which is an expert in the field of effluent treatment , to consult and implement processes at the Panipat Refinery ETPs to ensure environmentally sustainable efficiency and "Retrofit" with state-of-the-art Automated Chemo-stat Treatment (ACT) system in Refinery ETPs.

(ii) IOCL R&D carried out VOC monitoring in March-April'19 in the vicinity of Panipat Refinery; replacement of bacteria in aeration basin of Refinery ETP-I & II and improvising nutrient developed for bacterial mass in aeration basin in Refinery ETP-I & II for enhancing the robust performance of the ETPs.

(iii) TERI in turn engaged two reputed, independent, NABL accredited labs i.e. M/s SGS, Delhi & Shriram Institute Of Industrial Research ,Delhi for carrying out Ground Water quality parameters as per BIS:10500 (2012) to find out the level of contamination in Ground Water.

(iv) TERI also engaged two reputed, independent, NABL accredited labs i.e. M/s SGS, Delhi & Indian Council of Agricultural Research (ICAR) for carrying out Soil quality parameters including pH, Electrical conductivity, Total Petroleum Hydrocarbon(TPH), Sodium, Total Organic Carbon (TOC), Chloride and Total alkalinity has been analyzed to find out the level of contamination in soil environment.

(v) M/s ENVSA for implementation of "Dynamic Emission Limit" in On-line Continuous Emission Monitoring System (OCEMS) connected with CPCB server.

(vi) M/s Enviro-link for Anaerobic Hybrid Reactor (AHR) media & membrane replacement in PTA-ETP.

6. IOCL PRPC is actively taking steps, in consultation with the aforementioned expert agencies, to ensure not only fullest compliance with all prescribed environmental norms and standards, but also positive initiatives for the improvement of the environment.

15/1/2020

7. IOCL board has approved an amount of Rs.108 cr. for environment improvement for recently approved projects in PRPC under Corporate Environment Responsibility (**CER**) Fund .It may be noted that this amount is over and above the initiatives mentioned at Serial No.2 & Serial no. 3 above and same will be utilized in consultation with district administration for improving the environment in and around Panipat.

PART I

Steps taken by IOCL PRPC

S.No	Description	Agency	Cost (in Lacs)	Completion	Outcome
1.	Tree plantation:				The trees planted by IOCL PRPC contribute significantly to improving the overall environment and particularly to the air quality in the area.
(a)	IOCL PRPC has established a Green Belt around the Complex with 5.96 lakh trees in consultation with the District Administration.	In-house	596 (already completed earlier)	Already completed	
(b)	In the last 2 years, IOCL PRPC has added 30,000 trees	In-house	30	Already complete	
(c)	Additional Tree plantation: 15000 saplings in FY: 2019-20 till Nov'19 over and above existing 5.96 lakh trees in existing greenbelt.	In-house	15	Nov'19	
(d)	In the next 1 year, IOCL PRPC proposes to plant 50,000 additional trees in the Green Belt.	In-house	50	Dec'20	
*Estimated current cost @Rs.100/- per tree					
2.	Installation of 100 KLPD Ligno-cellulosic 2nd Generation Ethanol Plant, which uses	M/s PRAJ	90896	May'21	EC received on 13.11.19, CTE applied on 28.11.19.

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	agricultural residue as feed and will reduce crop burning				Even though, the plant has a negative internal rate of return IOCL PRPC is setting up this plant solely to benefit the environment in NCR region which gets affected badly due to stubble crop burning. **Key Benefits:** Raw material/feed for ethanol production will be agriculture residue (example rice straw/stubble etc.) @ 700 TPD which will result in reduction in stubble burning and SMOG in NCR region.
3.	Setting up of 3rd Generation 128 KLPD Ethanol Plant	M/s LANZATECH	59820	Dec'20	EC received on 26.11.19, CTE application will be done by 20.12.19. **Key Benefits:** Approx. 27,040 MT per annum of CO_2 reduction/capturing will be achieved resulting in lower Green House Gases (GHG) emission.
4.	Installation of Diesel Exhaust Fluid (DEF) unit	IOCL-Projects	19.74	June'20	Project is currently under Execution.

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					Key Benefits: The product will be used in Internal Combustion engines for selective catalytic reduction (SCR) that will in turn reduce NO_X emission from exhaust.
5.	Elaborate Rain Water Harvesting (RWH) Network (42 nos.) further supplemented by addition of 4 nos. RWH pit in FY2018-19.	In-house	100	Mar'20	Rain water harvesting program will improve the ground water level and quality.
6.	"Retrofit" with state-of-the-art Automated Chemo-stat Treatment (ACT) system of M/s BPC in Refinery ETPs.	M/s BPC	206	Oct'19	This will help with better monitoring of the performance of ETPs, which in turn will ensure that all environmental parameters are met.
7.	VOC monitoring in the vicinity of Panipat Refinery through IOCL R&D mobile van.	IOCL R&D Centre	This is done in-house.	March-April'19	This step has been taken so that there is monitoring of the VOC levels and corrective measures, as suggested, can be taken. The report indicates VOC component (Benzene) in ambient air quality is meeting National Ambient Air Quality Standards (NAAQS) parameters
8.	For enhancing robust performance of ETPs following steps taken:				
a.	Anaerobic Hybrid Reactor (AHR) media & membrane replacement in PTA-ETP.	M/s Envirolink	210.15	March'19 (AHR-	These measures will improve and enhance ETP

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				B)	performance.
b.	Improvement in aeration blower capacity (Additional diffuser) in PTA-ETP for additional aeration.	In-house	-	May'19	
c.	Replacement of filter media in Pressure Sand Filter (PSF) & Activated Carbon Filter (ACF) in all the ETPs of Panipat Refinery	In-house	-		
d.	Replacement of Bacteria in aeration basin of Refinery ETP-I & II.	IOCL R&D	-		
e.	Improvised nutrient developed in consultation with IOCL R&D for bacterial mass in aeration basin in Refinery ETP-I & II.	IOCL-R&D	-	May'19	
f.	Tilted Plate Interceptor (TPI) oil removal frequency and Dissolved Air Flotation (DAF) air pressure increase for performance improvement in ETP-I & II.	In-house	-	May'19	
9.	Up-gradation of analyzers (71 Nos.) connected with On-line Continuous Emission Monitoring System (OCEMS)	In-house	571	Mar'19	This will assist in better, more reliable and efficient monitoring of the emissions, which in turn will ensure that all environmental parameters are met. Corrective measures will be initiated if any non-compliance is found.
10.	Ground Water Quality monitoring by 16 nos. of sample collection and analysis in 10 Km radius of Panipat Refinery in March'19.	NIT, Kurukshetra	2.1	March'19	Regular Ground water analysis is being done through third party agency to create database for future reference and

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					analysis.
11.	Ground Water Quality monitoring in the vicinity of Panipat Refinery by 15 nos. of sample collection and analysis. Analysis carried out for parameters like COD, TOC, EC & Iron.	Shriram Institute of Industrial Research, Delhi	0.88	Nov'19	Regular ground water analysis is being done through third party agency to agency to create database for future reference and analysis.
12.	Ground Water Quality monitoring in the vicinity of Panipat Refinery by 7 nos. of sample collection and analysis.	Sigma Test & Research Centre, Delhi	1.37	Sep'19	Regular ground water analysis is being done through third party agency to create database for future reference and analysis.
13.	"Environmental Damage Assessment in the vicinity of Panipat Refinery" carried out in the month of April-May'19. In the subject study Ground Water, Soil & Ambient Air sampling in the vicinity Panipat Refinery carried out. Analysis on impact of Panipat Refinery operations based on the test samples results	M/s TERI	48	June'19	
(a)	**Ground Water:** Total 19 nos. of GW samples collected in the vicinity of Panipat Refinery. Analysis of GW samples carried out thorough 2 reputed laboratories M/s Shriram Institute and M/s SGS for drinking water specification BIS: 10500(2012).	Shriram Institute of Industrial Research, Delhi & M/s SGS, Delhi			*As per the present ground water analysis of area surrounding IOCL Panipat Refinery, it is found that there is no evidence of GW contamination by IOCL Panipat Refinery*
(b)	**Soil:** Total 8 nos. of soil samples collected in the study area. The collected soil samples are equally divided into two parts and analyzed in two different labs. The soil quality analysis parameters including pH, Electrical conductivity,	M/s SGS, Delhi & Indian Agricultural Research			*As per the overall soil analysis outcomes, there was no total petroleum hydrocarbon contamination found and no contribution of total organic carbon pollutants was observed.*

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	Total Petroleum Hydrocarbon(TPH), Sodium, Total Organic Carbon (TOC) , Chloride and Total alkalinity has been analyzed to find out the level of contamination in soil environment	Institute			*Therefore, it was found there is no evidence of soil contamination by IOCL Panipat Refinery..*
(c)	**Ambient Air Quality :** The ambient air quality assessment around IOCL, Panipat including the VOC level carried out by selecting one location in the upwind direction and three locations in the downwind direction.	Noida Testing Lab			*It has been noted that the particulate matter is a prominent pollutant in National Capital Region which continuously exceeds the standard limits due to natural and anthropogenic activities. Therefore, the high PM concentration in ambient air cannot be attributable to IOCL Panipat Refinery.*
14.	Testing and verification of treated effluent from all Refinery ETPs of PRPC (ETP-I, II, PTA-ETP) are meeting respective MINAS parameter through sampling and analysis for a period of 30 days in May-June'19.	M/s Shriram Institute of Industrial Research, Delhi	10.65	Jun'19	Extensive testing is being done through reputed NABL accredited lab like SRI, HTH to ensure that treated effluent is meeting stipulated MINAS. All effluents streams from ETPs are meeting the MINAS parameter.
15.	Environmental Monitoring (Ground Water, Stack, Ambient Air, and Effluent) by NABL and MoEFC accredited agency.	M/s Haryana Test House Consultancy Services	6.3 (per annum)		Extensive testing is being done to ensure that all emissions/discharge from stack/ ETPs are meeting the prescribed standards. All effluents streams from ETPs are meeting the MINAS parameter
16.	Implementation of "Dynamic Emission Limit" in On-line Continuous Emission	M/s ENVSA	In-house	Sep'18	This will assist in better, more accurate and

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	Monitoring System (OCEMS) connected with CPCB server.				efficient monitoring of the emissions, which in turn will ensure that all environmental parameters are met.
17.	Up-gradation of 2 nos. of Continuous Ambient Air Quality Monitoring System (CAAQMS) in Panipat city.	In-house	54	Mar'20	This will assist in better, more accurate and efficient monitoring of air quality, which in turn will ensure that all environmental parameters are met.
18.	Installation of additional 2 nos. of Continuous Ambient Air Quality Monitoring System (CAAQMS) in Panipat Refinery over and above 8 nos. existing.	In-house	54	Mar'20	This will assist in better, more accurate and efficient monitoring of air quality, which in turn will ensure that all environmental parameters are met.
19.	Testing treated effluent quality of all the Refinery ETPs (ETP-I, II, PTA-ETP for a period of 3 days in Dec'19).	Shriram Institute Of Industrial Research, Delhi	1.47	Dec'19	This will help to ensure that the treated effluent quality is meeting the stipulated MINAS parameters.
20.	"Environmental Impact Study on Air, Water and Soil with Remedial measures for Panipat Refinery & Petrochemical Complex" is currently being carried out	M/s NEERI			Comprehensive testing through independent third party agency is being conducted to ensure that all prescribed environmental

