BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE BENCH AT CHENNAI

EA No 12 OF 2023
In
OA No 175 OF 2020

IN THE MATTER OF:

VENKATAPATHI RAJA YENUMULA ……. Applicant

Vs

UNION OF INDIA AND OTHERS …. Respondents

REPORT FILED BY THE APPCB 7th RESPONDENT

DATE - 16.09.2024

M/s MADHURI DONTI REDDY
ADVOCATE

STANDING COUNSEL FOR GOVERNMENT OF ANDHRA PRADESH

A.P. POLLUTION CONTROL BOARD

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BEFORE THE HONOURABLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

In Original Application No. 175 of 2020 (SZ)

&

E.A. No. 12 of 2023 in O.A. No.175 of 2020(SZ)

IN THE MATTER OF

Venkatapathi Raja Yenumula ..... Applicant (s)

Versus

Union of India & Ors .... Respondent (s)

INDEX

Dt: 15.09.2024
Place: Kakinada.

Environmental Engineer,
A.P. Pollution Control Board
Regional Office, Kakinada.

9361468/2024/LEGAL SEC-APPCB

REPORT IN E.A. NO. 12 OF 2023 IN O.A. NO.175 OF 2020 (SZ)

O.A no. 175 of 2020 was filed before the Hon'ble NGT Southern Bench on alleged pollution by M/s ONGC (Oil & Natural Gas Corporation Ltd) units in the State of Andhra Pradesh along the Krishna-Godavari Basin located in East Godavari and West Godavari District of Andhra Pradesh regarding oil leakage in the pipe lines there by damaging agricultural land and water bodies in order to ascertain the impact of the activities of M/s GAIL and M/s ONGC, the Hon'ble NGT in its orders dated 08.09.2020 (Annexure-I) has appointed a Joint Committee comprising of 1) a Senior Officer from Regional Office, Ministry of Environment Climate Change (MoEF&CC), Chennai, 2) a Senior Officer from Regional Office, Centr Pollution Control Board (CPCB), Chennai, 3) a Senior Officer as deputed by the Chairman the Andhra Pradesh Pollution Control Board (APPCB), 4) the District Collector, East Godavari and West Godavari Districts or a Senior Officer not below the rank of Assistant Collector/Sub Divisional Magistrate designated by the respective District Collectors and 5) an Expert from Petroleum Engineering from Andhra University College of Engineering, Visakhapatnam inspect the area in question and submit a factual as well as action taken report. The Joint Committee submitted the report to the Hon'ble NGT.

The Hon'ble NGT in its order 02.08.2022 (Annexure-II) in OA No.175 of 2020, allowed the Original Application in part and disposed of with certain directions. The APPCB addressed letter on 06.09.2022 (Annexure-III) to M/s ONGC directing them to pay Environmental Compensation of Rs.22,76,62,500/- (Total for Four facilities) within a period of six months abiding to the instructions of the Hon'ble NGT.

In response to the above, M/s. ONGC vide letter dt.14.09.2022 (Annexure-IV) paid Environmental Compensation of Rs.7,52,10,000/- pertains to two facilities i.e. Kesanapalli GGS & Gopavaram GGS. As per the directions of the Hon'ble NGT in E.A. No.12 0f 2023(SZ) in OA No175 of 2020(SZ) dated 20.11.2023 (Annexure-V), M/s ONGC vide letter dated 22.12.2023 (Annexure-VI) has paid the total EC of Rs. 15,24,52,500/-.

Thus, abiding to the directions of the Hon'ble NGT, M/s ONGC has paid total Environmental Compensation of Rs.22,76,62,500/-

The status of compliance of the joint committee observations in the facilities of M/s ONGC relating to the OA No175 of 2020(SZ) is submitted to the Hon'ble NGT vide report dated 17.04.2024 for kind perusal (Annexure-VIII).

9361468/2024/LEGAL SEC-APPCB

The status of compliance of the facilities was reviewed in the External Advisory Committee (EAC) meeting held on 26.02.2024 and directions were issued to the facilities located at Odalarevu, Tatipaka GCS, Gopavaram GGS and Show cause Notice issued to Kesanapalli GGS (enclosed).

Further, it is to submit that the latest status of compliance of the joint committee observations in the facilities of M/s ONGC relating to the OA No175 of 2020(SZ) is herewith submitted for kind perusal (Annexure-XI).

M/s ONGC completed the payment of Environment compensation levied for its facilities by 22.12.2023, in obedience to the Hon'ble NGT order issued in E.A. No. 12 of 2023 on 20.11.2023. The Board officials inspected the facilities and were reviewed the compliance in Taskforce meeting held on 26.02.2024. The External Advisory Committee (Taskforce) issued directions to the GGS facilities of ONGC at Tatipaka, Gopavaram, Odalarevu and stipulated time lines for compliance and Show Cause notice to GGS facility at Kesanapalli on 19.03.2024. The Board is regularly monitoring the compliance of Hon'ble NGT directions and Board directions from time to time. The status of the compliance of the directions issued by the APPCB is submitted as (Annexure-XII).

It was observed that the ETP outlet values of the ONGC facility at Odalarevu, Kesanapalli and Tatipaka are not complying with standards. The ONGC Tatipaka facility against their commitment to revamp ETP facility by 31.05.2024, but the same has revamped ETP facility by 10.09.2024 also at Odalarevu, ETP was not revamped. ONGC is liable Environmental Compensation for not meeting the discharge standards at Odalarevu, Tatipaka, Kesanapalli facilities. The Board will review and levy Environmental Compensation as applicable.

This report is submitted for kind consideration. The APPCB will abide by all such directions as this Hon'ble Tribunal may deem fit and appropriate.

Date: 5/9/2024
Place: Kakinada.

Environmental Engineer,
A.P. Pollution Control Board,
Regional Office, Kakinada.

Item No.5:

Annexure-I

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No.175 of 2020 (SZ)
(Through Video Conference)

IN THE MATTER OF:

Venkatapathi Raja Yenumula,
East Godavari District,
Andhra Pradesh. ...Applicant(s)

Versus

Union of India and Ors.
...Respondent(s)

Date of hearing: 08.09.2020.

CORAM:

HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE MR. SAIBAL DASGUPTA, EXPERT MEMBER

For Applicant(s): M/s. Sravan Kumar.

For Respondent(s): M/s. Madhuri Donti Reddy for R5, R7 to R9, R11 to R13.

ORDER

1. The grievance in this application is regarding the pollution namely air, sound, soil and water caused on account of the activities of the 3rd & 4th respondents units in the State of Andhra Pradesh along the Krishna-Godavari Basin located in

East Godavari and West Godavari District of Andhra Pradesh.

2. According to the applicant, there used to be normal phenomena of oil leakage being caused in the pipe lines established by these units causing damage to the agricultural land and also affecting the water bodies.

3. The units are not following the pollution control mechanism which is intended to prevent such activities and there is no proper maintenance of the pipe lines that is being carried out by them which caused in frequent oil / gas leakage resulting in such incidents causing death of the people.

4. Certain such incidents were pointed out by the applicant in the application. The District Collector, East Godavari had conducted the review meeting regarding the frequent gas leakage occured in the district and certain directions were given to ONGC as well GAIL authorities to take proper precautionary measures to avoid such things in future but no action has been taken by them and inspite of that, similar incidents had occurred on 18.05.2020 and 21.08.2020 respectively.

5. It is also alleged in the application that they are discharging untreated effluents into the nearby water bodies and seashore causing water pollution as well as marine pollution affecting the marine ecology. Instead of discharging the treated effluents into the deep sea as per the conditions of Environmental Clearance,

they are discharging the same into the seashore and shallow sea causing pollution to the sea water which affects the marine life and indirectly affects the livelihood of the local fishermen community who are doing traditional fishing for their livelihood.

6. Though they are bound to carry out certain activities under the Corporate Social Responsibility (CSR), the same were not being done by them in an effective manner. They are also not following the procedure for safe transportation of the gas/oil produced by them by providing necessary safety measures which also causes damage to the environment.

7. Though, this was brought to the notice of the authorities and certain directions have been issued after studying the matter by the committee constituted by the authorities, the same were not implemented by the respondents 3 & 4 in their units in this area.

8. In respect of an earlier incident, the Hon'ble High Court of Andhra Pradesh had constituted a committee and directed the MoEF&CC to issue necessary precautionary guidelines to such industries to avoid recurrence of such incidents in future but inspite of that nothing has been done. All illegal activities carried out by the respondents 3 & 4 are in violation of the Environment (Protection) Act, Disaster Management Act, Coastal Regulation Zone Notification, 2011 & 2019 and Biological

Diversity Act, 2002 apart from violating the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

9. So, the applicant filed this application seeking the following relief:-

(i) *Appoint a committee similar to O.A. No.43 & 44 of 2020 (SZ) or O.A. No.66 of 2020 to find the loss caused to environment by the respondent No.3 & 4 in Krishna Godavari Basin of Andhra Pradesh by conducting comprehensive survey by taking the representations from the affected villagers, aggrieved persons etc.*

(ii) *Directed the respondents No.1, 2 & 5 to take action on the persons responsible for continuous environmental disaster such as accidents, gas leakages due to lack of effective monitoring in the KG Basin region.*

(iii) *Direct respondent 1,5, 8, 10, 11, 12 to conduct cumulative study on damage caused to ecology, agriculture lands, Bay of Bengal, ground water, water bodies etc due to the activities of ONGC and GAIL in East Godavari and West Godavari districts of Andhra Pradesh.*

(iv) *Impose exemplary fine on respondents No.3 & 4 for the continuous irreparable damage caused to environment, sea, loss of health to the people, fertility of agriculture land, biodiversity etc. in East Godavari and West Godavari districts.*

(v) *Direct respondent No.4 to pay compensation to the people/victims who were denied justice in Nagaram fire tragedy and implement the assurances made at*

the time of massive fire accident due to GAIL gas pipeline leakage.

(vi) Direct respondent No.3, 4, 8 & 9 to record all the incidents of gas leakages/environmental disasters and register an FIR immediately in future.

(vii) Direct Respondent No.3, 4 & 8 to provide fire safety measures to save ecology by setting up of Fire Stations at all Gas Collection stations and important places as the large scale oil and gas activities are taking place in East Godavari and West Godavari districts of Andhra Pradesh as the Environmental Clearance issued by Union Environment, Forest and CC and Consent for Operation orders issued by Andhra Pradesh Pollution Control Board mandates the project proponent to provide safety measures in the plant and the place of operation.

(viii) Direct the respondent No.1 to 5 implement the Corporate Social Responsibility funds transparently and complete all the pending works initiated under CSR programs by respondent No.3 & 4 in accordance with Office Memorandum No.3-11013/25/2014-IA.I, dated 11.08.2014 of MoEF.

(ix) Punish the responsible negligent persons who have caused death of 23 persons and injury 17 persons, damaging the houses, agriculture, horticulture etc. and illegal beach sand mining by the contractors of ONGC for the construction of Odarevu Gas Collection Station for the past 5 years.

(x) Direct the respondent No.2 to 5 to take appropriate measures to control erosion, rising of sea in East Godavari district of Andhra Pradesh due to the activities of ONGC and GAIL in Krishna Godavari

Basin.

(xi) Pass any such order, as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of the case."

10. On going through the allegations made in the application, we are satisfied that there arises a substantial question of environment which requires the interference of this Tribunal for resolving the issue. So, the matter is admitted.

11. When the matter came for hearing today through Video Conference, Sri. Sravan Kumar entered appearance for the applicant. Smt. Madhuri Donti Reddy represented respondents 5, 7 to 9, 11 to 13.

12. We are of the opinion that 10th respondent is unnecessary party to this proceeding, so the 10th respondent is deleted from the party array and respondents 11 to 13 as mentioned in the application are re-arrayed as respondents 10 to 12 respectively.

13. Issue notice to the respondents 1 to 4, 6 by registered post, e-mail and Dusthi if possible.

14. The applicant is directed to serve the copy of the application to the standing counsel appearing for the respondents 5, 7 to 12 within a week.

15. The applicant is also directed to produce necessary requisite before this Tribunal within a week along with necessary

postal cover and postal stamps so as to enable this Tribunal to send notice to the respondents through this Tribunal as well.

16. In order to ascertain the impact of the activities of the respondents 3 & 4 in the area in question namely Krishna Godavari River bed in East Godavari and West Godavari District, we feel it appropriate to appoint a Joint Committee comprising of 1) a Senior Officer from Regional Office, Ministry of Environment & Climate Change (MoEF&CC), Chennai, 2) a Senior Officer from Regional Office, Central Pollution Control Board (CPCB), Chennai, 3) a Senior Officer as deputed by the Chairman of the Andhra Pradesh Pollution Control Board (APPCB), 4) the District Collector, East Godavari and West Godavari Districts or a Senior Officer not below the rank of Assistant Collector/Sub Divisional Magistrate designated by the respective District Collectors and 5) an Expert on Petroleum Engineering from Andhra University College of Engineering, Visakhapatnam to inspect the area in question and submit a factual as well as action taken report, if there is any violation found.

17. The committee is at liberty to co-opt any other expert to assist them in preparing the report in the field of Petroleum Engineering in respect of the safety measures to be taken to avoid such things in future.

18. The committee is directed to go into the question as to

whether there was any air, water, sound and soil pollution caused on account of the activities to the respondents 3 & 4 in these areas, whether they have committed any violation of Environment Clearance and CRZ Clearance granted and if so what is the impact of those on environment and the nature of damage caused to the environment and assess environmental compensation accordingly.

19. The committee is also directed to ascertain as to whether the pollution control mechanism provided by the respondents 3 & 4 are adequate to meet the situation and if not, what are the upgradation and improvement required to minimize or avoid such incidents in future and also to prevent causing of pollution to the people in the locality. They are also directed to conduct Ambient Air Quality test, Ground water quality and quality of water test in water bodies and sea and if there is any contamination caused, the nature of remediation to be taken to restore the same to its original position.

20. The committee is also directed to ascertain as to whether there was any damage caused to the resident of the locality on account of any of the violation committed by the units of respondents 3 & 4 and that may also be taken into consideration while assessing the environmental compensation to be recovered from them.

21. The Central Pollution Control Board (CPCB), Regional Office, Chennai will be the nodal agency for co-ordination and for providing necessary logistics for that purpose.

22. The applicant is directed to submit the set of papers to the members of the committee within a week.

23. The committee is directed to submit the report to this Tribunal by e-filing on or before 17.11.2020.

24. The Registry is directed to communicate this order to the members of the committee through e-mail immediately so as to enable them to comply with the direction.

25. For appearance of parties, submission of responses and also for consideration of report, post on 17.11.2020.

.....J.M.
(Justice K. Ramakrishnan)

.....E.M.
(Shri. Saibal Dasgupta)

O.A. No.175/2020,
08th September, 2020. Mn.

Annexure-II

Item No.1:- **Court No.1**

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

(Through Video Conference)

Original Application No.175 of 2020 (SZ)

IN THE MATTER OF:

Venkatapathi Raja Yenumula
H.No.2-232, Kesavadasupalem
Razolu Taluk, Sakhinetipalli Mandal
East Godavari District,
Andhra Pradesh – 533 252

...Applicant(s)

Versus

Union of India
Through its Secretary
Ministry of Environment, Forest & Climate Change
Indira Paryavaran Bhavan,
Jorbagh, New Delhi and Ors.

…Respondent(s)

For Applicant(s): Mr. Sravan Kumar along with
Ms. Kothai Muthu Meenal S.M.

For Respondent(s): Mr. G.M. Syed Nurullah Sheriff for R1.
Mr. A.R. Sakthivel for R2.
Mr. R. Sankaranarayanan, ASGI for R3.
Mr. P.V.S. Giridhar along with
Mr. Muraleedaran for R4.
Mrs. Madhuri Donti Reddy for R5, R7 to R12.
Mrs. P. Jayalakshmi along with
Mr. D.S. Ekambaram for R6.

Judgment Pronounced on: 02nd August 2022.

CORAM:

HON'BLE Mr. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE Mr. SAIBAL DASGUPTA, EXPERT MEMBER

ORDER

Judgment pronounced through Video Conference. The original application is disposed of with directions vide separate Judgment.

Pending interlocutory application, if any, shall stand disposed of.

Sd/-
Justice K. Ramakrishnan, J.M.

Sd/-
Shri. Saibal Dasgupta, E.M.

O.A. No.175/2020 (SZ),
02nd August 2022. Mn.

Item No.1:- **Court No.1**

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

(Through Video Conference)

Original Application No.175 of 2020 (SZ)

IN THE MATTER OF:

Venkatapathi Raja Yenumula
H.No.2-232, Kesavadasupalem
Razolu Taluk, Sakhinetipalli Mandal
East Godavari District,
Andhra Pradesh – 533 252

...Applicant(s)

Versus

1) **Union of India**
Through its Secretary
Ministry of Environment, Forest & Climate Change
Indira Paryavaran Bhavan,
Jorbagh, New Delhi – 110 003.

2) **Union of India**
Represented by its Secretary
Ministry of Petroleum & Natural Gas
Sastry Bhavan, New Delhi -1.

3) **Oil and Natural Gas Corporation Limited**
Represented its Chairman
Ministry of Petroleum and Natural Gases
Deendayal Urja Bhavan
5A, Nelsan Mandela Marg
VasanthKunj, New Delhi – 110 070.

4) **GAIL (India) Limited**
Represented by its Chairman & Managing Director
GAIL Bhavan, 16, Bikajikama Place
R.K. Puram, New Delhi – 100 066.

5) **State of Andhra Pradesh**
Represented by its Chief Secretary
Secretariat, Velagapudi
Guntur District, Andhra Pradesh – 522 503.

6) **Central Pollution Control Board**
Through Member Secretary
Parivesh Bhawan, CBD Cum Office Complex
East Arjun Nagar, Delhi – 110 032.

7) **Andhra Pradesh Pollution Control Board**
Represented by its Member Secretary
D.No. 33-26-14/D2, Pushpa Hotel Centre
Chalamvari Street, Kasturibaipet
Vijayawada, Andhra Pradesh – 520 010.

8) **Director General Fire Services**
Office of the Director General,
State Disaster Response & Fire Service Department,
Near Police Control Room,
Governorpet, Vijayawada – 534 006.

9) **Andhra Pradesh Police Department**
Represented by its Deputy Inspector General of Police
Eluru Range, Eluru, Andhra Pradesh – 522 501.

…Respondents No.1 to 9

10) Directorate General of Mine Safety
Represented by its CIM & Director General
Dhanbad, Jharkhan – 826 016.

(Deleted as per order of the Tribunal dated 08.09.2020)

11) **The District Collector and Magistrate**
East Godavari at Kakinada
Andhra Pradesh – 533 001.

12) **District Collector and Magistrate**
West Godavari District
Ammenapaeta, Eluru,
Andhra Pradesh – 534 006.

13) **Andhra Pradesh Coastal Zone Managing Authority**
Represented by its Chairman
Chalamvari Street, Kasturibaipeta
Vijayawada – 520 010.

…Rearrayed Respondents No.10 to 12/
Original Respondent No.11 to 13

For Applicant(s): Mr. Sravan Kumar along with
Ms. Kothai Muthu Meenal S.M.

For Respondent(s): Mr. G.M. Syed Nurullah Sheriff for R1.
Mr. A.R. Sakthivel for R2.
Mr. R. Sankaranarayanan, ASGI for R3.
Mr. P.V.S. Giridhar along with
Mr. Muraleedaran for R4.
Mrs. Madhuri Donti Reddy for R5, R7 to R12.
Mrs. P. Jayalakshmi along with
Mr. D.S. Ekambaram for R6.

Judgment Reserved on: 27th May 2022.

Judgment Pronounced on: 02nd August 2022.

CORAM:

HON'BLE Mr. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE Mr. SAIBAL DASGUPTA, EXPERT MEMBER

Whether the Judgment is allowed to be published on the Internet – Yes.

Whether the Judgment is to be published in the All India NGT Reporter – Yes.

J U D G M E N T

Delivered by Justice K. Ramakrishnan, Judicial Member

1. The above application was filed by the applicant on the allegation that on account of the operation of Respondents No.3 & 4 units, large scale air, sound, soil and water pollution are being caused in East and West Godavari Districts.

2. The units are engaged in natural gas manufacturing and distribution of the same. They have not provided necessary pollution control mechanism to check the probable pollution that is likely to be caused on account of their activities. The units are involved in lot of environmental degradation activities like discharging polluted water into the sea, water bodies and open land, causing gas leakage due to not providing necessary leakage detection system and conducting blasting in Kesavadasupalem, Kesanapally, Antarvedi, Nagaram, Nagicheruvu, Uppudi and about 100 villages of East Godavari District and West Godavari districts of Andhra Pradesh. Their activities amount to violation of Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981, Environment (Protection) Act, 1986, Disaster Management Act, 2005, CRZ Notification and Biological Diversity Act, 2002. Their activities are broadly divided into the following categories:

(i) Releasing of huge black smoke into air at Kesanipalli Gas collection station.

(ii) Damaging sea coast in East Godavari for conducting exploration activities.

(iii) Releasing polluted oil mixed black water into Bay of Bengal, nearby ponds/water bodies, agricultural lands.

(iv) Regular leakage of gas and causing damage to agriculture, accidents in villages of East Godavari and West Godavari districts.

(v) Odour/foul smell coming from ONGC, GAIL plants/pipes.

(vi) Lack of supervision on Oil and Gas pipelines

(vii) Misuse of funds which are supposed to spend for providing drinking water, restoring environment etc. in the activity area.

3. The constant drilling, supplying of gas, releasing of effluents so mentioned is causing severe impact and causing irreparable loss to the sea coast region, agriculture lands, water bodies, flora and fauna and also affecting the health of the residents and farmers in that area. It also posed a threat to the safety of the villagers in both districts. They were also not having proper Consent to Operate and Consent to Establish and were committing violation of the conditions of permissions and clearance granted thereby causing huge health impact in that locality. There were lot of oil and gas leak incidents which occurred resulting in disaster and in respect of one such incident that happened in 2017 led to public protest and due to intervention of the member of Parliament and other political leaders, it was resolved that Respondent Nos.3 & 4 will take necessary remedial measures to avoid such things in future. Respondent Nos.3 & 4 were conducting massive gas and oil exploration and supply activities in Andhra Pradesh and their activities are being carried on in onshore of Bay of Bengal and offshore of East Godavari, West Godavari and Krishna Districts of Andhra Pradesh. The details of activities were mentioned in the ONGC Disaster Management Plan, 2015. They were doing activities in Adavipalem field which is having GCS – I, Endamuru – GCS. Further, they have explained their activity in Amalapuram field, Kesanapalli field, Pasaralapudi field, Ponnamonda field, Tatipaka field, Narasapur field, Lingala field, Kaikaluru field, Nandigama field in the gap of various years as part of their expansion. There were frequent gas and oil leaks which occurred in that area resulting in accident causing loss of life and health hazards. On 31.01.2020, gas leak developed in ONGC pipeline at Antarvedi and on 03.02.2020 high pressure gas leakage occurred on Uppudi Village of East Godavari District which was published in 'The Hindu' newspaper where it was mentioned that evacuation of 2,500 people from that area took

place to avoid further disaster on 04.02.2020, due to the failure on the part of Respondents Nos.3 & 4 in arresting leak. There were further leaks which occurred in that area on 16.05.2020 where another ONGC pipe leakage incident occurred at Kesanipalli Village of Malikipuram Mandal of East Godavari District; similarly on 27.05.2020 another gas leak incident occurred in Achanta Vemavaram Village in which fire broke out from the bore well and on 20.08.2020 another gas leak incident occurred in Pasarlapudi Kaikalapeta Village, Mamidikuduru Mandal of East Godavari District. All these incidences were reported in the newspaper and visual media. The District Collector had conducted a review meeting with the officials and directed them to take all precautions to control leakage in the district and this was published in 'The Hans English Newspaper' dated 10.05.2020. They were releasing untreated effluents into the Bay of Bengal and they are doing the same against the Consent to Establish/Operate granted on 13.08.2015. The ONGC pipelines are discharging untreated effluents on beach instead of carrying out to the deep sea disposal and this resulted in marine pollution. They also produced certain photographs to show the nature of damage caused to the water bodies on account of their activities of the Respondent Nos.3 & 4. They further alleged that they have not paid compensation to the farmers for acquisition of lands for this project and they were not following the directions issued by the District Collector – East Godavari vide Ref. No.G5/4311/2013 dated 29.01.2015. No action was taken by the Police and GAIL on Nagaram explosion till date, in which 15 persons died. The applicant had produced several newspaper reports regarding various incidents reporting of gas leak explosions from the plant and pipelines maintained by Respondent Nos.3 & 4. There were some writ petitions filed earlier as W.P. No.13341 of 2008 and in respect of environmental impact on drilling for oil explosion in Krishna and KG Basin by ONGC, an Expert Committee was appointed to study these aspects by the Hon'ble High Court of Andhra Pradesh and the Expert Committee had submitted the report dated 23.10.2009, where they have given the following conclusion and recommendations:-

> *"6. Conclusions and Recommendations:*
>
> *(i) There is no direct evidence available to the Committee to indicate any land subsidence in the gas field or the adjoining areas in the KG Basin. From geological considerations also, this region does not appear to be prone to significant land subsidence. It is, however, suggested that an expert organization like the Indian School of*

Mines may be entrusted with a detailed study on existing or likely land subsidence in this region.

(ii) The problem of underground water getting saline in certain locations has been observed. The exact reason needs to be studied. Some studies have suggested that extensive aquaculture in the region could be a factor. This could also be due to construction of dams in the upstream and erosion of part of the delta. A survey of the entire delta region needs to be carried out.

(iii) Since land subsidence has been reported & observed in the areas where extensive extraction of underground water, oil & gas or mining in various parts of the world including India (coal mines) has been carried out, this aspect needs to be taken into consideration while taking up any project on underground extraction.

(iv) Measurement of ground level as baseline data has therefore to be included in the EIA study and periodic monitoring of the level needs to be carried out, during the operational phase.

(v) In case, geological factors indicate likelihood of land subsidence and consequential impacts, remedial measures need to be planned by the project proponent. Provision of such measures needs to be taken into consideration while evaluating the projects for environmental clearance.

(vi) A study on likely impact of Offshore extraction of Oil / Gas, if any, on land close to the coast in respect of land subsidence or movement or ground water quality, should be taken up."

4. The applicant had produced the report of the Expert Committee submitted in W.P. No.13341 of 2008 as Annexure – A3. They are not strictly following the conditions imposed in the Environmental Clearance (EC) and the MoEF&CC guidelines in this regard. They were not properly utilizing the CSR fund. They are not providing proper maintenance and replacing the old pipes with new pipes which results in frequent disaster. When certain incidents occurred earlier, an Original Application was filed before this Bench as O.A. No.66 of 2020 (SZ) and this Tribunal appointed a Joint Committee and the Joint Committee submitted the report on 20.07.2020 and they made certain suggestions which reads as follows:-

"5. Suggestions:-

Committee felt that the steps/ measures taken by ONGC for the control of pipeline leakage are not sufficient, because the leakages and its locations are being identified after physical appearance of oil on the soil surface. Pipelines are being laid 2mt. below the ground level. After deliberate discussions, the following measures are suggested by the committee to avoid oil pipeline leak and to maintain the soil fertility.

1) Present method of flow based measurement at receiving end to identify the leakage of oil is not effective, because exact location of oil leak point is not able to be identified until its physical appearance in the top soil. The flow based measurement shall be carried out by providing flow meters in all pipelines with certain distance from well to receiving point, so that the area of pipeline leak shall be identified easily at initial stage itself. These flow meters shall be connected to any system like SCADA, PLC etc.

2) The periodic assessment of Pipe Integrity (including internal crack, corrosion & erosion) shall be made at least once in five years, so that the status of the pipeline shall be known and accordingly replacement period for the pipe shall be decided.

3) Pigging operation shall be carried out to reduce water accumulation and subsequent scaling & corrosion inside the pipeline.

4) External Corrosion Protection of pipeline shall be provided in all underground pipelines such as sacrificial anode method, impulse current method, poly ethylene coating etc. to avoid external corrosion of pipe.

5) Revalidating of appropriate inhibitors and rate of feeding based on well fluid characteristics (crude oil), can be done by frequent sampling and analysis of well fluid.

6) ONGC has informed that old pipelines are flushed once if it is not going to be used further in future. Evidence shall be provided to the committee during field visit to ensure that old unused pipelines are flushed properly.

7) ONGC shall also submit evidence of mothballing of pipeline which is

temporarily not in use.

8) ONGC informed that the oil spilled soil (contaminated soil) is removed upto affected depth from the farmland and taken for in-house bioremediation. The contaminated soil excavated area is re-filled with soil taken from other location. It was informed that the refilled soil is also having good fertility. However, during this course of action the refill soil quality should be tested as well as it should possess similar characteristics of the existing natural farm soil so as to avoid yield loss.

9) ONGC is advised to carry out the assessment of soil quality in all locations, wherever the soil is refilled due to oil spillage/leakage and accordingly corrective measures needs to be taken.

10) An action plan for continuous monitoring of affected areas periodically by ONGC shall be submitted to avoid long term issues."

5. There was another case as O.A. No.43 of 2020 (EZ) and O.A. No.44 of 2020 (EZ) field before the Eastern Zonal Bench which was considered by the Principal Bench in respect of oil and gas leakage that occurred in Assam State and accepting the report of the Joint Committee, Rs.151 Crores (Rupees One Hundred and Fifty One Crore only) was ordered as interim compensation. They also committed violation of CRZ Notification by discharging untreated effluent into the beach instead of exploring the possibility of discharging the same in deep sea method as permitted in permission granted. Since the authorities have not taken any proper steps, they filed the application seeking the following reliefs:-

(i) *Appoint a committee similar to O.A. No.43 & 44 of 2020 (SZ) or O.A. No.66 of 2020 to find the loss caused to environment by the respondent No.3 & 4 in Krishna Godavari Basin of Andhra Pradesh by conducting comprehensive survey by taking the representations from the affected villagers, aggrieved persons etc.*

(ii) *Directed the respondents No.1, 2 & 5 to take action on the persons responsible for continuous environmental disaster such as accidents, gas leakages due to lack of effective monitoring in the KG Basin region.*

(iii) *Direct respondent 1,5, 8, 10, 11, 12 to conduct cumulative study on damage caused to ecology, agriculture lands, Bay of Bengal, ground water, water bodies etc due to the activities of ONGC and GAIL in East Godavari and West Godavari districts of Andhra Pradesh.*

(iv) *Impose exemplary fine on respondents No.3 & 4 for the continuous irreparable damage caused to environment, sea, loss of health to the people, fertility of agriculture land, biodiversity etc. in East Godavari and West Godavari districts.*

(v) *Direct respondent No.4 to pay compensation to the people/victims who were denied justice in Nagaram fire tragedy and implement the assurances made at the time of massive fire accident due to GAIL gas pipeline leakage.*

(vi) *Direct respondent No.3, 4, 8 & 9 to record all the incidents of gas leakages/environmental disasters and register an FIR immediately in future.*

(vii) *Direct Respondent No.3, 4 & 8 to provide fire safety measures to save ecology by setting up of Fire Stations at all Gas Collection stations and important places as the large scale oil and gas activities are taking place in East Godavari and West Godavari districts of Andhra Pradesh as the Environmental Clearance issued by Union Environment, Forest and CC and Consent for Operation orders issued by Andhra Pradesh Pollution Control Board mandates the project proponent to provide safety measures in the plant and the place of operation.*

(viii) *Direct the respondent No.1 to 5 implement the Corporate Social Responsibility funds transparently and complete all the pending works initiated under CSR programs by respondent No.3 & 4 in accordance with Office Memorandum No.3-11013/25/2014-IA.I, dated 11.08.2014 of MoEF.*

(ix) *Punish the responsible negligent persons who have caused death of 23 persons and injury 17 persons, damaging the houses, agriculture, horticulture etc. and illegal*

beach sand mining by the contractors of ONGC for the construction of Odarevu Gas Collection Station for the past 5 years.

(x) Direct the respondent No.2 to 5 to take appropriate measures to control erosion, rising of sea in East Godavari district of Andhra Pradesh due to the activities of ONGC and GAIL in Krishna Godavari Basin.

(xi) Pass any such order, as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of the case."

6. As per order dated 08.09.2020, this Tribunal admitted the matter as it was satisfied that there arose a substantial question of environment which required interference of this Tribunal and appointed a Joint Committee comprising (i) a Senior Officer from Regional Office, Ministry of Environment & Climate Change (MoEF&CC), Chennai, (ii) a Senior Officer from Regional Office, Central Pollution Control Board (CPCB), Chennai, (iii) a Senior Officer from Andhra Pradesh Pollution Control Board (APPCB) as deputed by the Chairman, (iv) the District Collector, East Godavari and West Godavari Districts or a Senior Officer not below the rank of Assistant Collector/Sub Divisional Magistrate designated by the respective District Collectors and (v) an Expert on Petroleum Engineering from Andhra University College of Engineering, Visakhapatnam to inspect the area in question and submit a factual as well as action taken report, if there is any violation found. The Joint Committee was given liberty to co-opt any other expert to assist them in preparing the report in the field of Petroleum Engineering in respect of the safety measures to be taken to avoid such things in future.

7. The Joint Committee was directed to go into the following aspects:-

a. Whether there was any air, water, soil and sound pollution caused on account of the activities of the Respondent Nos.3 & 4 in these areas;
b. Whether they have committed any violation of Environmental Clearance and CRZ Clearance granted and if so, what was the impact of those on environment and the nature of damage caused to the environment and assess environmental compensation accordingly;
c. Whether the pollution control mechanism provided by Respondent Nos.3 & 4 are adequate to meet the situation and

if not, what are the up gradation and improvement required to minimize or to avoid such incidents in future and also to prevent causing of pollution in that locality;

d. Conduct Ambient Air Quality test, Ground water quality and quality of water test in water bodies and sea and if there is any contamination caused, the nature of remediation to be taken to restore the same to its original position;

e. Whether there was any damage caused to the residence of the locality on account of any of the violation committed by the units of Respondent Nos.3 & 4 and that may also be taken into consideration while assessing the environmental compensation to be recovered from them;

8. The Central Pollution Control Board (CPCB), Regional Office, Chennai was designated as nodal agency for co-ordination and for providing necessary logistics for that purpose.