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					parameters are being complied.
(a)	Assessment of impact of refinery on Environment (I) Ground Water Quality Assessment including source apportionment study (II) Soil Quality Investigation (III) AAQ Monitoring in the study area		60	Jan'20	(I) Ground water and Soil Sampling completed in Nov'19. (II) AAQ Monitoring started in last week of Nov'19.
(b)	Health impact studies in vicinity		90	Dec'19	Data collection in August'19.
(c)	Ambient Air Source Apportionment studies		120	July'20	Data collection started in last week of Nov'19.
(d)	VOC emission monitoring analysis		40	Jan'20	Data collection started in Dec'19.
(e)	Evaluation of adequacy of AAQ and Stack		25	Jan'20	Data collection started in Dec'19.
(f)	Performance evaluation of all Pollution Control Equipment's		20	Jan'20	Data collection started in Dec'19.
(g)	Performance evaluation of ETPs		15	Jan'20	Data collection started in Dec'19.
			153062.66	**TOTAL:**	

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PART II

Implementation of measures suggested by Joint Team consisting of:
CPCB/ HSPCB/ District Collector

S.NO.	SUGGESTED REMEDIAL MEASURES	STEPS TAKEN
1.	There can be a lynchpin study to strengthen the efforts of various agencies including HSPCB, CPCB and IOCL to mitigate environmental pollution.	IOCL PRPC has commissioned a number of studies to measure and verify the emission and other parameters.
2.	The report on the action taken for restoration of ground water quality be submitted to NGT, CPCB and State government on quarterly basis by the IOCL. IOCL may be directed to provide safe drinking water to nearby villages affected by Drinking Water quality issues till the restoration of the ground water quality.	GW quality monitoring study carried out through various agencies like NIT, SRI, M/s TERI etc. M/s TERI through sampling and analysis & comparison with Baseline data has concluded that there is no evidence of impact on GW quality due to Panipat Refinery operations. For drinking water supply to nearby villages, proposal will be initiated under CER fund as per the advice of the district administration.
3.	Extensive rainwater harvesting may be more sustainable solution to restore the quality of groundwater. Panipat on an average receives 600mm of rain annually.	Elaborate Rain Water Harvesting (RWH) Network (42 nos.) further supplemented by addition of 4 nos. RWH pit in FY2018-19 inside PRPC. The project will be completed by March 2020. Rain water harvesting program will improve the ground water table. In addition to above IOCL PRPC is willing to undertake additional Rain Water Harvesting program as advised by District Administration under CER fund.

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4.	Green Belt Development is another sustainable solution to the Environmental Issues over the decades. Yearly targets and monitoring of them can give long term sustainable solutions. The action to be taken by the IOCL should be monitored quarterly, quantitatively and qualitatively by the District Administration and State Pollution Control Board.	IOCL PRPC has established a Green Belt around the Complex with 5.96 lakh trees in consultation with the District Administration. In the next 6 months, IOCL PRPC proposes to plant further 50,000 trees.
5.	Water stored in lagoons/ponds inside the plant should be treated and recycled before lining the lagoons to make these lagoons impervious as mandated in ~~COT~~ CTO dated 25.07.2019. Further no untreated water will be stored in the lagoons/ponds except in the tanks, which are components of effluent treatment plant.	Water stored in lagoons /ponds (Storm Water Ponds) inside the plants are treated and used as Fire Water make up. As per design standards storm water ponds should not be lined. Storage of Untreated effluent if any is to meet exigencies requirement as per design philosophy of effluent treatment plant. Untreated effluent stored in impervious lined ponds & meeting relevant engineering standards and same is taken back for reprocessing in existing ETPs within short period of time and not remain lying for long durations as per the plant operating philosophy.

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PART III

Compliance status of NGT Order Dated 1.3.19

S.No	NGT Committee Observation	Compliance Status as on date (11.12.19)	
		Action Completed	Future Action Plan
1.	The online Analyzers provided by the unit for monitoring of treated effluent quality and for air emission was found in working condition and transmitting real time data to CPCB / HSPCB server. However, the samples collected for analysis from the outlet of ETP and from Thirana Drain were found to be non-complying with the prescribed norms whereas results of the stream diverted to OCEMS in a room was found to be complying with norms as per values recorded in OCEMS, which indicates that effluent stream used for online monitoring may not be the same as the final outlet of ETP. Therefore, sensors of Online Continuous Effluent Monitoring system needs to be installed directly into the final discharge rather than taking one small pipe line to a room for OCEMS as presently being done by the unit, to prevent tempering of the representative discharge sample.	Completed Sample point for Analyzers re-located as advised by NGT team during inspection on 27.03.19.	--
2.	The ambient air quality data collected at different points at villages and within premises was found exceeding in PM. PM10 value of ambient air was found to be 290.0, 165.0, 123.5 & 176.5 against the limit of 100 mg/Nm3 which indicates that unit might be contributing to increase in PM value in ambient air the adjoining areas.	There are 45 nos. of stacks at PR. Stack Analyzers which are directly connected to CPCB servers. Random stack sampling by NGT joint team during 4th -6th Dec'18 & found	All the refinery stacks are found to be within the stipulated limits w.r.t $PM_{2.5}$ & PM_{10} and same has been recorded by NGT court. However, the job for AAQ monitoring & "Source Apportionment

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		stacks are meeting prescribed standard. M/s TERI has carried out "Environmental Damage Assessment in the Vicinity of Panipat Refinery" and report submitted in June'19 concludes that *"Particulate matter is a prominent pollutant in National Capital Region which continuously exceeds the standard limits due to natural and anthropogenic activities. Therefore, the high PM concentration in ambient air cannot be attributable to IOCL Panipat Refinery".*	Study" has been assigned to M/s NEERI. Report is expected by July'20.
3.	State Pollution Control Board does not have the facility to monitor VOCs in the ambient air to know the impact of Unit w.r.t. VOCs in the surrounding area. However, irritation to eyes and odour was observed by the team in the vicinity of the Unit. A study to identify all possible sources of VOC emissions in the Unit including open untreated effluent storage earth tanks & other components of ETP for taking control measures periodical monitoring of the VOCs in the surrounding areas by external		VOC emission monitoring & source apportionment study is being done by M/s NEERI. Which is expected to get completed by July'20 Installation of VOC

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	agency is strongly recommended.		reduction system in ETP-1&2 is under progress & expected to be completed by June'21.
4.	The untreated effluent was found discharged in Green Belt area outside the premises of the unit and was lying stagnant in the form of Cess Pool which may cause spread of odour in the nearby areas. The analysis of the sample collected from the Cess Pool reveals that the parameters are exceeding w.r.t BOD(102, 1200, 880, 900in mg/l) against the limit of 30mg/l, COD(306,3580, 2872, 5472 in mg/l) against the limit of250 mg/l, TSS(194, 124, 552, 252, 156 in mg/l)against the limit of 100mh/l, Oil & Grease(16,13,17.5 in mg/l) against the limit of 10 mg/l& TDS (2520, 2824, 2224, 3050 in mg/l) against the limit of 2000mg/l, which clearly shows that untreated effluent is being discharged into Green Belt. The unit has been granted consent to operate by Haryana State Pollution Control Board only for "Recycle and Reuse" of the trade effluent. Therefore, HSPCB need to direct the Unit to comply with the condition of "Recycle and Reuse" and stop all illegal means of discharge to avoid stagnation of treated effluent for preventing emission of VOCs and deterioration of ground water quality.	Completed. The area where accidental stagnant liquid was found was restored. Due to accidental rupture of one of the untreated water line, untreated water got accumulated in the green belt area. The accumulated untreated cess-pool was pumped back to ~~Refinery~~ ETP by 10th Dec'18. Soil remediation carried out & additional 2000 nos. tree saplings planted. This has been observed and confirmed by the Joint Committee in its Interim Report	The quantitative analysis carried out by M/s TERI through two independent NABL accredited labs concludes *"As per the overall soil analysis outcomes, there is no total petroleum hydrocarbon contamination was found and no contribution of total organic carbon pollutants was observed. Therefore, it found there is no evidence of soil contamination by IOCL Panipat Refinery."* Accordingly, there was no damage caused due to untreated water accumulation in the cess pool which was pulled back to the ETPs and treated on time.

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<table>
<tr><td></td><td></td><td>dated 09.05.2019.</td><td></td></tr>
<tr><td>5.</td><td>The units not complying the conditions of the Recycle and Reuse as per the condition of Consent to Operate granted by the HSPCB as the Unit is discharging effluent from PTAETP(ETP-III) into Thirana Drain. The discharge of the trade effluent in the open Thirana Drain has been found to be a major source of odour in the nearby area.
This becomes more significant and critical in view of the fact that the drain is open and there is no dilution in the Thirana Drain from any other source and flow of industrial effluent with high potential of emitting VOCs across the drain may adversely affect the surrounding environment. The illegal discharge of effluent into the Open Thirana Drain should be immediately stopped to avoid the contamination of ambient air and surface water.</td><td>The unit is complying with CTO conditions.</td><td>VOC emission monitoring & source apportionment study is being done by M/s NEERI which is expected to be completed by July'20
Installation of VOC reduction system in ETP-1&2 is under progress & expected to be completed by June '21.</td></tr>
<tr><td>6.</td><td>The Concrete Lining of Thirana Drain was found ruptured at one point due to which effluent discharged in green belt by the unit was flowing in Thirana drain through the point of rupture. The unit needs to stop the discharge from this ruptured point along the green belt and shall close such illegal discharge points. The unit needs to stop the discharge from this ruptured point along the green belt and shall close such illegal discharge points. The concrete lining of Thirana drain was found ruptured in one point.</td><td>Completed</td><td>The defect pointed out has been rectified and IOCL PRPC will undertake regular monitoring to ensure there is no recurrence.</td></tr>
<tr><td>7.</td><td>The details of the effluent samples collected from final outlet of ETP-I, ETP-II, ETP-III by the team are given below in the Table IV with exceeding values shown in bold.
<table>
<tr><td rowspan="2">Parameter</td><td colspan="2">Limit (as per EP Act, 1986)</td><td rowspan="2">ETP-1</td><td rowspan="2">ETP-II</td><td rowspan="2">ETP-III</td></tr>
<tr><td>ETP-</td><td>ETP-</td></tr>
</table></td><td>Treated effluent from ETP-I, II & PTA-ETP is meeting the stipulated respective Refinery and Petrochemical</td><td>Regular samples carried out through third party(M/s HTH) all the ETPs treated effluent is meeting respective MINAS</td></tr>
</table>

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	I & II	III			
TSS	20	100	11	24	142
BOD	15	30	21	48	170
COD	125	250	120	179	460
O&G	5	10	3.5	7.0	8.5
TDS	2000	2000	1030	1491	2224

The unit is not meeting the discharge Norms for BOD in ETP-I (21>15), ETP-II (48>15) and ETP-III (170>30); COD in ETP-II (179>125) and ETP-III (460>250); Oil and Grease in ETP-II (7>5); TDS in ETP-III (2224>2000). The results in above table show that either the unit is not operating its effluent treatment Plant efficiently or the ETP installed by the Unit is not adequate. The unit is discharging untreated effluent in Green Belts, outside the premises of the unit and into Thirana Drain, which may result in odour problem in the nearby are as besides deterioration of ground water quality. The Unit need to get the adequacy report of the effluent treatment plant done including adequacy for control, of VOCs from various ETP components for up gradation of Effluent. The Unit also needs to operate only legal and permitted mode of discharge/reuse of treated effluents. The HSPCB needs to issue necessary directions to the Unit in this regard to comply with the terms of Consent granted to the Unit

MINAS on consistent basis. From ETP-I and II treated water is recycled and reused internally.
Treated Effluent Quality Parameter Testing and Analysis carried out by M/s Shriram Institute of Industrial Research continuously for a period of one month. The treated effluent was meeting respective MINAS on consistent basis.
Further, to ensure enhanced robust performance, Automated Chemo-stat Treatment (ACT) has been installed by M/s BPC in ETP-1, ETP-2

parameter.

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8.	The Unit was found storing untreated effluent in open storage lagoon without any VOC recovery system for avoiding emission of VOCs. This may be another source of VOC emissions and odor in nearby areas. Therefore, Unit needs to make arrangement to cover all open potential sources of VOCs emissions in effluent treatment plant and recovery of VOCs after carrying out the study regarding VOC emitting potential/study of different components of effluent treatment plant.	Fugitive Emission Monitoring under Leak Detection and Repair (LDAR) program on quarterly basis is in place.	VOC Emission Monitoring & Source Apportionment Study is being done by M/s NEERI. The VOC emission monitoring report with recommendations is expected by July'20. Based on recommendations and suggested control measures of the report, suitable action will be initiated.
9.	The ground water samples collected from various locations in the vicinity of the Unit were found to be not complying with acceptable norms prescribed by BIS for drinking water in IS 10500 (2012). The most of the samples were found to have significant values of Chemical Oxygen Demand (COD), which clearly indicate contamination of the ground water with the external sources. A detailed study is required to be done in this regard to know the extent of damage done so far and the remediation required to restore the ground water quality beside monitoring of the ground water of the area to prevent further deterioration. This is extremely important and necessary to ensure supply of uncontaminated natural resources to surrounding areas."	The baseline data for COD as per EIA study carried out in 1993 prior to installation of Panipat Refinery ranges between 8 to 34 mg/lit. M/s TERI has conducted GW sampling and concluded that "no impact on quality of GW by operations of Panipat Refinery."	For creating additional database for ground water quality, an agency has been lined up for sampling of ground water. More than 110 GW samples sampling and analysis carried out in the vicinity of PRPC through NIT Kurushetra, Shriram Institute of Industrial Research, Sigma Test & Research Centre , TERI.

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			Haryana Test House & Consultancy Services. GW parameters are in line with Baseline data carried out by NEERI in 1993 before establishment of Panipat Refinery.

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आशीष भूषण
Ashish Bhushan
उप महाप्रबंधक (स्वास्थ्य, सुरक्षा एवं पर्यावरण)
Dy. General Manager (Health, Safety & Environment)
पानीपत रिफाइनरी एवं पेट्रोकेमिकल कॉम्प्लेक्स (आई.ओ.सी.एल.)
Panipat Refinery & Petrochemical Complex (IOCL)
पानीपत, Panipat-132140

HARYANA STATE POLLUTION CONTROL BOARD
SCO-55, Sec.25, HUDA,
Panipat Ph. 0180-2672037

E-mail: hspcb.pkl@sify.com

No. HSPCB/Consent/ : 313105619PITCTO6796558 **Dated:25/07/2019**

To.

M/s :Panipat Oil Refinery and PX PTA Petrochemical ,IOCL
Village-Baholi Dist-Panipat 132140

Subject: Grant of consent to operate to M/s Panipat Oil Refinery and PX PTA Petrochemical ,IOCL.

Please refer to your application no. 6796558 received on dated 2019-07-24 in regional office Panipat.With reference to your above application for consent to operate,M/s Panipat Oil Refinery and PX PTA Petrochemical ,IOCL is here by granted consent as per following specification/Terms and conditions.

Consent Under	BOTH
Period of consent	23/07/2019 - 30/09/2021
Industry Type	Oil Refinery (mineral Oil or Petro Refineries)
Category	RED
Investment(In Lakh)	2795883.0
Total Land Area(Sq. meter)	7446216.0
Total Builtup Area(Sq. meter)	5139508.0
Quantity of effluent	
1. Trade	6120.0 KL/Day
2. Domestic	1000.0 KL/Day
Number of outlets	2.0
Mode of discharge	
1. Domestic	Reuse and recycle
2. Trade	Drain
Domestic Effluent Parameters	
1. NA	
Trade Effluent Parameters	
1. BOD	30 mg/l
2. COD	250 mg/l
3. phenol	1 mg/l
4. sulphide	2 mg/l
5. Cynaide	0.2 mg/l
6. pH	6.5-8.5
7. flouride	5 mg/l
8. TSS	100 mg/l

9. Hexavalent chromium	0.1 mg/l
10. Total Chromium	2.0 mg/l
Number of stacks	44
Height of stack	
1. HRSG1	60 mtrs
2. HRSG2	60 mtrs
3. HRSG3	60 mtrs
4. HRSG4	60 mtrs
5. HRSG5	60 mtrs
6. CPP UB1	173 mtrs
7. MSQ1	60 mtrs
8. MSQ2	60 mtrs
9. CCRU	70 mtrs
10. CCRU NHT	70 mtrs
11. CCRU Reformer	60 mtrs
12. DHDS	60 mtrs
13. OHCU	65 mtrs
14. RG OHCU	65 mtrs
15. FCC heater	60 mtrs
16. FCC incinerator	100 mtrs
17. old SRU	200 mtrs
18. VBU	198 mtrs
19. HGU	50 mtrs
20. HCU	60 mtrs
21. DHDT1	60 mtrs
22. DHDT2	60 mtrs
23. PDS	60 mtrs
24. PX iosomer	56 mtrs
25. HGU 76	60 mtrs
26. HGU77	60 mtrs
27. PX CCR	100 mtrs
28. Px Xylene	78 mtrs
29. CPP VHP1	173 mtrs
30. CPP VHP3	126 mtrs
31. PTA FCPH	60 mtrs
32. PTA TO	50 mtrs
33. CPP VHP2	160 mtrs
34. CPP UB2	160 mtrs
35. DCU Heater 1	60 mtrs
36. New SRU	60 mtrs
37. Px VHT	50 mtrs
38. Px Tatury	60 mtrs
39. PTA HO	50 mtrs

40. Unit 57 NHRU	50 mtrs
41. BBU heater	60 mtrs
42. AVU CDU	53 mtrs
43. VDU NSU New old	100 mtrs
44. VDU AVU NSU New	100 mtrs
Emission parameters	
1. NOX	450 mg/m3
2. NOX	350 mg/m3
3. SOX	1700 mg/m3
4. SOX	50 mg/m3
5. Nickel and vandium	5 mg/m3
6. Hydrogen sulphide	150 mg/nm3
7. sulphur content in liquid fuel	1 mg/nm3
8. CO	200 mg/nm3
9. CO	150 mg/nm3
10. SPM	100 mg/m3
11. SPM	10 mg/m3
Product Details	
1. SKO	2157 Metric Tonnes/day
2. ATF	3448 Metric Tonnes/day
3. DHPPA	32 Metric Tonnes/day
4. HSD	19189 Metric Tonnes/day
5. Bituman	874 Metric Tonnes/day
6. MSE IV	4613 Metric Tonnes/day
7. Furnace oil	1207 Metric Tonnes/day
8. sulphur	488 Metric Tonnes/day
9. RPC	2547 Metric Tonnes/day
10. HSD E IV	17716 Metric Tonnes/day
11. Winter Grade HSD	25 Metric Tonnes/day
12. LPG	2097 Metric Tonnes/day
13. FO	678 Metric Tonnes/day
14. Benzene	69 Metric Tonnes/day
15. PTA	1047 Metric Tonnes/day
Capacity of boiler	
1. TPS VPH Boilers (3 nos.)	107900000 Kcalores/hr
2. TPS utlility boilers (2 nos.)	143900000 Kcalores/hr
Type of Furnace	
1. AVU1 CDU Heater	85.7 MMKcal/hr
2. AVU1 VDU	37.9 MMKcal/hr
3. AVU1 NSU	9.4 MMKcal/hr
4. OHCU RGH	27.1 MMKcal/hr

5. OHCU stripper Reboiler	24.2 MMKcal/hr
6. OHCU product	11.2 MMKcal/hr
7. OHCU Vaccum Column Reboiler	4.5 MMKcal/hr
8. CCRU NHT Reactor Preheat	4.1 MMKcal/hr
9. CCRU NHT Stripper	4.1 MMkcal/hr
10. CCRU stan Reboiler	4.7 MMKcal/hr
11. CCRU Reeformer Rector 1 preheater	6 MMKcal/hr
12. CCRU Reformer reactor 3 preheater	13.5 MMKcal/hr
13. CCRU Reformer Reactor 1 preheater	6 MMKcal/hr
14. CCRU Reforemr Reactor 2 preheater	11.2 MMKcal/hr
15. RFCC Feed Furnace	11.8 MMKcal/hr
16. DHDS furnace	5 MMKcal/hr
17. HGU Reformer	79.8 MMKcal/hr
18. BBU Furnace	3.6 MMKcal/hr
19. AVU2 CDU Heater	94.3 MMKcal/hr
20. AVU2 VDU HEater	37.2 MMKcal/hr
21. DHDT Train 1	6.8 MMKcal/hr
22. DHDT train 2	6.8 MMKcal/hr
23. HGU 76 PDS	3.5 MMKcal/hr
24. HGU 76 Reformer	180 MMKcal/hr
25. HGU 77 Reformer	180 MMKcal/hr
26. HCU FRac Heater	37.4 MMKcal/hr
27. HCU RHG	28.6 MMKcal/hr
28. DCU Train1	45.3 MMKcal/hr
29. DCU Train 2	45.3 MMKcal/hr
30. MSQ NHT	3 MMKcal/hr
31. MSQ GDU Prime G	2.3 MMKcal/hr
32. PTA Fired combuster preheater	17 MMKcal/hr
33. PTA Hot oil heater	25.8 MMKcal/hr
34. PX NHT	4.7 MMKcal/hr
35. PX CCR	28.1 MMKcal/hr
36. Px Isomer	17.6 MMKcal/hr
37. PX Xyelne heater	95.3 MMKcal/hr
38. PX Tatorav	4.6 MMKcal/hr
39. RFCC CO Incinerator	35 MMKcal/hr
40. BBU Incinerator	6.5 MMKcal/hr
41. VBU	6.3 MMKcal/hr

42. Old SRU	3.90 MMKcal/hr
43. SRU 26	12 MMKcal/hr
44. SRU 57	12 MMKcal/hr
45. HRSG 1	96.3 MMKcal/hr
46. HRSG2	81.5 MMKcal/hr
47. HRSG4	81.5 MMKcal/hr
48. HRSG5	81.5 MMKcal/hr
49. HSRG3	81.5 MMKcal/hr
Type of Fuel	
1. Furnace Oil	1702 Ton/day
2. Gas	2234 Ton/day
Raw Material Details	
Crude oil	41869 Metric Tonnes/Day

Regional Officer, Panipat
Haryana State Pollution Control Board.