9. The 12th Respondent/Andhra Pradesh Coastal Zone Management Authority filed counter affidavit contending that as per record, M/s. ONGC had obtained the following CRZ Clearance from the MoEF&CC, Government of India, New Delhi:-

> *"(i) Laying of pipeline for Integrated Development of GS-15 and G-1 offshore fields in Godavari Basin and expansion of onshore terminal facilities at Odalarevu in K.G. Offshore, East Godavari District, Andhra Pradesh, vide order dated 22.12.2000.*
>
> *(ii) Development of Vashishta and S-1 fields of K.G. Offshore, Eastern Offshore Asset at Kakinada, Andhra Pradesh and expansion of Odalarevu Onshore Terminal, A.P. vide order dated 12.11.2015.*
>
> *(iii) Development drilling of 45 wells at block KG-DWN-98/2, KG offshore, Tehsil Allavaraam, District East Godavari, Andhra Pradesh by M/s ONGC Ltd. , vide order dated 22.01.2016.*
>
> *(iv) Marine disposal of treated effluent of 1500 Cu m/day into sea at 1500 mts offshore in water depth of 6.7 mts C.D, vide order dated 11.08.2016.*
>
> *(v) Laying of 20 Inch pipeline of 31 Km length from Offshore platform, through mouth of Gauthami& Godavari River, Part of Yanam (Puducherry) and terminating at ONGC Onshore plant at Mallavaram Village, TallarevuMandal, East Godavari District, vide order dated 15.10.2020."*

10. It is further contended that as per the CRZ Clearance, the project proponent shall follow all the guidelines prescribed for carrying out the activities and also take necessary safety measures. The Project Proponent shall also ensure that the ecologically sensitive areas in the project area are not disturbed due to their activities being carried out. As far as the

enforcement of the recommendations of CRZ Notification and Clearance, the monitoring agency to monitor the compliance with the terms and conditions of the CRZ Clearance is Regional Office, MoEF&CC. As per the Office Memorandum dated: 05.08.2011. M/s. ONGC had obtained CRZ clearance from the MoEF&CC, GOI, New Delhi for Marine disposal of treated effluent of 1500 Cu.m./day into sea at 1500 mts offshore in water depth of 6.7 mts C.D., vide order dated 11.08.2016. Any violation of CRZ condition has to be monitored by the Regional Office, MoEF&CC. So, they prayed for accepting their contentions and passing appropriate orders.

11. The 4th Respondent filed counter affidavit denying the allegations made against them. They have detailed the background of formation of their company which was originally incorporated as Maharatna 'Central Public Sector Undertaking' in August 1984 in the name of Gas Authority of India Limited, Government of India with 52.1% share capital with Government of India. Thereafter, the name was changed from 'Gas Authority of India Ltd. to 'GAIL (India) Limited in November, 2002. They were engaged in pipeline transportation of gas and supply. They had contributed to the growth and development of natural gas pipeline infrastructure and natural gas market. They are having an existing 13,718 kilometres of gas pipeline network with a capacity of 204 MMSCMD. They are having network connection over 20 States including State of Andhra Pradesh and two Union Territories. They are promoting the policy of the government to provide clean fuel not only for domestic but also for commercial purposes. It was later extended to transport facilities as well. They are functioning in three segments - 'Upstream', 'Midstream' and 'Downstream'. The 'Upstream' activities include exploration, drilling, and extraction, 'Midstream' businesses are those that are focused on transportation and they are the one responsible for moving the extracted raw materials to refineries to process the oil and gas. The Midstream companies are characterized by shipping, trucking, pipelines, and storing of the raw materials. 'Downstream' involves the actual selling and distribution of Natural Gas and Oil based products. Presently, many large oil companies are integrated, in that they maintain all three, viz.,

Upstream, Midstream, and Downstream units. The Upstream or Exploration and Production (E&P) companies, find reservoirs and drill oil and gas wells and this process is taken care to a large extent by ONGC (3rdRespondent) in KG Basin, for both onshore as well as offshore. Some other players like Cairn Energy, Reliance and BP, OIL India do operate primarily in offshore exploration and production. The 4th Respondent had no exploration activities, either onshore or offshore in KG Basin and they were involved only in the midstream and downstream segments of oil and gas industry in KG Basin. They supply gas to some of the important Power Generation Plants, Fertilizer Plant and other industries thus contributing to the growth of the nation. Presently in KG Basin, the 4thRespondent receives Natural Gas from ONGC & CEIL and supplies the same to the various consumers through underground pipeline network. Not only Government of India,but also internationally, the distinct advantages of gas transportation by Pipelines have been recognized and pipeline transportation is accepted as the only mode of transportation for gaseous consignment over long distances for the following reasons:

> *"(a) Pipelines, being underground, will provide lesser direct contact with the populace thereby reducing its hazardous impact as well as provide better overall security*
>
> *(b) Pipeline mode is the safest and reliable mode of transportation.*
>
> *(c) Availability of the highway / railways for transporting other materials / goods will improve.*
>
> *(d) Uninterrupted supply of gas will be ensured.*
>
> *(e) As processing of gas is not involved, there is no emissions / discharge. Hence, it is environmentally friendly.*
>
> *(f) Natural gas does not need any storage. Hence, the naphtha storage tanks, the major fire source is eliminated.*
>
> *(g) Natural gas is lighter than air. Hence, it does not get spread in case of leakage.*
>
> *(h) Movement of naphtha/oil tankers on the road will be eliminated. Reducing congestion on the roads."*

12. They designed and constructed the pipelines taking into account all safety aspects as follows:-

> *"(a) Pipelines are designed as per International Standard ASME B 31.8 and OISD-226.*
>
> *(b) Pipelines are protected against corrosion by 3-layer PE coating followed by permanent cathodic protection*
>
> *(c) 100% radiography for all weld joints to ensure zero failure.*
>
> *(d) Hydro test is done at 1.5 times of the designpressure.*
>
> *(e) Pigging facility for the pipeline.*
>
> *(f) Remote Operation of Sectionalizing Valves (SVs) are done through SCADA (Supervisory Control and Data Acquisition) system.*
>
> *(g) Pipeline is laid minimum of 1 Meter below the ground.*

(h) Anti-buoyancy measures at all major water crossings are provided.

(i) During construction, Project Management Consultancy (PMC) engaged throughout the completion of project.

(j) Third Party Inspection Agency (TPIA) for inspection and verification during construction stage.

(k) Approvals are required from statutory bodies, i.e., Andhra Pradesh Pollution Control Board (APPCB) and Petroleum & Explosives Safety Organization (PESO) for operation of pipelines."

13. They following security provisions were also provided:-

"(a) Pipeline markers (RoU boundary markers, Aerial markers, warning boards at all crossings) for facilitating easy identification of line are being installed.

(b) All pipeline installations are guarded round the clock by ex-servicemen who are being monitored through regular and surprise checks.

(c) All installations are provided with boundary walls as per MHA guidelines.

(d) Round the clock deployment for protection of men, material and information."

14. They have adopted the following monitoring system for their pipelines:-

"(a) Daily foot patrolling line walkers engaged from nearby villages.

(b) Foot patrolling once in a year along the pipeline is carried out by the employees of the Applicant.

(c) Quarterly air surveillance by helicopter.

(d) Dedicated Internal Communication facilities are available through own OFC network. A toll free number is also available for general public.

(e) Awareness programs for public are conduced periodically to create awareness about pipeline activities.

(f) Safety pamphlets for awareness about the hazards involved and channel of communication in case of emergencies are distributed to villagers in the surrounding areas."

15. They further contended that the committee appointed by this Tribunal made certain observations against them and none of the orders passed in O.A. No.43 of 2020 and 44 of 2020 and O.A. No.66 of 2020 are related to the facts of this case. They are confined to the facts of that particular case. The Tribunal had without considering its scope, entertained the application against this respondent and as such, the same is not maintainable and they prayed for dismissal of the application.

16. The 3rd Respondent filed counter affidavit contending that the application is not maintainable. They denied most of the allegations made against them regarding pollution being caused on account of their activities etc. Maharatna ONGC is the largest crude oil and natural gas Company in India, contributing around 71% to Indian domestic production. Crude oil is the raw material used by downstream companies like IOC, BPCL,

HPCL and MRPL (Last two are subsidiaries of ONGC) to produce petroleum products like Petrol, Diesel, Kerosene, Naphtha and Cooking Gas, LPG. ONGC has a unique distinction of being a company with in-house service capabilities in all areas of Exploration and Production of oil & gas and related oil-field services. Being the Winner of the Best Employer award, they had a dedicated team of around 28,500 professionals to do their dedicated work round the clock in challenging locations. It is a Central Public Sector Undertaking (PSU) Company incorporated under the Companies Act, 1956 and having its Corporate Registered Office at Deen Dayal Urja Bhawan, No.05, Nelson Mandela Marg, Vasant Kunj, New Delhi. They had onshore production installation of 262 Nos., 268 offshore installations, 69 drilling (plus 37 hired) and 54 work-over rigs (plus 25 hired), owned and operated more than 25,500 kilometres of pipeline in India, including 4,500 kilometres of sub-sea pipelines. The Government of Indiais having 60.41% share in ONGC as on 31 December 2020. It is the largest natural gas company ranking 11th among global energy majors. It is the only public sector Indian company to feature in Fortune's Most Admired Energy Companies' list and ONGC ranks 18th in Oil and Gas operations' and 220 overall in Forbes Global 2000. ONGC's wholly owned subsidiary and overseas arm ONGC Videsh is India's largest international oil and gas E&P Company with 39 projects in 18 countries. They are strictly carrying out their activities in accordance with the guidelines and conditions imposed. They denied the allegation that they are damaging the sea coast in East Godavari by conducting oil exploration etc. They had obtained necessary clearances/licenses for this purpose. They denied the allegation that they are releasing polluted oil mix black water into Bay of Bengal, nearby ponds, water bodies and agricultural lands, thereby causing damage to the environment. They denied the allegation that there were regular incidents of oil and gas leak resulting in pollution and damage to the environment. They are having their own system to monitor the Ambient Air Quality and the sample results will go to show that they are within the limits. They have got standard mechanism for maintenance and carrying out their operations. They are strictly complying with the norms for utilization of CSR funds for the activities identified by the District Collector and Revenue and

other statutory authorities. The following are the safety measures undertaken by the ONGC in monitoring their pipelines:-

> *"i. All the operations are carried out on round-the-clock basis by taking all the safety precautions and time to time up-gradations. Except occasional leaks under abnormal conditions, the environment pollution caused is minimum and also there is no damage to coast line.*
>
> *ii. During round the clock operations there is a possibility of line leakages/oil spillage which can be caused either by miscreant activity or by unexpected conditions/accidents.*
>
> *iii. The leakage of oil/gas that is so caused, is immediately detected and action is initiated to restore the land (soil) free from oil. Hence leakages are not frequently happening in a specific area.*
>
> *iv. The following measures are taken in order to minimize the damages in the shortest possible time like immediate isolation of the line, deployment of the maintenance teams for repair/arresting the leakages, repair of the line, assessment of the damage and payment to the individual and partial statement of the compensation amounts paid. V. The oil and gas wells are connected to the nearby GGS/GCS with underground pipe line pipe lines, which are hydro-tested with pressure ranging from 1.25 times of the flowing pressure. Safety device called "High low safety valve" is installed in high pressure wells. Monitoring of the flow and pressure is done on real time basis through "SCADA" (Supervisory Control And Data Acquisition) system at each production installation.*
>
> *vi. The Flow line from well to GGS carrying gas, water are laid underground of 1 meter below the earth. Most of the pinhole leaks occurs due to internal corrosion of sand and water in the crude oil. The pinhole leakages occur in the flow line with a hole of approximately 1-2 mm in size causing the release of flow line fluid at the point of damage. These leaks are very minor in nature causing very less damage.*
>
> *vii. If gas leakage occurs, the nearby GGS/GCS crew rushes to the site, immediately. They close the well and stop the source gas. Then the entrapped gas/liquid is depressurized to the flare line in the GGS/GCS. The entire activity takes place in less than 30minutes. Thereafter, consent from the farmers with assessment of suitable land compensation is taken. Therefore, the repair work of the pipe line is being carried out in priority basis to restore normal production."*

17. They further contended that whenever incidents of leak happened or otherwise, the same is being attended quickly and all necessary steps were taken to prevent damage caused to the environment. They have got a proper Disaster Management Plan to deal with the following aspects:-

> *"i. Patrolling the pipeline networks through three-tier system, namely, (1) Special Protection Force (2) Production teams and (3) Crisis Management Team on 24x7 basis for monitoring the wells to avoid any untoward incident.*
>
> *ii. Display of dos and don't s at all well sites and nearby places for creating awareness among public.*
>
> *iii. The Asset has 24X7 toll free helpline No. 1800-425-7535 to ensure safety and security of pipelines.*
>
> *iv. The Fire stations are always continuously available."*

18. The various authorities inspect the area, whenever complaints are received and they are complying with the directions issued by the authorities to avoid further complaints. They are having their own ETPs which are intended for the purpose of treating the effluents generated and they are strictly complying with the marine disposal of treated effluent as per the guidelines issued by the MoEF&CC and as per the

conditions in CRZ Clearance and Environmental Clearance granted. They never discharged untreated effluent into the beach area. The details of the cases mentioned are nothing to do with the allegation made in the present application. Whenever incidents of leak occurred and any damage has been caused to the agricultural land owners, they were making necessary arrangements for remedying the situation. The allegation that they have not paid the compensation for the land acquired for their project is not correct. Whatever compensation suggested had been paid by them. They are properly replacing the damaged pipes whenever it is brought to their notice and they were following the guidelines and safety measures provided by the various authorities in carrying out their activities. Writ Petition No.13341 of 2008 was filed by Krishna Godavari Parirakshna Samiti before the Hon'ble High Court of Andhra Pradesh at Amaravathi seeking for a direction declaring the action of respondents in not considering the issue of subsidence and other geo hazards due to large scale exploration of oil and natural gas in Krishna Godavari Basin of Andhra Pradesh as unconstitutional and claiming other reliefs. The Hon'ble High Court appointed a Expert Committee and the Expert Committee filed a report, wherein they have mentioned that there was no direct evidence available to the committee to indicate any land subsidence in the gas field or the adjoining area in K.G. Basin. From geological consideration also, this region does not appear to be prone to signification land subsidence. It is however suggested that an expert organization like the Indian School of Mines may be entrusted with a detailed study on the existing or likely land subsidence in this region. On the basis of that report, the Hon'ble High Court of Andhra Pradesh, by order dated 23.06.2014 directed the ONGC to respond to the recommendation of the report of the Expert Appraisal Committee appointed by the MoEF&CC, Government of India and take action based on the recommendations and measures suggested by the said committee. Subsequently, the Delta Studies Institute, Andhra University, Visakhapatnam had conducted an elaborate study in terms of the given scope of work and submitted interim reports with the main conclusion as follows:-

> *"There is no specific trend of subsidence observed in the study area even at / near producing wells. Hence there is no relation of subsidence with respect to extraction of oil & gas in the KG Basin. The salinity increase is due to mixing of*

marine water with groundwater due to back/ tidal waters/ aqua culture ponds/ excess sand mining from the river beds."

19. The Joint Committee appointed by this Tribunal inspected various villages and residential areas and also appreciated the CSR activities undertaken by the respondent in and around the operational area of ONGC. They denied the allegation that they have not carried out the proper maintenance work which resulted in damage to the environment. They had obtained necessary Consent to Establish and Consent to Operate and they are strictly complying with the conditions. They have also given paragraph wise reply to the allegations made in the application in tabular form which reads as follows:-

S.No	GROUNDS IN O.A	ONGC'S REPLY
1	Activities of ONGC and GAIL are severely causing damage to the ecology, biodiversity, agriculture lands, sea beaches and people living in the area.	There is no cogent proof on the said allegation. The said statements are contradictory to committee report.
2	Incidents of Gas leakages in pipelines have been continuously taking place resulting panic among the people of East Godavari district as there were massive blowouts, gas fire accidents earlier occurred in the region resulting deaths of tens of people and massive damage to environment, agriculture, biodiversity etc.	Leakages in pipelines are monitored by the ONGC and an elaborate explanation on the measures taken by ONGC in this regard is given at para 9, 10 & 14. The Committee has also reported that any leakages or accident outside the unit premises in farmers land is immediately attended and addressed within 24 hours (all minor pinhole leakages are closed with 24hrs) and the unit has taken measures to restore the area as so to prevent any public outcry.
3	Because there has been no independent monitoring mechanism in the Krishna Godavari Gas & Oil basin of Andhra Pradesh, the Oil companies are not regularly verifying the status of Pipelines whether they are intact or not, any erosion, cracks have come in the pipelines. This has resulted regular gas leakages.	DGMS, OISD, QHSE Audits are conducted regularly by third party recognised and NABL accredited agencies. ONGC also maintains regular In house department health safety and fire safety Audits.
4	Because the activities are contrary to Water Act,1974, Biodiversity Act of 2002 as well as the standards specified under the Environment Protection Rules, 1986.	Blatant and baseless allegations made against ONGC without any proof.
5	Because this Hon'ble Tribunal in O.A.No. 43 & 44 of 2020 (EZ) and O.A.No. 66 of 2020 (SZ) has interfered into the environmental violations/ disasters caused by ONGC and Oil India Company. That in the present case also large scale irreparable damage has been causing to environment, biodiversity, Sea, beach etc.	False and baseless ground taken by the Applicant.
6	Because the Respondent No. 3 & 4 are not taking proper precautionary measures. That the Oil companies have been allotting the maintenance works to third	The Applicant has made incorrect statements about the precautionary and safety measures taken by ONGC. The works that are allotted to third parties are recognised and

	parties. But they are not verifying whether the third party is doing their responsibility properly or not.	accredited by the concerned boards of the Government.
7	Because the effluents are generated from the refineries and other gas & oil production units are not properly treated either at the plant or at the Effluent Treatment Plants. The polluted water has been discharging in the open lands, ponds. This has become threat to livestock and causing ground water pollution.	Committee report has observed that the parameters of the treated effluents disposed by the ONGC are within the standards and there is no ground water contamination near the ONGC plants.
8	Because the funds allotted under Corporate Social Responsibility for taking up various welfare measures of the affected people in East Godavari, West Godavari districts are diverted/misused by self interested persons. That the nexus between the local officials of ONGC, GAIL and Politicians has resulted wastage of public funds. That several water plants, developmental 9works initiated with CSR funds are not properly done. Most of the works are left without completion.	These are false and misleading statements made against ONGC. CSR funds are forwarded to the State Government and dispersing of the same is handled by them. ONGC's role in dispersing of CSR funds is very minimal.
9	Because the compensation, rehabilitation and resettlement for the affected farmers, villagers, land losers is not being paid by Respondent No.3. The Respondent is not taking action on the directions of the District collector of East Godavari for the payment of compensation to the land losers.	This Respondent has been following the statutory provisions in case of compensation, rehabilitation and resettlement with the aid of State Government.
10	Because the Respondent No. 3 & 4 have not learnt lessons from the Blowouts, massive gas leakage at Nagaram village in East Godavari district. Except providing compensation to diseased persons, the Respondents have not taken measures assured at the time of accident.	These are blatant and false allegations against this Respondent without any cogent proof.

20. So, they prayed for accepting their contentions and passing appropriate orders in this matter.

21. The 2nd Respondent filed counter affidavit denying the allegation that Respondent Nos.3 & 4 are causing pollution as alleged in the application. As regards the 2nd Respondent is concerned, they are concerned with exploration and production of Oil & Natural Gas, refining, distribution

and marketing, import, export and conservation of petroleum products. The Ministry is responsible for the implementation and execution of the provisions under the Oilfields (Regulation and Development) Act, 1948 and the rules framed there under for regulating petroleum exploration licenses, petroleum mining leases, and the collection of royalties. Respondent Nos.3 & 4 viz., ONGC and GAIL respectively are Indian Government Corporations under the ownership and administrative control of the Ministry of Petroleum and Natural Gas. As per the contract conditions, every operator, including ONGC and GAIL who have been granted Petroleum Mining Lease (PML) by Respondent No.2, have to follow applicable laws and ensure compliance of stipulated safeguard measures. The said operators are required to obtain all environmental clearances and comply with the mitigation measures suggested in the clearance letters of MoEF&CC and Consent to Establish (CTE)/ Consent to Operate (CTO) from the respective State Pollution Control Boards (SPCBs). The stipulated conditions in EC letters are monitored by MoEF&CC through the designated Integrated Regional Office (IRO) of the Ministry. In addition, the contractor is also required to submit regularly the compliance reports to IRO/MoEF&CC for verification. Any violation of environmental rules and regulations by ONGC and GAIL shall have to be dealt with by the MoEF&CC and by the respective State Pollution Control Boards. The MoEF&CC is the Nodal Ministry for assessing the impacts of various activities during grant of Environmental Clearance (EC) under the established procedure of EIA Notification 2006 and various legislations including CRZ (Coastal Regulation Zone) Notification, 2011 and 2019 and Biodiversity Act, 2002 and that will not fall within the purview of the 2nd Respondent Ministry. As per the Disaster Management Plan, all accidents have to be registered and informed to the Disaster Management authorities and Respondents No. 3 and 4 have to follow the procedures as per the Disaster Management Plan. References have been made in Para Nos. 7 to 9 about the Disaster Management Plan-2015 of ONGC and the disasters which have taken place in various districts during the year 2020. Some reports which were published in local newspapers have been quoted in the application. The procedure provided under the Disaster Management Plan has to be

carried out by the ONGC and GAIL and any violation has to be dealt with by the respective regulators. There are various provisions provided to meet the accidents under the Disaster Management Plan including both emergency and other provisions and mitigation plans to avoid such things in future as well. They are carrying out the CSR activities as per the provisions of law. Whenever such accidents happened, the respective department, including Fire Services, Civil defence, Medical, Police, Army, Voluntary organizations etc. used to attend the issue and resolve the issue permanently. It is for the regulators like MoEF&CC and Pollution Control Board to ascertain the violation of discharging untreated effluents into the sea including other violations of Environmental Clearance. The pipelines will have to be properly maintained by Respondent Nos.3 & 4. Some of the incidents mentioned in the application appeared in the newspaper and it is also understood that the Respondent Nos.3 & 4 have taken necessary steps to resolve the same as well. Recommendations made by the committee appointed by the Hon'ble High Court of Madras in writ petition mentioned have to be implemented by Respondent Nos.3 & 4 and Respondent Nos.3 & 4 have to strictly adhere to the guidelines issued by the MoEF&CC in this regard. Any violation of CRZ Regulations has to be dealt with by the State Coastal Zone Management Authority. Most of the reliefs were claimed against Respondent Nos.3 & 4 and the 2nd Respondent is issuing necessary directions and guidelines as to how the manufacture, exploration and distribution have to be dealt with and it is for the Respondent Nos.3 & 4 to consider the same. The Joint Committee had made certain recommendations which will have to be carried out by Respondent Nos.3 & 4. It is seen from the report of the Joint Committee that there was no contamination caused to the soil. So, they prayed for accepting their contention and passing appropriate orders.

22. The Joint Committee has filed the report dated 09.04.2021, e-filed on 10.04.2021 which reads as follows:-

1.0 Preamble

An application was filed in Hon'ble NGT Southern bench alleging that air, sound, soil and water pollution is caused on account of the activities of the M/s GAIL India Ltd (formerly Gas Authority of India Ltd) and M/s ONGC (Oil & Natural Gas Corporation Ltd) units in the State of Andhra Pradesh along the Krishna-Godavari Basin located in East Godavari and West Godavari District of Andhra Pradesh. According to the applicant oil leakage is being caused in the pipe lines established by these units causing damage to the agricultural land and also affecting the water bodies. It is also alleged that the units are not following the pollution control mechanism and there is no proper maintenance of pipelines. In order to ascertain the impact of the activities of M/s GAIL and M/s ONGC in Krishna Godavari River bed in East Godavari and West Godavari District, Hon'ble NGT has appointed a Joint Committee.

Orders of the Hon'ble Tribunal

Hon'ble NGT, Southern Bench, Chennai in Original Application No. 175/2020(SZ) in the matter of Venkatapathi Raja Yenumala Vs Union of India & Ors vide order dated 08-09-2020 has directed " *In order to ascertain the impact of the activities of the respondents 3 & 4 in the area in question namely Krishna Godavari River bed in East Godavari and West Godavari District, we feel it appropriate to appoint a Joint Committee comprising of 1) a Senior Officer from Regional Office, Ministry of Environment & Climate Change (MoEF&CC), Chennai, 2) a Senior Officer from Regional Office, Central Pollution Control Board (CPCB), Chennai, 3) a Senior Officer as deputed by the Chairman of the Andhra Pradesh Pollution Control Board (APPCB), 4) the District Collector, East Godavari and West Godavari Districts or a Senior Officer not below the rank of Assistant Collector/Sub Divisional Magistrate designated by the respective District Collectors and 5) an Expert on Petroleum Engineering from Andhra University College of Engineering, Visakhapatnam to inspect the area in question and submit a factual as well as action taken report, if there is any violation found*." Copy of Hon'ble NGT order is placed as Annexure-I.

In compliance to Hon'ble NGT order, committee comprising of following members was composed:

Name & designation of the official	Department with address

Sh. Himanshu Kaushik, IAS	Sub Collector and Sub Divisional Magistrate Amalapuram, East Godavari
Sh. K S Viswanathan, IAS	Sub Collector and Sub Divisional Magistrate Narsapuram West Godavari
Dr. C. Palpandi Scientist-C	Ministry of Environment Forest and Climate Change, Regional Office, Chennai
Prof. M. Deepa	Dept. of Chemical Engineering, A.U College of Engineering (A) Andhra University, Visakhapatnam
Sh. P. Ravindranath Senior Environmental Engineer	Andhra Pradesh Pollution Control Board, Zonal Office, Visakhapatnam
Smt. Mahima T Scientist-D	Central Pollution Control Board Regional Directorate, Chennai

The Committee has been vested with the mandate to visit and inspect the area in question and vested with following scope vide Order dated 08.09.2020:

1. To inspect the area in question, to verify if any air, water, sound and soil pollution is caused in these areas due to activities of M/s GAIL and M/s ONGC.
2. To verify whether the units have committed any violation of Environmental Clearance and CRZ Clearance and if so what is the impact of those on environment and the nature of damage caused to the environment and assess environmental compensation.
3. To ascertain whether the pollution Control mechanism provided by the units is adequate or not and if not, what are the upgradation and improvement required to minimize or avoid such incidents in future and also to prevent causing of pollution to the people in the locality
4. To conduct Ambient Air Quality test, ground water quality and quality of water test in water bodies and sea and to verify whether if there is any contamination caused

The committee convened the first meeting on 12.11.2020 and prepared road map for completing the task vested on the committee. Subsequently, the second meeting was convened on 19.11.2020 to decide the list of parameters to be analyzed. The committee visited the site from 8th to 11th December, 2020 and carried out first round of ambient air quality monitoring for all notified parameters & noise, fugitive emission monitoring, collection of water &

wastewater samples and soil samples. The committee again visited the site during 24th to 26th February and carried out second round of ambient VOC monitoring.

3.0 About M/s ONGC, Rajahmundry Asset

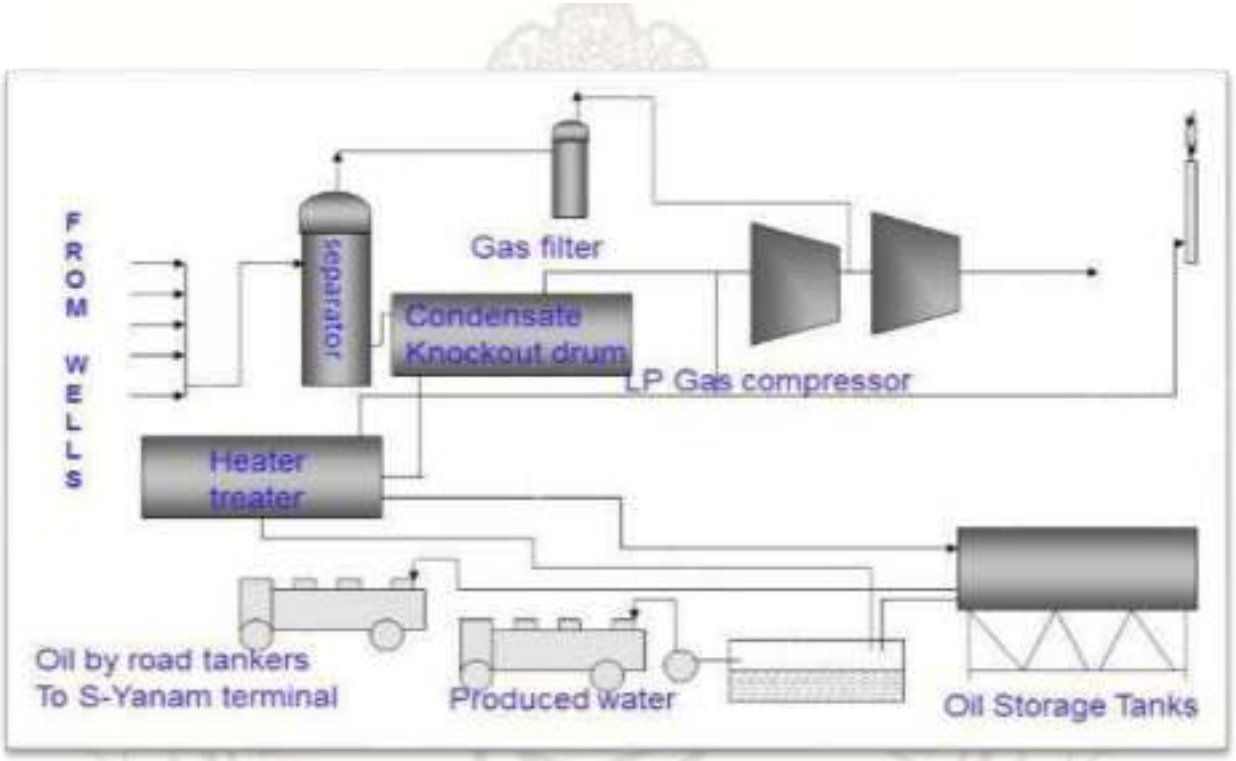


Fig: crude oil processing at ONGC Rajahmundry asset

Well fluid comprising of oil, water and gas is transferred from well head to installation via flow lines and are separated into three phases: oil, water and gas. The high pressure gas is compressed, dehydrated by glycol dehydration, filtered into cartridge filters to scrub out any entrained liquid from the gas and gas at high pressure is fed to GAIL trunk line after treatment. If well delivers low pressure gas, the gas compressors will boost the gas to required pressure to push the gas in Gas grid.

The liquid in the form of emulsion containing oil water mix is further stabilized in the heater treater along with demulsified chemicals for separating oil from water. After stabilization in heater treater, oil is stored into oil storage tanks. The drained out water after further treatment is disposed as per conditions stipulated in CFO. Purified oil is transported either to Tatipaka Refinery or to S-Yanam/EIPL Vizag for further transportation to HPCL Vizag through Cairn India limited. The quantity of producer water generated from the extraction well varies from well to well and depends mainly on age of the well. When the well fluid contains more than

98% water content, the well is abandoned. As the well gets old, the quantity of water increases in the well fluid and quantity of oil reduces. Totally 106 wells in East Godavari district and 16 wells in West Godavari district are flowing/ operational by M/s ONGC. ONGC has obtained environmental clearance for all wells. M/s ONGC is operating 13 facilities and the details of the facilities operated are given in table 1.

M/s ONGC has obtained EC from MOEFCC for on land development and production of oil & Gas from development of total 61 wells in East Godavari district and 34 wells in West Godavari district. M/s ONGC is operating 13. The treatment capacities of ETP for all installations is given in table1a & 1b and details of the facilities operated are given in table 1c.

Table1a: Effluent generation Vs treatment capacity

Sl. No	Installation	Qty of effluent in KLD as specified in CFO issued during 2015	Present approximate qty of effluent generated in KLD	ETP capacity in KL
1	Kesanapalli(W) GGS	600	2000	ETP-1→ 750 KLD(old ETP not in operation) ETP-2→ 1500 KLD
2	Adavipalem GCS	70	53	
3	Ponamanda GCS	50	20	
4	Mori GCS	41	85	
Total effluent to be treated in Kesanapalli ETP-2			2158	
5	Tatipaka Complex (GCS + Refinery)	225+15	310	Tatipaka ETP-500 KL capacity
6	Mandapeta-GCS	37	20	
Total effluent to be treated in Tatipaka ETP			330 KLD	
7	Endamuru-GCS	40	66	No ETP, ED well injection
8	Kavitam EPS	10	15	No ETP, disposed in KMDB ED well injection
9	Narsapur GCS	55	90	
10	Pasarlapudi-GCS	53	64	Gopavaram ETP - 600 KL
11	Gopavaram-GGS	6	1130 KLD	

				GMAE injection facility500 KLD
			1194 KLD	
12	Odalarevu	60	60	Odalarevu ETP

Total operational Effluent disposal (ED) well: 20no

ETP total Capacity: 2600 m3/day (Kesanapalli ETP -2no: 1500KLPD+ Gopavaram ETP: 600KLPD+TatipakaETP-500KLPD)

GMAE injection facility (Part of Gopavaram GGS): 500m3/day

KMDB injection facility: 100m3/day

Total quantity of effluent generated: 3838m3/day (East /west Godavari Dist average for year 2020-21

Quantity of effluent untreated and discharged directly into ED well: 1238KLD

Underground pipe lines are laid by M/s ONGC for transfer of effluent from installation to ED well and distance from ETP to Effluent disposal wells varies from 500m to 5km.

in Pasarlapudi/ Mandapeta/ Narasapur GCS where road tankers are being used for effluent transportation around and distance is around 50km.