Terms and conditions

1. The applicants shall maintain good house keeping both within factory and in the premises. All hose pipelines values, storage tanks etc. shall be leak proof. In plant allowable pollutants levels, if specified by State Board should be met strictly.
2. The applicant/company shall comply with and carry out directive/orders issued by the Board in this consent order at all subsequent times without negligence of his /its part. The applicant/company shall be liable for such legal action against him as per provision of the law/act in case of violation of any order/directives. Issued at any time and or non compliance of the terms and conditions of his consent order.
3. The applicant shall make an application for grant of consent at least 90 days before the date of expiry of this consent.
4. Necessary fee as prescribed for obtaining renewal consent shall be paid by the applicant alongwith the consent application.
5. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above required variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard vary all or such condition and there upon the applicant shall be bound to comply with the conditions so varied.
6. The industry shall provide adequate arrangement for fighting the accidental leakages, discharge of any pollutants gas/liquids from the vessels, mechanical equipment etc. which are likely to cause environment pollution.
7. The industry shall comply noise pollution (Regulation and control) Rules, 2000.
8. The industry shall comply all the direction/Rules/Instructions as may be issued by the MOEF/CPCB/HSPCB from time to time.
9. The industry shall ensure that various characteristics of the effluents remain within the tolerance limits as specified in EPA Standard and as amended from time to time and at no time the concentration of any characteristics should exceed these limits for discharge.

10. The industry would immediately submit the revised application to the Board in the event of any change in the raw material in process, mode of treatment/discharge of effluent. In case of change of process at any stage during the consent period, the industry shall submit fresh consent application alongwith the consent to operate fee, if found due, which may be on any account and that shall be paid by the industry and the industry would immediately submit the consent application to the Board in the event of any change during the year in the raw material, quantity, quality of the effluent, mode of discharge, treatment facilities etc.
11. The officer/official of the Board shall reserve the right to access for the inspection of the industry in connection with the various process and the treatment facilities. The consent to operate is subject to review by the Board at any time.
12. Permissible limits for any pollutants mentioned in the consent to operate order should not exceed the concentration permitted in the effluent by the Board.
13. The industry shall pay the balance fee, in case it is found due from the industry at any time later on.
14. If the industry fails to adhere to any of the conditions of this consent to operate order, the consent to operate so granted shall automatically lapse.
15. If the industry is closed temporarily at its own, they shall inform the Board and obtain permission before restart of the unit.
16. The industry shall comply all the Directions/ Rules/Instructions issued from time to time by the Board.

Specific Conditions :

1. That the unit will comply with the conditions of order issued by Head Office, HSPCB vide no. HSPCB/PC/2019/1870 dated 23.07.2019.
2. That the revised CTO is issued for the 23.07.2019 to 30.09.2021 under Water and Air Act with permission to discharge into Thirana Drain as per permission granted by Head Office vide order dated 23.07.2019.
3. That unit will recycle the treated effluent from ETP I and ETP II plant and will not discharge the same inside and outside the premises.
4. That the unit will install Electromagnetic flow meter on the final outlet of the PX-PTA plant leading to Thirana Drain and maintain logbook for the daily discharge shown in the flow meter and will submit copy of logbook on monthly basis to Regional Office, Panipat.
5. That the unit will not discharge any effluent inside or outside the premises except 255 m3/hr effluent of the treated effluent from PX-PTA plant into Thirana drain and will comply with the standards prescribed as per Environment (Protection) Rules, 1986 for Petrochemical (Basic & Intermediates) units.
6. That the unit will conduct the feasibility study of ZLD from PX-PTA section within the period of 18 months as per undertaking of the unit and will submit the technical feasibility report accordingly to achieve the ZLD from PX-PTA section.
7. That the unit will comply with the action plan already submitted to the HSPCB as per time frame mentioned in the action plan (long term) and will submit te monthly report in this regard to RO, Panipat and Head Office, HSPCB.
8. The unit will comply with the directions issued by the Hon'ble NGT in OA 738/2019 & other legal forms.
9.That after obtaining permission for discharge of PX-PTA plant effluent into Thirana Drain unit will submit monitroing report of treated effluent from PX-PTA ETP form NABL and

MoEF&CC affiliated laboratory.
10. That the unit will maintain and operate their ETP's regularly and efficiently to keep all the parameters within prescribed standards.
11. That the unit will submit permission from irrigation department for discharging its treated effluent as per standard prescribed under Environment (Protection) Rules, 1986 into Thirana Drain.
12. that the unit will submit the calliberation certificate of the online Continuous Effluent Monitoring System installed on the outlet of the PX-PTA Plant within 15 days and ensure the connectivity of the OCEMS with CPCB and HSPCB.
13. That the unit in case of mixed fuel (gas and liquid)use, the limit shall be computed based on the heat supplied by gas and liquid fuels.
14. That the unit will not increase its production capacity and will not made any expansion within existing plant without prior permission of the Board.
15. That revised CTO is being issued in the name "Panipat Refinery and PX-PTA of Petrochemical Complex" to indicate that the CTO so granted is of Panipat oil refinery and PX-PTA plant while earlier CTO was in the name Panipat Refinery which was not indicating the PX-PTA Plant in previous CTO and is in supersession of previous CTO issued by the Board vide no. 313105617PITCTO3530800 dated 13.06.2017.
16. That the unit will deposit the balance consent fee as per schedule, if any.
17. That the unit will submit the compliance of the conditions of consent to operate granted by the Board.
18. That in case if the unit is found violating the above the mentioned conditions appropriate action will be initiated against the unit as per legal provisions.

Bhupinder Singh Digitally signed by Bhupinder Singh Date: 2019.07.24 21:53:41 -07'00'

Regional Officer, Panipat

Haryana State Pollution Control Board.

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
पानीपत रिफाइनरी एवं पेट्रोकेमिकल कॉम्प्लेक्स
पानीपत, हरियाणा - 132140
Indian Oil Corporation Limited
Panipat Refinery & Petrochemical Complex
Panipat, Haryana - 132140
वेबसाइट : www.iocl.com; ई–मेल : panipatrefinery@indianoil.in
दूरभाष : 0180-2524001; फैक्स : 0180-2578833

रिफाइनरीज़ प्रभाग
Refineries Division

1173
20/8/19

F.R.

R.O.
AEE1, AEE2, SC 'B'
JEE, ASSTT, CLERK

Form V

19/8/19

Take it on Record

26/8

RSH

Ref No: PR/HSE/HSPCB /2019

Date: 19.08.19

To
Regional Officer,
Haryana State Pollution Control Board
SCO No. 55, Sector-25,
HUDA, Panipat
Haryana

Sub: Submission of PTA-ETP OCEMS Analyzers Calibration Reports

Ref: Consent-To-Operate (CTO) Dated 25.07.19

Respected Sir,

We would like to inform you that after obtaining Revised CTO incorporating mode of discharge of Treated Effluent dated 25.07.19, PTA-ETP operation has now been stabilised and discharge of PTA-ETP treated effluent meeting Petrochemical MINAS standard has also been started into Thirana Drain with effect from 18.08.19.

Panipat Refinery is also started maintaining relevant records as mentioned in the Specific Conditions of CTO. In compliance of one of the condition, latest calibration certificates for analysers connected with OCEMS of PTA-ETP is enclosed as **Annexure-1.**

We will also continue to submit fortnightly test reports of Treated effluent discharged into Thirana Drain from NABL and MOEF&CC accredited laboratory starting with 31.08.19.

Thanking You,

For and On behalf of IOCL,

Nagpal 19/08/2019

(Praveen Nagpal)
Chief General Manager
(Health, Safety & Environment)

End : As above.

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
Ph. – (0180) 2672037, Telefax – 2664951, E-mail: hspcbropr@gmail.com

No. HSPCB/PR/2019/ 2414 Dated 15/11/19

To

Sh. Parveen Nagpal,
Chief General Manager (H, S&E),
Indian Oil Corporation Limited,
Panipat Refinery & Petrochemical Complex,
Panipat, Haryana-132140.

Sub: Submission of Compliance Report.

Ref. Your office letter No.PR/HSE/2019 dated 11/11/2019.

Kindly refer to subject noted above, you have submitted the compliance status of the consent to operate issued on 25/07/2019 vide letter referred above, during the verification of the compliance submitted by you it was observed that you have not submitted the permission from Irrigation Department for discharging the treated effluent of PX-PTA Plant as per standards prescribed under Environment (Protection) Rules, 1986 into Thirana Drain as per specific condition No.10 of the CTO.

Therefore, you are hereby directed to submit the permission from Irrigation Department for discharging the treated effluent of PX-PTA Plant as per standards prescribed under Environment (Protection) Rules, 1986 into Thirana Drain as per specific condition No.10 of the CTO within 15 days failing which further necessary action will be initiated as per the provisions of Environmental Laws/Acts.

Regional Officer
HSPCB, Panipat
15/11/19

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
Ph. – (0180) 2672037, Telefax – 2664951, E-mail: hspcbropr@gmail.com

No. HSPCB/PR/2019/2948 Dated 27/12/2019

To

The Executive Director
Indian Oil Corporation Limited,
Panipat Refinery & Petrochemical Complex,
Panipat, Haryana-132140.

Sub: **Submission of Compliance Report of the Conditions of CTO.**

Ref. This Office Letter no HSPCB/PR/2019/2414 dated 15.11.2019. & your reply vide letter No.PNC/HSE/2019 dated 30/11/2019.

Kindly refer to subject noted above, it is intimated that your unit have submitted the compliance status of the conditions of consent to operate on 11.11.2019, On verification of the compliance submitted by your unit, it was observed that Permission from Irrigation Department for discharging the treated effluent of PX-PTA Plant into Thirana Drain as per standards prescribed under Environment (Protection) Rules, 1986 have not been submitted till date in compliance of specific condition No.11 of the CTO grated to your unit 25.07.2019.

Therefore, your unit was asked to submit the permission from Irrigation Department for discharging the treated effluent of PX-PTA Plant into Thirana Drain vide this office letter referred above. In response, vide letter No.PNC/HSE/2019 dated 30/11/2019, you have submitted that permission from Irrigation Department for discharging the treated effluent of PX-PTA Plant into Thirana Drain was obtained in the year 2000 but you have not submitted the copy of the same . Moreover you have submitted the internal correspondence of Executive Engineer & Superintendent Engineer of Irrigation department which cannot be treated as Permission for discharge in to Thirana Drain .

In View of the above , it is hereby directed to submit the permission from Irrigation Department for discharging the treated effluent of PX-PTA Plant as per standards prescribed under Environment (Protection) Rules, 1986 into Thirana Drain as per specific condition No.11 of the CTO within 7 days failing which it will be treated as non compliance of the Conditions of the CTO and further necessary action will be initiated as per the provisions of Water Act 1974.

Regional Officer
HSPCB, Panipat

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
Ph. - (0180) 2672037, Telefax - 2664951, E-mail: hspcbropr@gmail.com

No. HSPCB/PR/2020/ 3324 Dated 11./02/2020

To

The Executive Director
Indian Oil Corporation Limited,
Panipat Refinery & Petrochemical Complex,
Panipat, Haryana-132140.

Sub: Submission of Compliance Report of the Conditions of CTO.

Ref: Your letter No.PNC/HSE/2020/CTO dated 28.01.2020.

Kindly refer to subject noted above, it is intimated that your unit have submitted the compliance status of the conditions of consent to operate on 28.01.2020 for the month of Dec 2019, On verification of the compliance submitted by your unit, it was observed that Permission from Irrigation Department for discharging the treated effluent of PX-PTA Plant into Thirana Drain as per standards prescribed under Environment (Protection) Rules, 1986 have not been submitted till date in compliance of specific condition No.11 of the CTO granted to your unit on 25.07.2019.

In View of the above, it is hereby directed to submit the permission from Irrigation Department for discharging the treated effluent of PX-PTA Plant as per standards prescribed under Environment (Protection) Rules, 1986 into Thirana Drain as per specific condition No.11 of the CTO within 7 days failing which it will be treated as non compliance of the Conditions of the CTO and further necessary action will be initiated as per the provisions of Water Act 1974.

Treat it as Final Opportunity.

Regional Officer
HSPCB, Panipat

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
Ph. – (0180) 2672037, Telefax – 2664951, E-mail: hspcbropr@gmail.com

No. HSPCB/PR/2020/ 3085 Dated 14/1/20

To

The Executive Engineer,
Irrigation Department,
Panipat.

Sub: Regarding permission for discharge into Thirana Drain to M/S IOCL Panipat Refinery & Petrochemical Complex, Panipat -132140.

Kindly refer to subject noted above, it is intimated that M/S IOCL Panipat Refinery & Petrochemical Complex, Panipat -132140 is discharging 255 m^3/hr of treated effluent of PX-PTA Plant into Thirana Drain.

In view of the above, it is requested to clarify, whether Irrigation department has granted the permission to M/S IOCL Panipat Refinery & Petrochemical Complex, Panipat -132140 for discharging 255 m^3/hr of treated effluent into Thirana Drain Panipat, if so kindly provide the copy of permission granted to the above said unit to this office so that further necessary action can be taken accordingly.

Regional Officer
HSPCB, Panipat

Endst.No.HSPCB/PR/2020/ 3086-87 Dated 14/1/20

A copy of the above is forwarded to the followings for kind information and necessary action, please.

1. The Chairman, Haryana State Pollution Control Board, Panchkula.
2. The Executive Director, IOCL Panipat Refinery & Petrochemical Complex, Panipat.

FTMS 294

Regional Officer
HSPCB, Panipat

HARYANA STATE
Preevent pollution

AJMS-7264

Form J

Prepare SCN & put up FR RO AEE1 AEE2 AEE3 Asstt. Clerk 07/2/20 AsH/SDO JE 4/2/20

(See Rule 36)

Test Report

Report No- 2035 Dated: 31-January-2020

I hereby, certify that I **Dr. Jai Bhagwan** Board Analyst duly appointed under sub section (3) of section 53 of the Water (Prevention and Control of Pollution) Act 1974 (06 of 1974), received a sample on the 16 day of January, 2020, collected by **Sh. Bhupinder Singh Sr. EE** on dated 15 day of January, 2020 of **M/s The Panipat Naphtha Crackers, a project of Indian Oil, Village Baljatton, Panipat** for analysis.

Further certify that I have analyzed the above mentioned sample on 16-January-2020 to 31-January-2020 and declare the result of analysis to be as follows:-

1.	Sample Code	2356
2.	Sample Collected from #	Strom water pond No. 1

OBSERVATION

1.	Appearance	Light Greyish
2.	Odour	Pungent

RESULTS

Sr. No.	Parameter Name	Result	Result	Limit	Test Method
1.	pH Value	7.83			APHA,4500-H
2.	Suspended Solid mg/l	20.0			APHA,2540-D
3.	BOD mg/l	53.0			IS:3025(P-44)
4.	COD mg/l	188.4			APHA, 5220-B
5.	Oil & Grease mg/l	BDL (DL=2)			APHA, 5520-B
6.	Conductivity Micro S/cm	2020.0			-
7.	Ammonical Nitrogen (as N) mg/l	9.52			-
8.	Total Dissolved Solid mg/l	1240.0			-
9.	Sodium Absorption Ratio (SAR)	8.50			-
10.	Phenolic Compound (as C6H5OH) mg/l	BDL			-
11.	Sulphide (as S) mg/l	BDL			-
12.	Total Chromium (as Cr) mg/l	BDL			-
13.	Hexavalent Chromium (as Cr+6) mg/l	BDL			-
14.	Nickel (as Ni) mg/l	BDL			-
15.	Iron (as Fe) mg/l	0.302			-
16.	Zinc (as Zn) mg/l	0.026			-
17.	Copper (as Cu) mg/l	BDL			-
18.	Lead (as Pb) mg/l	0.038			-

The Conditions of the seals, listening and container on receipt was as follows:
Container had its seal found intact and in order, slip on the container had the signature of the representative of the industry and the Board.
Signed this **31 day of January- 2020**

Haryana State Pollution Control Board Laboratory,
SCO-115, 1st& 2nd Floor, Sector-25, Panchkula, Haryana
To

The Member Secretary, HSPCB, Panchkula
Regional Office, Panipat

Board Analyst

This test report relate only to the particular sample submitted for testing.

***

This information is provided by the field officer.

BDL – Below Deduction Limit.

DL – Deduction Limit.

FIMS-1265

FR

RO

AEE1 AEE2 AEE3

Asstt. Clerk

4/2/20

Prevent Pollution

Type of Sample:-**Monitoring**

Haryana State Pollution Control Board'sLaboratory
SCO-115, 1st& 2nd Floor, Sec-25, Panchkula, Haryana

Test Report

To

The Member Secretary,
Haryana State Pollution Control Board
Panchkula

Report No. 2036
Dated: 31-01-2020

Description: Received a sample on 16/01/2020 of Water collected by **Sh. Bhupinder Singh, SEE and Sh. Pardeep Singh, AEE** collected from **Thirana drain 100 m downstream of Naphtha Cracker strom disharge** on 15/01/2020. The sample has been analysed from **16/01/2020 to 31/01/2020.**

1.	Sample Code	2357
2.	Sample Collected from #	Thirana drain

OBSERVATION

1.	Appearance	Brownish
2.	Odour	Slight Pungent

RESULTS

Sr. No.	Parameter Name	Result	Result	Limit	Test Method
1.	pH Value	8.69			APHA, 4500-H+B
2.	Suspended Solid mg/l	26.0			APHA, 2540-D
3.	BOD mg/l	48.0			IS:3025(P-44)
4.	COD mg/l	164.8			APHA, 5220-B
5.	Oil & Grease mg/l	BDL (DL=2)			APHA, 5520-B
6.	Conductivity Micro S/cm	5460.0			-
7.	Ammonical Nitrogen (as N) mg/l	14.0			-
8.	Total Dissolved Solid mg/l	3380.0			-
9.	Sodium Absorption Ratio (SAR)	38.28			-
10.	Phenolic Compound (as C6H5OH) mg/l	BDL			-
11.	Sulphide (as S) mg/l	BDL			-
12.	Total Chromium (as Cr) mg/l	BDL			-
13.	Hexavalent Chromium (as Cr+6) mg/l	BDL			-
14.	Nickel (as Ni) mg/l	BDL			-
15.	Iron (as Fe) mg/l	0.243			-
16.	Zinc (as Zn) mg/l	0.055			-
17.	Copper (as Cu) mg/l	BDL			-
18.	Lead (as Pb) mg/l	0.092			-

Sample Collected/Not Collected by us — JSA1 Manjali — JSA2 Kiran Bala — Sc-B Dr. Pinki Jangra — Analyst Harish Chandra — **Laboratory Incharge** Dr. Jai Bhagwan

Sample Consumed in testing

CC to Regional Office **Panipat**

The test report relate only to the particular sample submitted for testing.

This information is provided by the field officer.

BDL – Below Deduction Limit.

DL – Deduction Limit.

***

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
Ph. – (0180) 2672037, Telefax – 2664951, E-mail: hspcbropr@gmail.com

No. HSPCB/PR/2020/ 3129
FTMS:

Dated 17/1/20

To

The Panipat Naphtha Cracker Project A Unit of Indian Oil,
Vill. Baljattan, Tehsil Madlauda, Panipat Refinery,
Panipat

Sub: **Show Cause Notice under section 27/33-A of Water Act, 1974 for violating the CTO conditions.**

On the above said subject, it is intimated that the team constituted by Hon'ble NGT in the matter of OA No.738/2018 titled as Satpal Singh Sarpanch, Gram Panchayat Singhpura Sithana, Panipat Versus Indian Oil Corporation Ltd, Panipat Refinery, comprising representative of NEERI, CPCB & HSPCB visited the Refinery Complex Panipat on dated 14/01/2020 & during inspection of the Thirana Drain, the team found that the M/s The Panipat Naphtha Cracker Project A Unit of Indian Oil is discharging untreated/partially treated effluent into Thirana Drain (photographs attached). Hence, you are violating the CTO conditions as CTO was granted to you for reuse and recycle of effluent.

Therefore, you are hereby show caused for 07 days that why revocation of consent to operate and closure action may not be initiated against you. If you will fail to submit the reply within stipulated time period, it will be presumed that you have nothing to say in this regard and accept the status as above, which will warrant action as per the provisions of Water Act, 1974 for above mentioned non-compliance without any further notice.

DA as Above

Regional Officer
HSPCB, Panipat

Endst.No.HSPCB/PR/2020/ 3130
FTMS: 4204

Dated 17/1/20

A copy of the above is forward to the Chairman, HSPCB, Panchkula for kind information & further necessary action, please.