Table 1b: details of ETP

Effluent Treatment Plant [ETP]	Type of Disposal	Capacity[KL/Day]	Qty of Effluent received KLD	Remarks
Tatipaka ETP	ED well disposal	500	330	adequate
Kesanapalli-ETP I	ED well disposal	750	Not in operation	
Kesanapalli-ETP II	Sea Disposal	1500	2158	Not adequate
Gopavaram -ETP	ED well disposal	600	1130	

Table 1c: details of facilities operated by M/s ONGC in East and West Godavari districts

Sl. No	Address and Details of the activity	GPS Location	CFO validity till	Consented production		Water		
				Natural Gas (Lakh m3 per day)	Condensate Oil (m3/day)	Consumption (utility/firefighting)	Effluent Generation (average perday-2020-21)and disposal point	ETP Details
1	Adavipalem GCS	16° 24' 07" N, 81° 51' 37" E	31.07.2023	4.15	35	3	Gen: 53m3/d Disposal: ED well injection	By pipe line to Kesanapalli-W ETP
2	Endamuru GCS	16° 51' 31" N, 82° 08' 17" E	31.07.2023	3.15	5	8	Gen: 66m3/day Separator; Disposal: ED well injection	ED well Injection in the installation

3	Kesanapalli GGS	16° 24' 27" N, 81° 55' 12" E	31.07.2023	2.69	530	56	Gen: 2000m3/d Disposal: ED well injection/ Marine sea disposal	KSP(W) ETP-1: 750 KLPD; KSP(W) ETP-2: 1500 KLPD ((Marine disposal)
4	Mandapeta GCS	16° 48' 52" N, 81° 54' 04" E	31.07.2023	4.16	11	8	Gen: 20m3/d; Disposal: ED well injection	By Tanker to TPK ETP
5	Mori GCS	16° 22' 19" N, 81° 47' 29" E	31.07.2023	3.00	8.8	5	Gen: 85m3/d; Disposal: ED well injection	By pipe line to Kesanapalli-W ETP
6	Gopavaram GGS	16° 30' 39" N, 82° 04' 05" E	30.09.2023	1.00	350(Crude Oil)	7	Gen: 1130m3/d; Disposal:	GVM ETP: 600 KLPD along with GMAE injection facility(500m3/day)

							ED well injection	
7	Pasarlapudi	16° 31' 15" N, 81° 58' 41" E	31.07.2023	8.73	28	5	Gen: 64m3/d; Disposal: ED well injection	By Tanker to TPK ETP
8	Ponnamanda	16° 26' 20" N, 81° 54' 40" E	31.07.2023	3.61	20.5	3	Gen: 20m3/d; Disposal: ED well injection	By pipe line to Kesanapalli-W ETP
9	Tatipaka GCS	16° 29' 57" N, 81° 53' 49" E	31.07.2023	18.52	56	116	Gen: 310m3/d; Disposal: ED well injection	TPK ETP: 500 KLPD
10	Tatipaka Refinery	16° 30' 08" N, 81° 53' 46" E	30.09.2022	-	Naphtha 60 TPD Kerosene 40 TPD	166	15m3/day	

					Diesel 40 TPD LSHS 60TPD			
11	Kavitam EPS	16° 36' 28" N, 81° 46' 01" E	31.05.2024	1.5	50	3	Gen: 15 ; Disposal: ED well injection	By tanker to KMDB injection facility(100m3/day)
12	Narsapur GCS	16° 27' 34" N, 81° 42' 35" E	31.07.2023	5.0	1.0	13	Gen: 90m3/d; Disposal: ED well injection	
13	Odalarevu		31.10.2021	-	60	-	ED well	

ED well: effluent disposal well

From table 1a, 1b and 1c, it is observed that the present actual quantity of effluent generation is exceeding the consented quantity of effluent generation as per consent order issued by APPCB during 2015.

3.a. Sources of emissions from the facilities and measures taken to comply with standards

3.a. i ***Flare stack emissions***

Flaring is essentially required in these facilities. The excess gas if any and liberated gas from low pressure system will be routed to flare system. The composition and volume of gas handled in flare stack in different facilities is given below:

Table 2: flare stack emissions

Sl. No.	Installation	Flare Type (Elevated/ Ground)	Gas Composition [C1 %]	Present Flare (SCMD)	Flare stack capacity [SCMD]
1	Kesanapalli(W) GGS	Elevated	85.64	1500	160000
2	Ponamanda GCS	Elevated	91.77	500	50000
3	Tatipaka Complex	Elevated	92.76	500	3000000
4	Mori GCS	Elevated	99.07	5000	1000000
5	Adavipalem GCS	Elevated	86.96	200	250000
6	Endamuru-GCS	Elevated	93.46	800	200000
7	Mandapeta-GCS	Elevated	88.05	2200	700000
8	Narsapur GCS	Elevated	95.81	200	300000
9	Kavitam EPS	Elevated	79.5	0	50000
10	Pasarlapudi-GCS	Elevated	93.53	600	100000
11	Gopavaram-GGS	Elevated	90.76	20000	100000

SCMD: standard cubic meters per day

GGS: Group gathering station. Four to six wells are connected to one cluster and five clusters are connected to GGS.

3.a. ii ***Emissions during dehydration of gas for achieving water dew point***

Moisture content in the gas is removed and dry gas is sent to M/s GAIL. The moisture content separated from gas contains hydrocarbon which may contribute to significant emissions if it is not treated properly. Rajahmundry Asset has adopted tri-ethylene glycol based dehydration to achieve water dew point and hydrocarbon dew point.

In this process, moisture in the gas is absorbed using glycol. rich glycol after absorbing moisture from gas, is sent to the flash drum to remove the dissolved hydrocarbons, if any. The rich glycol will be passed through series of filters and then routed to heat exchangers where the hot lean glycol from the regeneration column will transfer heat to the rich glycol. Thus the preheated rich glycol will be routed to the regenerated column where the absorbed moisture in the glycol will be vaporized through re-boiler system. The liberated water vapor is released from the top of the regeneration column.

3.a.iii ***Fugitive emissions from storage tanks, process area etc.,*** sources include valves of all types, flanges, pump and compressor seals, pressure relief valves, sampling connections and process drains

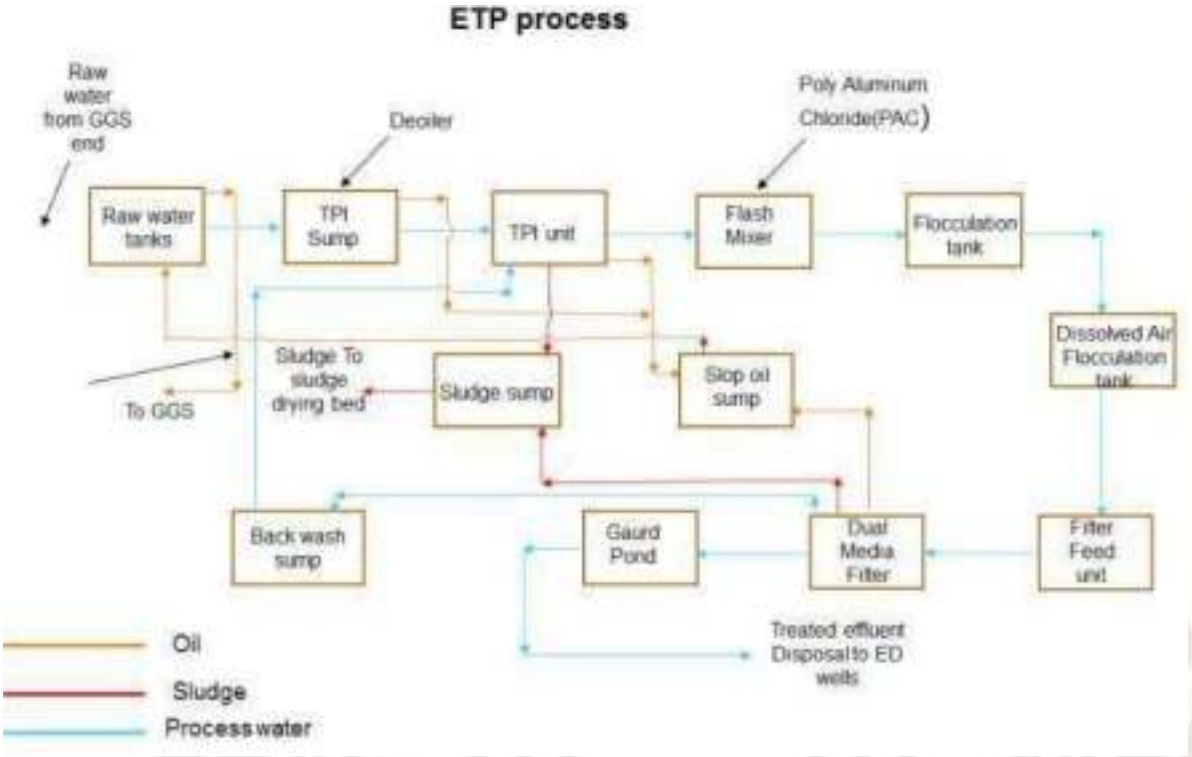
iv ***H_2S emission***

Natural gas produced from Kesanapalli (w) GGS, Tatipaka and Gopavaram fields contains H_2S concentration in the range of 15-50 ppm from the flowing wells. This gas needs to be treated to meet PNGRB (Petroleum and Natural Gas Regulatory Board) guidelines of H_2S concentration less than 3 ppm before supply to M/s GAIL. Treatment of sour gas for reducing H_2S concentration is called sweetening. Liquid scavenger system is being used in all the above installations to bring down level of H_2S to less than 3ppm. Presently new Liquid H_2S Scavenger is being dosed continuously round the clock at above installations for sweetening of natural gas to meet PNGRB guidelines and H_2S Scavenger is being dosed in LP and HP lines through atomizers. Sweetening of gas is one of the contributor to emissions.

Sources of effluent and its treatment

3.b.i ETP process Description in Rajahmundry asset

Raw effluent is first passed through de-oiler, free Oil is separated by gravity, which is collected by Oil skimmer and flows to slop oil sump by gravity. Further oil is removed by corrugated plate interceptor (CPI) separator with De-oiler and Induced Gas Floatation. The free oil again flows to the slop oil sump and sludge to the sludge pit. The oil free effluent is treated in SBR (Sequential batch reactor) followed by media filter. Treated effluent is stored in guard ponds and disposed as per conditions stipulated in consent.



Totally four effluent treatment plants are in operation in East and West Godavari districts to treat the produced water from the production installations. From table 1a,1b & 1c it is clear that Gopavaram ETP and Kesanapalli ETP-II are not adequate in terms of capacity to treat the actual quantity of effluent generated. In Gopavaram GCS, in the CFO it is mentioned as 6.0 KLD which is not matching with the actual effluent generated. The installations shall augment their treatment capacities.

ii ***Status of Storm water drains and mode of disposal of storm water. Onsite drainage system and sediment control measures***

The storm water drains are available in the installations for drain out of the accumulated rain water during the rainy season. During inspection, it was observed that the drains in Tatipaka, Kesanapalli, Malkipuram, odalarevu were blocked and filled with effluent but the drains were not cleaned. It was reported that whenever the drains are filled & choked with the sediments, they are manually cleaned but however there is no standard procedure followed by the unit for cleaning of drains, frequency of cleaning and for removal of sediments.

Prevailing Pipeline leakage detection and repair methodology in place

In Rajahmundry asset, most of the pipelines are well flow lines of dia 4" non piggable lines. Leakage if any is reported by well maintenance team, flow line patrol party, villagers and locals.

Most of the underground pinhole leaks in the flow line occurs with a hole of approximate size 1-2 mm develops causing the release of flow line fluid at the point of damage due to internal corrosion due to sand and water due to matured brown fields. The following actions are taken after detection of leak:

- The nearby GGS/ GCS crew visits the site
- The well is closed and source gas is stopped immediately.
- The entrapped gas/ liquid is depressurized to the flare line in the GGS/GCS.
- Leaked pipeline is repaired through clamping/ sleeve welding/ partial replacement based on the pipeline conditions.
- After the leakage, the spilled water/ oil is evacuated with a tanker to nearby installations and soil is restored back to its original conditions
- The farmers/ land owners are compensated based on the assessment of Committee for the crop compensation and land restoration

The facilities are normally using Steel pipelines with design life of 20 years. In Rajahmundry Asset, old pipelines laid during 1988 and new pipelines laid during 2020 are existing. The age of pipelines ranges from about 30 years to 3 months old. At present flow lines are replaced based on the condition of pipelines. There is no specific guideline or time frame for replacement of pipeline. Earlier (till 2009) CTE (coal tar enamel) coated pipes were in use, now since 2010, only 3 LPE pre-coated pipes are being used. As this type of coating is better and stronger, external corrosion of pipelines have minimized. Replacement of all CTE coated pipelines are being done systematically in a phased manner by the facility.

Table 3: Pipeline specification

Sl.No	Diameter of pipelines	4" dia 7.9 mm thickness, API 5l – X 46 grade, 3 LPE coated
1	Hydro-testing	All new pipe line are Hydro-tested at 150 Kg/Cm^2
2	Depth below which pipelines are laid	Minimum 1 meter underground
3	Total Length of Pipeline	989 Kms

4	New Lines (less than 20 yrs)	738 Kms
5	Replacement Lines	351 Kms

i ***Measures in place for upkeep of pipelines***

- Use of corrosion inhibitors to mitigate internal corrosion of pipelines
- Installation of Gravel packing, sand filters in the sand bearing gas wells to mitigate sand incursion and prevent internal leakage due to sand abrasion.
- Periodic hydro testing of pipelines to check the integrity of pipelines.
- Identification and systematic replacement of old and vulnerable pipelines
- Ultrasonic Thickness measurement of 235 KM length had been done to assess the integrity of pipelines.

ii ***Measures taken by the units to prevent pipeline leakages***

- Sand traps are installed to control sand production from low producing wells
- All High productive wells are installed with GP kits to ensure complete control over the sand production from the reservoir to the surface through well tubing
- 16no of old flow lines were replaced with new 19 flow lines
- Nine out of 20 flowing wells are provided with gravel pack near the perforation as on September, 2020. This measures are reported to reduce entrainment of sand in pipelines.

3.c.iii ***Measures taken by M/s ONGC to avert accidents Post 27.06.2014 explosion in M/s GAIL facility***

PNGRB has notified the Gas quality specifications as per Gazette of India implemented for gas supply through pipeline from ONGC installations to GAIL grid, which is as follows:

Table 4: PNGRB Gas quality specifications

Parameters	Limit
Hydrocarbons dew point (Degree Celsius, max) *	0
Water dew point (Degree Celsius, max) *	0
Hydrogen Sulphide (ppm by wt.max.)	5
Total Sulphur (ppm by wt.max.)	10
Carbon dioxide (mole % max)	6
Total inserts (mole %)	8

*** At the pipeline operating pressure**

As per the decision of MoPNG in Nov2014, treatment facilities are to be installed at ONGC locations after GAIL accident in Jun 2014 and gas need to be supplied as per PNGRB guidelines in the GAIL trunk pipe line. Accordingly, Rajahmundry Asset has hired GDU facilities at seven installations namely Pasarlapudi, Narsapur, Endamuru, Mandapeta, Tatipaka, Kesanapalli (W) and Mori for supplying dry gas to M/s GAIL grid after the treatment of the wet Gas through gas dehydration and dew point depressant facilities as per PNGRB guidelines. For sales gas specification to M/s GAIL, it was decided that dry gas (WDP & HDP max. at 0^0 C) is being supplied to consumers through GAIL trunk line.

4.0 Details of monitoring at installations

The committee carried out ambient air monitoring, fugitive emission monitoring, collected soil samples, water samples at Tatipaka GCS & refinery, Kesanapalli GGS and Odalarevu as alleged in the application. Observations made by the committee and monitoring & analysis results ae summarized below.

Tatipaka GCS and mini refinery: the capacity of GCS system is 7lakh m3/ day and capacity of mini refinery is 300m3/ day. The CFO issued by APPCB is valid till 31.07.2023. Common ETP from both GCS and refinery and treated effluent is disposed by deep well injection. Four abandoned wells are used for effluent disposal.

i *Non-compliances observed*:

a. KG basin is close to sea and during rainy season water logging is normally observed in the region and the same is reported in other committee report submitted to Hon'ble NGT in the matter OA 91/2020 (SZ). The storm water from the installation is discharged into main drains laid outside the unit premises. During inspection the committee observed that due to heavy rains and water logging, effluent was getting mixed with storm water and from the main drain it may ultimately join sea.

b. The tilted plate interceptor and slop oil tank are not working properly. The capacity and retention time of plate interceptor is not adequate to treat the effluent. Hence the oil removed from effluent is stagnated and overflowing. The unit has obtained consent from APPCB during 2015 and subsequently the consent is renewed (online consent monitoring and management system) but however post 2015 due to ageing of wells the quantity of producer water is increasing and there by the quantity of effluent generated is also increased. But the units have not amended the consent for the revised quantity effluent generated. Thereby presently the effluent generated from the

installation is more than the quantity specified in the CFO issued by APPCB and moreover the existing ETP is not adequate in terms of capacity to treat the present effluent generated. Sludge drying beds are not in operation. As per the CFO issued to Tatipaka GCS on 27.02.2015 the quantity of effluent is 225 KLD but presently effluent generated is more than 500 KLD. In addition, 15 KLD of effluent generated from Tatipaka mini refinery, Endamuru GCS and Mandapeta GCS has to be treated. Hence the existing ETP of capacity 500KL is not adequate to treat the present quantity of effluent generated.

c. TVOC levels measured using handheld PID analyzer in the ETP area is varying from 2.2ppm to 4.0ppm.
d. There is no dedicated hazardous waste storage shed. ETP sludge, empty barrels, slop oil are stored haphazardly within the unit premises.
e. In old GCS plant drain effluent is joining storm water drains and pH of drain effluent was 14 and same was joining storm water drain.
f. LDAR of refinery is not carried out. TVOC levels near the valves of distillation column is around 5ppm and near sampling point is 70ppm.
g. In the gas dehydration unit in the re-boiler system, rich glycol (containing moisture) is heated to 200^0C and moisture is knocked out into the atmosphere. During knocking out some glycol vapors is carried along with moisture. There was odor nuisance in the area.

4.a. ii *Water and wastewater analysis*: The committee collected raw effluent, treated effluent and effluent from guard ponds to ascertain whether unit is treating the effluent or not. The committee collected ground water samples from four different places surrounding the installations. The detailed water, effluent analysis, stack monitoring report, fugitive emission

monitoring report and ambient air quality monitoring report is enclosed as Annexure-IIa. The key parameters from the analysis results are reproduced in table 5a. Oil & grease, phenols, benzene and TPH are the key indicators for pollution from the installations.

Table 5a: Analysis results of ground water samples collected from different places surrounding the installation & effluent**-** Tatipaka GCS & refinery for key parameters

Sample description	TOC (mg/l)	Oil and Grease (mg/l)	Phenols (mg/L)	Benzene (µg/l)	TPH (mg/l) Std-0,5
Borewell at K.Rajeswararao House.D . No:1-307,Near Peerlacheravu,Nagaram(m),manidikudura.- Tatipaka	12	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LO Q:20)	BLQ(LOQ: 0.005)
Borewell at P.Nanibabu House S/O P.Gandhi D.No 1-185 Nagaram village Pin-533247. - Tatipaka	3	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LO Q:20)	BLQ(LOQ: 0.005)
Borewell at L.Nagarutham S/O Sesherao House D.No 8/14 Molletviveri Meraka. - Tatipaka	5	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LO Q:20)	BLQ(LOQ: 0.005)
Borewell at Venkateshwararao S/O Swamy House Molletiveri Meraka. - Tatipaka	3	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LO Q:20)	BLQ(LOQ: 0.005)

Table 5b: Effluent analysis results- Tatipaka GCS

location	TSS mg/L		Oil & grease mg/L	
	Measured value	Standard limit	Measured value	Standard limit
GP-1 - Tatipaka	14	100	BDL(DL:4.0)	10
GP-2 - Tatipaka	20		BDL(DL:4.0)	

Raw Effluent - Tatipaka	63		620	
Treated Effluent - Tatipaka	78		BDL(DL:4.0)	

TOC- Total organic carbon, GP- guard pond, BDL- below detection limit, TPH- Total petroleum hydrocarbon (mineral oil)

From table 5b, based on effluent results it is concluded that the unit is meeting the standards w.r.t deep well injection.

In the borewell samples benzene, TPH, O&G and phenols are below detection limit. Since the key indicator parameters are not present in the borewell water samples, based on the current analysis report the committee opines that ground water surrounding Tatipaka GCS and refinery is not contaminated.

*Ambient air quality monitoring in and around Tatipaka***:** Ambient air quality monitoring was carried out in two phases. During first round of monitoring (December 2020) there was odour nuisance and the unit submitted to the committee that it shall take up corrective measures and initiated clean-up of wastes dumped in open, the flanges were sealed. Again second round of ambient VOC monitoring was carried out during February, 2021. Ambient air monitoring was carried out for all notified parameters namely Sulphur Dioxide as SO_2, Nitrogen Dioxide as NO_2, particulate matter (PM10), particulate matter (PM2.5), ozone, lead, carbon monoxide, ammonia, benzene, Benzo(a) pyrene, arsenic and nickel.

The key parameters in ambient monitoring is Benzene and key parameter results are given in

table 5c: Ambient air quality monitoring results in and around Tatipaka

Sample description	Ambient Benzene (µg/m3) Std limit-05 µg/m3
First round of monitoring during December, 2020	
Near CISF - Tatipaka	697
Near Raw Water treatment plant- Tatipaka	92
Near ETP -Tatipaka	1018
Near Pump House -Tatipaka	2051
Average ambient benzene/ VOC contributed by the installation	964.5 µg/m3

Second round of ambient & fugitive VOC monitoring (copy of the results enclosed as Annexure-IIb)	
Balla Sathya Narayana House,Babu Nagar Nagaram Panchayat,NE Corner	0.14
Kattamurai Kanagaraj,Mulletivari Nanakka Manepalli Road,Nagaram Panchayat.	0.02
Ramprasath house,seshayya Kalya Gatta Road,Nagaram Panchayat	0.31
Vananasi Vani Marekka,Nagaram Village Door.no:5-54.	0.48
ONGC Tallipakka,Near ETP Plant inside- fugitive	0.10

During the first round of monitoring it was observed that the unit is complying with ambient air quality standards w.r.t all parameters except Benzene. The unit has taken corrective measures and it is observed that during second round of monitoring the unit is complying with ambient standards w.r,t Benzene also.

From the results it is evident that the unit has not taken proper preventive measures and thereby has contributed towards ambient VOC's/ Benzene. Subsequently the unit has implemented corrective actions and the values have drastically reduced and within the ETP section also the benzene concentration is low.

Stack monitoring: Crude furnace stack was monitored during December, 2020. From the results it is observed that the unit is complying with stack monitoring results.

Table 5d: Crude furnace stack monitoring Tatipaka

Location -Crude Furnace Stack - Tatipaka			
S.NO	**Parameter**	**Result**	**Unit**
1	Stack Temperature	627	°C
2	Velocity	3.01	m/Sec
3	Volume of Gas Discharge	5817	Nm3/Hr
4	Oxygen as O2	12.7	%
5	Carbon Monoxide as CO	BDL(DL:1.14)	mg/m3
6	Carbon Dioxide as CO2	6.4	%

7	Particulate Matter	12.6	mg/Nm3
8	Sulphur Dioxide as SO2	209	mg/Nm3
9	Oxides Of Nitrogen as NO2	10	mg/Nm3
10	Moisture	3.7	%
11	Hydrogen Sulphide	BDL(DL0.02)	mg/m3
12	Vanadium as V	BDL(DL0.03)	mg/m3
13	Nickel as Ni	BDL(DL0.03)	mg/m3

4.a. v *Ambient Noise Monitoring*: The committee monitored ambient noise levels both during day time and night time. From the noise monitoring, it is observed that the unit is complying with ambient air quality standards w.r.t noise.

Table 5e: Ambient Noise monitoring Tatipaka

S.NO	Location	Noise Day	Standard	Noise Night	standard
Noise level db A					
3	Near CISF-Tatipaka	64.8	75	62.9	70
4	Near Raw Water Treatment Plant - Tatipaka	56.8		54.8	
5	Near ETP - Tatipaka	63.4		59.8	
6	Near Pump house -Tatipaka	57.2		52.4	

4.a.vi *Environmental compensation from Tatipaka refinery*

EC for violation of CFO conditions	EC=PI x N x R x S x LF Where, EC = Environmental Compensation in INR PI = Pollution Index of industrial sector (red-80) N = Number of days of violation took place (from the date of violation to date of compliance- 01.11.2015 to 25.02.2021=1943days

	Date of non-compliance: the unit has installed TEG dehydration system during November, 2015 without recovering glycol vapors te moisture was knocked out which was one of the major source of benzene. Post 2015, the unit has not amended the consent for the actual quantity of effluent generated. Present ETP is not adequate in terms of capacity to treat the actual effluent generated. The unit has not maintained any records for hazardous waste disposed. During first round of monitoring ambient benzene was in the range of 92 to 2051 µg/m3 against the standard limit of 05 µg/m3. Considering these points the date of non- compliance is considered from 01.11.2015 R = A factor in Rupees for EC (Rs. 250/-) S = Factor for scale of operation (large-1.5) LF = Location factor (population is varying between 1 to 5 lacs =1.25) =80*1943 days*250*1.5*1.25 **=7,28,62,500** Seven crores eighty-six lacs sixty two thousand five hundred only

* TEG gas dehydration system is installed during November, 2015 post accident at M/s GAIL facility due to which the glycol vapors are let out into environment while knocking out moisture. At Tatipaka facility this is one of the main source of ambient Benzene. Hence for assessment of violation, date is taken as 01.11.2015

Kesanapalli GGS:

Non-compliances observed

1. Effluent is getting mixed with storm water and storm water is discharged into main drain outside the unit premises. pH of the storm water was 12. In addition the leaves and garden waste is in the drain and getting putrefied in the drain itself.
2. The effluent stored in treated effluent sump was red in color and ph was more than 12.

Storm water drains

treated effluent sump

ETP area where oil spill is covered by fresh soil

3. There is no dedicated hazardous waste storage sheds
4. The unit was disposing the effluent by means of marine disposal but however the unit has not obtained necessary permissions from APPCB for marine disposal. Further, part of the pipeline used for deep sea disposal (1000m stretch of pipeline taking deep sea) is broken and washed away. presently the unit is disposing the effluent in the coast. The unit had obtained CRZ clearance for laying of pipelines.
5. Water logging observed at the entrance of the unit.
6. In the ETP area, the unit had covered with fresh soil. The committee excavated the portion of the soil and found that black oily soil was present below upto depth of 1m. On enquiring it was informed that there was oil spill and the unit had covered with fresh soil.
7. Opposite to new ETP boundary wall, waste oil & sludge is dumped on land to an extent of two to three acres.

Two to three acres of Area opposite to ETP likely to be contaminated

Satellite image 10/2018

satellite image 12/2020

On comparison of satellite images of 2018 and 2020, it is clear that the unit has cleared green belt for waste disposal.

***Water and wastewater analysis results*:** The committee collected effluent & sediment samples and carried out ambient air quality monitoring. The details water, wastewater, sediment analysis report and ambient air quality and fugitive emission monitoring report of Kesanapalli is enclosed as Annexure-III.

Table 6a: effluent analysis results for key parameters for kesanapalli GGS

Sample description	TOC (mg/l)	Oil and Grease (mg/l)	Phenols (mg/L) -	Benzene (µg/l)	TPH (mg/l) Std-0,5
Borewell Vaddeeswara Rao, Malkipuram house, Turupalam village-Kesanapalli	25	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	BLQ(LOQ: 0.005)
Near Security Gate(GGS Plant) Strom water drain into outside -Kesanapalli	12	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	BLQ(LOQ: 0.005)
Stagnated pond water opp to DG Room -Kesanapalli	60	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	1.39

From the ground water results it is understood that ground water is not contaminated due to activities of M/s ONGC and M/s GAIL. Sample was collected from the water logged area and it contains TPH which implies that effluent is mixed with storm water in the unit premises.

Table 6b: Analysis results of effluent samples collected in Kesanapalli

location	TSS mg/L		Oil & grease mg/L	
	Measured value	Standard limit	Measured value	Standard limit
Old ETP Raw Effluent Inlet-Kesanapalli	-	100	-	10
Old ETP Collection tank - T 103 inlet-Kesanapalli	61		5	

Old ETP filter feed sump and pump shed-Kesanapalli	14		BDL(DL:4.0)	
Old ETP outlet-Kesanapalli	43		BDL(DL:4.0)	
New ETP Inlet-Kesanapalli	75		240	
Near ETP Waste Water Joining Abandoned SBR-Kesanapalli	16		BDL(DL:4.0)	
New ETP Treated Effluent after media filter-Kesanapalli	31		BDL(DL:4.0)	
New ETP Gate Value pit connected to treated effluent water sump-Kesanapalli	27		BDL(DL:4.0)	
Turpupalem Beach deep well injection Effluent collection Sump-Kesanapalli	26		BDL(DL:4.0)	

Effluent samples are complying with deep injection well standard.

***Sediment analysis results*:** The committee collected sediment samples and results of key parameters are as follows:

Table 6c: sediment analysis results collected near Kesanapalli installation

	Benzene mg/kg	TPH mg/kg	Phenols mg/kg	Iron mg/kg	Mercury mg/kg	Lead mg/kg
Screening values	50	5000	3,8	-	50	600
In between SBR Abandoned sump and treated	BLQ (LOQ:20)	BLQ (LOQ:0.1)	BLQ (LOQ:0.1)	3392	BLQ [LOQ:2.0]	BLQ [LOQ:2.0]

effluent collection sump -sediment-1 -Kesanapalli						
Near Beach-Turpupalam-sediment-2 - Kesanapalli	BLQ (LOQ:20)	0.1018	BLQ (LOQ:0.1)	13186	BLQ [LOQ:2.0]	12.3
Near Beach-Turpupalam-sediment-3 - Kesanapalli	BLQ (LOQ:20)	BLQ (LOQ:0.1)	BLQ (LOQ:0.1)	5090	BLQ [LOQ:2.0]	3.4
Stagnated pond water Sludge opposite to DG room - Kesanapalli	BLQ(LOQ:20)	2.8992	4.36	5932	201	4.5

In around 5acres of land opposite to DG room the effluent & sludge is accumulated. From the sediment sampling it is learnt that mercury is present in the range of 201 mg/Kg. As per Guidance document for assessment and remediation of contaminated sites in India the screening value of mercury for identification of probably contaminated site is 50mg/Kg and in the soil collected since the mercury concentration is exceeding the screening values, it is identified as probably contaminated site. APPCB shall take up a detailed analysis in the area and re-ascertain whether the area is contaminated or not.

The unit shall dismantle the abandoned sump present in the Kesanapalli GGS and the effluent present in the sump shall be treated properly in ETP and after complying with APPCB discharge standards shall be disposed as per condition stipulated in CFO.

The committee observed that naturally the beach sand in kesanapalli area is having high iron content due to which the color of the beach sand is slightly black.

Environmental compensation to be levied from Kesanapalli GCS

EC for violation of CFO conditions, sea disposal without obtaining permission from APPCB	EC=PI x N x R x S x LF Where, EC = Environmental Compensation in INR PI = Pollution Index of industrial sector (red-80) N = Number of days of violation took place (from the date of violation observed to date of compliance- The unit was not granted permission by APPCB for deep sea disposal. As per CFO issued by APPCB treated effluent has to be disposed by deep well injection. As per records unit is disposing effluent by sea disposal since february, 2018 hence date of non-compliance is taken as 25.02. 2018 to 25.02.2021=1096 days (after 25.02.2021, APPCB may levy additional compensation till compliance is achieved R = A factor in Rupees for EC (Rs. 250/-) S = Factor for scale of operation (large-1.5) LF = Location factor (population is varying between 1 to 5 lacs =1.25) =80*1096*250*1.5*1.25 =Rs. 4,11,00,000/- Rupees Four crore eleven lakhs nine lacs only

M/s GAIL and ONGC Odalarevu plant

ONGC onshore terminal and M/S GAIL gas terminal are located adjacent to each other at odalarevu. The dry gas after treatment is sent from ONGC to GAIL. In KG basin M/s GAIL is not involved in the extraction of gas from the wells and is having only gas terminals where dry gas is received from ONGC terminals.

Non compliances observed in M/s ONGC onshore terminal

1. The ETP is not functioning properly. Oil is removed from slop oil tank and then effluent is stored in holding ponds. Multimedia filters were not in operation on the day of the visit. effluent is disposed on the ground without treatment. The detailed analysis and monitoring results of odalarevu facility water is enclosed as Annexure-IVa.
2. Severe odour nuisance and VOC levels inside unit premises was varying from 4.0ppm to 6.0ppm when measured using handheld PID (photo ionic detector) analyzer.

3. During the visit, there were rains and water logging was observed in the area. Both Effluent mixed with storm water was present in the unlined lagoon in more than 10acres of land between M/s GAIL and M/s ONGC terminals. The pH of the lagoon water was around 5.
4. The storm water drains are completely clogged and was filled with thick oily sludge.
5. Reported that the unit is facing water logging issues since 2017 onwards. Reported that the ETP is not properly working since 2017 and the unit is yet to replace worn out pumps
6. The committee collected water & sediment samples, conducted ambient air quality monitoring during December, 2020 and carried out exclusive ambient VOC monitoring during February, 2021.

***Non-compliances observed in M/s GAIL terminal*:** Pigging operations are carried out once in six months to remove the waste deposited in pipelines. The pigging waste are hazardous in nature, the unit is storing the waste in open near to the pipelines. Though the unit reported that waste was sent to TSDF but however no records were found.

Satellite image of the installations

water and wastewater analysis results

Table 7a: Water analysis results for key parameters for kesanapalli GGS

Sample description	TOC (mg/l)	Oil and Grease (mg/l)	Phenols (mg/L)	Benzene (µg/l)	TPH (mg/l)
Storm Water Drain opp to fire Water pump (S1 Vashita) - Odalarevu	21	BDL(DL :4.0)	BLQ(LOQ: 0.001)	31.24	BLQ(LOQ: 0.005)
Contaminated Strom water Drain (Near ETP Area) - Odalarevu	28	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	BLQ(LOQ: 0.005)
Stagnated Water -1 Beside Gail Pipe Line-Odalarevu	25	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	0.05
Near Land Fall KP -6 Road(ONGC pipe line indicator)-Odalarevu	94	BDL(DL :4.0)	0.2	BLQ(LOQ:20)	0.08
Sample collected from unline lagoon beside gail pipe line - Odalarevu	661	BDL(DL :4.0)	2.7	BLQ(LOQ:20)	BLQ(LOQ: 0.005)
Borewell - Vashita borewell (Opposite to admin block) - Odalarevu	3	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	BLQ(LOQ: 0.005)
Near Condenstate storm water pit - Odalarevu	5	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	BLQ(LOQ: 0.005)
Storm Water drain outlet outside in the industry - - Odalarevu	3	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	BLQ(LOQ: 0.005)
Tatipaka Near gail pipe line Nagaram – Odalarevu accident spot	10	BDL(DL :4.0)	BLQ(LOQ: 0.001)	BLQ(LOQ:20)	BLQ(LOQ: 0.005)

Table 7b: Effluent analysis results

Sample description	TSS (mg/l)	Standard limit mg/L	Oil and Grease (mg/l)	Standard limit mg/L
ETP Inlet 1-Odalarevu	75	100	BDL(DL:4.0)	10
Treated Efflent before Injection-Odalarevu	15		BDL(DL:4.0)	
ETP Inlet 2 -Odalarevu	79		BDL(DL:4.0)	

The raw effluent is having benzene in the range of 603µg/L to 1159 µg/L. benzene being volatile in nature escapes into the atmosphere when effluent is stored in holding tanks.

The treated effluent is meeting the standards w.r.t. deep well injection

Samples were collected from main storm water drain outside the unit premises and found that it is not contaminated with effluent.

The installation is located very close to the sea and there were no bore well near the installation hence committee could not conduct ground water sampling.

Effluent collected from lagoon is having BOD 447mg/L, COD 1762 mg/L and TOC 661 mg/L

Sediment analysis results

The committee collected sediment samples and analysis results are as follows:

Table 7c: Sediment analysis results Odalarevu

Sediment analysis results Odalarevu			
location	Benzene	TPH	phenols
Screening values	50	5000	3,8
Storage tank Sludge - Odalarevu	BLQ(LOQ:20)	41.5191	3.60
Sediment-Near ETP arae - Odalarevu	BLQ(LOQ:20)	179.5684	0.62
Sediment 2 beside gail pipe line - Odalarevu	BLQ(LOQ:20)	1.1571	BLQ(LOQ:0.1)
Sediment -Tadipaka Near Gail pipe line Nagaram- Odalarevu	BLQ(LOQ:20)	1.7317	1.79

Sediment - Kesandasipalam Accident Point from 2014 - Odalarevu	9.77	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)

From the sediment analysis results, it is observed that sediment samples Odalarevu ETP and near sludge storage tank is not contaminated. Under the supervision of APPCB the unit shall restore it to original position.

Fugitive emission monitoring

The committee carried out ambient air quality monitoring during December, 2020 and ambient VOC & fugitive monitoring during February, 2021. The results of key ambient parameters is given below:

Table 7d: Ambient air quality monitoring Odalarevu for key parameter Benzene

Sample description	Benzene (µg/m3)
First round of monitoring during December, 2020	
Near Odalarevu village adjacent to ETP	122
Near Security Main gate -Odalarevu	68.8
Second round of VOC monitoring (copy enclosed as Annexure-IVb)	
Near ETP oddalarevu	BLQ (LOQ-0.1)
Church,Odalarevu	BLQ (LOQ-0.1)
Peddinti Narashima Phanikumar house Odalarevu,Near ramalayam Temple	BLQ (LOQ-0.1)
Marilamma center,Kandapalli Rambabu House	BLQ (LOQ-0.1)

Environmental Compensation

The unit is complying with ambient air quality standards w.r.t noise

EC for violation of CFO conditions, sea disposal without obtaining	EC=PI x N x R x S x LF Where, EC = Environmental Compensation in INR PI = Pollution Index of industrial sector (red-80) N = Number of days of violation took place (from the date of violation observed to date of compliance- reported by unit since January, 2017 ETP is not working properly to

permission from APPCB	25.02.2021=1516 days (after 25.02.2021, APPCB may levy additional compensation till compliance is achieved R = A factor in Rupees for EC (Rs. 250/-) S = Factor for scale of operation (large-1.5) LF = Location factor (population is varying between 1 to 5 lacs =1.25) =80*1516*250*1.5*1.25 =5,68,50,000/- Rupees Five crore sixty eight lakhs fifty thousand only

5.0 Observations in Previous accident sites

The committee visited two sites where previously accidental leakage has took place. One is Kesanadasipalem and the other is Nagaram. It was observed during committee inspection that area where previously accident has took place is completely restored. The soil was excavated till the pipeline is visible. No leakage was observed. There was no odour nuisance and VOC was monitored using handheld PID analyser and it measured 0ppm in both sites. Sediment samples were collected at locations where the leakages have occurred and on comparison of the results with MOEFCC screening values for identification of hazardous waste contaminated soil it is found that the soil in both the locations are not contaminated. This implies that the unit has completely restored the nagaram area and Kesanadasipalem area where previously accident had took place.

Photo: Nagaram

Kesanadasipalem

Table 8: Sediment analysis results in Nagaram and Kesanadasipalem

Sediment analysis results in previous accident sites Nagaram and Kesanadasipalem								
location	Benzene mg/kg	TPH mg/kg	Phenols mg/kg	Arsenic mg/kg	Vanadium mg/kg	Mercury mg/kg	Chromium Total) mg/kg	Lead mg/kg
Screening levels for Agriculture	50	5000	3,8	12	130	50	64	70
Sediment -Tadipaka Near Gail pipe line Nagaram- Odalarevu	BLQ(LOQ:20)	1.7317	1.79	3.2	73.8	4.4	36.8	10.4
Sediment - Kesandasipalam Accident Point from 2014 - Odalarevu	9.77	BLQ (LOQ:0.1)	BLQ (LOQ:0.1)	BLQ (LOQ:2.0)	61.2	BLQ (LOQ:2.0)	10.9	4.6

The sediment samples collected at accident sites Nagaram and Kesaadasipalem were compared with the soil screening values for agricultural purposes as per the Guidance document for assessment and remediation of contaminated sites and it is found that the sites are not contaminated. During visit also it was observed that normal plantation has come up in the area and area is restored.

Conclusions and Recommendations

i. The design life period of pipes are 20 years. In KG basin, CTE pipelines older than 30 years are still in use. The unit shall prepare guidelines or time frame for replacement of old pipelines. Very Old CTE coated pipes may be replaced with 3 LPE pre-coated pipes.

ii. Presently nine out of 20 flowing wells are provided with gravel pack to minimize sand entrainment. The unit shall provide gravel pack near the perforation to all flowing wells to reduce entrainment of sand in pipelines thereby reduce the chances of pipeline leakage.

iii. M/s ONGC and M/s GAIL in KG basin are more focused on production and extraction of oil & gas which is essentially required for the development but the environmental aspects and pollution mitigation measures within their premises is not much focussed. The effluent treatment plants are not properly operated, hazardous wastes such as ETP sludge, slop oil is not disposed as per Hazardous Waste and Management Rules, high fugitive benzene emissions, not complying with APPCB CFO conditions and CRZ violation w.r.t Kesanapalli marine disposal. On verification of records the committee observed that any leakages or accident outside the unit premises in farmers land is immediately attended and addressed with 24 hours (all minor pinhole leakages are closed with 24hrs) and the unit has taken measures to restore the area as so to prevent any public outcry.

iv. It is observed that while knocking out moistire in gas dehydration system using tertiary ethylene glycol, glycol vapors are escaping with moistureTo ensure that moisture from gas dehydration- TEG unit is collected separately treated so as to remove the glycol vapours and then moisture is let into atmosphere. IN no case the unit shall knock out the untreated moisture containing glycol vapours into the atmosphere.

v. The unit has dumped the ETP sludge within its premises, oil spill inside the premises is not cleaned up, effluent is getting mixed with storm water, ambient benzene in the unit premises is very high, LDAR is not carried out. But however the committee observed that the unit has not dumped any waste outside its premises.

vi. Around five acres of land inKesanapalli GGS is probably contaminated with mercury. The committee submits to Hon'ble NGT to direct unit to clean & restore the probably contaminated area under supervision of APPCB as per procedure laid in the " Guidance document on Assessment and remediation of contaminated sites" .

vii. Kesanapalli GGS shall immediately stop disposal of treated effluent by marine outfall near the coast and dispose the treated effluent as per the conditions stipulated in CFO issued by APPCB.

viii. During monsoon due to heavy rains and water logging effluent is mixed with storm water due to which around three acres of land in Tatipaka near to old ETP and 10 acres of land in odalarevu in between GAIL and ONGC terminals is having high COD, bod and TOC. The unit shall ensure that effluent will not allowed to mix with storm water.

ix. The committee carried out Ambient air quality monitoring in two installations namely Tatipaka and odalarevu installations during December, 2020 for all notified parameters namely Sulphur Dioxide as SO_2, Nitrogen Dioxide as NO_2, particulate matter (PM10), particulate matter (PM2.5), ozone, lead, carbon monoxide, ammonia, benzene, Benzo(a) pyrene, arsenic, nickel and noise. Both installations are complying with ambient air quality standards w.r.t all parameters except Benzene. The ambient benzene concentration in the Tatipaka unit premises is ranging between 92 µg/ m3 to 2051 µg/ m3 and in odalarevu installation 68.8 µg/ m3 and 122 µg/ m3 against the ambient standard of 05 µg/ m3. One of the reason for high ambient benzene concentration within the unit premises may due to placing the monitoring station close to fugitive source. The unit submitted to the committee that it has undertaken corrective actions like arresting fugitive emissions etc. The committee again carried out ambient benzene monitoring both inside and outside the unit premises in the villages both upwind and cross-wind directions. The ambient benzene concentration in the villages in Tatipaka is ranging from 0.02 µg/ m3 to 0.48 µg/ m3 and within unit premises it is reduced to 0.1 µg/ m3. Both Tatipaka and odalarevu facilities shall install continuous ambient monitoring facility and VOC sensors within the unit premises and results shall be displayed at the entrance of the unit for public and also the results shall be connected to APPCB server.

x. The committee observed during both the visits that the treatment plants are not properly operated and storm water drains are filled with sludge. Records on hazardous waste disposal was not shown to the committee. The ETP sludge and oily sludge from slop oil tank is stored in open. The unit has not taken any measures for the cleanup of sludge and storm water drains under the supervision of APPCB. The units shall ensure that the hazardous waste generated shall be disposed as per the conditions stipulated in CFO and in compliance with Hazardous Waste Management Rules, 2016.

xi. The units shall pay Environmental compensation to CPCB as follows:
Tatipaka GGS→ Rs. 7,28,62,500
Kesanapalli GGS→ Rs. 4,11,00,000/-
Odalarevu GGS→ Rs. 5,68,50,000/-

xii. During visit the committee observed that the storm water drains are clogged, filled with effluent, oily sludge is deposited in the drains in ETP area. Firstly the units shall ensure that the entire storm water from the unit shall be collected and reused with in the unit premises and it shall not sent outside the unit premises. The committee submits to Hon'ble NGT to direct APPCB to impose this as one of the consent conditions as not to discharge any storm water outside the unit premises. The unit shall have a fixed frequency for cleaning the drains and oily sludge settled in the drains shall be sent to TSDF or as directed by APPCB.

xiii. The unit has obtained consent from APPCB during 2015 and subsequently the consent is renewed (online consent monitoring and management system) but however post 2015 due to ageing of wells the quantity of produce water is increasing and there by the quantity of effluent generated is also increased. The actual quantity of effluent generated is higher than the quantities stipulated in the CFO. The unit shall either apply for amendment of consent issued by APPCB for the actual quantity of effluent generated or shall restrict their effluent generated to the quantities specified in CFO. Presently all units are having valid CFO issued by APPCB.

xiv. There are four ETP's to treat effluent generated from 12 installations. Capacity of Tatipaka ETP is 500 KL against the quantity of effluent received 330 KLD, Capacity of Kesanapalli ETP-2 is 1500 KLD against quantity of effluent received 2158 KLD and capcity of Gopavaram ETP is 600 KL against quantity of effluent received 1130 KLDwhich implies that the Kesanapalli and Gopavaram ETP's are inadequate to treat the actual effluent generated. The units shall augment their treatment capacity so as to treat the actual effluent generation or restrict their production so as to minimize the generation of produce water to the tune of their ETP capacity.

Based on raw effluent and treated effluent results, ambient air quality results, stack monitoring it is concluded that Tatipaka GCS, Kesanapalli GCS and Odalarevu GCS is complying with the standards w.r.t deep well injection, ambient air quality w.r.t noise and all other parameters except benzene. Post implementation of corrective measures the unit is found complying with ambient benzene standards also. samples collected from the borewell samples around the

installation do not contain benzene, TPH, O&G and phenols. Since the key indicator parameters are not present in the borewell water samples, based on the current analysis report the committee opines that ground water surrounding Tatipaka GCS & refinery, Kesanapalli GCS and odalarevu GCS is not contaminated. Sediment samples were collected from nagaram & Kesanadasipalem area where major accidents are reported to have taken place. The analysis results were compared with soil screening values for agricultural purposes as per "Guidance document for assessment and remediation of contaminated sites" and it is found that the sites are not contaminated. During accident site visit the committee observed that plantation has come up in the area."

23. Respondent Nos.3 & 4 have filed their respective objections to the Joint Committee report.

24. The ONGC has filed their status report regarding the Joint Committee observations and compliance dated 04.01.2022 which reads as follows:-

STATUS/COMPLIANCE BY ONGC TO THE JOINT COMMITTEE REPORT

The Respondent ONGC respectfully states as follows :

The Joint Inspection Report has been submitted by the Committee constituted by this Hon'ble National Green Tribunal, Southern Zone, Chennai vide order dated 08.09.2020 in the present Original Application. The Joint Committee has submitted its report based on its inspection of three major units of ONGC in Krishna Godavari (KG) Basin, namely,

a) Rajahmundry Asset,

b) Kesanapalli GGS and

c) Odalarevu GCS. (Gas Collecting Station)

The Committee has also provided comprehensive conclusions and recommendations.

The action taken by ONGC on the basis of the Joint Committee's observation/suggestions and the remarks to the same is given as follows:

S.No	Para and Page No.	Joint Committee's observations in its Report	Compliance/Reply by ONGC	Remarks
RAJAMUNDRY ASSET				
1.	Para 3.a.iv., Pg. 12	Natural gas produced from Kesanapalli (w) GGS (Gas Gathering Station 'GGS' for short), Tatipaka and Gopavaram fields contains high level of H2S (Hydrogen Sulphide) concentration in the range of 15-50 ppm from the flowing	It is submitted that sweetening is a process wherein a water-based chemical called as scavenger is inserted into the natural gas and the scavenger absorbs H_2S gas. As this process takes place in a closed loop, there is no possibility of escape of H_2S into the atmosphere. Moreover, this system is	ONGC has filed a brief report by the Chemistry Section-Surface Team, ONGC **(Annexure-1)** stating that Sweeting of gas is not a contributor to emissions as the process occurs in a closed loop system.

		wells. Liquid Scavenger system is being used in all the above installations to bring down level of H2S gas to less than 3ppm. Sweetening of gas is one of the contributor to emissions.	very effective and is a best industry practice for reducing H_2S from the natural gas. Hence sweetening is not a contributor to emissions.	Hence, ONGC follows an effective and best practice system that does not causes any emissions.
2.	Para 3.b.i., Pg. 13	From table-1a, 1b & 1c, it is clear that Gopavaram ETP and Kesanapalli ETP-II are not adequate in terms of capacity to treat the actual quantity of effluent generated. In Gopavaram GCS, in the CFO it is mentioned as 6.0KLD which is not matching with the actual effluent generated. The installations shall augment their treatment capacities.	It is submitted that Gopavaram ETP and Kesanapalli ETP- II have the adequate capacity to treat the effluents and have the necessary CFO. i) In Kesanapalli-w, 02 no of ETP are in operation, first one is ED well disposal ETP(old ETP) with capacity of 750m3 and second one is Marine disposal ETP (New ETP) and combined capacity of ETP is 2250m3/day. Both ETPs are in operation by treating effluent as per standards of CPCB guidelines and committee produced the results of both ETP meeting the required standards for the disposal. ii) The average effluent generated from Kesanapalli GGS as mentioned in the report, is 2158m3 which is less than the total capacity of 2250 m3/day. Hence, the observations made by the committee are not correct. ii) Gopavaram was having one additional injection facility known as GMAE disposal facility (600m3/day capacity) along with Gopavaram ETP capacity of 600m3/day and total Capacity of disposal system is 1200m3/day. The effluent generated from Gopavaram is 1130m3/day, which is less than the combined capacity of Gopavaram effluent disposal system, i.e. 1200m3/day. The capacities of the effluent treatment facilities are	Both Kesanapalli ETP and Gopavaram ETP has adequate capacity to treat the effluents generated and is matching with the actual effluent generated. ONGC has also paid the necessary fees for obtaining such CFOs but the recent Auto Renewal format of CFO issued by the APPCB does not indicate the exact capacity of ETPs. Therefore, it may appears that the installations does not have the necessary capacity of ETPs. i) The project for marine disposal of effluents from Kesanapalli GGS was intimated to the APPCB and the Renewal for Consent for Operation of Kesanapalli GGS dated 28.02.2015 **Annexure- 33** highlighted the proposed commissioning and consent for the ETP at Kesanapalli (W)-GGS with marine disposal handling capacity of 1500 KLD. Thereafter, on 13.08.2015, the Consent Order for Establishment of Marine disposal at Kesanapalli was issued by the APPCB and the same is filed as **Annexure- 34.** Upon receipt of the Consent for Establishment of Marine disposal,

			also being augmented to process increased water production from wells.	ONGC started its establishment work in 2015 and completed the same in 2017. Thereafter, the implementation status of the Marine disposal facility at Kesanapalli was provided to the Environment Engineer, AP Pollution Control Board, RO Kakinada vide letter no. ONG/RA/HSE/CFO /2017-18/1029 dated 07.06.2017 **Annexure- 35** through an email dated 08.06.2017 **Annexure- 36**. The consent order for operation (CFO) for Kesanapalli GGS was valid up to 31.07.2018, accordingly renewal with additional new facilities was requested to APPCB where upon it was informed to apply for auto renewal of CFO through single desk portal of AP Industries. Accordingly CFO was applied after informing to APPCB about the Cost of new Installations as Rs. 7651.83 Lakhs, CFO renewal fees of Rs. 5,74,000/- was processed through single desk portal of AP industries vide Challan no. 4450770001623. **(Annexure- 37).** Subsequently, the Respondent sent a mail dated 28.06.2018 **(Annexure-38)** to APPCB, wherein it was stated that the CFO Renewals of the installations was made through "Normal mode" and upon recommendation of the APPCB, the Respondent wants

				to change it to "Auto- renewal mode". The details of additional installations and their cost incurred were sent to the APPCB through the same mail. Thereafter, the Respondent sent emails dated 29.06.2018 and 02.07.2018 **(Annexures- 39 & 40)** to the APPCB, wherein it was intimated that the said renewals of CFOs were filed through "Auto-renewal mode" and requisite fees were also been paid. The Respondent received an email dated 07.07.2018 **(Annexure- 41)** from the APPCB intimating that they were in receipt of "Auto- renewal applications" and in view of the increased infrastructures, additional fees was sought to be paid. Accordingly, an additional and balance fees of Rs. 2,00,000/- was paid thorough demand draft on the basis of email received from APPCB. The above increase in cost of installation was on account of new infrastructures for Pollution Control Systems such as New ETP with marine disposal. Since the application was processed through single desk portal of AP Industries, the Respondent received Auto-Renewal of consent order of Kesanapalli GGS dated 06.08.2018 **(Annexure- 42)** in which this new infrastructure for

				Pollution Control System for Marine disposal has not been reflected. The said Auto renewed Consent For Operation is valid till 31.07.2023. It is important to note that ONGC has paid the requisite additional fees that arose out of the increased infrastructure and investment for the Marine Disposal & New ETP facility which was already been considered in the Kesanapalli GGS consent order dated 13.08.2015. We have applied for CFO for enhanced capacity & Marine Disposal as well to the APPCB for their approval. It is also important to note that the APPCB was regular in conducting its inspections and analysis at the Respondent units. **Annexure- 43** is a proof for the same. It is a communication from APPCB to ONGC seeking payment of analysis charges, which proves that APPCB regularly inspects the Respondent units and is aware of the Respondent's activities. In November 2020, the Environment Engineer RO, Kakinada suggested to apply for separate CFO for marine disposal of treated effluent from New ETP of Kesanapalli GGS. As suggested by APPCB, Kakinada, separate CFO application (Application no. 1468310) for Marine disposal for treated effluent from

				Kesanapalli-W ETP was also applied on 3.12.2020 and ONGC has paid Rs 78,000 on 3.12.2020 to APPCB, Regional office, Kakinada. The online payment receipt for the same is filed as **Annexure-44.** Further, ONGC received another mail dated 29.12.2020 **(Annexure-45)** from APPCB seeking for CFE payment of Rs.1,52,000/- for processing the CFO for the marine disposal for the Kesanapalli-w ETP and for the increased investments. The Respondent paid the additional fees sought by APPCB and communicated the same through its letter dated 31.12.2020 **(Annexure- 46).** The said CFO application is pending before the APPCB, Head office, Vijayawada. Though the existing CFO is valid upto 31.07.2023, on the suggestion of APPCB we have also written a letter to APPCB, RO, Kakinada seeking amendment in Kesanapalli GGS CFO to reflect all the changes in the infrastructure. Thereafter, on 04.01.2021 a letter from APPCB to ONGC **(Annexure-47)** on CFO and CFE related issue with respect to Kesanapalli GGS was received. The Respondent replied to the said letter from APPCB through its letter

CONCLUSIONS AND RECOMMENDATIONS GIVEN BY THE COMMITTEE:

				dated 07.01.2021 **(Annexure- 48).** ii) The project for additional injection facility known as GMAE disposal facility (600m3/day capacity) was intimated to the APPCB and the Renewal for Consent for Operation of Gopavaram GGS dated 28.02.2015 **(Annexure- 33)** highlighted the proposed commissioning and consent for the ETP at additional injection facility known as GMAE disposal facility (600m3/day capacity). Thereafter, on 13.08.2015, the Consent order for Establishment of additional injection facility was issued by the APPCB and the same is filed as **Annexure- 34.** Upon receipt of the Consent for Establishment of Marine disposal, ONGC started its establishment work in 2015 and completed the same in 2017. Thereafter, the implementation status of the additional facility at Gopavaram was provided to the Environment Engineer, AP Pollution Control Board, RO Kakinada vide letter no. ONG/RA/HSE/CFO /2017-18/1029 dated 07.06.2017 **(Annexure- 35)** Based on the communication from APPCB for payment of additional fee,

				ONGC sent an email to APPCB dated 05.10.2018 **(Annexure-78)** submitting the excess CFE fee through DD for increased investments at Gopavaram GGS. Hence ONGC has ETP capacities to treat its effluents however, the Auto-Renewed CFOs does not mention the exact quantity details.
3.	Para 3.b.ii. Pg. 13	During inspection, it was observed that the drains in Tatipaka, Kesanapalli, Malkipuram and Odalarevu were blocked and filled with effluent, but the drains were not cleaned. It was also reported that whenever the drains are filled & choked with the sediments, they are manually cleaned but there is no standard procedure followed by the unit for cleaning of drains, frequency of cleaning and for removal of sediments.	The Respondent states that the Tatipaka complex where GCS and Refinery is stationed is spread about an area of 75 Acres, out of which 30% is maintained as Green Belt area. Considering the huge area under plantation, the leaves fall in the drains which sometimes get chocked, however, care is taken to clean the drains and the area regularly.	In conformance with the Joint Committee's report, ONGC has taken steps to clean the drains and the areas and filed **Annexure-2 & 3** which are the Notifications of Awards (dated 2.3.2020 and 18.3.2020) given to M/s. Pamula Prakash Deep for grass cutting work and maintenance work at Tatipaka GGS and Tatipaka Refinery, respectively. Hence complied.
4.	Para 3.c Pg. 14	In Rajahmundry Asset, old pipelines laid during 1988 and new pipelines laid during 2020 are existing; that the age of pipelines ranges from about 30 years to 3 months old. At present flow lines are replaced based on the condition of pipelines. There is no specific guideline or time frame for replacement of pipeline. The committee has positively observed at para 3c at page 14 of the Committee Report that ONGC	All the pipelines with the designed life of 20 Years are replaced periodically and as of now there is no use of pipeline beyond 20 years for transportation of Oil & Gas fluids. Moreover, some pipelines are changed much early considering the well fluid conditions. The allegation that there are no specific guidelines or time frame for replacement of the pipelines is incorrect and the Respondent has a Standard Operating Procedure (SOP) dated 24.12.2014 for Onshore Pipelines which is filed as **Annexure-4.** The	Respondent has a Standard Operating Procedure (SOP) dated 24.12.2014 for Onshore Pipelines and there is regular replacement of pipelines carried out in a systematic manner based on the health of the pipeline. ONGC follows the upgraded technology of using 3 LPE pipe. The measures taken by the Respondent for upkeep of pipelines and prevention for pipeline leakages

		has incorporated the upgraded technology of using 3 LPE (3 Layer Poly Ethylene) pre-coated pipes as they are stronger, and thus external corrosion of the pipelines have been minimized. Also it was observed that the replacement of all CTE coated pipelines are being done systematically in a phased manner by the facility. The Committee has also observed the measures taken by the Respondent for upkeep of pipelines and prevention measures for pipeline leakages at para 3.c.I and 3.c.ii at page 15 of the Committee Report.	details of pipeline replacement carried out by the Respondent in the Rajahmundry Asset from the year 2010 to 2021 are filed in **Annexure- 5.**	were observed by the Joint Committee. Hence the Committee's observations were complied.
5.	Para 4.a.i.a. Pg. 16	The Storm water from the installation is discharged into main drains laid outside the unit premises. During inspection the committee has observed that due to heavy rains and water logging, effluent was getting mixed with storm water and from the main drain it may ultimately join the sea.	There exists three storm water canals from Tatipaka Complex joining the main drain canal. One canal which covers the areas of liquid hydrocarbons, takes care of oil spillages. The said canal is provided with well-designed oil catcher and any oil spilled into the canal is recovered by them. Oil catchers are basically civil constructions within the storm water canal which separates oil from the storm water and then lead to the main drain. ONGC states that the effluents are treated in a closed system called Effluent Treatment Plants (ETP) and there is no possibility for the effluents to get mixed with the storm water.	Photographs of oil catchers located at storm water drains of Tatipaka GGS is filed as **Annexure-6.** Hence ONGC follows the Committee's suggestions.
6.	Para 4.a.i.b Pg. 16	The tilted plate interceptor and slop oil tank are not working properly. The capacity and	As on date, the tilted plate interceptor and slop oil tank are working. Tilted plate interceptor is an equipment within the	As advised by the Committee, communication have been initiated with OEM (Original Equipment

		retention time of plate intercep	ETP which recovers the remains of the oil from the raw effluent. Whereas, Slope oil tank is a civil construction unit within the ETP (basically a closed iron tank) which is used in the process of collecting oil.	Manufacturer) to revamp the existing ETP at Tatipakka and Kesanapalli vide a proposal dated 28.06.2021 **Annexure-7** submitted by VA Tech WABAG Ltd. for revamping of existing ETP at Tatipaka and Kesanapalli. The observations are in progress and the contractor has quoted around 10-11 Cr, negotiations are in progress. The Joint Committee's observations - compliance in progress by the Respondent.
7.	Para 4.a.i.b. Pg. 16	The Tatipaka unit has obtained consent from APPCB (Andhra Pradesh Pollution Control Board) during 2015 and subsequently the consent was renewed (online consent monitoring and management system) but however post 2015 due to ageing of wells the quantity of producer water is increasing and there by the quantity of effluent generated has also increased. But the units have not amended the consent for the revised quantity effluent generated and that the existing ETP is not adequate in terms of capacity to treat the present effluent generated. As per the CFO issued to Tatipaka GCS on 27.02.2015 the quantity of effluent is 225KLD but presently	ETP capacity is adequate and the consent for revised quantity of effluent generated areobtained by ONGC .A Renewal order on Consent for Operation for Tatipaka GCS was issued by APPCB on 27.02.2015 with an allowed quantity of discharge from its ETP as 225KLD (Kilo Litres per day) is filed as **Annexure-8.** The refineries at Tatipaka Mini Refinery, Mandapeta GCS and Endamuru GCS are smaller ones and they do not have a separate Effluent Treatment Plant (ETP) for their own. And so, the effluents discharged from Mandapeta GCS and Endamuru GCS are transferred to the ETP at Tatipaka Refinery and treated over there. Total capacity of ETP at Tatipaka GCS is 500KLD which is well within its capacity to treat its effluents as well as the effluents from Tatipaka Mini Refinery,	As on date, the Tatipaka GCS, Tatipaka Mini Refinery, Madapeta GCS and Endamuru GCS have valid Consent for Operation with valid quantity of treatment of effluents. However, it can be observed that the new format of Auto-renewed Consent for Operation of GCS does not describe the increased infrastructure of the ETP and GCS or the ETP capacity or the quantity of effluents to be treated by the EPT per day or any other specifications related to the GCS. Therefore, the Committee has erroneously concluded that the Respondent does not possess a valid consent for the revised quantity effluent generated. Tatipaka GCS has a valid CFO, however,

		effluent generated is more than 500 KLD. In addition, 15KLD of effluent generated from Tatipaka mini refinery, Endamuru GCS and Mandapeta GCS has to be treated. Hence the existing ETP of capacity 500KL is not adequate to treat the present quantity of effluent generated.	Mandapeta GCS and Endamuru GCS. The Renewal of Consent for operation for Tatipaka Mini Refinery was issued by APPCB on 24.02.2015 **Annexure-9**, indicating the quantity of effluent to be discharged as 15KLD per day with the point of disposal as Tatipaka GCS. The said consent for operation with respect to Tatipaka Mini Refinery was again renewed on 31.10.2017 **Annexure-10** with a validity till 30.09.2022. For Mandapeta GCS, the Renewal order on Consent for Operation was issued by APPCB on 28.02.2015 **Annexure-11** with an allowed quantity of discharge as 37KLD per day and the point of disposal as Tatipaka GCS. For Endamuru GCS, the Renewal order on Consent for Operation was issued by APPCB on 28.02.2015 **Annexure-12** with allowed quantity of discharge as 40KLD per day and point of disposal as Tatipaka GCS. The wells produce more water while aging and hence the capacity to treat the effluents should also be increased by the ETPs through increased infrastructure. Therefore, while applying for the renewal of Consent for Operation of Tatipaka GCS, Tatipaka Mini Refinery, Mandapeta GCS and Endamuru GCS in the year 2018, the increased investments due to increased infrastructure of ETPs were mentioned in the application for renewal. APPCB sent a mail dated 07.07.2018	the enhanced quantity requirement has been applied to APPCB and amendment awaited from APPCB. However, it is submitted that the Tatipaka GCS has the required capacity of 500m3/per day, and depending on the production levels, which may vary. Hence the Joint Committee's suggestions were been followed by ONGC.

			Annexure-13 intimating that the increase in investments require increase in fee payment and sought for balance fee. In view of complying with the APPCB's demand, this Respondent paid the balance fee for increased infrastructures to the APPCB and intimated the same through a letter dated 18.07.2018 and the same is filed as **Annexure-14**. Subsequently, upon payment of the balance fee, the Auto-renewal of Consent for Operation for Tatipaka GCS, Mandapeta GCS and Endamuru GCS were obtained on 06.08.2018, which is filed as **Annexures- 15, 16 & 17** with a validity till 31.07.2023. So, as on date, the Tatipaka GCS, Tatipaka Mini Refinery, Madapeta GCS and Endamuru GCS have valid Consent for Operation with valid quantity of treatment of effluents.	
8.	Para 4.a.i.b. Pg. 17	Sludge drying beds are not in operation.	The sludge drying beds at the Rajahmundry Asset are currently under use. Basically, a sludge drying bed is an unit of ETP. The sludge from the oil settles at the bottom of the oil storage tanks due to sedimentation and they are collected and dried on the civil constructions called sludge drying beds. The dried sludge are stored in an isolated and confined place without any contamination. Later, these sludge obtained during the refinery process is disposed off as per Pollution Control Board Norms by awarding to third parties who will also adhere to Pollution	In conformance to the Joint Committee's suggestions, TERI (The Energy and Resources India) is in communication with the Respondent for a project on bio-remediation of the oily sludge and oil contaminated soil obtained from the refineries. The project proposal dated 17.02.2021 from TERI to ONGC for the Bio-Remediation process of sludge is attached as **Annexure- 18.** Hence work in progress and are being complied.

			Control Board Norms for their usage.	
9.	Para 4.a.i.c Pg. 17	TVOC (Total Volatile Organic Compound) levels measured using handheld PID (photo ionic detector) analyzer in the ETP area is varying from 2.2ppm to 4.0ppm	The range mentioned in the level of TVOC (Total Volatile Organic Compound) may be because of any rare Hydrocarbon spillage/leakage/accumulation in the process area during that day of inspection and it does not occur on a regular/permanent basis. This is proved by the Committee's second inspection during Feb-2021 where in the TVOC levels are under limit. As Stated in the Joint Committee report the Respondent has been testing and maintaining the levels from their inception. The testing agencies such as Bhagavathi Ana Labs Pvt Ltd from Hyderabad and Hubert Enviro Care Systems (P) Ltd are accredited agencies of NABL (National Accreditation Board for Testing and Calibration Laboratories) which are being engaged by ONGC in carrying out these TVOC level tests at regular intervals.	Test Report of Bhagavathi Ana Labs Pvt. Ltd dated 18.05.2019 on the Ambient Air Quality parameters at Tatipaka Mini Refinery is filed as **Annexure-19.** Test Report of Bhagavathi Ana Labs Pvt. Ltd dated 25.05.2019 on the Ambient Air Quality parameters at the Tatipaka GGS is filed as **Annexure-20.** The Environmental Monitoring Report of Tatipaka Complex dated 21.11.2020 submitted by Hubert Enviro Care Systems Pvt Ltd. is filed as **Annexure- 21.** Hence, ONGC is following the Committee's suggestions on regular basis.
10.	Para 4.a.i.d. Pg. 17	There is no dedicated hazardous waste storage shed. ETP sludge, empty barrels, slop oil are stored haphazardly within the unit premises	The observation was complied and the Respondent submits that there are two new sheds have been constructed for dedicated usage of storing hazardous wastes.	In conformance to the Joint Committee's report, ppresently, the hazardous wastes have been shifted to these new sheds and store constructed in compliance of the committee's recommendations. Photograph of the two sheds is filed as **Annexure-22**.
11.	Para 4.a.i.e. Pg. 17	In old GCS plant, drain effluent is joining storm water drains and pH of drain effluent was 14 when the same was	The Respondent states that the effluents are treated in a closed system called Effluent Treatment Plants (ETP) and there is no possibility for the	Respondent is following the required standards of maintaing the pH level as per the Committee's observations.

		joining storm water drain.	effluents to get mixed with the storm water drains. The recent analysis of pH level of storm water drain indicates 7.91 and the analysis report is filed as **Annexure- 23**. A recent Quality Analysis Test Report of Storm water drains at Tatipaka, GGS conducted by Hubert Enviro Care Systems Pvt Ltd for the period from January to June, 2021 is filed as **Annexure- 24.**	
12	Para 4.a.i.f. Pg. 17	LDAR (Leak Detection And Repair) of refinery is not carried out and that the TVOC (Total Volatile Organic Compound) levels near the valves of distillation column is around 5ppm and near sampling point is 70ppm.	In compliance to the Committee's observation, LDAR (Leak Detection And Repair) system is carried out now. Also, the sampling points have been modified to closed loop system instead of open loop system and thereby the TVOC level has come down.	The Respondent has filed Photographs on change of sampling points.- as **ANNEXURE- 25.** Thus the Respondent has compiled with the observation of the Committee in this regard.
13	Para 4.a.i.g Pg. 17	In the gas dehydration unit, with in the re-boiler system, rich glycol (containing moisture) is heated to 200 deg C and moisture is knocked out into the atmosphere. During knocking out some glycol vapors is scarried along with moisture.	The Respondent states that the TEG (Tri Ethylene Glycol) process is used worldwide for natural gas dehydration. This is a best industry process that is used to remove water vapors from the natural gas. Herein, the entire set up is referred to as Gas Dehydration Unit (GDU) and it is a closed unit without any possibility of leakage. Natural gas obtained from the wells contain water vapor which need to be removed to prevent corrosion of equipment and pipelines. Under the TEG (Tri Ethylene Glycol) process, to remove water vapor from natural gas, a chemical (in liquid form) called, TEG(Tri Ethylene Glycol) is fed into the natural gas chambers. The TEG liquid absorbs water vapors from the natural gas and becomes wet TEG.	TEG does not escapes with water vapour during the Knocking out process. The photograph showing the GDU without any vapour emission is filed as **Annexure-26**. Hence, ONGC is following the Joint Committee's observation that TEG is not escaped to atmosphere.