Mail already sent to unit

Regional Officer
HSPCB, Panipat

D:\A2019\pto 20.12.19\1 HSPCB DATA\Data 2019-20\AEE JEE Sc B 19-20\AEE JEE Sc B.Docx

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
Ph. – (0180) 2672037, Telefax – 2664951, E-mail: hspcbropr@gmail.com

No. HSPCB/PR/2020/ 3311
FTMS:

Dated : 10/2/20

To

The Panipat Naphtha Cracker Project A Unit of Indian Oil,
Vill. Baljattan, Tehsil Madlauda, Panipat Refinery,
Panipat

Sub: Show Cause Notice under section 27/33-A of Water Act, 1974 for violating the CTO conditions.

Ref: SCN issued vide no. HSPCB/PR/2020/3129 dated 17.01.2020 and units reply vide no PNC/HSE/1B dated 23.01.2020.

On the above said subject, it is intimated that the team constituted by Hon'ble NGT in the matter of OA No.738/2018 titled as Satpal Singh Sarpanch, Gram Panchayat Singhpura Sithana, Panipat Versus Indian Oil Corporation Ltd, Panipat Refinery, comprising representative of NEERI, CPCB & HSPCB visited the Refinery Complex Panipat on dated 14/01/2020 & during inspection of the Thirana Drain, the team found that the M/s The Panipat Naphtha Cracker Project A Unit of Indian Oil was found discharging untreated/partially treated effluent into Thirana Drain in violating the CTO conditions as CTO was granted to the unit for reuse and recycle of effluent. Therefore show cause notice was issued to the unit vide letter no 3129 dated 17.01.2020 as referred above and you have submitted the reply vide letter no. PNC/HSE/1B dated 23.01.2020 that the water discharged was storm water while as per the Analysis report received from HSPCB Lab vide A/R no. 2035 dated 31.01.2020 ,results show that the effluent discharged was contaminated effluent not Rainy Water.

Therefore, you are hereby show caused for 07 days that why revocation of consent to operate and closure action may not be initiated against you. If you will fail to submit the reply within stipulated time period, it will be presumed that you have nothing to say in this regard and accept the status as above, which will warrant action as per the provisions of Water Act, 1974 for above mentioned non-compliance without any further notice.

DA/ A/R no. 2035 dated 31.01.2020

Regional Offic
HSPCB, Panip

Endst.No.HSPCB/PR/2020/ 3312
FTMS: 9173

Dated : 10/2/20

A copy of the above is forward to the Chairman, HSPCB, Panchkula for kind information & further necessary action, please.

Regional Officer
HSPCB, Panipat

Scanned with CamScanner

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
पानीपत रिफाइनरी एवं पेट्रोकेमिकल कॉम्पलेक्स
पानीपत, हरियाणा - 132140
Indian Oil Corporation Limited
Panipat Refinery & Petrochemical Complex
Panipat, Haryana - 132140
वेबसाइट : www.iocl.com; ई–मेल : panipatrefinery@indianoil.in
दूरभाष : 0180-2524001; फैक्स : 0180-2578833

रिफाइनरीज़ प्रभाग
Refineries Division

Ref No: PR/HSE/2020

Date: 11.02.2020

To,
Deputy Commissioner
Panipat

Sub: Arrangement of safe drinking water supply to nearby villages of Panipat Refinery, IOCL

Ref: Final report of the Joint committee constituted by Hon'ble NGT vide order dated 15/11/2018 in OA no. 738/2018 , in the matter of Satpal Singh & Others vs IOCL, Panipat Refinery in compliance of Hon'ble NGT order dated 01.03.2019 and 10.05.2019.

Respected Madam,

This is with reference to Annexure-E (Copy enclosed) dated 20.11.2019 of Final report of the Joint committee constituted by Hon'ble NGT. In the report as way forward, District administration, Panipat has recommended number of measures in OA no. 738/2018, in the matter of Satpal Singh & Others vs. IOCL, Panipat Refinery.

One of the recommendations of district administration (Page 7 of 22 Serial No. 3) mentions *"The report on the action taken for restoration of ground water quality be submitted to NGT, CPCB and State Government on quarterly basis by the IOCL.* ***IOCL may be directed to provide safe drinking water to nearby villages affected by Drinking Water quality issues till the restoration of the ground water quality".***

In this regard, IOCL requests district administration to provide a proposal with estimate of cost incurred for providing safe drinking water to nearby villages affected by Drinking Water quality issues.

Panipat Refinery, IOCL as a part of Corporate Environment Responsibility (CER)/ Corporate Social Responsibility(CSR) will bear the entire expenses incurred on the subject project implemented by District Administration, Panipat and provide necessary support in implementation.

It is requested to provide the detailed cost estimate along with mode of drinking water supply, identified villages etc.

Regards,

For and On Behalf of
Indian Oil Corporation Limited

(S K Tripathi)
GM(A&W, CC, CSR)

Prevent Pollution

Atms – 14842

Type of Sample:-Monitoring

Haryana State Pollution Control Board'sLaboratory
SCO-115, 1st& 2nd Floor, Sec-25, Panchkula, Haryana
Test Report

To

The Member Secretary,
Haryana State Pollution Control Board
Panchkula

Report No. 2253
Dated: 26-02-2020

Description: Received a sample on 14/02/2020 of Watercollected by **Sh. Bhupinder Singh Rinwa, Sr. EE** collected from **M/s IOCL Panipat Oil Refinery & Petro Chemical Complex, Village Baholi, Distt. Panipat** on 13/02/2020. The sample has been analysed from **14/02/2020 to 26/02/2020.**

1.	Sample Code	2651	2652
2.	Sample Collected from #	Final discharge of PTA-ETP (III) into Thirana drain	Polishing pond-B (treated effluent) of PTA ETP (ETP-III)
		OBSERVATION	
1.	Appearance	Brownish	Pink
2.	Odour	Mild	Mild

Sr. No.	Parameter Name	Result	Result	Limit	Test Method
		RESULTS			
1.	pH Value	8.75	8.77	6.5-8.5	APHA, 4500-H
2.	Suspended Solid mg/l	18.0	160.0	100	APHA, 2540-D
3.	BOD mg/l	19.0	230.0	30	IS:3025(P-44)
4.	COD mg/l	86.4	923.2	250	APHA, 5220-B
5.	Conductivity Micro S/cm	3420.0	3920.0		
6.	Phenolic Compound (as C6H5OH) mg/l	BDL	BDL		-
7.	Sulphide (as S) mg/l	BDL	BDL	2.0	-
8.	Total Chromium (as Cr) mg/l	BDL	BDL	2.0	-
9.	Hexavalent Chromium (as Cr+6) mg/l	BDL	BDL	2.0	-

Sample Collected/Not Collected by us
Sample Consumed in testing

JSA1 Manjali | JSA2 Kiran Bala | SC-B Dr. Pinki Jangra | Analyst Harish Chandra | **Laboratory Incharge** Dr. Jai Bhagwan

CC to Regional Office **Panipat**

The test report relate only to the particular sample submitted for testing.

This information is provided by the field officer.

BDL – Below Deduction Limit.

DL – Deduction Limit.

***

Prevent Pollution

ftm -14841

Type of Sample:-Monitoring

Haryana State Pollution Control Board'sLaboratory
SCO-115, 1st& 2nd Floor, Sec-25, Panchkula, Haryana

Test Report

To

The Member Secretary,
Haryana State Pollution Control Board
Panchkula

Report No. 2254
Dated: 26-02-2020

Description: Received a sample on 14/02/2020 of Watercollected by Sh. Bhupinder Singh Rinwa, Sr. EE collected from M/s IOCL Panipat Oil Refinery & Petro Chemical Complex, Village Baholi, Distt. Panipat on 13/02/2020. The sample has been analysed from 14/02/2020 to 26/02/2020.

1.	Sample Code	2653	2654
2.	Sample Collected from #	Inlet effluent of guard pond-B of PTA ETP (III)	Strom water pond near PTA ETP (III)
		OBSERVATION	
1.	Appearance	Brownish	Blackish
2.	Odour	Mild	Light Foul

RESULTS

Sr. No.	Parameter Name	Result	Result	Limit	Test Method
1.	pH Value	8.64	8.96	6.5-8.5	APHA, 4500-H
2.	Suspended Solid mg/l	19.0	158.0	100	APHA, 2540-D
3.	BOD mg/l	34.0	82.0	30	IS:3025(P-44)
4.	COD mg/l	129.2	328.4	250	APHA, 5220-B
5.	Conductivity Micro S/cm	3580.0	2420.0		
6.	Phenolic Compound (as C6H5OH) mg/l	BDL	BDL		-
7.	Sulphide (as S) mg/l	BDL	BDL	2.0	-
8.	Total Chromium (as Cr) mg/l	BDL	BDL	2.0	-
9.	Hexavalent Chromium (as Cr+6) mg/l	BDL	BDL	2.0	-
10.	Fluoride (as F) mg/l	1.99	1.69	5.0	-

Sample Collected/Not Collected by us
Sample Consumed in testing

JSA1 Manjali | JSA2 Kiran Bala | SC-B Dr. Pinki Jangra | Analyst Harish Chandra | Laboratory Incharge Dr. Jai Bhagwan

CC to Regional Office Panipat

The test report relate only to the particular sample submitted for testing.

This information is provided by the field officer.

BDL – Below Deduction Limit.

DL – Deduction Limit.

***

Prevent Pollution

ftms-14839

Type of Sample:-Monitoring

Haryana State Pollution Control Board'sLaboratory
SCO-115, 1st& 2nd Floor, Sec-25, Panchkula, Haryana

Test Report

To

The Member Secretary,
Haryana State Pollution Control Board
Panchkula

Report No. 2255
Dated: 26-02-2020

Description: Received a sample on 14/02/2020 of Watercollected by **Sh. Bhupinder Singh Rinwa, Sr. EE** collected from **M/s IOCL Panipat Oil Refinery & Petro Chemical Complex, Village Baholi, Distt. Panipat** on 13/02/2020. The sample has been analysed from **14/02/2020 to 26/02/2020.**

1.	Sample Code	2655	2656
2.	Sample Collected from #	Effluent of Guard Pond-A of PTA ETP (III)	Effluent of Guard Pond-C of PTA ETP (III)

OBSERVATION

1.	Appearance	Brownish	Brownish
2.	Odour	Mild	Mild

RESULTS

Sr. No.	Parameter Name	Result	Result	Limit	Test Method
1.	pH Value	8.53	8.26	6.5-8.5	APHA, 4500-H
2.	BOD mg/l	15.0	17.0	30	IS:3025(P-44)
3.	COD mg/l	56.0	71.2	250	APHA, 5220-B
4.	Conductivity Micro S/cm	1850.0	1670.0		

	JSA1	JSA2	SC-B	Analyst	Laboratory Incharge
Sample Collected/Not Collected by us					
Sample Consumed in testing	Manjali	Kiran Bala	Dr. Pinki Jangra	Harish Chandra	Dr. Jai Bhagwan

CC to Regional Office **Panipat**

The test report relate only to the particular sample submitted for testing.