			Thereafter, the wet TEG (TEG absorbed with water vapor) is sent to a re-boiler system. Upon heating the re-boiler system at 200 deg Celcius, the water vapor gets separated from the TEG and is let out. This phenomenon is referred to as Knocking out. It is to be noted that the the boiling point of TEG is 240 deg Celcius, i.e only at 240 deg Celcius, TEG can transform from liquid state to gaseous state and at 200 deg Celcius, therefore the TEG remains as liquid and cannot escape as a vapor during Knocking out process.	
14	Para 4.a.i.g Pg. 17	There was odour nuisance in the area.	The Respondent submits that there is no complaint received from the nearby villages for odour nuisance. Also, it is important to note that 35% of the total area of the Tatipaka complex is earmarked with green belt so as to arrest any odour nuisance.	ONGC is maintaining its unit without odour nuisance and hence the Joint's Committee's suggestions have been complied.
15	Para 4.a.ii. Pg 19	From table 5b, based on effluent results it is concluded that the unit is meeting the standards w.r.t deep well injection. In the borewell samples, benzene, TPH, O&G and phenols are below detection limit. Since the key indicator parameters are not present in the borewell water samples, based on the current analysis report the committee opines that ground water surrounding Tatipaka GCS and refinery is not contaminated.	The Committee has positively observed that the deep well injections are done correctly and there is no ground water contamination.	Committee has observed that there is no ground water contamination due to ONGC's operations.
16	Para 4.a.iii Pg. 20	During the first round of monitoring it was observed that the unit was complying with ambient air quality standards w.r.t all	Benzene is a constituent of Crude oil and Petroleum products produced in refineries and of course ONGC's main business is Exploration and	With confirmance to the Joint Committee's report, ONGC is maintaining the Benzene levels

		parameters except Benzene. The unit has taken corrective measures because of which during the second round of monitoring, the unit was, complying with ambient standards w.r,t Benzene also.	Production of hydrocarbons. Regarding the Benzene content in ambient air, a relevant study conducted and published by Central Pollution Control Board (CPCB) in its newsletter called "Parivesh" filed as **ANNEXURE- 27** states that crude oil contains 4-5% Benzene and its homologues (~40000-50000 ppm). Further there is every chance of Benzene release in to the environment while handling petroleum and its products as brought by CPCB in its report. As recognized by the committee in its report at para nos. 4.a.i and 4.c.i.3, there were heavy rains during the committee's first visit in the month of December 2020, which could be the reason of heavy rains containing traces of crude oil and thereby leading to the reason for high Benzene content in the Tatipaka Refinery Area. Evidently, during the second visit of the Committee, the level of Benzene has reduced significantly. Benzene Levels are naturally varying in the areas of Petroleum Pumps, and in the instant case where the industry is such of refining the petroleum and petroleum products in Tatipaka Complex, ONGC and considering the nature of the industry, the levels do vary. However, the Average Benzene content during first round monitoring in Tatipaka was 964.5g/m3 which was well within OSHA exposure limit of 1622g/m3 and plant operations area cannot be compared with ambient air quality standards.	within the prescribed limits.

17	Para. 4.a.iv Pg. 20	Crude furnace stack was monitored during December 2020. From the results it is observed that the unit is complying with stack monitoring results.	Tatipaka Unit has complied with stack emission norms.	With confirmance to the Joint Committee's report, ONGC is maintaining the stack emissions.
18	Para no. 4.a.v. Pg. 21	The committee monitored ambient noise levels both during day time and night time. From the noise monitoring, it is observed that the unit is complying with ambient air quality standards w.r.t. noise. From the Ambient noise monitoring, the Noise level at the premises at 4-locations, was monitored and was reported that the noise level was within the permissible limits of 75db	Hence, as per the Joint Committee's report there is no noise pollution.	With confirmance to the Joint Committee's report, ONGC does not cause any noise pollution.
19	Para no. 4.a.v. Pg. 21	After analysis of soil samples collected from the nearby villages, reported in its report at that there is no soil pollution.	Hence, as per the Joint Committee's report there is no soil pollution.	With confirmance to the Joint Committee's report, ONGC does not cause any soil pollution.
20	Para no. 4.a.v. Pg. 21	Tatipaka unit is meeting the standards with resect to Deep Well Injection.	As per the Joint Committee's report, ONGC is meeting the standards with respect to Deep Well Injection.	With confirmance to the Joint Committee's report, ONGC is maintaining the standards with respect to Deep Well Injection.
21	Para no. 4.a.v. Pg. 21	Also it was reported that parameters of Benzene, TPH, O&G and phenol are below the detection limit in the bore water samples, thus opining that the ground water surrounding Tatipaka GCS refinery is not contaminated.	As per the Joint Committee's report, ground water surrounding Tatipaka GCS refinery is not contaminated.	With confirmance to the Joint Committee report, ONGC does not cause any ground water contamination.
22	Para no. 4.a.vi. Pg.21 & 22	It was observed that from the calculation of environmental compensation from Tatipaka refinery, the Committee has	The Respondent states that the TEG dehydration system leading to knock out of moisture along with glycol vapours doesnot cause emission of	In the light of the Respondent's submissions and evidences that the TEG dehydration system is not a major source for

		stated in its report as follows: *"Date of non-compliance: The unit has installed TEG dehydration system during November, 2015 without recovering glycol vapors from moisture and the moisture was knocked out which was one of the major source of benzene. Post 2015, the unit has not amended the consent for the actual quantity of effluent generated. Present ETP is not aaequate in terms of capacity to treat the actual effluent generated. The unit has not maintained any records for hazardous waste disposed. During first round of monitoring ambient benzene was in the range of 92 to 2051 µg/m3 against the standard limit of 05 µg/m3. Considering these points the date of non- compliance is considered from 01.11.2015."* The Environmental compensation has been calculated as Rs.7,28,62,500/- taking the date of non-compliance as November, 2015, during which the TEG gas dehydration system was installed at the Tatipaka facility. The same is stated in the Committee's report at page no. 22 as follows: *"TEG gas dehydration is installed during November, 2015 post accident at M/s. GAIL facility due to which the glycol vapors are let out into*	benzene. The introduction of TEG dehydration system is for the purpose of removing water vapour from the natural gas. The TEG used in dehydration of natural gas and benzene are completely different and are having different structural formula. And therefore the finding that concentration of benzene due to TEG dehydration system is not factualy true. It is a best industry practice in the oil industries to adapt the TEG based dehydration system. Also, it is a robust system accepted and followed world wide. Accordingly, the Respondent has introduced and currently using the TEG dehydration system. Benzene is a constituent of Crude oil and petroleum products produced in refineries and of course ONGC's main business is Extraction & Production of hydrocarbons.	Benzene in the Tatipaka complex; that the present ETP at Tatipaka complex is adequate enough to treat the actual effluents generated and that the unit is maintaining proper procedure and standards in disposing off the hazardous waste, this Hon'ble Tribunal may be pleased to dismiss the Environment Compensation calculated by the Committee for Tatipaka GCS.

		environment while knocking out moisture. At Tatipaka facility this is one of the main source of ambient Benzene. Hence for assessment of violation, date is taken as 01.11.2015"		
KESANAPALLI GGS				
23	Para no. 4.b.i.1. Pg. 22	Effluent is getting mixed with storm water and storm water is getting discharged into main drain outside the unit premises. In addition the leaves and garden waste is in the drain and getting putrefied in the drain itself.	During the rainy season, drains are water logged at Kesanapalli GGS due to falling of leaves from nearby trees. These drains are being cleaned periodically. The leaves and garden waste in the storm water drain has been cleaned. The leaves and garden waste in the storm water drain is cleaned and its photograph is filed as **Annexure- 29**.	The Respondent states that the effluents are treated in a closed system called Effluent Treatment Plants (ETP) and there is no possibility for the effluents to get mixed with the storm water drains. However, as an additional precaution, Oil catchers will also be constructed and is under the Tendering process. As per the Joint Committeee's suggestions, ONGC is periodically cleaning the storm water drains; the leaves and garden wastes are cleaned. Hence the observations were compiled by the Respondent.
24	Para 4.b.i.1. Pg. 22	pH (pH is a measure of how acidic/basic water is) of the storm water was 12.	The Respondent submits that the recent Test Report of pH analysis of Storm water drains at Kesanapalli GGS on 09.12.2020 reflects that the pH of the storm water drain was 7.84 and the same is filed as **Annexure- 28.**	Thus, the Respondent has compiled with maintaining the pH of the storm water drains.
25	Para 4.b.i.2 Pg. 22	The effluent stored in treated effluent sump was red in color and pH was more than 12.	The Respondent states that the painter has mistakenly poured the waste water into the treated effluent sump after cleaning the paint brush, which was unknowingly done by	Hence, the Respondent has compiled with cleaning the valve pit.

			him. The valve pit is cleaned immediately and now it is clear. The photographs of before and after cleaning of the said sump is filed as **Annexure- 30.**	
26	Para 4.b.i.3. Pg. 23	There is no dedicated hazardous waste storage sheds.	In compliance to Committee's observations, dedicated sheds have been constructed for storage of Hazardous waste such as Lube Oil and batteries. Photograph of the same is filed as **Annexure- 31.**	Thus, the Respondent has compiled with the construction of sheds dedicated for storage of hazardous wastes.
27	Para 4.b.i.4 Pg. 23	The unit was disposing the effluent by means of marine disposal but however the unit has not obtained necessary permissions from APPCB for marine disposal. Further, part of the pipeline used for deep sea disposal (1000m stretch of pipeline taking deep sea) is broken and washed away. Presently the unit is disposing the effluent in the coast.	ONGC has the CFE and Approval of CRZ for the Kesanapalli ETP capacity to treat its effluents and for marine disposal. The initial Marine disposal pipeline was laid after applying and paying the requisite additional infrastructure fee though Auto Renewal Mode. However, some part of the Marine Disposal pipeline was broken and washed way due to high tides East Coast of Bay of Bengal and therefore, the works for laying the new pipeline where the pipeline got broken and washed away is being replaced and the works are in progress and expected to be completed by Feb'2022, considering the fair weather window of East Coast of Bay of Bengal	The ONGC has the necessary CFO and ETP capacities to treat its effluents and it is pertinent to note that that the Auto-Renewed CFOs does not mention the exact quantity. The initial Marine disposal pipeline was laid after applying and paying the requisite additional infrastructure fee though Auto Renewal Mode. However, some part of the Marine Disposal pipeline was broken and washed way due to high tides East Coast of Bay of Bengal and therefore, the works for laying the new pipeline where the pipeline got broken and washed away is being replaced and the works are in progress and expected to be completed by Feb'2022, considering the fair weather window of East Coast of Bay of Bengal. As a short-term measure, 8" Casing pipe about 50-60

				m was hooked up with flexible joint at GRE dislocation point for the safe disposal of the produced water after the treatment as per pollution control board norms. However, this is a temporary arrangement made till permanent line is laid. Meanwhile, created temporary provision for facilitating disposal of New ETP treated effluent to old ETP deep wells injection for minimizing the marine disposal system. The quantity of treated effluent quantity by marine disposal near the coast has been substantially reduced by treating the effluent in the effluent disposal wells at a depth of more than 1000 meters.
28	Para 4.b.i.4 Pg. 23	The unit had obtained CRZ clearance for laying of pipelines.	The CRZ Clearance dated 11.08.2016 was issued by the Ministry of Environment, Forest and Climate Change, which is a consent for laying of pipelines for marine disposal of effluents at Kesanapalli GGS.	Hence, ONGC has the necessary CRZ clearance for laying pipelines for marine disposal.
29	Para 4.b.i.5. Pg. 23	Water logging was observed at the entrance of the unit.	Water logging observed was due to the heavy rainfall in the are during the Joint Committee's visit. The entire area near the entrance gate was cleaned; the said area was levelled and grass is being grown in the area. Photographs showing clean entrance area- **Annexure 49.**	In conformance to the Joint Committee's suggestion, ONGC cleaned the entire area near the entrance gate. Hence Compiled.
30	Para 4.b.i.6 Pg.23	In the ETP area, the unit had covered with fresh soil. The committee excavated the portion of the soil and found that black oily soil was present below upto depth of	The Respondent submits that oil soaked soil which was found during digging was removed and dumped in sludge pit for bio-remediation. Now, the area has been covered with fresh soil.	In conformance to the Joint Committee's suggestion, the Respondent has compiled with the above said observations.

		1m. On enquiring it was informed that there was oil spill and the unit had covered with fresh soil.	Photograph showing the removal of oil- soaked soil is filed as **Annexure-50**.	Hence compiled.
31	Para 4.b.i.7. Pg. 23	Opposite to new ETP boundary wall, waste oil & sludge is dumped on land to an extent of two to three acre and that two to three acres.	The Respondent submits that the two to three acres of land is a low laying area and so the water gets logged opposite to ETP. Now the area is levelled; water logging was cleared and the entire area was cleaned. Photograph showing the cleaned area opposite to new ETP boundary wall is filed as **Annexure-51**.	As stated in the Joint Committee's report, the water logging was cleared and the entire area was cleaned. Hence compiled.
32	Para 4.b.ii. Pg. 25	From the ground water results it is understood the ground water is not contaminated due to activities of M/s ONGC and M/s GAIL. It was reported that the ground water was analysed in and around the Kesanapalli ETP and it was concluded based on the analysis results that the ground water was not contaminated.	The Respondent submits that Ground water was not contaminated and has been confirmed by the Joint Committee in its report.	With confirmance to the Joint Committee's observations, ONGC does not cause any ground water contamination.
33	Para 4.b.ii Pg. 26	It was observed that the effluents from the Kesanapalli GGS are analysed and were sent into deep well ejection. Effluent samples are complying with the deep well standards.	The Respondent submits that Deep well injections are carried out properly and the effluents are complying with the deep well standards.	With confirmance to the Joint Committee's observations, ONGC is complying with the deep well standards.
34	Para 4.b.iii Pg. 27	In around 5 acres of land opposite to DG room, the effluent & sludge is accumulated. From the sediment sampling it was learnt that mercury is present in the range of 201 mg/Kg.	The Respondent states that after cleaning the area opposite to the DG room and after removal of water logging, growth of trees is visible in the area. The photograph showing growth of trees in the said area is filed as **Annexure- 52**. The Respondent further states that the Environmental Monitoring Report of Kesanapalli Complex	Hence, ONGC has cleared the effluent and sludge accumulated opposite to DG room and is maintaining the mercury level at Below the Limit of Quantitation (BLQ).

			dated 21.11.2020 submitted by Hubert Enviro Care Systems Pvt Ltd. Shows that the mercury level is BLQ (Below the Limit of Quantitation). The Environmental Monitoring Report is filed as **Annexure-53.**	
35	Para 4.b.iii. Pg. 27	The unit shall dismantle the abandoned sump present in the Kesanapalli GGS and that the effluent present in the sump shall be treated properly in ETP and after complying with APPCB discharge standards shall be disposed as per condition stipulated in CFO.	The Respondent has compiled with the committee's observation that the effluent present in abandoned sump was emptied by treating the effluent as per the APPCB discharge standards. The sump is isolated and dismantled now and it is kept only for the purpose of rain water harvesting. The photograph showing isolated and dismantled sump is filed as **Annexure-54.**	Hence, the Joint Committee's observations were been complied.
36	Para 4.b.iii Pg. 27	The committee observed that naturally the beach sand in kesanapalli area is having high iron content due to which the colour of the beach sand is slightly black.	The Respondent submits that the beach soil is black due to the rich iron content and not because of any soil pollution.	Hence, the Committee has confirmed that the black colour of beach soil has nothing to do with ONGC's operations.
37.	Para 4.b.iv. Pg. 28	The Committee in its report stated that for calculation of Environmental Compensation, The unit was not granted permission by APPCB for deep sea disposal. As per CFO issued by APPCB, treated effluent has to be disposed by deep well injection. As per records, unit is disposing effluent by sea disposal since february, 2018 hence date of non-compliance is taken as 25.02.2018 to 25.02.2021 =1096 days (after 25.02.2021, APPCB may levy additional compensation till compliance is achieved.	Kesanapalli- Marine disposal unit has the necessary permissions for its operation and has a valid CFO (Consent for operation) and CFE (Consent for Establishment). Hence this Hon'ble Tribunal may be pleased to dismiss the Environment Compensation calculated by the Committee for Kesanapalli GGS.	The ONGC has the necessary CFO and ETP capacities to treat its effluents and it is pertinent to note that that the Auto-Renewed CFOs does not mention the exact quantity. The initial Marine disposal pipeline was laid after applying and paying the requisite additional infrastructure fee though Auto Renewal Mode. However, some part of the Marine Disposal pipeline was broken and washed way due to high tides East Coast of Bay of

		EC= Rs. 4,11,00,000/-		Bengal and therefore, the works for laying the new pipeline where the pipeline got broken and washed away is being replaced and the works are in progress and expected to be completed by Feb'2022, considering the fair weather window of East Coast of Bay of Bengal. As a short-term measure, 8" Casing pipe about 50~60 m was hooked up with flexible joint at GRE dislocation point for the safe disposal of the produced water after the treatment as per pollution control board norms. However, this is a temporary arrangement made till permanent line is laid. Meanwhile, created temporary provision for facilitating disposal of New ETP treated effluent to old ETP deep wells injection for minimizing the marine disposal system. The quantity of treated effluent quantity by marine disposal near the coast has been substantially reduced by treating the effluent in the effluent disposal wells at a depth of more than 1000 meters. Hence the Hon'ble Tribunal may be pleased to dismiss the Environmental Compensation.
ODALAREVU PLANT				
38.	Para 4.c.i.1.	The committee observed that ETP is	The Respondent submits that the ETP is functioning properly.	The ETP may not be function during the Joint Committee's

	Pg. 28	not functioning properly.	The ETP is operated in batches depending upon the load to ETP. It is important to note that Odalarevu is a small refinery unit that has a capacity of 60 KLD per day of effluents to be treated in its ETP. The said data is also given at Table 1.a. of the Committee's Report. As stated in the Joint Committee's report, Various Parameters of the effluents treated at ETP from 2017 to 2021 is filed as **Annexure- 55.** The elaborate details about the quantity of effluents treated at Odalarevu ETP along with their parameters from the year 2017 to 2021, proves that the ETP in Odalarevu is very much in operation. The valid Consent for Operation and Consent for Establishment obtained by the Odalarevu is filed as **Annexures- 56 to 60**.	visit when the load was very low. But the ETP is very much in operation and all necessary CFO and CFE are available for functioning of ETP in Odalarevu.
39.	Para 4.c.i.1. Pg. 28	Oil is removed from slop oil tank, the effluent is stored in holding ponds.	The Respondent submits that a settling tank has been added to the ETP process on 28.06.2018 to increase the settling time for efficient separation. In conformance to the Joint Committee's report, Notice of Award placed for hook up of the 70 m3 settling tank in pursuit of the improvement is filed as **Annexure- 61.** The Respondent further adds that there exists a three step process before the water is transferred to holding ponds to ensures efficient oil separation.	Hence, the observations made by the committee was compiled.
40	Para 4.c.i.1. Pg. 28	Multimedia filters were not in operation on the day of the visit.	The Respondent states that multimedia filters were not in operation during the Committee's visit because the ETP is run intermittently depending on the load.	Hence, Multimedia filters are in operation and were not in use during Committee's visit because of no load.

41	Para 4.c.i.1. Pg. 28	Effluent is disposed on the ground without treatment.	The Respondent states that ONGC is ensuring that the effluent is treated before being injected to the Effluent Disposal (ED) wells. Treated Effluent is being injected below 1000m in ED (Effluent disposal) wells and the quality is maintained as per APPCB standards. Effluent water is not disposed on the ground. Standard being followed as in the case of re-injection in abandoned well, the effluent have to comply only with respect to suspended solids and oil and grease at 100 mg/l and 10 mg/l, respectively. In conformance to the Joint Committee's suggestions, various Parameters of the effluents treated at ETP from 2017 to 2021 is filed as **Annexure- 55**	Hence ONGC is not disposing the effluent on ground without treatment and the observations by the committee are complied.
42	Para 4.c.i.2 Pg. 28	Severe odour nuisance and VOC (volatile organic compounds) levels inside unit premises was varying from 4.0 ppm to 6.0 ppm when measured using handheld PID (photo ionic detector) analyzer.	The Respondent submits that the ambient air quality is being tested regularly by M/s SV Enviro Labs & Consultants, Visakhapatnam, a NABL & NABET accredited Laboratory recognized by MOEF & CC, Govt. of India, New Delhi. The results are complying to the standards of APPCB. It is pertinent to note that the VOC levels in the first round of VOC (volatile organic compounds) monitoring by NGT committee is 0.122 ppm against the 0.1 ppm of LOQ (level of quantification). However, VOC levels are found to be BLQ (Below level of quantification) in the Second round of VOC monitoring. Ambient air quality test reports dated 07.01.2021 is filed as **Annexure- 62**	Thus, the observations made by the committee are complied.

43	Para 4.c.i.3. Pg. 29	During the visit, there were rains and water logging was observed in the area. Both effluent mixed with storm water was present in the unlined lagoon in more than 10acres of land between M/s GAIL and M/s ONGC terminals. The pH of the lagoon Water was around 5.	The Respondent submits that the water logging in the low lying area within the installation during the Committee visit was due to unprecedented rains before the Committee visit. Separate CRWS (Contaminated Rain water system) system is in place to treat rain water from process area. MEG barrels were placed near the referred lagoon having an area of 1.25 acres (not 10 Acres) during construction activities. Unintended and inadvertent leakage of one of the barrel of MEG in the area might have resulted into low pH value in the sample. The same has been rectified and care will be taken to ensure such instances do not occur in the future. A photograph of the CRWS at Odalarevu plant is filed as **Annexure- 63**. The photograph showing removal of MEG barrels and no water logging in the area is filed as **Annexure- 64**.	Thus, the Respondent has complied with the observations made by the Committee.
44	Para 4.c.i.4. Pg. 29	The storm water drains are completely clogged and were filled with thick oily sludge	The storm water drains were clogged due to growth of vegetation in storm water drain and not due to oily sludge. The storm water drains are being cleaned periodically in a phase wise manner to remove the vegetation. In conformance to the Joint Committee's Report, the photograph showing vegetation in storm water drain and the cleaning of storm water drain is filed as **Annexure- 65.** Moreover the Committee also observed the growth of healthy fishes in the channels.	Thus, the Respondent has complied with the observations made by the Committee.

			Thus, the Respondent has complied with the observations made by the Committee.	
45	Para 4.c.I.5 Pg. 29	The unit is facing water logging issues since 2017.	The Respondent submits that steps have been taken to clear the water logging. The work order dated 03.04.2019 issued by ONGC for cleaning of storm water drains near Odalarevu GGS is filed as **Annexure- 67.** The payment for contract work for cleaning of storm water drains near Odalarevu GGS is filed as **Annexure- 68.**	Thus, the Respondent has complied with the observations made by the Committee.
46	Para 4.c.i.5 Pg. 29	Reported that ETP is not properly working since 2017 and the unit is yet to replace worn out pumps.	The Respondent states that during the Committee's inspection, in-house repair of ETP pumps was in process and the operation with standby pump was continuing due to low load. Additional new ETP will be commissioned shortly which will replace the existing ETP. However, ONGC followed the observations of the Committee and the existing ETP pumps were serviced and painted to control corrosion. The Respondent submits that the photographs are filed as **Annexure- 66**.	ETP is meeting the requirements of injection into abandoned wells as brought out in the Committee Report and is working properly. Also, the existing ETP pumps were serviced and painted to control corrosion. Hence, the observations by the Committee was compiled.
47	Pg. 31	The raw effluent is having benzene in the range of 603micro gram/L to 1159 micro gram/L. Benzene being volatile in nature escapes intot he atmosphere when effluent is stored in holding tanks.	The Respondent complied with the Joint Committee's observation and Benzene levels are BLQ (Below Level of Quantification) during the second visit at February, 2021.	Hence, the observations by the Committee was compiled.
48	Pg. 31	The treated effluent is meeting the standards with respect to deep well injection	Based on the Joint Committee's report the treated effluent is meeting the standards with respect to deep well injection	With conformance by the Committee, the unit is meeting the standards with respect to deep well injection.
49	Pg. 31	The samples are collected from main storm water drain outside the unit	The Respondent submits that samples are not contaminated with effluents.	With conformance by the Committee, the unit is not

		premises and found that it is not contaminated with effluent.		contaminated with effluent.
50	Pg. 31	The installation is located very close to the sea and there were no bore well near the installation hence committee could not conduct ground water sampling.	--	--
52	Para 4.c.v. Pg. 32	From the sediment analysis results of the report, it is observed that sediment samples Odalarevu ETP and near sludge storage tank is not contaminated.	It is pertinent to say that the sediment samples of Odalarevu are not contaminated.	With conformance by the Committee, the unit is not contaminated with effluent.
53	Para 4.c.ii Pg. 29	It was observed in the report about the non-compliances observed in M/s GAIL terminal such as Pigging operations are carried out once in six months to remove the waste deposited in pipelines and that the pigging waste are hazardous in nature; that the unit is storing the waste in open near to the pipelines.	The Respondent submits that the said observations were related to M/s. GAIL and ONGC has no comments to make. ONGC is also maintaining the cleanliness of storm water drain. Work order dated 03.04.2019 issued by ONGC for cleaning of storm water drains near Odalarevu GGS is filed as **Annexure- 67** and the payment for contract work for cleaning of storm water drains near Odalarevu GGS is filed as **Annexure- 68.**	ONGC is also maintaining the cleanliness of storm water drain.
54	Para 4.c.vii Pg. 32	The Committee has calculated the Environmental Compensation as Rs. 5,68,50,000/- based on violation of CFO (Consent for Operate) conditions, sea disposal without obtaining permission from APPCB and that the ETP is not working since 2017. The Respondent denies all these allegations based on which the Environmental Compensation has been calculated.	The Respondent submits that sea disposal of effluents is not carried out in Odalarevu and the Committee's calculation of Environmental Compensation based on sea disposal of effluents is erroneous and baseless. The CFO conditions are not violated. CFO for Odalarevu plant was obtained for Sub Surface Disposal of the treated effluent water into effluent disposal wells for Odalarevu Onshore Terminal. Odalarevu Onshore terminal has strictly adhered to the CFO conditions laid down by APPCB. The	In the light of the above mentioned fact that ONGC Odalarevu Onshore Terminal has always been operating in line with the norms and conditions laid down by CPCB/APPCB in its efforts for environmental protection. It is reassured that ONGC Odalarevu Onshore Terminal is neither contributing towards the pollution of environment nor contributing to any kind of undesired emissions. Therefore, the

			parameters required for sub surface disposal are always achieved and is being demonstrated even during the Committee visit and periodical APPCB visits and their samples collection. Proper documentation on this is also maintained. The ETP is functioning properly and is operated in batches depending upon load to ETP. Since the effluent generation was less, running the ETP for 10 hrs - 13 hrs a day shall suffice the requirement. The ETP was not running during the Committee visit because of the low load. The Committee collected water & sediment samples, conducted ambient air quality monitoring during December, 2020 and carried out exclusive ambient VOC monitoring during February, 2021. VOC levels are found to be BLQ (Below level of Quantification) in VOC monitoring. The same is also been indicated in the Annexure-IVb of the Committee Report. Thus it may be seen that due care and caution is being exercised in controlling water pollution.	Hon'ble tribunal may dismiss the Environmental Compensation calculated by the Committee.

CONCLUSIONS AND RECOMMENDATIONS GIVEN BY THE COMMITTEE:

The recommendations made by the Committee were suitably addressed by this Respondent and appropriate compliances were carried out accordingly. The following table sets out the Committee's recommendations and the respective compliances/action carried out by the Respondent:

S.No	COMMITTEE'S RECOMMENDATIONS	ONGC'S COMPLIANCE
1.	The design life period of pipes are 20 years. In KG basin, CTE pipelines older than 30 years are still in use. The unit shall prepare guidelines or time frame for replacement of old pipelines. Very Old CTE coated pipes may be replaced with 3 LPE pre-coated pipes.	Out of total 989km pipe line present as on date in Rajahmundry asset, 600km pipe line having life of less than 10 years and remaining pipe line of 350 km having life of less than 20 years. None of the pipe line with more than 20 years of life were in use. **Annexure- 5** filed in the typed set of papers provides the details of pipeline replacement carried out by ONGC in the Rajahmundry Asset from the year 2010 to 2021. The Respondent has a Standard Operating Procedure (SOP) dated 24.12.2014 for Onshore Pipelines and the extract of the same is filed as **Annexure-4.** Every year, there is plan of the replacement of the pipe line. Measures in place for upkeep of pipelines are as follows: 1. Use of corrosion inhibitors to mitigate internal corrosion of pipelines 2. Installation of Gravel packing and sand filters in the sand bearing gas wells to mitigate sand incursion and prevent internal leakage due to sand abrasion. 3. Periodic hydro testing of pipelines to check the integrity of pipelines. 4. Identification and systematic replacement of old and vulnerable pipelines. 5. Ultrasonic thickness measurement of 235 KM length had been done to assess the integrity of pipelines. 6. Use of Hi-lo Safety valves on high pressure wells and monitoring of gas flow rates using automatic SCADA measurement at GCS The Respondent is regularly checking the conditions of the pipelines. The **Annexure- 69** is a Certificate dated 04.09.2019 issued by ONGC to M/s. Sanmarg projects Pvt Ltd for conducting Corrosion survey at Rajahmundry Asset. Hence complied.
2.	Presently nine out of 20 flowing wells are provided with gravel pack to minimize sand entrainment. The unit shall provide gravel pack near the perforation to all flowing wells to reduce entrainment of sand in pipelines thereby reduce the chances of pipeline leakage.	ONGC gives high priority for safety and within a very low span of time, they performed the root cause analysis of the reasons behind leakages. Mainly during this study the main reasons for pipeline failure whether it was external corrosion or internal erosion was confirmed through severe analysis of data. In this analysis, failure samples were collected carefully and sent to IEOT, Panvel where after analysis it was found that the pipe lines were being severely damaged internally due to sand erosion. This initiative was very fruitful and helped a lot in redesigning their production methodology to exploit gas in this area in their future endeavours.

		It was after this analysis that they made several corrections in their production methodology like going for gravel/sand pack completions or installing sand traps near wells, etc., to prevent sand production from the reservoir. Moreover after re-engineering their production methodology in order to mitigate sand production, their engineers have divided all the producing wells in to 2 categories as mentioned below: 1. High productive wells: These are the wells with FTHP around 1100 psi and above with gas production rate more than 25000 SCMD. All High productive wells are being completely installed with GP kits to ensure complete control over the sand production from the reservoir to the surface through well tubing. The gravel packs are provided in the wells having abnormally high sand production. Based on the sand production quantity, the gravel pack was provided in 9 out of 20 wells of Keavdespalam. 2. Low producing wells: these are the wells with FTHP's fairly ranging below 900 psi and have a gas production rate of less than 20000 SCMD. Basic data analysis done across many reservoir around the world indicate that, these type of well have very less chances of producing sand. Surface Sand traps are installed to control sand production from these wells. Hence based on scientific analysis, the gravel pack jobs are executed as it also involves deployment of work over rig to installation of gravel pack in well bore. Hence complied.
3.	M/s ONGC and M/s GAIL in KG basin are more focused on production and extraction of oil & gas which is essentially required for the development but the environmental aspects and pollution mitigation measures within their premises are not much focused. The effluent treatment plants are not properly operated, hazardous wastes such as ETP sludge, slop oil is not disposed as per Hazardous Waste and Management Rules, high fugitive benzene emissions, not complying with APPCB CFO conditions and CRZ violation w.r.t Kesanapalli marine disposal. On verification of records the committee observed that any leakages or accident outside the unit premises in farmers land is immediately attended	ONGC is concerned with the environmental aspects and pollution mitigation measures. The Effluent treatment plants are operated at optimum level and corrective measure such as timely revamping/ repairs are taken up so as to maintain the quality of treated effluent water before its disposal in the wells at a depth of more than 1000 meters. 5 no's of ETP's at various location are spread across East Godavari, West Godavari & Krishna District. All the 5 ETPS are capable of handling the effluent produced from the oil & gas producer wells, bringing the parameters upto permissible limits prior to dispatch to effluent disposal wells. Out of 5 ETPs, the outlet line of 4 ETP's are connected directly to effluent disposal wells, whereas only 1 ETP i.e. Kesinapally ETP is having the provision to release of effluent into Bay of Bengal, which is monitored on round the clock basis. Prior to dispatch, the quality parameters of ETP are maintained as per the Pollution Control Board Standards. As per paras 4.a. ii and 4.b.ii of the Committee's report, the results of Water and wastewater analysis at Tatiapaka & Kesanapalli-w GGS were

	and addressed within 24 hours (all minor pinhole leakages are closed with 24hrs) and the unit has taken measures to restore the area as so to prevent any public outcry.	analysed by the Committee. The committee collected treated effluent and effluent from guard ponds to ascertain whether unit is treating the effluent or not. The committee has reported that from table 5b, based on effluent results it was concluded that the unit is meeting the standards w.r.t deep well injection. Similarly, at Table 6b: Analysis results of effluent samples collected in Kesanapalli shows that the units are complying with deep injection well standard. Further the committee stated in its report that in the borewell samples collected, the level of benzene, TPH, O&G and phenols are below detection limit. Since the key indicator parameters are not present in the borewell water samples, the committee opines that ground water surrounding Tatipaka GCS and refinery is not contaminated. As per para 4.a. iv of the committee report, it was concluded that the unit is complying with stack monitoring results. A per para 4.a. v of the committee report, it was observed that the unit is complying with ambient air quality standards w.r.t noise. Committee has given a positive note on the leakages that any leakages or accident outside the unit premises in farmers land are immediately attended and addressed within 24 hours. Hence complied.
4.	It is observed that while knocking out moisture in gas dehydration system using tertiary ethylene glycol, glycol vapors are escaping with moisture and to ensure that moisture from gas dehydration- TEG unit is collected separately treated so as to remove the glycol vapours and then moisture is let into atmosphere. In no case the unit shall knock out the untreated moisture containing glycol vapours into the atmosphere.	The gas dehydration units in production installations are basically very small units (i.e. 1-2 Lakh Standard Cubic Metre/day) as against the conventional units of 20-30 LSCM/day. As per established engineering practices, based on size, only conventional units have the provision of reflux condenser. Hence small units do not have a provision of reflux condenser. The TEG process is used worldwide for natural gas dehydration process. Boiling point of TEG is 240 deg C. It cannot form vapors at 200 deg C. During, the TEG regeneration cycle, only moisture can escape from the Reboiler vent at 200 deg C from Rich TEG. Natural gas obtained from the wells contain water vapor which need to be removed to prevent corrosion of equipment and pipelines. Under the TEG (Tri Ethylene Glycol) process, to remove water vapor from natural gas, a chemical (in liquid form) called, TEG(Tri Ethylene Glycol) is fed into the natural gas chambers. The TEG liquid absorbs water vapors from the natural gas and becomes wet TEG. Thereafter, the wet TEG (TEG absorbed with water vapor) is sent to a re-boiler system. Upon heating the re-boiler system at 200 deg Celcius, the water vapor gets separated from the TEG and is let out. This phenomenon is referred to as Knocking out. It is to be noted that the boiling

		point of TEG is 240 deg Celcius, i.e only at 240 deg Celcius, TEG can transform from liquid state to gaseous state and at 200 deg Celcius, therefore the TEG remains as liquid and cannot escape as a vapor during Knocking out process. Hence the unit is not knocking out untreated moisture with glycol into the atmosphere. Hence complied.
5.	The unit has dumped the ETP sludge within its premises, oil spill inside the premises is not cleaned up, and effluent is getting mixed with storm water, ambient benzene in the unit premises is very high, Leak Detection and Repair (LDAR) is not carried out. But however, the committee observed that the unit has not dumped any waste outside its premises.	The ETP sludge is stored in the designated and isolated sludge drying bed inside the installation. In conformance to the Joint Committee's suggestions, TERI (The Energy and Resources India) is in communication with the Respondent for a project on bio- remediation of the oily sludge and oil contaminated soil obtained from the refineries. The project proposal dated 17.02.2021 from TERI to ONGC for the Bio- Remediation process of sludge is attached as **Annexure- 18.** Periodic cleaning of drains is taken up to improve the house keeping. A recent Quality Analysis Test Report of Storm water drains at Tatipaka, GGS conducted by Hubert Enviro Care Systems Pvt Ltd for the period from January to June, 2021 is filed as **Annexure- 24.** The leaves and garden waste in the storm water drain in Kesanapalli GCS is cleaned and its photograph is filed as **Annexure- 29**. Indent was given to civil section of the Kesanapalli GCS to construct Oil catchers at New ETP area, Old ETP area, Tank Farm area and entrance gate. By this the effluent will not be mixed with storm water. The Respondent complied with the Joint Committee's observation and Benzene levels are BLQ (Below Level of Quantification) during the second visit at February, 2021. The Committee has also observed that the unit has not dumped any waste outside its premises. Hence complied with the Committee's observations.
6.	Around five acres of land in Kesanapalli GGS is probably contaminated with mercury. The committee submits to Hon'ble NGT to direct unit to clean & restore the probably contaminated area under supervision of APPCB as per procedure laid in the "Guidance document on Assessment and remediation of contaminated sites" .	After cleaning the area opposite to the ETP area; total water logging is removed and earth cleaning was done, Growth of trees visible in the area and the photograph of the same is filed as **Annexure-52.** The Respondent further states that the Environmental Monitoring Report of Kesanapalli Complex dated 21.11.2020 submitted by Hubert Enviro Care Systems Pvt Ltd. Shows that the mercury level is BLQ (Below the Limit of Quantitation). The Environmental Monitoring Report is filed as **Annexure-53.** Hence, ONGC has complied with the Committee's observations.
7.	Kesanapalli GGS shall immediately stop disposal of	The ONGC has the necessary CFO and ETP capacities to treat its effluents and it is pertinent

	treated effluent by marine outfall near the coast and dispose the treated effluent as per the conditions stipulated in CFO issued by APPCB.	to note that that the Auto-Renewed CFOs does not mention the exact quantity details which has created an impression that ONGC does not have the necessary CFOs. The marine disposal of treated effluents at Kesanapalli takes place with proper consent orders obtained from the APPCB. Also, the photograph filed as **Annexure- 70** shows the modifications done to the ETP for Marine disposal. As observed by the committee, the Marine disposal GRE pipeline at Kesanapalli-w got washed away due to rough sea conditions/ high tide occurring frequently at Bay of Bengal. As a short-term measure, 8" Casing pipe about 50-60 m was hooked up with flexible joint at GRE dislocation point for the safe disposal of the produced water after the treatment as per pollution control board norms. However, this is a temporary arrangement made till permanent line is laid. Tendering process has been completed and Notice of Award placed on 21.06.2021 **(Annexure- 71)** for installing new 1.5 km length of pipeline from shore to subsea and the works shall be completed within by Feb'2022, based on fair weather window in Bay of Bengal Sea. Meanwhile, created temporary provision for facilitating disposal of New ETP treated effluent to old ETP deep wells injection for minimizing the marine disposal system. The quantity of treated effluent quantity by marine disposal near the coast has been substantially reduced by treating the effluent in the effluent disposal wells at a depth of more than 1000 meters.
8.	During monsoon due to heavy rains and water logging, effluent is mixed with storm water due to which around three acres of land in Tatipaka near to old ETP and 10 acres of land in odalarevu in between GAIL and ONGC terminals is having high COD, bod and TOC. The unit shall ensure that effluent will not allowed to mix with storm water.	Suitable action is being taken to clean the storm water drainage system inside the Tatipaka installation and to see that oil is trapped in oil catchers provided in the storm water system. Water logging in the low-lying area within the installation observed during the Committee visit was due to unprecedented rains before the Committee visit. The entire area near the entrance gate was cleaned; the said area was levelled and grass is being grown in the area. Photographs showing clean entrance area- **Annexure 49.** Photograph showing the cleaned area opposite to new ETP boundary wall is filed as **Annexure-51**. Separate CRWS (Contaminated Rain water system) system is in place to treat rain water from process area. A photograph of the CRWS at Odalarevu plant is filed as **Annexure- 63**. MEG barrels were placed near the referred lagoon having an area of 1.25 acres (not 10 Acres) during construction activities. Unintended and inadvertent leakage of one of the barrel of MEG in the area might have resulted into low pH value in the sample. The same has been rectified and care will be taken to ensure such instances do not

		occur in the future. The photograph showing removal of MEG barrels and no water logging in the area is filed as **Annexure- 64**. Thus the Respondent has complied with the observations made by the Committee.
9.	The Committee carried out Ambient air quality monitoring in two installations namely Tatipaka and Odalarevu installations during December, 2020 for all notified parameters namely Sulphur Dioxide as SO2, Nitrogen Dioxide as NO2, particulate matter (PM10), particulate matter (PM2.5), ozone, lead, carbon monoxide, ammonia, benzene, Benzo(a) pyrene, arsenic, nickel and noise. Both installations are complying with ambient air quality standards w.r.t all parameters except Benzene. The ambient benzene concentration in the Tatipaka unit premises is ranging between 92 µg/ m3 to 2051 µg/ m3 and in odalarevu installation 68.8 µg/ m3 and 122 µg/ m3 against the ambient standard of 05 µg/ m3. One of the reason for high ambient benzene concentration within the unit premises may due to placing the monitoring station close to fugitive source. The unit submitted to the committee that it has undertaken corrective actions like arresting fugitive emissions etc. The committee again carried out ambient benzene monitoring both inside and outside the unit premises in the villages both upwind and cross-wind directions. The ambient benzene concentration in the villages in Tatipaka is ranging from 0.02 µg/ m3 to 0.48 µg/ m3 and within unit premises it is reduced to 0.1 µg/ m3. Both Tatipaka and odalarevu facilities shall install continuous ambient monitoring facility and VOC sensors within the unit premises and results shall be displayed at the entrance of	The VOC monitoring in installations by portable VOC meters has been started and efforts are being made to install continuous ambient monitoring facility as recommended by the committee. Sample VOC Monitoring reports obtained from Tatipak Complex and Kesanapalli Complex is filed as **Annexure- 72**. Hence complied.

	the unit for public and also the results shall be connected to APPCB server.	
10.	The committee observed during both the visits that the treatment plants are not properly operated and storm water drains are filled with sludge. Records on hazardous waste disposal was not shown to the committee. The ETP sludge and oily sludge from slop oil tank is stored in open. The unit has not taken any measures for the cleanup of sludge and storm water drains under the supervision of APPCB. The units shall ensure that the hazardous waste generated shall be disposed as per the conditions stipulated in CFO and in compliance with Hazardous Waste Management Rules, 2016.	The oily sludge is stored in the sludge drying bed inside the installations and shall be treated suitably through bio remediation process. The sludge generated in Kesanapalli GGS is in very less quantity and is stored in sludge pit and the quantity estimated is around 50mt and the quantity of sludge stored in Tatipaka sludge pit is around 100mt.The sludge is planned to be disposed from both ETPs by the approved vendors of the APPPCB for the safe disposal and action is in progress. A proposal was submitted by TERI for Bioremediation of oil -contaminated soil at Rajahmundry Assets on 17.02.2021. **(Annexure-73)**. The storm water drains are being cleaned frequently to ensure good house-keeping and photograph proofs of the same is filed. The units are ensuring that the hazardous waste generated are disposed as per the conditions stipulated in CFO and in compliance with Hazardous Waste Management Rules, 2016. Hence complied.
11.	The units shall pay Environmental compensation to CPCB as follows: Tatipaka GGS Rs. 7,28,62,500/- Kesanapalli GGS Rs.4,11,00,000/- Odalarevu GGS Rs. 5,68,50,000/-	**Tatipaka GGS:** TEG dehydration system is not a major source for Benzene in the Tatipaka complex; the present ETP at Tatipaka complex is adequate enough to treat the actual effluents generated and that the unit is maintaining proper procedure and standards in disposing off the hazardous waste. Hence this Hon'ble Tribunal may be pleased to dismiss the Environment Compensation calculated by the Committee for Tatipaka GCS. **Kesanapalli GGS:** The Kesanapalli plant has got the CFE & CRZ Clearance, however, the some part of the marine disposal pipeline got broken and washed away due to high tides, which are being replaced and the works are expected to be completed by Feb'2022. However, temporary arrangements have been made by laying 8" Pipeline around 60 meter in liue of the broken pipeline. Considering the above, the Tribunal may dismiss the Environmental Compensation calculated by the Committee **Odalarevu GGS:** ONGC Odalarevu Onshore Terminal has always been operating in line with the norms and conditions laid down by CPCB/APPCB in its efforts for environmental protection. Also, the ETP at the plant is very much in operation. ONGC Odalarevu Onshore Terminal is neither contributing towards the pollution of environment nor contributing to any kind of undesired emissions. Therefore, the Hon'ble

		tribunal may dismiss the Environmental Compensation calculated by the Committee.
12.	During visit the committee observed that the storm water drains are clogged, filled with effluent, oily sludge is deposited in the drains in ETP area. Firstly the units shall ensure that the entire storm water from the unit shall be collected and reused with in the unit premises and it shall not sent outside the unit premises. The committee submits to Hon'ble NGT to direct APPCB to impose this as one of the consent conditions as not to discharge any storm water outside the unit premises. The unit shall have a fixed frequency for cleaning the drains and oily sludge settled in the drains shall be sent to TSDF or as directed by APPCB.	The storm water drains are being cleaned periodically as part of housekeeping. Any oily sludge in the drain shall be collected in the sludge drying bed for future bio remediation or as proposed by APPCB. As a statutory compliance, the ONGC has been submitting the details on disposal of hazardous wastes to the APPCB in the manner of Annual filing of returns. **(Annexures- 75 to 77)**. Hence complied.
13.	The unit has obtained consent from APPCB during 2015 and subsequently the consent is renewed (online consent monitoring and management system) but however post 2015 due to ageing of wells the quantity of produce water is increasing and there by the quantity of effluent generated is also increased. The actual quantity of effluent generated is higher than the quantities stipulated in the CFO. The unit shall either apply for amendment of consent issued by APPCB for the actual quantity of effluent generated or shall restrict their effluent generated to the quantities specified in CFO. Presently all units are having valid CFO issued by APPCB.	The quantities of Oil, gas and produced water from the wells keeps on changing based on the reservoir behaviour. It has been seen that in the oil & gas well, the quantity of produced water increases with time. As observed by the Joint Committee, all units have the necessary CFO for its operation and have paid the necessary fee for any additional capacity. It is pertinent to note that the single window, online Auto-renewal of CFOs by the APPCB did not mention the additional capacity of ETPs. The request for amendment to the CFOs has been submitted to APPCB, Kakinada in terms of the recommendations of the Committee. Hence complied.
14.	There are four ETP's to treat effluent generated from 12 installations. Capacity of Tatipaka ETP is 500 KL against the quantity of effluent received 330 KLD. Capacity of Kesanapalli ETP-2 is 1500 KLD against quantity	**Tatipaka ETP** As reported by the Joint Committee, the capacity of Tatipaka ETP is 500 KL against the quantity of effluent received 330 KLD. **Kesanapalli ETP** In Kesanapalli-w, 02 no of ETP are in operation, first one is ED well disposal ETP(old ETP) with

	of effluent received 2158 KLD and Capacity of Gopavaram ETP is 600 KLD against quantity of effluent received 1130 KLD which implies that the Kesanapalli and Gopavaram ETP's are inadequate to treat the actual effluent generated. The units shall augment their treatment capacity so as to treat the actual effluent generation or restrict their production so as to minimize the generation of produced water to the tune of their ETP capacity.	capacity of 750m3 and second one is Marine disposal ETP(New ETP) and combined capcity of ETP is 2250m3/day. Both ETP are in operation by treating effluent as per standards of CPCB guidelines and committee produced the results of both ETP meeting the required standards for the disposal. The average effluent generated from Kesanapalli GGS as mentioned in the report, is 2158m3 which is less than the total capacity of 2250 m3/day. Hence, the observations made by the committee are not correct. The performance of the ETPs is being monitored very closely and adequate measure are taken from time to time for augmentation of capacities as well as achievement of discharge parameters of treated produced water before its disposal in effluent disposal wells at a depth of more than 1000 meters. Suitable revamping/ repairs are undertaken to maintain the equipment in good conditions. **Gopavaram ETP** Gopavaram was having one additional injection facility known as GMAE disposal facility (600m3/day capacity) along with Gopavaram ETP capacity of 600m3/day and total Capacity of disposal system is 1200m3/day. The effluent generated from Gopavaram is 1130m3/day, which is less than the combined capacity of Gopavaram effluent disposal system, i.e, 1200m3/day. The capacities of the effluent treatment facilities are also being augmented to process increased water production from wells. The Respondent states that the project for additional injection facility known as GMAE disposal facility (600m3/day capacity) was intimated to the APPCB and the Renewal for Consent for Operation of Gopavaram GGS dated 28.02.2015 **(Annexure- 33)** highlighted the proposed commissioning and consent for the ETP at additional injection facility known as GMAE disposal facility (600m3/day capacity). Thereafter, on 13.08.2015, the Consent order for Establishment of additional injection facility was issued by the APPCB and the same is filed as **Annexure- 34**. Upon receipt of the Consent for Establishment of Marine disposal, ONGC started its establishment work in 2015 and completed the same in 2017. Thereafter, the implementation status of the additional faciity at Gopavaram was provided to the Environment Engineer, AP Pollution Control Board, RO Kakinada vide letter no. ONG/RA/HSE/CFO/2017-18/1029 dated 07.06.2017 **(Annexure- 35)** Based on the communication from APPCB for payment of additional fee, ONGC sent an email to APPCB dated 05.10.2018 **(Annexure-78)** submitting the excess CFE fee through DD for increased investments at Gopavaram GGS. Thus Gopavaram GGS has the necessary CFO with respect to its ETP facilities.

		Hence, the Tatipaka ETP, Kesanapalli ETP and Gopavaram ETP have adequate capacities to treat the actual effluent generated. Hence complied.
15.	Based on raw effluent and treated effluent results, ambient air quality results, stack monitoring it is concluded that Tatipaka GCS, Kesanapalli GCS and Odalarevu GCS is complying with the standards w.r.t deep well injection, ambient air quality w.r.t noise and all other parameters except benzene. Post implementation of corrective measures the unit is found complying with ambient benzene standards also. Samples collected from the borewell samples around the installation do not contain benzene, TPH, O&G and phenols. Since the key indicator parameters in the borewell water samples, based on the current analysis report the committee opines that ground water surrounding Tatipaka GCS & refinery, Kesanapalli GCS and odalarevu GCS is not contaminated. Sediment samples were collected from Nagaram & Kesanadasipalem area where major accidents are reported to have taken place. The analysis results were compared with soil screening values for agricultural purposes as per "Guidance document for assessment and remediation of contaminated sites" and it is found that the sites are not contaminated. During accident site visit the committee observed that plantation has come up in the area.	Committee while appreciating the measures taken by ONGC, it has concluded that there is no environmental damage with regard to air, water, sound and soil pollution in and around the units of the ONGC and also held that there are proper control mechanism in place to prevent pollution, ground water quality and preservation of water bodies etc. It is to be noted that the committee had also visited several villages and residential areas and had taken samples and had held that there is no pollution caused due to activates of ONGC and also appreciated CSR activities under taken by ONGC in and around the operational areas of ONGC.

Hence it is clear that the observations of the Committee referred to above show that concerns have been addressed and the recommendations of the Committee have also been complied with. It is submitted that ONGC is operating in the said region for more than three decades and the public are well aware of the operations of the ONGC crew working round the clock throughout the year. The Respondent is following best practices to ensure safety while sub-serving public interest, particularly in ensuring that a precious resource like natural gas benefits the national economy and the people

at large. The Respondent ONGC is also adopting and properly implementing the standards set forth by the APPCB."

25. The 3rd Respondent has filed their reply in respect of CSR funds used for every year.

26. As per order dated 19.01.2022, the Joint Committee has filed the further report dated 23.03.2022 regarding the compliance of the recommendations by the ONGC which reads as follows:-

"JOINT INSPECTION REPORT OF COMMITTEE CONSTITUTED BY HON'BLE NATIONAL GREEN TRIBUNAL, SOUTHERN BENCH, CHENNAI IN COMPLIANCE TO HON'BLE NGT ORDER DATED 19.01.2022 IN THE MATTER OF OA NO. 175 OF 2020 (VENKATAPATHI RAJA YENUMALA VS UNION OF INDIA & ORS)

IIa. Composition of the Committee

In compliance to Hon'ble NGT order, committee comprising of following members was composed:

Name & designation of the official	Department with address
Sh. C Vishnu Charan, IAS	Sub Collector and Sub Divisional Magistrate Narsapuram West Godavari
Sh. Vasatha Rayudu,	RDO, Amalapuram, East Godavari
Dr. Suresh B Pasupuleti Scientist-D	Ministry of Environment Forest and Climate Change, Regional Office, Vijayawada
Prof. M. Deepa	Dept. of Chemical Engineering, A.U College of Engineering (A) Andhra University, Visakhapatnam
Sh. P. Ravindranath Senior Environmental Engineer	Andhra Pradesh Pollution Control Board, Zonal Office, Visakhapatnam
Smt. Mahima T Scientist-D	Central Pollution Control Board Regional Directorate, Chennai

The committee visited the site from 8th to 11th March, 2022 and carried out ambient air quality monitoring, collection of water &wastewater samples and soil samples. Committee interacted with villagers, village heads, school authorities and interacted with the applicant over phone.

III Compliance Verification of the units

In compliance to Hon'ble NGT orders, post committee inspection M/s ONGC has taken corrective actions. M/s ONGC has submitted in the Compliance Report that following actions are implemented in all installations in Kakinada and Rajahmundry asset:

a. Units have taken measures for periodical cleaning and desilting of drains.
b. Measures are taken for disposal of sludge. Tenders are invited for bio-remediation of sludge.
c. Closed loop system for VAP sampling(Tatipaka)
d. Initiated for construction of sludge pit of 1000 m^3 capacity (Tatipaka)
e. Construction of Two sheds, One for Hazardous waste and the other for hazardous chemicals
f. Units have initiated measures to install flowmeters at inlet of ED (effluent disposal well)
g. LDAR (leak detection and repair) is carried out internally by the units and necessary corrective actions are taken to arrest leakages.

Compliance status of specific installation is described in below sections.

IV. Compliance Verification of Tatipaka GCS

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Current status of compliance as verified by the committee	Remarks
1	The storm water from the installation is discharged into main drains laid outside the unit premises. During inspection the committee	Oil catchers are provided in two storm water drains located near process area and any oil carried over from the process area is recovered in the oil catcher. Unit has taken measures to desilt and clean the storm water drains twice a year to	Unit has desilted and cleaned the drains and the oily sludge settled in the drains are removed. but however mode of disposal of silt & oily sludge was not available. Near the effluent collection tank and near	***Partially complying***

	observed that due to heavy rains and water logging, effluent was getting mixed with storm water and from the main drain it may ultimately join sea.	prevent logging. Unit has submitted that all the drains were cleaned and unit has taken measures to recover oil from the storm water drains. Unit claims as complying	effluent tanker unloading tank, effluents were present in the drain. There are cracks in tank used for collecting effluent from tankers and effluent was seeping into adjacent ground. Storm water is discharged outside the unit. Unit has not made any arrangements to lift the first flush of rain water (for 30minutes) and to treat the same in ETP.	
2	The tilted plate interceptor and slop oil tank are not working properly. The capacity and retention time of plate interceptor is not adequate to treat the effluent. Hence the oil removed from effluent is stagnated and overflowing.	ETP Upgradation work is yet to be undertaken. Support structure of Tilted Plate interceptor is strengthened and is in operation as per the design capacity of 21 cum per hour which is adequate as per the design criteria of ETP. Unit claims as works under progress.	Tilted plate interceptor is not upgraded but only supporting civil structure (wall) is strengthened. The capacity and retention time of plate interceptor is not adequate to treat the effluent. Oil separators are not properly working.	***Not-complying***

3	The units have not amended the consent for the revised quantity of effluent generated. Thereby presently the effluent generated from the installation is more than the quantity specified in the CFO issued by APPCB and moreover the existing ETP is not adequate in terms of capacity to treat the present effluent generated. As per the CFO issued to Tatipaka GCS on 27.02.2015 the quantity of effluent is 225 KLD but presently effluent generated is more than 500 KLD. In addition, 15 KLD of effluent generated	ETP upgradation works is yet to be undertaken. Post committee inspection, Tatipaka GCS is taking effluent from other installations only on very rare occasions and effluent generated from Tatipaka GCS is only treated in the ETP. Unit claims as work under progress	Unit is yet to obtain amendment of the consent order for increased quantity of effluent generated. As per the records, average effluent generated from the installation is 350m^3/day but the capacity of effluent collection tank is 40 KL. Unit is not having capacity to store the effluent for even a day. ETP comprises of collection tank→ slop oil tank→clarifier→MMF → ED wells. Committee collected effluent sample from inlet and outlet of ETP and the analysis results are given in table 1 and treated effluent is meeting with ED well disposal limits. Old ETP which is not in use is filled with effluent. Oily effluent is still present in clarifier.	***Complying w.r.t effluent discharge limits.*** ***Not complying w.r.t CFO conditions***

	from Tatipaka mini refinery, Endamuru GCS and Mandapeta GCS has to be treated. Hence the existing ETP of capacity 500KL is not adequate to treat the present quantity of effluent generated.		Unit shall submit time bound action plan to the treat the effluent present in old ETP and to dismantle old ETP.	

Table 1: Wastewater analysis results of Tatipaka GCS

Location	TSS mg/L	Oil & grease mg/L
ETP inlet – Tatipaka	1670	66.7 mg/L
ETP Outlet- Tatipaka	15	BDL(DL:4.0)
APPCB standards	100	10
Guard pond Water- Tatipaka	12	BDL(DL:4.0)

From the results it is clear that the treated effluent is meeting the APPCB standards for ED well disposal. From the guard pond effluent is discharged to ED well. Detailed wastewater analysis results are enclosed as Annexure-II.

4	Sludge drying beds are not in operation	Unit has invited tenders for disposal of sludge. Oily sludge is collected in Sludge storage tank. Tendering work is in progress for Oil recovery from Sludge (E-tender No. K16JC21015) followed by Bioremediation of residual for which NOA	Oily sludge generated from the inception of the unit is stored in open in sludge tanks upto brim of the tank. It was reported by the unit that the spillages were removed and transferred to the tank itself. During rainy season, runoff	***Not-complying***

		exist with TERI. Unit claims as work under progress.	water from sludge tank is likely to carry sludge particles with it to the surrounding area.	

Committee collected sediment samples near effluent collection tank and tanker unloading tank and analysis results for core parameters are as follows (detailed sediment analysis results is submitted as Annexure-III:

Table 2: Sediment samples analysis results of Tatipaka

Location	Total TPH mg/Kg	Iron (mg/kg)	Mercury (mg/kg)	Lead (mg/kg)	Benzene (mg/kg)	Benzo(a)pyrene (µg/kg	Phenols (mg/kg)
Sediment sample adjacent to 40 KL effluent collection tank	411.84	BLQ (LOQ:11.0)	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
Sediment sample adjacent to effluent tanker unloading tank	752.67	729.61	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
Sediment sample near sludge tank	98.13	3148.15	BLQ(LOQ:2.0)	3.88	BLQ(LOQ:20)	BLQ(LOQ:20)	BLQ(LOQ:0.1)

sediment analysis results indicates that effluent may be seeping into the soil from effluent collection tank and tankers unloading tank.

5	TVOC levels measured using handheld PID analyser in the ETP area is varying from 2.2ppm to 4.0ppm	Online Hydrocarbon detectors are installed to monitor fugitive emissions. Guard pond and storm water drains cleaning has been carried out and TVOC levels are within the limits	TVOC levels was measured using handheld PID analyzer in the ETP area and TVOC levels was varying between 0ppm to 2ppm.	***Complying***

		Unit claims as complying		
6	There is no dedicated hazardous waste storage shed. ETP sludge, empty barrels, slop oil are stored haphazardly within the unit premises	Hazardous waste and chemical sheds are constructed. Storage of hazardous waste & chemicals are being stored in the designated sheds. Unit claims as complying	Unit has constructed one shed for storage of hazardous waste- lube oil but however lube oil was not stored in the shed. Reported that lube oil was disposed during February, 2022.	***Complying***
7	In old GCS plant drain effluent is joining storm water drains and pH of drain effluent was 14	Drain channels are cleaned. The pH levels are observed to be within the limits. Unit claims as complying	It was observed that no effluent was joining the drain in old GCS plant and drains were in dry condition. There were no rains in the area during committee inspection.	***Complying***
8	LDAR of refinery is not carried out. TVOC levels near the valves of distillation column is around 5ppm and near sampling point is 70ppm	Unit is periodically monitoring TVOC levels internally. Unit has carried out LDAR internally. Unit claims as complying	Unit is yet to carry out Leak detection and repair (LDAR) study through certified agencies.	***Partially Complying***
9	In the gas dehydration unit in the re-boiler system, during knocking out	The Boiling point of TEG is more than 240^{o}C whereas, the re-boiler temperature is maintained at 190^{o}C. So the chances of glycol	There was no odor nuisance. VOC levels was measured using handheld VOC analyzer and it was 0ppm.	***Complying***

	some glycol vapors is carried along with moisture. There was odor nuisance in the area.	vaporisation is nil. Unit claims as complying		
10	Odour nuisance	Due to cleaning of drains, removal of oily sludge and controlled knock out emissions TVOC levels are within the limits and hence there is no odour nuisance. Unit claims as complying	There was no odour nuissance. Ambient air quality monitoring was conducted inside the unit and in malletivara merakinagalam village, Peerlacheruvu nagar village and pedapatinam nagarm village surrounding the installation and found that it is meeting ambient air quality. Ambient air quality results are enclosed as Annexure-IV	***Complying***
11	CFO validity		Tatipaka GCS has obtained Consent under the Water Act, 1974, the Air Act, 1981 and Hazardous Waste authorization valid till 31.07.2023. Copy of Tatipaka CFO is enclosed as Annexure-V	***Complying***


Photo 1: drains in Tatipaka after cleaning

Photo 2: tilted plate interceptor

Photo 3: Hazardous waste storage shed

Photo 4:waste oil drums stored in open

Photo 5: Clarifier filled with effluent in old ETP


Photo 6: Effluent treatment plant

Photo 7:Treated effluent storage tank

Photo 8: Sludge tank

Photo 9: area surrounding the sludge tank

IVa. Environmental compensation from Tatipaka GCS

EC for violation of CFO conditions	EC=PI x N x R x S x LF Where, EC = Environmental Compensation in INR PI = Pollution Index of industrial sector (red-80) N = Number of days of violation took place (from the date of violation to date of compliance- 25.02.2021 to 11.03.2022= 379 days committee had calculated compensation till 25.02.2021 and committee re-inspected during 08-03-2022 to 11-03-2022 and observed following non-compliances: 1. Tilted plate interceptor is not properly working 2. Effluent is seeping into soil from effluent collection tank and tanker unloading tank 3. Oily sludge (hazardous waste) is laying in open in sludge tank for more than 5 years. 4. Effluent and oily sludge is present in Old ETP which is not in use for more than 3 years. R = A factor in Rupees for EC (Rs. 250/-) S = Factor for scale of operation (large-1.5) LF = Location factor=1

	=80*379 days*250*1.5*1 = **1,13,70,000/-** Rupees One crore thirteen lacs seventy thousand only Considering that unit has made improvements and is mainly complying with effluent disposal standards, committee has not imposed repeated violation factor.

V. Compliance Verification of Kesanapalli-W: GGS

Sl. No	**Non-compliances observed by committee during first visit**	**Compliance status submitted by the unit and Upgradations/ Modifications made by the unit**	**Current status of compliance as verified by the committee**	**Remarks**
1	Effluent is getting mixed with storm water and storm water is discharged into main drain outside the unit premises. pH of the storm water was 12. In addition the leaves and garden waste is in the drain and getting putrefied in the drain itself	Drains were cleaned.	Unit has cleaned storm water drains but however Oil catchers are not installed in the drains and measures to prevent entry of effluent into storm water drains is not taken up. Measures to lift or pump first flush of rain water into ETP is not taken. Records on the quantity of oily sludge removed from the drains and mode of disposal of this sludge was not made available to committee.	***Partially complying***

2	The effluent stored in treated effluent sump was red in color and pH was more than 12	Red colored effluent is taken to ETP for treatment. Unit informed that awareness was created among the workers as not to add any chemicals into treated water or fresh water sumps. Unit claims as complying	Reported that red colored effluent from treated effluent storage tank was again taken back to ETP for re-treatment. During committee insoection no red colored effluent wss present inside the unit premises. Treated effluent samples were taken and analysis results are given table 3.	***Complying***
3	There is no dedicated hazardous waste storage sheds	Dedicated storage sheds for hazardous waste and chemicals have been built. Unit claims as complying	Unit has constructed two separate sheds for chemical storage and hazardous waste storage. Unit is generating two categories of hazardous waste: ETP sludge/ oily sludge and waste lube oil. Currently unit continues to store ETP sludge/ oily sludge openly in sludge tank and unit has proposed to store only waste lube oil in the shed. But however on the day of inspection, the shed was empty and waste lube oil was not present.	***Partially complying (shed is constructed)***

4	The unit was disposing the effluent by means of marine disposal but however the unit has not obtained necessary permissions from APPCB for marine disposal. Further, part of the pipeline used for deep sea disposal (1000m stretch of pipeline taking deep sea) is broken and washed away. Presently the unit is disposing the effluent in the coast. The unit had obtained CRZ clearance for laying of pipelines	ONGC having CFE and auto renewal of CFO for the operation of Kesnapalli-w ETP which is available upto 31.07.2023. CRZ clearance was also obtained for laying disposal line. New contract/tender was awarded for laying New Marine disposal line in place of broken line (which is expected to be completed by March-2022, in the favourable climate window) Meanwhile, temporary arrangement was made with 8"casing pipe and GRE flexible connection in place of the washed out portion (till the permanent line will be made available).	Unit is having two ETP's. Capacity of old ETP is 750 m3/ day and capacity of new ETP is 1500 m3/day. Old ETP comprises of tilted plate interceptor→ flash mixer→ flocculation tank→ dissolved air floatation→ dual media filter→ guard pond→ ED well. On the day of inspection, raw effluent was directly taken to DAF and pre-treatment units were not in operation. New ETP comprises of Corrugated plate interceptor→ induced gas floatation→ Nutche filter→ sequential batch reactor→ media filters→ treated effluent storage tank→ sea disposal. Unit has obtained CRZ clearance for laying of pipeline for marine disposal. Copy of CRZ clearance is placed as Annexure-VI. Unit has obtained CFE from APPCB for laying of pipeline for marine disposal. Copy of CFE is placed as Annexure-VII. APPCB has not granted CFO to the unit for marine disposal but	***Not complying***

		Also additional arrangement was done to take a substantial portion of N.ETP treated effluent to ED wells ETP(old) for disposal for deep well injection, and subsequently to reduce marine disposal quantity from New ETP. Additional high pressure water injection pump was installed for this purpose. Also additional Effluent disposal wells were commissioned after WOR for effluent disposal (deep well injection) for capacity expansion. Unit claims as work under progress	however unit claims that consent fees is paid by the unit for marine disposal line. However committee has clarified that unit has to obtain prior consent from APPCB for marine disposal. Marine disposal pipelines of 1000m was broken and washed away during 2018 and currently only 60m marine disposal pipeline is present against the requirement of 1000m of deep sea disposal. Unit continues to dispose around 1200KLD of effluent through marine disposal. Unit has completed laying of 1500 m HDPE line with diffuser in the sea during February, 2022 and trenching work (post-burial work) by dredger pontoon Marine is in progress. The new pipeline will be commissioned during March, 2022. The new pipeline is at a distance of 150m from the old pipeline. The unit is laying a new pipeline by deviating the alignment of old pipeline in the CRZ area, Hence it is mandatory that unit has to	

			obtain CRZ clearance and CFE from APPCB for laying new pipeline but however unit has not obtained any clearances for laying new pipeline. Currently, around 1200 KLD of effluent from new ETP is disposed through marine disposal.	