This information is provided by the field officer

BDL – Below Deduction Limit

DL – Deduction Limit

***

DIRECTORATE, DEPARTMENT OF ENVIRONMENT
& CLIMATE CHANGE, HARYANA
SCO 1-3, 2nd FLOOR, SECTOR 17 D, CHANDIGARH
Telephone: 0172-2701628, Fax: 0172-2709462, Email: environment@hry.nic.in

Report by Government Analyst

Report No. **W-7/2020/20** Dated, the 26th February, 2020

I, **Dr. R. K. Chauhan,** Government Analyst duly appointed under sub Section (2) of Section 53 of Water (Prevention and Control of Water Pollution) Act, 1974 (6 of 1974) read with Rule 35 of Haryana (Prevention and Control of Water Pollution) Rules, 1978, hereby declare that I have received a sample on the 14th February, 2020 from Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panchkula collected from M/s Indian Oil Corporation Limited, Panipat Oil Refinery & Petrochemical Complex, Village Baholi, Distt Panipat, Haryana for analysis. This sample was in a fit condition for analysis reported below.

I further clarify that I have caused to be analysed the aforementioned sample and declare results of analysis to be as follow:

Final Discharge of PTA-ETP (ETP-III) into Thirana Drain (Sample No. 01)

S.No	Parameters	Results	Limits
1.	Appearance	Turbid	---
2.	Odour	Mild	---
3.	pH Value	7.24	6.5-8.5
4.	Total suspended Solid mg/L	32	100
5.	COD mg/L	77	250
6.	BOD mg/L	11	30
7.	Total Cromium (as CR) mg/L	0.035	2
8.	Fluoride (as F) mg/L	0.83	5
9.	Sulphide (as S) mg/L	B.D.L.	2

B.D.L.= Below Deduction Level

The samples were preserved and sealed with the seal bearing inscription of Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panipat Region.

Signed on 26th day of February, 2020

(Signature)
o/c Government Analyst, Haryana

DIRECTORATE, DEPARTMENT OF ENVIRONMENT & CLIMATE CHANGE, HARYANA
SCO 1-3, 2nd FLOOR, SECTOR 17 D, CHANDIGARH
Telephone: 0172-2701628, Fax: 0172-2709462, Email: environment@hry.nic.in

Report by Government Analyst

Report No. **W-7/2020** 181 Dated, the 26th February, 2020

I, **Dr. R. K. Chauhan,** Government Analyst duly appointed under sub Section (2) of Section 53 of Water (Prevention and Control of Water Pollution) Act, 1974 (6 of 1974) read with Rule 35 of Haryana (Prevention and Control of Water Pollution) Rules, 1978, hereby declare that I have received a sample on the 14th February, 2020 from Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panchkula collected from M/s Indian Oil Corporation Limited, Panipat Oil Refinery & Petrochemical Complex, Village Baholi, Distt Panipat, Haryana for analysis. This sample was in a fit condition for analysis reported below.

I further clarify that I have caused to be analysed the aforementioned sample and declare results of analysis to be as follow:

Polishing Pond-B (Treated Effluent) of PTA-ETF (ETP-III) (Sample No. 02)

S.No	Parameters	Results	Limits
1.	Appearance	Reddish	---
2.	Odour	Mild	---
3.	pH Value	7.59	6.5-8.5
4.	Total suspended Solid mg/L	174	100
5.	COD mg/L	568	250
6.	BOD mg/L	345	30
7.	Total Cromium (as CR) mg/L	0.035	2
8.	Fluoride (as F) mg/L	0.25	5
9.	Sulphide (as S) mg/L	B.D.L.	2

B.D.L.= Below Deduction Level

The samples were preserved and sealed with the seal bearing inscription of Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panipat Region.

Signed on 26th day of February, 2020

(Signature)
O/C Government Analyst, Haryana

DIRECTORATE, DEPARTMENT OF ENVIRONMENT
& CLIMATE CHANGE, HARYANA
SCO 1-3, 2nd FLOOR, SECTOR 17 D, CHANDIGARH
Telephone: 0172-2701628, Fax: 0172-2709462, Email: environment@hry.nic.in

Report by Government Analyst

Report No. **W-7/2020/22** Dated, the 26th February, 2020

I, **Dr. R. K. Chauhan,** Government Analyst duly appointed under sub Section (2) of Section 53 of Water (Prevention and Control of Water Pollution) Act, 1974 (6 of 1974) read with Rule 35 of Haryana (Prevention and Control of Water Pollution) Rules, 1978, hereby declare that I have received a sample on the 14th February, 2020 from Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panchkula collected from M/s Indian Oil Corporation Limited, Panipat Oil Refinery & Petrochemical Complex, Village Baholi, Distt Panipat, Haryana for analysis. This sample was in a fit condition for analysis reported below.

I further clarify that I have caused to be analysed the aforementioned sample and declare results of analysis to be as follow:

Inlet Effluent of Guard Pond-B of PTA-ETP (ETP-III) (Sample No. 03)

S.No	Parameters	Results	Limits
1.	Appearance	Turbid	---
2.	Odour	Mild	---
3.	pH Value	7.8	6.5-8.5
4.	Total suspended Solid mg/L	23	100
5.	COD mg/L	134	250
6.	BOD mg/L	46.5	30
7.	Total Cromium (as CR) mg/L	0.069	2
8.	Fluoride (as F) mg/L	0.70	5
9.	Sulphide (as S) mg/L	B.D.L.	2

B.D.L.= Below Deduction Level

The samples were preserved and sealed with the seal bearing inscription of Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panipat Region.

Signed on 26th day of February, 2020

(Signature)
O/C Government Analyst, Haryana

DIRECTORATE, DEPARTMENT OF ENVIRONMENT
& CLIMATE CHANGE, HARYANA
SCO 1-3, 2nd FLOOR, SECTOR 17 D, CHANDIGARH
Telephone: 0172-2701628, Fax: 0172-2709462, Email: environment@hry.nic.in

Report by Government Analyst

Report No. **W-7/2020/R3** Dated, the 26th February, 2020

I, **Dr. R. K. Chauhan,** Government Analyst duly appointed under sub Section (2) of Section 53 of Water (Prevention and Control of Water Pollution) Act, 1974 (6 of 1974) read with Rule 35 of Haryana (Prevention and Control of Water Pollution) Rules, 1978, hereby declare that I have received a sample on the 14th February, 2020 from Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panchkula collected from M/s Indian Oil Corporation Limited, Panipat Oil Refinery & Petrochemical Complex, Village Baholi, Distt Panipat, Haryana for analysis. This sample was in a fit condition for analysis reported below.

I further clarify that I have caused to be analysed the aforementioned sample and declare results of analysis to be as follow:

Storm Water Pond near PTA-ETP (ETP-III) (Sample No. 04)

S.No	Parameters	Results	Limits
1.	Appearance	Turbid	---
2.	Odour	Mild	---
3.	pH Value	7.32	6.5-8.5
4.	Total suspended Solid mg/L	70	100
5.	COD mg/L	342	250
6.	BOD mg/L	74	30
7.	Total Cromium (as CR) mg/L	0.069	2
8.	Fluoride (as F) mg/L	0.74	5
9.	Sulphide (as S) mg/L	B.D.L.	2

B.D.L.= Below Deduction Level

The samples were preserved and sealed with the seal bearing inscription of Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panipat Region.

Signed on 26th day of February, 2020

(Signature)
O/C Government Analyst, Haryana

DIRECTORATE, DEPARTMENT OF ENVIRONMENT
& CLIMATE CHANGE, HARYANA
SCO 1-3, 2nd FLOOR, SECTOR 17 D, CHANDIGARH
Telephone: 0172-2701628, Fax: 0172-2709462, Email: environment@hry.nic.in

Report by Government Analyst

Report No. **W-7/2020/24** Dated, the 26th February, 2020

I, **Dr. R. K. Chauhan,** Government Analyst duly appointed under sub Section (2) of Section 53 of Water (Prevention and Control of Water Pollution) Act, 1974 (6 of 1974) read with Rule 35 of Haryana (Prevention and Control of Water Pollution) Rules, 1978, hereby declare that I have received a sample on the 14th February, 2020 from Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panchkula collected from M/s Indian Oil Corporation Limited, Panipat Oil Refinery & Petrochemical Complex, Village Baholi, Distt Panipat, Haryana for analysis. This sample was in a fit condition for analysis reported below.

I further clarify that I have caused to be analysed the aforementioned sample and declare results of analysis to be as follow:

Effluent of Guard Pond-A of PTA-ETP (ETP-III) (Sample No. 05)

S.No	Parameters	Results	Limits
1.	Appearance	Turbid	---
2.	Odour	Mild	---
3.	pH Value	7.26	6.5-8.5
4.	Total suspended Solid mg/L	13	100
5.	COD mg/L	76	250
6.	BOD mg/L	12	30
7.	Total Cromium (as CR) mg/L	0.069	2
8.	Fluoride (as F) mg/L	0.50	5
9.	Sulphide (as S) mg/L	B.D.L.	2

B.D.L.= Below Deduction Level

The samples were preserved and sealed with the seal bearing inscription of Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panipat Region.

Signed on 26th day of February, 2020

(Signature)
Government Analyst, Haryana

DIRECTORATE, DEPARTMENT OF ENVIRONMENT & CLIMATE CHANGE, HARYANA
SCO 1-3, 2nd FLOOR, SECTOR 17 D, CHANDIGARH
Telephone: 0172-2701628, Fax: 0172-2709462, Email: environment@hry.nic.in

Report by Government Analyst

Report No. **W-7/2020/25** Dated, the 26th February, 2020

I, **Dr. R. K. Chauhan,** Government Analyst duly appointed under sub Section (2) of Section 53 of Water (Prevention and Control of Water Pollution) Act, 1974 (6 of 1974) read with Rule 35 of Haryana (Prevention and Control of Water Pollution) Rules, 1978, hereby declare that I have received a sample on the 14th February, 2020 from Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panchkula collected from M/s Indian Oil Corporation Limited, Panipat Oil Refinery & Petrochemical Complex, Village Baholi, Distt Panipat, Haryana for analysis. This sample was in a fit condition for analysis reported below.

I further clarify that I have caused to be analysed the aforementioned sample and declare results of analysis to be as follow:

Effluent of Guard Pond-C of PTA-ETP (ETP-III) (Sample No. 06)

S.No	Parameters	Results	Limits
1.	Appearance	Turbid	---
2.	Odour	Mild	---
3.	pH Value	7.06	6.5-8.5
4.	Total suspended Solid mg/L	12	100
5.	COD mg/L	68	250
6.	BOD mg/L	11	30
7.	Total Cromium (as CR) mg/L	0.104	2
8.	Fluoride (as F) mg/L	0.82	5
9.	Sulphide (as S) mg/L	B.D.L.	2

B.D.L.= Below Deduction Level

The samples were preserved and sealed with the seal bearing inscription of Sh. Bhupinder Singh Rinwa, S.E.E., HSPCB, Panipat Region.