During inspection, villagers approached the committee and informed that effluent is discharged outside Kesanapalli GGS into empty land. Committee visited the area and observed that outside the boundary wall of the unit, water stagnation (lagoon/ pond) was present at two locations and villagers informed that it is effluent discharged from the installation. At one location just beside the boundary wall of the unit large quantity of slightly reddish colored water was present. The boundary walls of the unit are weak, cracks & small openings are developed on the wall towards old ETP.

Committee collected inlet & outlet samples of old & new ETP, samples from two water stagnation points and beach water (near to disposal line) and analysis results for core parameters are as follows:

Table 3: Old ETP Kesanaplli analysis results

Location	TSS mg/L	O & G mg/L
Old ETP inlet Raw Effluent-Kesanapalli	171	BDL(DL:4.0)
Old ETP outlet Effluent-Kesanapalli	13	BDL(DL:4.0)
APPCB standards for ED well disposal	100	10

Table 4: New ETP Kesanapalli analysis results

Sl.No	Parameter	New ETP inlet	New ETP outlet	CPCB marine outfall standards
1	pH	7.98	7.08	5.5 -9.0
2	TSS mg/L	53	17	100

3	Zinc mg/L	0.10	BLQ (LOQ:0.005)	2
4	BOD mg/L	3708	**44**	30
5	COD	15862	**172**	100
6	Chlorides	8697	**9197**	600
7	Sulphates	69	43	1000
8	TDS	15675	**8411**	2100
9	Oil & grease	BDL (DL:4.0)	BDL (DL:4.0)	10
10	cyanides	BDL (DL:0.1)	BDL (DL:0.1)	0.2
11	flourides	0.21	0.11	1.5
12	Sulphides	BDL (DL:1.0)	BDL (DL:1.0)	2.0
13	T. Cr	0.06	BLQ (LOQ:0.005)	1.0
14	Copper	0.07	BLQ (LOQ:0.005)	0.2
15	Lead	BLQ (LOQ:0.005)	BLQ (LOQ:0.005)	0.1
16	Mercury	0.04	0.01	0.01
17	Nickel	BLQ (LOQ:0.005)	BLQ (LOQ:0.005)	37

Table 5: Analysis results of wastewater at Kesanapalli

Location	pH	TPH mg/L	BOD mg/L	COD mg/L	TOC mg/L
Beach sea water	8.02	3.23	274	427	171
Water stagnation (small) around 250m away from industry boundary Kesanapalli	8.77	55.6	33	121	45
Large water stagnation besides the boundary wall of industry towards old ETP - Kesanapalli	9.01	971.17	89	345	129

From the analysis results in Table 5, it is observed that traces of TPH is present in beach sea water and at water stagnation point 250m from industry boundary. TPH of 971.17 mg/L is present in water adjacent to industry boundary which indicates that effluent may be leaking or may be discharged into adjacent land.

5	Water logging observed at the entrance of the unit	Area is cleared of water logging. Levelling and cleaning was done. Now the premise is properly maintained.	Unit has levelled the area to prevent water logging.	***Complying***
6	In the ETP area, the unit had covered with fresh soil. The committee excavated the portion of the soil and found that black oily soil was present below upto depth of 1m	After excavation of the area, where ever oily soil was observed and which was removed and transferred to sludge bed for bioremediation.	The committee excavated soil in the ETP area and as well at other locations to check for oil spillages or dumping of sludge on ground. Sediment samples were collected and observed that only traces of TPH is present which implies that unit has cleaned the area. Results are given in table 6.	***Complying***
7	Opposite to new ETP boundary wall, waste oil & sludge is dumped on land to an extent of two to three acres	The said area was allowed to dried up water, where ever oily soil was observed and was removed and transferred to sludge bed for bioremediation .After cleaning properly, initiative was taken to bring this area under green belt (by	Opposite to new ETP boundary wall, sediment samples were collected and TPH in the sediment samples is 3.55 mg/kg which implies that unit has cleaned the area while traces of oily sludge is present. Unit has initiated plantation in the area.	***Complying***

		growing greenery)		
8	In around 5acres of land opposite to DG room the effluent & sludge is accumulated. From the sediment sampling it is learnt that mercury is present in the range of 201 mg/Kg	The area allowed to dry water and where ever contaminated soil was observed and that portion was cleared from the area to sludge pit. Now greenery is visible in the area. The soil analysis by HECS, shows mercury levels below the quantifiable limit.	It was reported by the unit that wherever oily sludge was present, it was cleaned by the unit. Mercury in the soil sample is below limit of quantification	***Complying***

Table 6: Kesanapalli sediment samples and analysis results are as follows:

Location	TPH (mg/Kg)	Iron (mg/Kg)	Mercury (mg/kg)	Lead (mg/kg)	Benzene (mg/kg)	Benzo(a) pyrene (µg/kg	Phenols (mg/kg)
Kesanapalli large water stagnation outside unit premises	6.52	966.23	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
kesanapalli beach sludge-kesanapalli	5.89	2494.66	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)

(sludge)							
behind transfer pump-kesanapalli (sludge)	93.53	2519.68	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
behind ows – kesanapalli (sludgel)	55.60	1223.52	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
sediment sample behind old ETP dmf feed sump-kesanapalli (sludge)	319.19	1894.93	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
sediment sample in front of new etp control building – kesanapalli (sludge)	3.55	1329.06	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
Analysis results indicates that small quantity of spills/ leaks is present behind old ETP feed sump.							
9	CFO validity			Kesanapalli GGS has obtained Consent under the Water Act, 1974, the Air Act, 1981 and Hazardous Waste authorization valid till 31.07.2023. Copy of CFO is placed as Annexure-VIII			***Complying***

Photo 10: water stagnation outside the unit premises (small pond)

Photo 11: water stagnation outside the industry slightly reddish in color (large pond)

Photo 12: New ETP at Kesanapalli

Photo13: new ETP treated effluent storage tank

Photo14 : Effluent disposal on the shore through existing pipeline of 60m

Photo15: laying of new pipeline


Photo 16: old ETP area


Photo 17: Sludge tanks

V.b Environmental compensation to be levied from Kesanapalli GGS

EC for violation of CFO conditions, sea disposal without obtaining permission from APPCB	EC=PI x N x R x S x LF Where, EC = Environmental Compensation in INR PI = Pollution Index of industrial sector (red-80) N = Number of days of violation took place (from the date of violation observed to date of compliance- 379 days committee had calculated compensation till 25.02.2021 and committee re-inspected during 08-03-2022 to 11-03-2022 and observed following non-compliances • Old ETP was not properly operated • Unit is generating more than consented quantity of effluent

	• Oily sludge is stored in open in sludge tank for more than five years • Unit is disposing effluent through marine outfall against the consented mode of ED well disposal • Marine outfall pipeline is broken and effluent is disposed with pipeline of 60m. R = A factor in Rupees for EC (Rs. 250/-) S = Factor for scale of operation (large-1.5) LF = Location factor 1 =80*379*250*1.5*1* repeated violation factor of 2 **=Rs. 2,27,40,000/-** **Rupees Two crore twenty-seven lacs forty thousand only** Considering serious nature of violation, committee has assessed EC for repeated violation

VI. Compliance Verification of Odalarevu GCS

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Current status of compliance as verified by the committee	Remarks
1	The ETP is not functioning properly. Oil is removed from slop oil tank and then effluent is stored in holding ponds. Multimedia filters	Unit has improved housekeeping and maintenance activities. Unit has replaced corroded valves, serviced pumps & pipelines,	ETP was in operation. ETP is designed to treat 160 m^3/day of (26 m^3/day of producer water with inlet TSS of 500 ppm and oil & grease of 500 ppm and 134 m^3/ day of storm water). Committee collected samples of producer water (inlet of ETP)	***Not Complying w.r.t ED well disposal limit for oil & grease***

	were not in operation on the day of the visit. Effluent is disposed on the ground without treatment. ETP is not properly working since 2017 and the unit is yet to replace worn out pumps	installation of new diaphragm pump, replacement of media of multi-media filters. Unit is producing 18-30 m^3/day of effluent which is processed in 3-5 hours and injected into effluent disposal wells. The ETP is operational and functioning properly and operated in batches depending upon load to ETP. Unit claims as Complying	and treated effluent (outlet of ETP) and from storm water drain. It is found that treated effluent is not meeting with ED well discharge standards w.r.t oil & grease. Flow meters are installed at inlet and outlet of ETP. TPH is present in drain sample in traces which implies that effluent is not discharged into drain. Results are given as follows:	

Table 7: Odalarevu raw and treated effluent analysis results

Location	pH	TSS (mg/L)	Oil and Grease (mg/L)	TPH (mg/L)
Storm water drain beside Security Gate at Vashishta gate - Odaleruvu	8.01	11.6	22	1.48
ETP inlet - Odaleruvu	6.47	116	52	NA
ETP outlet - Odaleruvu	5.87	8	**14**	NA
APPCB ED well disposal limits		100	10	

2	Severe odour nuisance and VOC levels inside unit premises was varying from 4.0ppm to 6.0ppm when measured using handheld PID (photo ionic detector) analyzer	Oil in the CRWS tank and other operational area pits have been processed and being maintained regularly within limits so that VOC and odour nuisance is not available in the premises anymore.	No odour nuisance sensed by the committee members. VOC was measured using handheld PID analyser and value was 0ppm.	***Complying***
3	During the visit, there were rains and water logging was observed in the area. Both Effluent mixed with storm water was present in the unlined lagoon in more than 10acres of land between M/s GAIL and M/s ONGC terminals. The pH of the lagoon water was around 5	Unit claims that MEG barrels were placed near the referred lagoon having an area of 1.25 acres (not 10 Acres) during construction activities. Unintended and inadvertent leakage of one of the barrel of MEG in the area might have resulted into low pH value in the sample. The same has been rectified. Top layer of soil has been recovered and	Since there was no rains, there was no water logging. Unit has not taken any measures for the cleanup of the area. Black oily sludge is still present in the area. Top layer of soil is not fully removed and only in certain areas top 10cm of soil is removed however bund is not constructed. Committee collected three sediment samples at different at various points where ONGC pipelines are passing and from sediment analysis results, it implies that the it contains total petroleum hydrocarbons in the range of 297 mg/kg to 421 mg/Kg. No other heavy metals is present. The summary of the results is as	***Partially complying***

		shall be processed for bio remediation/Transfer to TSDF for landfill depending upon sample analysis. After removal of the top layer of soil, the area will be properly protected with bund and rain water shall be stored in the pond. Unit claims as Complying	follows:	

Table 8: Odalarevu Sediment sample analysis results

Location	Total TPH mg/Kg	Iron (mg/kg)	Mercury (mg/kg)	Lead (mg/kg)	Benzene (mg/kg)	Benzo(a) pyrene (µg/kg	Phenols (mg/kg)
Beside security gate at vashishta gate-odaleruvu (soil)	693.54	1441.86	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
Area between GAIL and ONGC-odalerevu (soil)	297.17	31.35	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
Lagoon Area between GAIL and ONGC-odalerevu (soil)	335.57	153.73	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
lagoon between GAIL and ONGC near watch tower-odalarevu (soil)	421.74	846.43	BLQ (LOQ:2.0)	2.28	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)
ETP beside settling tank –odalarevu (soil)	10019.79	1553.94	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:20)	BLQ (LOQ:20)	BLQ (LOQ:0.1)

Analysis results indicate the presence of TPH in the range of 297 mg/Kg to 10019 mg/Kg. Unit has to take measures to prevent oil spillages/ leakages and to clean the existing spills.				
4	The storm water drains are completely clogged and was filled with thick oily sludge.	The storm water drains are being cleaned periodically in phase wise manner to remove the vegetation.	Storm water drains are cleaned and reported that the oily sludge and silt removed from drains was transferred to sludge tank but however the records on how much quantity of sludge was removed from drains is not made available to committee. Drains were dry and no effluent was transferred through drains.	***Complying***
5	CFO validity		Unit has applied for consent and renewal is awaited. Consent fees is paid.	

VI.a Environmental compensation to be levied from Odalarevu GCS

EC for violation	EC=PI x N x R x S x LF Where, EC = Environmental Compensation in INR PI = Pollution Index of industrial sector (red-80) N = Number of days of violation took place (from the date of violation observed to date of compliance- 379 days committee had calculated compensation till 25.02.2021 and committee re-inspected during 08-03-2022 to 11-03-2022 and observed following non-compliances • treated effluent not complying with ED well disposal limits • oily sludge is laying beside settling tank in the ETP area R = A factor in Rupees for EC (Rs. 250/-) S = Factor for scale of operation (large-1.5)

	LF = Location factor 1 =80*379*250*1.5*1 **=Rs. 1,13,70,000** **Rupees One Crore thirteen lacs seventy thousand only** Considering unit has made improvements and unit is complying with effluent discharge standards committee has not assessed repeated violation factor

VII Compliance verification of Gopavaram GGS

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Current status of compliance as verified by the committee	Remarks
1	Unit is generating 1800 KLD of effluent but the capacity of ETP is 600 KL	Unit is in the process of upgrading ETP and augmenting the capacity. Unit claims as work under progress	As per the CFO issued by APPCB, quantity of effluent is 6 KLD but actual effluent generation varies from 1500 KLD to 1800 KLD. ETP is having capacity to treat 600 KLD of effluent and both treated & untreated effluent is discharged into ED (effluent disposal) wells. Committee collected samples from inlet (producer water) and outlet of ETP, storm water drain at north-east corner and from unlined lagoon. From the analysis results it is found that effluent is getting	***Not Complying***

			mixed with storm water. Untreated Effluent is discharged into ED wells. Storm water drains are filled with oily sludge. Oil contaminated wastewater is stored in unlined lagoon in the premises. Land in the premises is observed to be contaminated at several places indicating discharge of untreated oil bearing effluents on open land. Hazardous waste is stocked in a concrete tank without disposal since commission of the premises. Treated effluent is complying with discharge limits. Copy of CFO is enclosed as Annexure-IX	

Table 9: Gopavaram raw and treated effluent analysis results

Location	pH	TSS (mg/L)	Oil and Grease (mg/L)	TPH (mg/L)
ETP Inlet - Gopavaram	7.58	29	BDL(DL:4.0)	NA
ETP Outlet- Gopavaram	7.66	11	BDL(DL:4.0)	NA
Storm water drain North east corner-Gopavaram	8.07	6	BDL(DL:4.0)	**731.78**
Storm water collected from unlined lagoons in Gopavaram	7.50	71	BDL(DL:4.0)	**185.53**


Photo 18: Effluent treatment area


Photo 19: effluent stagnation


Photo 20: oily sludge dumped on the ground

VII.a Environmental compensation to be levied from Gopavaram GGS

EC for violation	EC=PI x N x R x S x LF Where, EC = Environmental Compensation in INR PI = Pollution Index of industrial sector (red-80) N = Number of days of violation took place (from the date of violation observed to date of compliance- 379 days committee had calculated compensation till 25.02.2021 and committee re-inspected during 08-03-2022 to 11-03-2022 and observed following non-compliances oily sludge is laying beside settling tank in the ETP area untreated effluent is discharged through storm water drains Sediment contains high concentration of sludge indicating dumping of oily sludge R = A factor in Rupees for EC (Rs. 250/-) S = Factor for scale of operation (large-1.5) LF = Location factor 1 =80*379*250*1.5*1 **=Rs. 1,13,70,000** **Rupees One Crore thirteen lacs seventy thousand only**

VIII Utilization of CSR funds by M/s ONGC in Rajahmundry and Kakinada assets

ONGC has devised framework for utilization of CSR funds. Though the installations at Kakinada asset and Rajahmundry asset are currently operating under loss but however the overall profit made by M/s ONGC nationwide is considered for CSR fund utilization. Reported that 5% of the overall profit made by M/s ONGC is utilized for CSR activities and the total profit is divided among all installations. Based on the CSR proposals received by various modes such as through District Collector, NGO's, Public representatives etc are compiled and approval is obtained through their key executive/ corporate head. Kakinada asset & Rajahmundry asset prepare a CSR plan based on the proposals received and on the allocated amount to each installation. Both

Rajahmundry and Kakinada asset are having a CSR co-ordinator for implementation of CSR activities.

The CSR proposals received from various domain are first examined by the CSR co-ordinator by way of field visit or verifying the DPR etc and after examining the proposals it is put up to an internal screening committee and then to virtual corporate committee. These committee further examine and recommend the activities after which approval is obtained. Based on the proposal received CSR activity is implemented and then it is monitored by either CSR co-ordinator or project monitoring team. Post implementation & monitoring, documents are obtained such as utilization certificates etc and activity is completed.

For ground trothing purposes, committee verified the CSR records for last five years (2017 onwards) and also visited areas where activities are implemented such as installation of water tanks, providing cycle stand for school children etc. Committee interacted school Principle, Tehsildar and it was reported that CSR activities are taken up the units.

Four village heads met the committee and requested the committee to direct M/s ONGC to release more amount to the villages where the wells are located rather than spending the amount in diverse manner and in other villages. Committee clarified the Village heads that committee is verifying as to whether CSR funds are properly utilised or not. M/s ONGC Rajahmundry asset has spent around Rs. 21.04 crores on CSR activities during 2018-19, Rs. 23.05 crores during 2019-20 and Rs. 8.08 crores during 2020-21 respectively. Reported that during 2020-21, M/s ONGC has contributed to PM cares fund and hence hence there is a decline in amount spent on CSR activity in the region.

The committee interacted with the applicant and objections were raised on installation of two Water ATM's in Antharvedi Devasthanam and nearby village. Committee visited both the water ATM's and discussed with the M/s ONGC team. Based on the proposals received, M/s ONGC has proposed to two install water ATM's. Water ATM's are water treatment machines (basically RO system) which either draw surface or ground water treat the water and clean water is provided through tap. Each villager was given a card and on inserting the card, each villager gets

around 20 liters of water per day. M/s ONGC has implemented the project on the condition that M/s ONGC will only bear the capital expenditure (only the cost of water ATM machine) and one year AMC and subsequently the village has to maintain the water ATM. The land required for installing ATM was identified by the villagers, electricity was provided by village/ temple authorities. After lapse of one year the expenditure towards O &M cost/ AMC cost of the water ATM had to borne by the village. Reported that water ATM installed at Antharvedi Devasthanam was operational for one year and afterwards no one has taken responsibility and currently it is not operational. While the water ATM in the village is not put to use. During committee visit, both the water ATM's were not in operation.

The process flow followed by M/s ONGC for CSR is given in the below image. Further two case studies are given as Annexure-X.

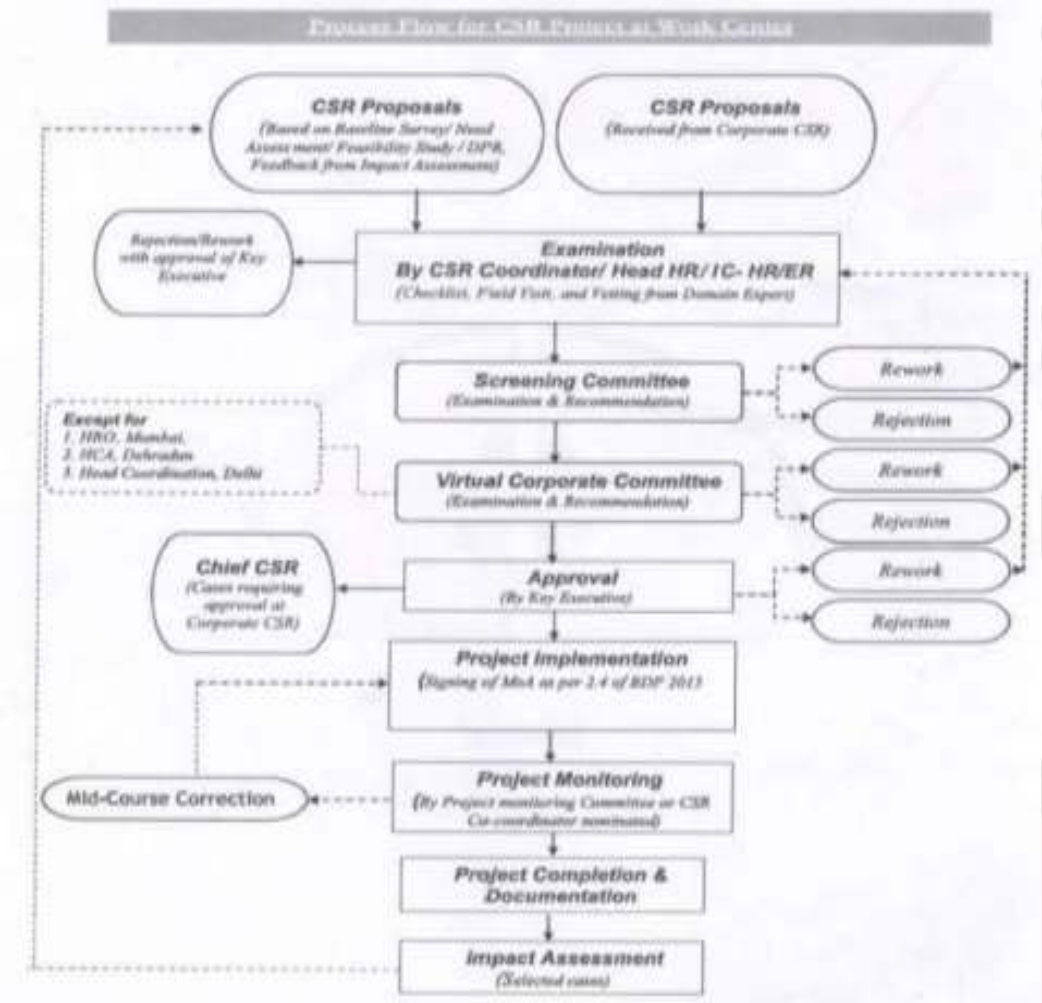


Image: Process flow followed for CSR projects at ONGC

CSR ABSTRACT - ONGC RAJAHMUNDRY

FY 2020-21	Total No of CSR Cases	60
	Overall amount Spent	80871987
	No of Cases in which Payment made to Govt. Bodies	50
	Overall amount paid to Govt. Bodies	74286917
	Percentage of Amount paid to Govt Bodies	**91.85741535**
	No of Cases in which Payment made to Non-Govt. Bodies	10
	Overall amount paid to Non-Govt. Bodies	6585070
	Percentage of Amount paid to Non-Govt Bodies	**8.14258465**
FY 2019-20	Total No of CSR Cases	208
	Overall amount Spent	230578251
	No of Cases in which Payment made to Govt. Bodies	188
	Overall amount paid to Govt. Bodies	210475823
	Percentage of Amount paid to Govt Bodies	**91.28173281**
	No of Cases in which Payment made to Non-Govt. Bodies	20
	Overall amount paid to Non-Govt. Bodies	20102428
	Percentage of Amount paid to Non-Govt Bodies	**8.718267188**
FY 2018-19	Total No of CSR Cases	304
	Overall amount Spent	210411284
	No of Cases in which Payment made to Govt. Bodies	263
	Overall amount paid to Govt. Bodies	160664272
	Percentage of Amount paid to Govt Bodies	**76.35725088**
	No of Cases in which Payment made to Non-Govt. Bodies	41
	Overall amount paid to Non-Govt. Bodies	49747012
	Percentage of Amount paid to Non-Govt Bodies	**23.64274912**

FY	Percentage of Amount Paid to NGO
2018-19	23.64
2019-20	8.718
2020-21	8.142

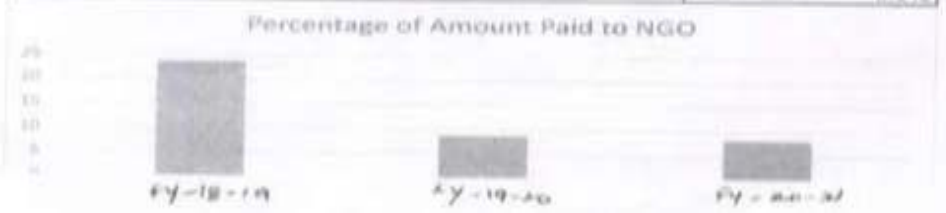


Image: CSR abstract of Rajahmundry asset from 2018- 2021

IX Conclusions and Recommendations

Hon'ble NGT vide order dated 19.01.2022 directed the committee to inspect the units and verify the compliance status of the units. Committee observed that as compared to previous visit, there are improvements but units are yet to achieve compliance and few serious & significant violations were observed by the committee.

i. Currently, Tatipaka GCS is operating the ETP and unit is testing the quality of treated effluent as to whether it is meeting the discharge standards or not and after ensuring that unit complies with discharge limits, treated effluent is discharged through ED wells. Unit has maintained records on the quantity of effluent generated, characteristics of effluent at inlet & outlet of ETP and quantity of effluent disposed through ED well. However unit has not taken adequate measures in handling the oily sludge, slop oil and washings. Spillages or oil deposition near the ETP area is not fully cleaned. Effluent oily sludge stored in the old ETP shall be treated and old ETP shall be dismantled. Sludge stored in the sludge tank shall be disposed. Unit shall ensure that it will comply with Hazardous Waste Management Rules, 2016 and dispose the hazardous waste within 90 days from the date of generation.

ii. Kesanapalli ETP is handling around 1800 KLD of effluent against the consented quantity of 600 KLD and is having two ETP's. Old ETP was not properly operated however treated effluent is meeting the discharge limits for ED well disposal. New ETP is handling 1500 KLD of effluent and treated effluent is disposed in the sea with existing marine outfall pipeline of 60m against consent condition of ED well disposal. Outside the unit premises water stagnation was observed and TPH (Total Petroleum Hydrcarbons) is around 971.17 mg/L which indicates that effluent may be leaking/ discharged outside the unit premises or runoff from old ETP area has stagnated outside the unit premises. Sediment samples collected around old ETP contains TPH of 319mg/Kg indicating mixing of spillages on the ground. Unit shall ensure that ETP is properly operated, effluent is disposed as the per conditions stipulated in CFO and ensure that no effluent is discharged outside the unit premises. Sludge shall be properly managed and prevent the spillages. Kesanapalli GGS shall immediately stop disposal of treated effluent by marine outfall near the coast and dispose the treated effluent as per the conditions stipulated in CFO issued by APPCB

iii. Laying of new pipe line in CRZ area by Kesanapalli GGS does not have prior CRZ clearance from Ministry and Consent approvals from APPCB. Kesanapalli GGS shall

immediately approach concerned authorities for obtain prior permissions for the new pipe line.

iv. Effluent generation is around 1800 KLD and ETP at Gopavaram is having capacity to handle 600 KLD of effluent. Hence untreated effluent is discharged outside the unit premises. Water present in the storm water drain and in unlined lagoon contained TPH of 731.78 mg/L and 185.53 mg/L indicating the presence crude oil/ effluent in the sample. Sediment samples collected from Gopavaram GGS contains high concentration of TPH in the range of 644.07 mg/Kg to 30,698 mg/Kg which indicates that oily sludge is dumped on the ground. Since unit is not having ETP of adequate capacity, untreated effluent is discharged through ED wells. Unit shall take measures to augment the treatment capacity and ensure that only treated effluent is discharged through ED wells. Till the ETP capacity is enhanced, unit shall restrict its production so that quantity of effluent generation is proportionate with ETP capacity.

v. Whenever any oil spills/ leakages takes place within the unit premises or whenever sludge is carried with runoff, unit is covering it with fresh soil and not taking measures to clean up. Units shall ensure that during any untoward incidences of oil spill/ leakages, unit shall take measures to remove the entire quantity of spills/ leaks and scrap the underlying soil and store it in sludge tank and dispose the same along with oily sludge.

vi. During rains, the first flush of rains is likely to carry the pollutants into adjacent area and it is essential for the industry to have facility to lift the first flush of rain water and treat the same in effluent treatment plant.

vii. During previous committee visit it was observed that thick oily sludge was present in the storm water drains. Currently all the units have cleaned the drains and they were in dry condition. Units have also devised plan for periodical cleaning of drains. However units have not maintained records on the quantity of sludge removed from drains and mode of disposal of the silt/ sludge. Unit will take measures to install oil catchers in the drains located near process area & ETP. Based on the characteristics of the silt/ sludge present in the drains, units will safely dispose the same.

viii. There was no odour nuisance during this visit and ambient air quality in the installations and in the villages is meeting the National Ambient Air Quality Standards. Committee observed huge flames from flare stack at Tatipaka GCS. Units have not maintained proper records on the volume of the gas handled in the flare stack. It was reported that unit has already proposed to install new flare stack at Tatipaka and Kesanapalli. Unit may submit time bound action plan for replacement of flare stacks.

ix. The unit has obtained consent from APPCB during 2015 and subsequently the consent is renewed (online consent monitoring and management system) but however post 2015 due to ageing of wells the quantity of produce water is increasing and there by the quantity of effluent generated is also increased. The actual quantity of effluent generated is higher than the quantities stipulated in the CFO. All the stacks installed in the installations are not covered under the purview of the Consent order. For instance stack installed at TEG unit is not included in the consent order. M/s ONGC shall ensure that every installation obtains Consent For Operation from APPCB under the Water Act, 1974 and Air Act, 1981 for the actual quantity of products manufactured, actual quantity of wastewater received and include all the stacks installed in the unit.

x. Committee observed that M/s ONGC are utilizing the CSR funds for environmental & social development activities and other essential activities identified by the District Magistrate/ Corporate Head office/ Public representatives/ registered NGO's.

xi. The units shall pay Environmental compensation to CPCB as follows:

Name of the installation	EC amount assessed during first visit of the committee	EC amount assessed during second visit	Total EC amount in INR to be paid to CPCB
Tatipaka GCS	Rs. 7,28,62,500/-	Rs. 1,13,70,000/-	Rs. 8,42,32,500/-
Kesanapalli GGS	Rs. 4,11,00,000/-	Rs.2,27,40,000/-	Rs.6,38,40,000/-
Odalarevu GCS	Rs. 5,68,50,000/-	Rs. 1,13,70,000/-	Rs.6,82,20,000/-
Gopavaram GGS	-	Rs. 1,13,70,000/-	Rs. 1,13,70,000/-
Total Environmental Compensation to be paid by M/s ONGC to CPCB			**22,76,62,500/-**

is Rs. Twenty Two crores Seventy Six lacs Sixty Two Thousand and Five hundred only	

xii. The units shall implement the corrective actions, shall submit time bound action plan for disposal of sludge. Unit shall ensure that hazardous waste are disposed within 90 days from date of generation as per the conditions stipulated in the Hazardous Waste Authorization. Unit shall submit time bound action plan for removal of oily sludge deposited in the soil at Gopavaram, Kesanapalli and at Tatipaka. APPCB shall monitor that the oily sludge is disposed as per action plan."

27. The 3rd Respondent filed additional affidavit regarding the pendency of the application for Consent to Operate and subsequently, it was mentioned in the affidavit that the application was rejected by the Pollution Control Board vide their Proceedings dated 09.03.2021, as earlier they have mentioned that the application was pending.

28. As directed by this Tribunal, by Order dated 19.01.2022, the Andhra Pradesh Pollution Control Board also filed a status of compliance almost reiterating the compliance report submitted by the Joint Committee and gave their conclusions and recommendations as follows:-

"III. Conclusions and Recommendations

Hon'ble NGT vide order dated 19.01.2022 directed the APPCB to inspect the units and verify the compliance status observed that, there are improvements with respect to observations of joint committee. But, the facilities are yet to achieve compliance and few serious & significant violations were observed by the APPCB.

i. Tatipaka GGS has not taken proper measures for collection, storage and disposal of oily sludge. Currently, Oily sludge is being stored in open sludge pit which is completely filled up to the brim. Lot of spillages observed all around the sludge pit. As the sludge pit completely filled up to the brim, there is every possible of over flow and contamination of rain water during rainy season. The facility shall obtain amendment of CFO & HWA order from APPCB for increase in effluent generation, inclusion of hazardous oil sludge generation, storage, treatment and disposal. Effluent oily sludge stored in the old ETP shall be treated and old ETP shall be dismantled. Process area, ETP area, Oil sludge storage area, shall be isolated in order to prevent contamination of storm water during rainy season. The facility shall make arrangements for collection and treatment of first flush rain.

ii. Board issued consent to Kesanapalli GGS to discharge 600 KLD of treated water into ED wells. The facility shall obtain amended CFO & HWA order from APPCB for increase in effluent generation, inclusion of hazardous oil sludge generation, storage, treatment and disposal. The facility shall increase the height of the flare stack for better dispersion of flue gases. The facility shall obtain CRZ and CFE from the APPCB for newly laying marine disposal pipeline.

iii. Gopavaram GGS: Effluent generation is around 1800 KLD and ETP capacity 600 KLD of effluent. Hence untreated effluent is discharged outside the unit premises. Water present in unlined lagoon contained COD of 528 mg/l indicating the presence crude oil/ effluent in the sample. The facility shall enhance the effluent treatment capacity as per effluent generation. The facility shall obtain amended CFO & HWA order from APPCB for increase in effluent generation, inclusion of hazardous oil sludge generation, storage, treatment and disposal. Process area, ETP area, Oil sludge storage area, shall be isolated in order to prevent contamination of storm water during rainy season.

iv. As per Hazardous Waste Management & Handling Rules, 2016, hazardous waste shall not be stored not more than 90 days. All the units shall implement the corrective actions, shall submit time bound action plan for disposal of sludge.

v. APPCB reviewed the non-compliance of these industries in the External Advisory Committee (Task Force) meeting held on 07.09.2021 and after detailed discussion, the committee recommended to communicate NGT committee findings to the ONGC to submit specific time bound action plan to the Board within a month time and the issue will be examined upon receipt of the action plan from ONGC for each facility. Accordingly, the APPCB vide letter dated 26.09.2021, directed these facilities to submit specific time bound action plan to the Board within a month time, enclosing the NGT committee findings. The facilities have not submitted specific time bound action plan till date. Detailed reports are being sent to Board Office, APPCB for review of non compliance of the facilities with respect to consent conditions, NGT committee observations and Board's directions."