Signed on 26th day of February, 2020

(Signature)
Government Analyst, Haryana

HSPCB/SrSc/2019/Spl/PNP-1 Dated: September 13, 2019

To

The Deputy Commissioner
Panipat

Subject: Requirement of three months' time for submitting final report in OA No. 738/2018

Reference: Your Letter No. 2105/Camp dated 17/08/2019.

This has reference of your above letter wherein some issues have been raised w.r.t reports of the Experts co-opted by the Joint Committee in the matter of OA No. 738/2018: Satpal Singh, Sarpanch, Panchayat Singhpura, Sithana, Panipat versus Indian Oil Corporation Ltd. , Panipat Refinery.

It may kindly be noted that Joint Committee was directed by the Hon'ble NGT as under:

> *"in the light of findings recorded in the spot inspection report, we consider it necessary to require the Joint Committee constituted by this Tribunal vide order dated 15/11/2018 to make a realistic assessment of the damage caused to public health and environment and immediate measures for stoppage of polluting activity. Such report may be furnished within one month by email at ngt.filing @gmail.com. The committee is at the liberty to take any expert opinion or o-opt any expert. The compensation proposed must be adequate to meet the cost of restoration of environment and public health and deterrent against the polluter so that such action is not repeated."*

In the light of the above order of Hon'ble NGT, the issues raised by you have been examined and the pointwise feedback in this regards is as follows, for your reference:

S.No.	Point raised by Deputy Commissioner	Feedback from Nodal Officer, Joint Committee constituted as per Hon'ble NGT Matter in OA No. 738/2018
1.	The Environment damage calculated in the NEERI report is from previous sampling reports for which Environment damage has already been calculated by the Joint Committee and has been submitted to this Hon'ble Tribunal on 09.05.2019 and Hon'ble Tribunal has already imposed this Environment Compensation on the unit vide order dated 10.05.2019.	In this regard, pls refer to Minutes of Meeting of the Joint Committee (including member nominated by you to represent District Administration) alongwith Co-opted External Experts held on 26/4/2019, which was chaired by your goodself, the responsibility of the damage assessment and calculation of compensation was assigned as under: 1. Assessment of damage and cost of restoration w.r.t Oxygen depletion and

		Pollution caused to the surface water due to illegal discharge of effluent (**CPCB Member**) **2.** Assessment of damage caused to public health & environment **(CSIR-NEERI Member)** **3.** Assessment of damage caused to ground water and cost of restoration **(CGWB Member)** It may be seen that nature and scope of all of all the above three reports is entirely different. However, since the damage cost due to discharge of BOD has already been taken in the Interim and final report of CPCB Member, the cost of damage due to discharge of BOD in the thirana drain amounting to Rs. 1846339/- as calculated by NEERI member may be excluded from the total damage cost. The report will be amended accordingly to this extent, before submission to Hon'ble NGT.
2.	The Central Ground Water Board (CGWB) has submitted its partial report vide email dated 08.08.2019 and 14.08.2019 and informed that they need more time for submission of complete report. CGWB has submitted that it has already collected 31 samples from different locations and that they require more time for finalization of report.	The CGWB reports of dated 8/8/2019 and 14/8/2019 are exactly the same except the rate of water conservation fee considered in the report dated 8/8/2019 , was w.r.t extraction of water for mining activities whereas we are dealing with Industrial activity in the present matter. In the report dated 14/8/2019, the rate of conservation fee applicable for industrial activity was corrected. An email dated 14/8/2019, was received from Regional Director, CGWB, NWR, Chandigarh, saying that one month time is required by CGWB for modification of the report. In view of this, Joint Committee waited for one month for the modified report, which has been received now on 5/9/2019. As indicated in

		the Email, the report has been modified as per comments of CHQ, CGWB Faridabad. Both the reports received from CGWB will be submitted to Hon'ble NGT, for their reference. Since, no modification has been received w.r.t environmental compensation, the rate of water conservation feed indicated in the earlier report of CGWB will be considered for updated environmental damage w.r.t ground water quality in the modified report, for submission to Hon'ble NGT. However, the expert members of the Joint Committee will be consulted while finalizing the compensation to ensure that the compensation proposed is adequate enough to meet the cost of restoration of ground water quality.
3.	Also, the Committee observed that sample collected by CGWB were not in the presence of IOCL officials which also need to be addressed before finalizing the report.	The ground water monitoring has been done by CGWB, as per plan finalized by the Joint Committee in the meeting held on 26/4/2019, which was chaired by Deputy Commissioner and attended by all the members including co-opted members.
4.	That more scientific and technical approach is required for Environment Damage Assessment done by the IOCL unit, Panipat which needs experts from academic area as well as from Indian Institute of Petroleum, Dehra Dun for which direction may be issued so that context based appropriate assessment of extent of damage could be ascertained and finalized.	The environmental damage assessment has been done by the Experts in their respective fields selected by Joint Committee constituted as per order of Hon'ble NGT, working in reputed Government institutes, as per responsibility matrix finalized by the Joint Committee. They have been regularly making such assessments in many NGT matters. Therefore, it is neither required not justified on the part of Joint Committee to make this type of recommendation at this stage. Letter of deputy commissioner will be annexed with the report to be submitted to Hon'ble NGT for reference and taking

		decision in this regard. With regard to involving IIP, Dehradun, for damage assessment, it may kindly be noted that both IIP and NEERI are institutes of same repute under CSIR, Govt. of India with entirely different mandates. National Environment and Engineering Research Institute (NEERI) selected by the Joint Committee for damage assessment has been set up by CSIR, Govt. of India for Environmental issues. Further, Panipat Refinery was also supposed to carry out assessment of damage to Environment as per order of Hon'ble NGT and hence they were free to get this study done from IIP, Dehradun, if required.

Do hope that above feedback satisfies all the queries raised by your goodself. Since the submission of the report has already been delayed, the target for finalization of the report has been fixed for 18th September, 2019. The finalized report will be submitted to the Joint Committee on 19th September, 2019 with a request for signatures latest by 12 Noon, 20th September, 2019 so that same could be emailed to Hon'ble NGT before 20th September, 2019 evening.

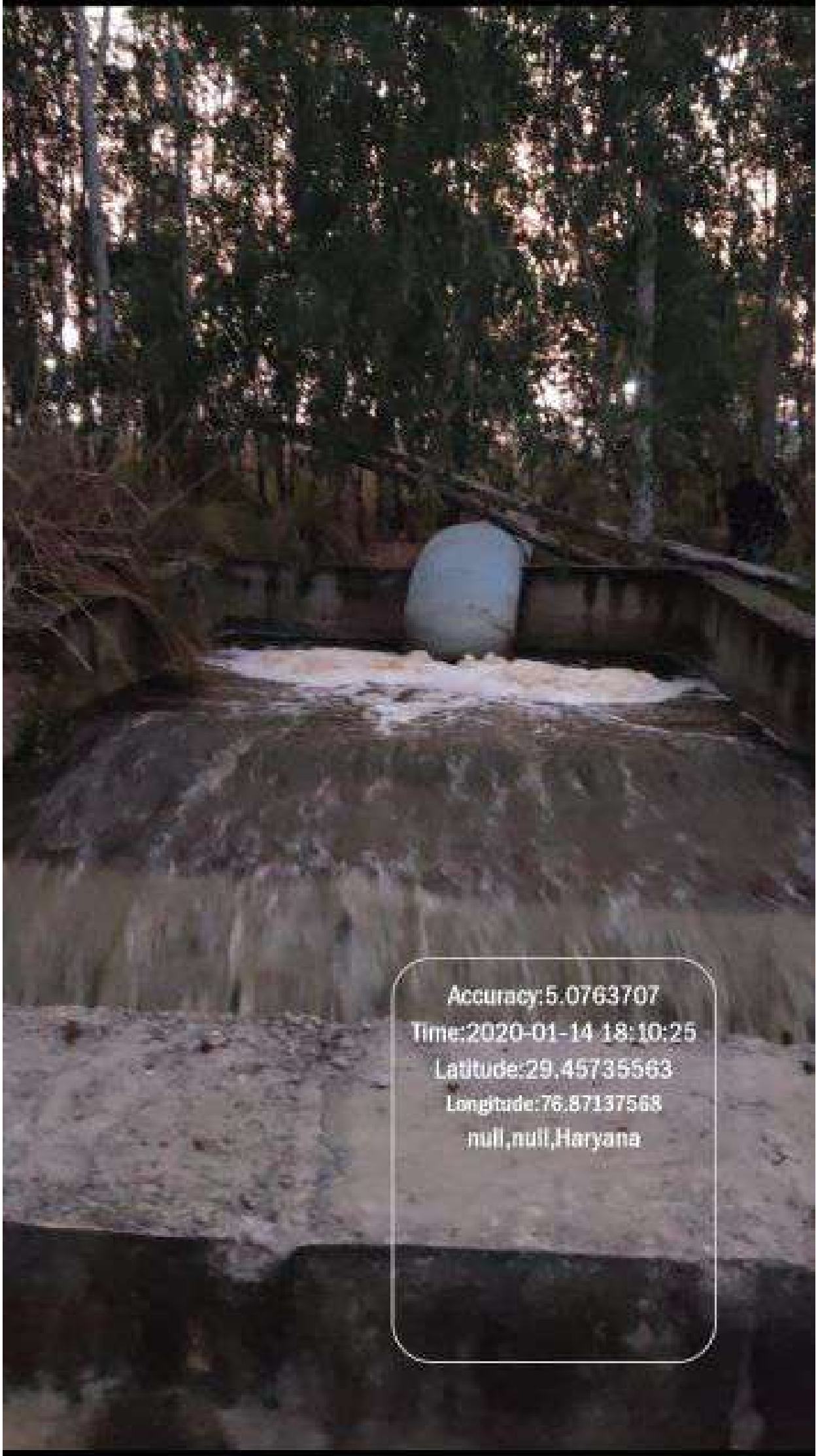
Submitted for your kind information, please.

13.09.19

(Rajesh Kumar Garhia)
Senior Scientist, HSPCB
Nodal Officer, Joint Committee

Copy to:

1. Registrar, National Green Tribunal, Faridkot House, Copernicus Marg, New Delhi - 110001
2. Ms. Preeti, I.A.S, ADC, Panipat (Member-Joint Committee)
3. Dr. Narender Sharma, Additional Director, CPCB (Member –Joint Committee)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Time:2020-01-14 18:10:25
Latitude:29.45735563
Longitude:76.87137568
null,null,Haryana


HR06AP8326


Accuracy:4.118388
Time:2020-01-14 18:19:16
Latitude:29.45639226
Longitude:76.87075918
null,null,Haryana


36" SW TO