29. The applicant filed their objections to the status report submitted by the Pollution Control Board and also by ONGC and GAIL. ONGC also filed objections to the Joint Committee report dated 23.03.2022 in the form of reply which reads as follows:-

REPLY BY ONGC TO THE JOINT COMMITTEE REPORT DT. 23.03.2022

The Respondent ONGC respectfully states as follows :

1. In furtherance to the Compliance Report dated 04.01.2022, the Hon'ble Tribunal vide order dated 19.01.2022 directed the Joint Committee to inspect the ONGC units, consider the compliance report submitted by ONGC and file a report. The Joint Committee inspected the units from 08.03.2022 to 11.03.2022 and has submitted its report based on its inspection of four major units of ONGC in Krishna Godavari (KG) Basin, namely,

a) Rajahmundry Asset,
b) Kesanapalli GGS and
c) Gopavaram GGS

The Committee has also provided comprehensive conclusions and recommendations.

2. The present status, steps taken by ONGC on the basis of the Joint Committee's observation/suggestions and the Estimated Date of Completion (EDC) to the steps taken by ONGC is given as follows:

S.No	Compliance Verification report submitted by Joint Committee	Remarks given by Joint Committee	Present Status cum steps taken by ONGC/ Reply by ONGC	Remarks and Estimated Date of Completion (EDC)
Tatipaka GCS				
1.	Unit has desilted and cleaned the drains and the oily sludge settled in the drains are removed but however mode of disposal of silt & oily sludge was not available. Near the effluent collection tank and near	Partially complying	Sludge treatment contract has been floated and Price bids opened and the Contract is under finalization. This contract is to recover oil from the sludge. The Contract for Bioremediation of residual	31.12.2022. Early Completion shall be reported.

	effluent tanker unloading tank, effluents were present in the drain.		sludge after recovering left over oil, is already in place and the Contract for Bioremediation is filed as **Annexure-1**	
	Unit has not made any arrangements to lift the first flush of rain water (for 30minutes) and to treat the same in ETP.		From oil catchers, first flush of floating oil, if any, along with rain water is recovered using portable pump and effluent tanker. However, as advised by the Joint Committee, permanent set up for lifting the first flush of rain water is being initiated.	31.12.2022 Early Completion shall be reported.
	There are cracks in tank used for collecting effluent from tankers and effluent was seeping into adjacent ground. Storm water is discharged outside the unit.		Action in hand to plug the Cracks in the effluent collecting tanks.	Minor seepage works are taken up on case to case basis regularly. In case of major works, will be completed by 31.12.2022 and early completion shall be reported accordingly.
2.	Tilted plate interceptor is not upgraded but only supporting civil structure (wall) is strengthened. The capacity and retention time of plate interceptor is not adequate to treat the effluent. Oil separators are not properly working.	Not complying	Revamping of the process equipment of ETP is being taken up; Pre-tendering inspection by the consultant/ contractor completed. Quotations are being collected and parties have quoted around Rs. 14 Crores (for Tatipaka and Kesanapalli). However, in order to bring in competitive pricing, open tender system is being adopted. Accordingly, tender processing shall be taken up. Quotations for revamping of ETPS at Tatipaka and Kesanapalli is filed as **Annexure- 2**	EDC for Revamping of equipments- 31.08.2023 Presently, the treated parameters are being complied by optimizing existing ETP operations.

3.	Unit is yet to obtain amendment of the consent order for increased quantity of effluent generated. As per the records, average effluent generated from the installation is 350m3/day but the capacity of effluent collection tank is 40 KL. Unit is not having capacity to store the effluent for even a day. ETP comprises of collection tank slop oil tank□ clarifier MMF ED wells. Committee collected effluent sample from inlet and outlet of ETP and the analysis results are given in table 1 and treated effluent is meeting with ED well disposal limits. Old ETP which is not in use is filled with effluent. Oily effluent is still present in clarifier.	**Complying w.r.t effluent discharge limits.** **Not complying w.r.t CFO conditions.**	The Andhra Pradesh Government vide G.O Ms. No. 13 dated 26.02.2021 **(Annexure-3)** has revised the CFO rates linking with the production. Thereby around Rs.294Crores as against Rs 9.4 Lakhs has to be paid in order to obtain/renew the CFO, interalia following other stipulations. Representations have been made to the Government for reconsideration of the increase in the rate of CFO. An application for CFO has been submitted by Eastern Offshore Asset of ONGC and the same is under consideration by the APPCB. The same process shall be followed in respect of Tatipaka also. Action being taken up for amendment of CFOs as per suggested parameters by APPCB.	The Joint Committee has endorsed that Tatipaka ETP has 500KLD capacity and the effluent generated is around 330KLD. However, the present CFO valid till 31.07.2023 and is for 277 KLD. As the amendment of the existing CFO is linked with the CFO price hike, the application submitted by Eastern Offshore Asset of ONGC is under consideration by the APPCB. The same process shall be followed in respect of Tatipaka also.
			Receiving sumps, Inlet tanks (Balancing tank & wash tank) have cumulative volume of 440 KLD which is sufficient to store the effluent as the present generation is around 350KLD.	Complied. The advisory note of the Committee and the APPCB is only preventive since the generation is only around 350KLD as to the present cumulative tanks capacities is of 440 KLD
			Dismantling and abandonment of old ETP facilities after emptying the sludge from the old ETP-clarifier shall be carried out. The tender process for Bioremediation of sludge	**31.12.2022**

			has already in place.	
4.	Oily sludge generated from the inception of the unit is stored in open in sludge tanks upto brim of the tank. It was reported by the unit that the spillages were removed and transferred to the tank itself. During rainy season, runoff water from sludge tank is likely to carry sludge particles with it to the surrounding area.	Not complying	Sludge treatment contract: Price bid opened and Contract under finalization. (filed as **Annexure-1**). This contract is to recover oil from the existing sludge. Subsequently, Bioremediation of residual sludge shall also be taken up. Two sludge storage pits of 500KL capacity each will be constructed to handle the generated sludges in future and thereby arrest the runoff water from sludge tank.	31.12.2022
5.	Sediment Analysis results indicates that effluent may be seeping into the soil from effluent collection tank and tankers unloading tank		Action in hand to plug the Cracks in the effluent collecting tank.	Minor seepage works are taken up on case to case basis regularly. In case of major works, will be completed by 31.12.2022 and early completion shall be reported accordingly.
6.	Unit is yet to carry out Leak detection and repair (LDAR) study through certified agencies.	Partially complying	Unit is carrying out in-house TVOC (Total Volatile Organic Component) study regularly. A copy of the study report is enclosed as **Annexure-4** The Committee and APPCB advised for LDAR study through third party agencies. Certified agency of APPCB has been requested to submit their quotation and is under process, which is filed as **Annexure-5.**	31.12.2022 In addition to the in-house TVOC (Total Volatile Organic Component) study, LDAR study also shall be carried out from the certified agency and is under process. Early Completion shall be reported.
	In respect of the Environmental Compensation demanded in respect of Tatipaka unit, the Joint Committee in their 1st Report, has calculated the compensation from November, 2015 attributing the emission of Benzene linking to the Gas Dehydration Unit. However,			

	it is submitted that the Gas Dehydration Unit has been commissioned only on 16.8.2016 and not in the year 2015 as observed by the Joint Committee. Documentation to that effect is filed herewith as **Annexure-6**			
Kesanapalli- W GGS				
7	Unit has cleaned storm water drains but however Oil catchers are not installed in the drains and measures to prevent entry of effluent into storm water drains is not taken up. Measures to lift or pump first flush of rain water into ETP is not taken. Records on the quantity of oily sludge removed from the drains and the mode of disposal of this sludge was not made available to committee.	**Partially complying**	Contract has been awarded by Civil department for the construction of oil catchers, and integration of storm water canal network of New ETP to that of KSP GGS and presently the work is under progress.	EDC for construction of oil catchers is 30.06.2022 Early completion shall be reported.
			From oil catchers, first flush of floating oil will be recovered using portable pump and effluent tanker. However, as advised by the Joint Committee, permanent set up for lifting the first flush of rain water is being initiated.	31.12.2022 Early Completion shall be reported.
			Sludge treatment contract has been floated and Price bids opened and the Contract is under finalization. This contract is to recover oil from the existing sludge. The Contract for Bioremediation of residual sludge is already in place.	31.12.2022. Early Completion shall be reported.
8	Unit has constructed two separate sheds for chemical storage and hazardous waste storage. Unit is generating two categories of hazardous waste: ETP sludge/ oily sludge and waste lube oil. Currently unit continues to store ETP sludge/ oily sludge openly in sludge tank and unit has proposed to store only waste lube oil in the shed. But however on the day of inspection, the shed was empty and waste lube oil was not present.	**Partially complied (shed is constructed)**	Unit has constructed two separate sheds for chemical storage and hazardous waste storage. Systematic efforts have been done and is being followed as per SOP for the segregation, storage and disposal of hazardous waste generated like spent lube oil. These are being stored in the new sheds constructed prior to despatch for disposal/ buyback. The spent lube oil was sent to Store yard at Narsapur in Feb2022 for further disposal. The transportation of spent lube oil from Kesanapalli to Narsapur is filed as **Annexure-7.**	**Complied**

9	Unit is having two ETP's. Capacity of old ETP is 750 m3/ day and capacity of new ETP is 1500 m3/day. Old ETP comprises of tilted plate interceptor-> flash mixer-> flocculation tank-> dissolved air floatation-> dual media filter-> guard pond-> ED well. On the day of inspection, raw effluent was directly taken to DAF and pre-treatment units were not in operation. New ETP comprises of Corrugated plate interceptor-> induced gas floatation-> Nutshell filter-> sequential batch reactor-> media filters-> treated effluent storage tank-> sea disposal. Unit has obtained CRZ clearance for laying of pipeline for marine disposal. Copy of CRZ clearance is placed as Annexure-VI. Unit has obtained CFE from APPCB for laying of pipeline for marine disposal. Copy of CFE is placed as Annexure-VII. APPCB has not granted CFO to the unit for marine disposal but however unit claims that consent fees is paid by the unit for marine disposal line. However committee has clarified that unit has to obtain prior consent from APPCB for marine disposal. Marine disposal pipelines of 1000m was broken and washed away during 2018 and currently only 60m marine disposal pipeline is present against the requirement of 1000m of deep sea disposal. Unit continues to dispose around 1200KLD of effluent through marine disposal. Unit has completed laying of 1500 m HDPE line with diffuser in the sea during February, 2022 and trenching work (post-burial work) by dredger pontoon Marine is in progress. The	Not complying	Revamping of the process equipment of ETP is being taken up: Pre-tendering inspection by the consultant/ contractor completed. Quotations are being collected and parties have quoted around Rs. 14Crores (for Tatipaka and Kesanapalli). (filed as **Annexure-2**). However, in order to bring in competitive pricing, open tender system is being adopted. Accordingly, tender processing shall be taken up.	EDC for Revamping of equipments-31.08.2023 Presently, the treated parameters are being complied by optimizing existing ETP operations.
			The Andhra Pradesh Government vide G.O Ms. No. 13 dated 26.02.2021 has revised the CFO rates linked with the production. Thereby around rs. 924Crores as against Rs.25.36 Lakhs (Rajahmundry + Kakinada Assets) has to be paid in order to obtain/renew the CFO, interalia following other stipulations. Representations have been made to the Government for reconsideration of the increase in the rate of CFO. Accordingly, an application has been submitted by Eastern Offshore Asset of ONGC and the same is under consideration by the APPCB. The same process shall be followed in respect of Tatipaka also. Action being taken up for amendment of CFOs as per suggested parameters by APPCB.	The Joint Committee has endorsed that Tatipaka ETP has 500KLD capacity and the effluent generated is around 330KLD. However, the present CFO valid till 31.07.2023 and is for 277 KLD. As the amendment of the existing CFO is linked with the CFO price hike, the application submitted by Eastern Offshore Asset of ONGC is under consideration by the APPCB. The same process shall be followed in respect of Kesanapalli also.
			The unit is in possession of a valid CRZ clearance for marine disposal pipeline. Unit has completed laying of 1500 m HDPE line with diffuser in the sea and the letter communicating the	31.03.2023 ONGC shall pursue with the MoE&CC for early granting of CRZ

	new pipeline will be commissioned during March, 2022. The new pipeline is at a distance of 150m from the old pipeline. The unit is laying a new pipeline by deviating the alignment of old pipeline in the CRZ area, Hence it is mandatory that unit has to obtain CRZ clearance and CFE from APPCB for laying new pipeline but however unit has not obtained any clearances for laying new pipeline. Currently, around 1200 KLD of effluent from new ETP is disposed through marine disposal.		completion of project is filed as **Annexure-8.** However, the existing new pipeline laid on 25.3.2022 is approximately 150metres from the old pipeline. As advised by the Joint Committee and APPCB, a fresh CRZ application is being processed and accordingly quotations have been sought from the consultants for the due process.	clearance.
10	At one location just beside the boundary wall of the unit large quantity of slightly reddish colored water was present. The boundary walls of the unit are weak, cracks & small openings are developed on the wall towards old ETP. Committee collected inlet & outlet samples of old & new ETP, samples from two water stagnation points and beach water (near to disposal line) and analysis were done. From the analysis results, it is observed that traces of TPH is present in beach sea water and at water stagnation point 250m from industry boundary. TPH of 971.17 mg/L is present in water adjacent to industry boundary which indicates that effluent may be leaking or may be discharged into adjacent land.		Action was immediately initiated for the removal of water from these ponds outside the boundary wall of Old ETP. This water was transferred to Old ETP-OWS for re-treatment, and bottom sediments/sludge to New ETP sludge bed. Around 100 m3 of water has already been lifted and removed using pump and the same was treated in Kesanapalli ETP plant and now the pit is empty and dry. Actions have been taken to prevent any effluent seepage across the boundary wall. Small gap in between two connecting walls needs to be maintained for complying technical requirements of expansion and contraction and those small gaps are filled with sand bags to arrest any seepage. Photographs of dry pit and filling up with sand bags is filed as **Annexure-9.**	Complied
Odalarevu GCS				
11	ETP was in operation. ETP is designed to treat 160m3/day of (26 m3/day of producer water with inlet TSS of 500	Not Complying w.r.t ED well disposal limit	Since beginning, ETP was in operation maintaining well disposal quality	Complied

	ppm and oil & grease of 500 ppm and 134 m3/day of storm water]. Committee collected samples of producer water (inlet of ETP) and treated effluent (outlet of ETP) and from storm water drain. It is found that treated effluent is meeting with ED well discharge standards. Flow meters are installed at inlet and outlet of ETP. TPH is present in drain sample in traces which implies that effluent is not discharged into drain.	for oil & grease.	within prescribed limits. Effluent samples are being collected by APPCB at regular intervals. No non-compliance has ever been reported towards quality of effluent. The report of APPCB shows oil and grease found in outlet of ETP is <1ppm.) The records indicating parameters of the effluent before and after treatment maintained at the installation are filed as **Annexure- 10.** Further it is submitted that effluent quality may vary temporarily due to process/plant disturbances. Treated effluent from ETP outlet flows to the settling tank before being injected to the Effluent Disposal well. Hence momentary disturbances are taken care of before injection. Looking at Annexure-I it can be seen that ETP outlet parameter is within the specified limit (<10ppm) in more than 99% days, aberrations are extremely few and due to temporary process/plant upsets.	
12	Since there was no rains, there was no water logging. Unit has not taken any measures for the cleanup of the area. Black oily sludge is still present in the area. Top layer of soil is not removed and bund is not constructed.	**Partially complying.**	The top layer of affected soil collected earlier along with remaining contaminated layer of soil has been treated for Bio remediation at the contaminated site. Contaminated soil from other locations were also collected and transferred to the bio-remediation pit to get treated along with existing soil. For completion of the bio-remediation activities of the contaminated soils from various locations, the area is properly earmarked and being protected with bund. The Bio-remediation activity is expected to be completed by Oct 2022.	**Oct, 2022** **Early completion shall be reported.**

	Committee collected three sediment samples at different at various points where ONGC pipelines are passing and from sediment analysis results, it implies that the it contains total petroleum hydrocarbons in the range of 297 mg/kg to 421 mg/Kg. No other heavy metals is present.		Total petroleum hydrocarbons is in the range of 297 mg/kg to 421 mg/Kg which is much less than the limit of 5000 mg/Kg specified in the Class B2 in Schedule II of Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016. However, as suggested by the Joint Committee, Bio-remediation job has been taken up through M/s ONGC Teri Biotech Limited to reduce TPH level further.	
Gopavaram GGS				
13	As per the CFO issued by APPCB, quantity of effluent is 600 KLD but actual effluent generation varies from 1500 KLD to 1800 KLD.	Not complying	Tendering for the 5 x 200 m3 modular ETP is under progress. The option of hired ETP is further being explored to augment the ETP capacity.	Tendering, awarding, completion of works of required ETPs shall be completed by 31.08.2023
			Work over is planned in 04 nos of High water cut wells to reduce produced water.	31.08.2022
			High water producing well GM#7 has been closed to reduce produced water & present produced water is around 1400m3/day	Complied
14	ETP is having capacity to treat 600 KLD of effluent and both treated & untreated effluent is discharged into ED (effluent disposal) wells.	Not complying	The effluent is being discharged into 05 nos. of ED wells below 1000 metres as per norms. Augmentation of ETPs is being planned as brought out above.	31.08.2023
	Committee collected samples from inlet (producer water) and outlet of ETP, storm water drain at north-east corner and from unlined lagoon. From the analysis results it is found that effluent is getting mixed with storm water. Untreated Effluent is discharged into ED wells. Storm water drains are filled with oily sludge. Oil contaminated wastewater is stored in unlined lagoon in the premises. Land in the premises is observed to be contaminated at several places indicating discharge of untreated oil bearing effluents on open land.	Not complying	Cleaning of the entire area is being undertaken. Indent was placed with Civil section for cleaning of the storm water drains.	31.08.2022 Early completion shall be reported.

	Hazardous waste is stocked in a concrete tank without disposal since commission of the premises. Treated effluent is complying with discharge limits. Copy of CFO is enclosed as Annexure-IX	Not complying	Sludge treatment contract has been floated and Price bids opened and the Contract is under finalisation. This contract is to recover oil from the existing sludge. The Contract for Bioremediation of residual sludge is already in place.	31.12.2022 Early Completion shall be reported.

3. It is respectfully submitted that the Respondent in compliance of the observations and advisory notes of both the Joint Committee and APPCB has taken steps as mentioned above and is hereby submitting the time schedules (Expected Date of Completion) for the partly complied and Non- complied observations of the Joint Committee and the APPCB.

4. It is respectfully submitted that the Respondent, is a Central Government's Public Sector Undertaking and is following best practices to ensure safety while sub-serving public interest, particularly in ensuring that a precious resource like oil and natural gas benefits the national economy and the people at large. The Respondent ONGC is also adopting and properly implementing the standards set forth by the APPCB.

5. It is respectfully submitted that the Respondent has much concerns for the environment and also the CSR related activities benefiting public at large in and around the area of operations in East Godavari, West Godavari and Krishna districts of Andhra Pradesh and have spent an amount of Rs. 110 Crores fro the FY 2016 to 2021 for the benefit of the society at large.

30. The ONGC also filed reply to the compliance report submitted by the Pollution Control Board e-filed on 27.05.2022 more or less reiterating the reply submitted to the Joint Committee report extracted above. So, we are not re-extracting the same again.

31. Heard the learned counsel appearing for the applicant and official respondents.

32. The learned counsel appearing for the applicant argued that the report of the Joint Committee will go to show that there are lot of non-compliances and subsequent compliance report submitted by the State Pollution Control Board and the Joint Committee also will go to show that there are still non-compliances on the side of Respondent Nos.3 & 4. The compensation awarded is also not adequate and the compensation for loss sustained by the agriculturists has to be considered. Further, the compensation (if any) recovered may be directed to be utilized for restoration of damage caused in that area. They may also be directed to

spend the CSR Fund for the beneficial enjoyment of the project affected area.

33. Mr. R. Sankaranarayanan, the learned Assistant Solicitor General of India appearing for the 3rd Respondent argued that they have complied with the conditions and they are taking all steps to mitigate the possible pollution that is likely to be caused on account of their operation. None of the incident had occurred due to any wilful negligence and whenever incidents were reported, they hadrectified the same and avoiding possible disaster being happening in that area. They were also fulfilling the conditions of the Environmental Clearance (EC) and other clearance granted and there was no violation committed by them. The compensation awarded is excessive and they are spending huge amount from the CSR Fund for beneficial enjoyment of the project affected area in consultation with the District Collector of the respective districts.

34. Mr. P.V.S. Giridhar along with Mr.Muraleedaran, the learned counsel appearing for the GAIL argued that there was no non-compliances mentioned against the GAIL and they are only distributing the gas supplied by ONGC and there was no incident occurred on account of their latches in that area. They are also utilizing their CSR Fund for all necessary purpose. Any directions issued by the Pollution Control Board or other authorities were being complied with by them. According to the learned counsel, they are unnecessary party to the proceedings.

35. Mrs. Madhuri Donti Reddy, the learned counsel appearing for the State Pollution Control Board argued that they are periodically monitoring the activities of Respondent Nos.3 & 4 and whenever deficiency has been observed, the Andhra Pradesh State Pollution Control Board have issued necessary directions and have taken appropriate action.

36. The learned counsel appearing for the MoEF&CC, Ministry of Petroleum and Natural Gas and the CPCB argued that they are only policy makers and it is for the regulators to monitor the implementation of the environmental laws and if there is any violation of conditions found, it is

for them to take appropriate action.

37. We have considered the pleadings, reports filed by the Joint Committee and other official respondents, objections filed by the parties, written submissions submitted by the parties and also perused the documents available on record.

38. The points that arose for consideration are:-

(i) Whether the Respondent Nos.3 & 4 have committed any violation of conditions of Environmental Clearance (EC) and other permissions granted?

(ii) Whether there was any damage caused to the environment on account of the violations committed by Respondent Nos.3 & 4?

(iii) What is the nature of direction to be given to protect environment applying the *'Precautionary Principle'* to be carried out by Respondent Nos.3 & 4?

(iv) Whether the Respondent Nos.3 & 4 are liable to pay environmental compensation for the violations committed by them and if so, what is the quantum of compensation payable?

(v) Relief and costs.

POINTS:

39. Grievance in this application is regarding the pollution caused on account of the activities of Respondent Nos.3 & 4 mainly against the 3rd respondent on account of whose operation certain incidents of leakage happened causing damage to the environment.

40. It is alleged in the application that the 4th respondent also committed some violation and sought certain reliefs against them as well. They further alleged in the application that Respondent Nos.3 & 4 are not utilizing their CSR Fund in an effective manner and directions will have

to be given to implement the same for the benefit of the project affected area. They have further contended that the amount of compensation for land acquired for the purpose has not been paid to the project affected people.

41. Those allegations were denied by Respondent Nos.3 & 4 and according to them, they were strictly complying with the norms and all pollution control mechanism have been provided and they have not committed any violation and whenever gas leak incidents were brought to their notice, immediate steps were taken by them to rectify the same and thereby,no major environmental degradation has been caused as alleged in the application.

42. The fact that there were certain incidents occurred in respect of breach of pipes carrying the natural gas and crude oil operated by the 3rd respondent and certain actions have been taken and a committee was appointed by the Hon'ble High Court in one of the matter and certain studies were directed to be conducted and on the basis of the recommendations, the 3rd respondent was directed to carry out the recommendations as well etc. are not in dispute. It was also seen from the newspaper that the District Collector in that area also conducted inspections after appointing certain committees of the officials and they had also given certain directions to the 3rd respondent to carry out to avoid such incidents in future.

43. It is also seen from the allegations made in the application that there were certain other cases registered by this Tribunal and certain directions were issued in respect of GAIL as well as ONGC in certain areas. The fact that there are certain breaches happening and there are certain latches on the part of the Respondent Nos.3 & 4 in carrying out the operation and whenever it was brought to their notice, authorities were issuing directions to them to rectify those aspects etc. are in a way admitted and established by the documents produced.So, it cannot be said that there was no incident occurred and there was no violation committed by Respondent Nos.3 & 4 as such.

44. In order to ascertain the sufficiency of safety measures provided and genuineness of the allegations made in the application, this Tribunal appointed a Joint Committee to go into the question and the Joint Committee has filed a detailed report which was extracted in the earlier paragraph.

45. It was mentioned in the report that in Original Application No.91 of 2020 similar incidents were noticed and during inspection, the committee observed that due to heavy rain and water logging, effluent was getting mixed with storm water in K.G. Basin and from the main drain, it may ultimately join the sea. It was also noticed that the tilted plate interceptor and slope oil tank were not working properly. Certain non-compliances were noticed in Para 4.a.1 of the Joint Committee report dated 09.04.2021. Further, certain non-compliances were noticed for each and every unit and that was subsequently mentioned in the report stated above and they also calculated the compensation to the tune of Rs.7,28,62,500/- (Rupees Seven Crore Twenty Eight Lakhs Sixty Two Thousand and Five Hundred only) in respect of Tatipaka G.S. and mini refinery area operated by the 3rd Respondent. Certain non-compliance were noticed in respect of Kesanapalli GGS and an amount of Rs.4,11,00,000/- (Rupees Four Crore and Eleven Lakhs only) was assessed as compensation in respect of the same. Further, certain non-compliances were noticed in 3rd respondent onshore terminal which was extracted in Para 4.c.1 and in respect of non-compliance of GAIL terminal, it was extracted in Para 4.c.2 of the same report. The Environmental Compensation of Rs.5,68,50,000/- (Rupees Five Crore Sixty Eight Lakh and Fifty Thousand only) was imposed for running the unit without obtaining Consent to Operate for certain period and recommendations were also made by the Joint Committee to be carried out by the ONGC as well as GAIL.

46. The GAIL as well as ONGC has filed their objections to the Joint Committee Report and also status of compliance of the directions issued and subsequent reports were also filed by the Joint Committee as directed by this Tribunal which were extracted in the earlier paragraph.

47. The GAIL as well as ONGC also produced the status of the implementation of the CSR Fund within their area of operation. There were certain non-compliances noticed in the case of ONGC by the committee and revisited on the question of compensation and made some modification in the subsequent report filed viz., Report dated 23.03.2022. It was also seen from the report that CRZ Clearance was not obtained in respect of certain area and after considering all the non-compliances in respect of ONGC, they have assessed a total compensation of Rs.22,76,62,500/- (Rupees Twenty Two Crore Seventy Six Lakh Sixty Two Thousand and Five Hundred only) as per the report dated 23.03.2022.

48. The ONGC also filed written submissions, wherein it was mentioned that they have complied with the conditions and they have spent huge amount as CSR Fund for development of that area to the tune of Rs.110 Crore (Rupees One Hundred and Ten Crore only) for the financial year 2016 to 2021.

49. The State Pollution Control Board also filed a report of non-compliance by ONGC which is almost in tune with the report submitted by the Joint Committee.It is seen from the report submitted by the Andhra Pradesh Pollution Control Board that already certain directions have been issued by the Pollution Control Board for non-compliances noticed and also for non-implementation of the recommendations made by the Joint Committee. As regards the 4th Respondent/GAIL is concerned, there was not much violation noticed and it is also seen from the subsequent report that GAIL has complied with the recommendations made. But as regards the 3rd respondent/ONGC is concerned, certain recommendations were not fully complied with and even they are operating the unit without obtaining Consent to Operate and the application submitted by the ONGC for renewal of consent was rejected by the Andhra Pradesh Pollution Control Board. The 3rd Respondent is not fully complying unit and there are lot of non-compliances noted and certain recommendations were made for the purpose of rectifying the recurring incidents of oil/gas leak and certain directions were still not complied with and certain directions were partially complied with. So under such circumstances, it

cannot be said that the ONGC is fully compliant unit and they are not liable to pay any compensation as contended by the learned Additional Solicitor General of India.

50. It is needless to say that the Government organizations are expected to be more compliant units and they should be a model for other private sectors. When such latches were found on private sector, the Tribunal will be taking action against them on the basis of the formula evolved by the Central Pollution Control Board for assessing compensation for the violations committed and if there is any further damage caused that also will be taken note of for the purpose of assessing compensation apart from directing them to take steps to remedy the same for restoring the damage caused to the environment. As regards the 4th Respondent/GAIL is concerned, we don't think that there is any necessity to impose any compensation and the Joint Committee also did not find reason for imposing compensation on GAIL, as the violations noted were minor in nature and those things were rectified by them as well. So, under such circumstances, we accept the Joint Committee report with regard to GAIL and we direct the GAIL to strictly comply with the norms in carrying out their operation and strictly comply with the recommendations made by the Joint Committee and the State Pollution Control Board in the consent granted and they must also operate the unit strictly in compliance with the conditions imposed in the consent or other permissions granted. As regards ONGC is concerned, still there are certain non-compliance noticed and renewal of Consent to Operate applied for by ONGC for their unit was rejected by the Andhra Pradesh Pollution Control Board. Further, the Andhra Pradesh Pollution Control Board also issued notices to the 3rd respondent for further non-compliances noticed. So under such circumstances, we don't find any reason to reduce the compensation assessed by the Joint Committee in the subsequent report dated 23.03.2022 which the 3rd Respondent is liable to pay to the Andhra Pradesh Pollution Control Board, failing which, the Andhra Pradesh Pollution Control Board is directed to take steps to recover the amount and utilize the amount after preparing a remediation plan for the purpose of protecting the project affected area in consultation with the District

Collector of the concerned district and that amount must be spent in a scientific manner which will be helpful for the purpose of benefiting the project affected area.

51. The State Pollution Control Board is also directed to take appropriate action against ONGC for the violations committed apart from recovery of Environmental Compensation and other actions that are provided under the respective statutes, in accordance with law.

52. We are not going into the question as to whether the compensation for acquisition of land for the project of ONGC has been paid to the project affected people etc., as it is not falling within the jurisdiction of this Tribunal under Section 14 & 15 of the National Green Tribunal Act, 2010.

53. In view of the above, we feel that the application can be disposed of with the following directions:-

a. We accept the reports submitted by the Joint Committee on two occasions, one filed on the basis of the directions issued by this Tribunal while admitting the matter and other filed after considering the objections filed by the parties.

b. We reject the contention of the 3rd respondent that they are fully compliant unit and they are not liable to pay any compensation for the violations committed.

c. We direct the 3rd respondent/ONGC to pay the Environmental Compensation of **Rs.22,76,62,500/- (Rupees Twenty Two Crore Seventy Six Lakh Sixty Two Thousand and Five Hundred only)** assessed by the Joint Committee as per their second report dated 23.03.2022 to the Andhra Pradesh Pollution Control Board **within a period of 6 (Six) months**, failing which, the Andhra Pradesh Pollution Control Board is directed to take steps to recover the amount from the 3rdrespondent in accordance with law.

d. The Andhra Pradesh Pollution Control Board is also directed to take further action (if any) required against the 3rd respondent for non-compliance of the conditions or operating the unit against environmental laws after following the due process of law and if

further violations are noticed, they are at liberty to impose further Environmental Compensation apart from initiating further action as provided under the respective statutes in accordance with law.

e. The Andhra Pradesh Pollution Control Board is also directed to monitor the operation of Respondent Nos.3 & 4 periodically and if there is any violation noticed, then they are directed to take appropriate action against them, including imposition of environmental compensation apart from taking further coercive action as provided under the respective statutes in accordance with law.

f. The 4th Respondent/GAIL is directed to comply with the recommendations made by the Joint Committee and also directed to carry out the recommendations made and operate their unit strictly complying with the conditions imposed in the consent and other clearances granted.

g. Both the Respondent Nos.3 & 4 are directed to carry out the safety measures which they are expected to carry out as per the guidelines issued by the MoEF&CC and the Ministry of Oil and Natural Gas from time to time so as to avoid any incidents of leakage in future in that area.

h. Respondent Nos.3 & 4 are also directed to strictly comply with the utilization of CSR Fund which they are expected to spend in the project affected area and utilization of the amount by Respondent Nos.3 & 4 has to be monitored by the District Collector of the concerned district.

i. The MoEF&CC is directed to monitor the compliance of the conditions of Environmental Clearance (EC), including utilization of CSR Fund, if any imposed and if there is any violation found, they are directed to take appropriate action against the violating unit in accordance with law.

j. On recovery of the compensation amount from the 3rd respondent, the State Pollution Control Board in coordination with the District Collector of the concerned district, is directed to prepare an action plan for providing remedial measures, if any, required in the project affected area and utilize the amount for carrying out that action plan in a scientific manner.

k. The right of the applicant to approach this Tribunal in future for any

violations or pollution caused on account of the operation of Respondent Nos.3 & 4 in that area, is left open and the other reliefs claimed by the applicant in the application are rejected.

54. The points are answered accordingly.

55. In the result, the Original Application is allowed in part and disposed of with the following directions:

(i) We accept the reports submitted by the Joint Committee on two occasions, one filed on the basis of the directions issued by this Tribunal while admitting the matter and other filed after considering the objections filed by the parties.

(ii) We reject the contention of the 3rd respondent that they are fully compliant unit and they are not liable to pay any compensation for the violations committed.

(iii) We direct the 3rd respondent/ONGC to pay the Environmental Compensation of **Rs.22,76,62,500/- (Rupees Twenty Two Crore Seventy Six Lakh Sixty Two Thousand and Five Hundred only)** assessed by the Joint Committee as per their second report dated 23.03.2022 to the Andhra Pradesh Pollution Control Board **within a period of 6 (Six) months**, failing which, the Andhra Pradesh Pollution Control Board is directed to take steps to recover the amount from the 3rdrespondent in accordance with law.

(iv) The Andhra Pradesh Pollution Control Board is also directed to take further action (if any) required against the 3rd respondent for non-compliance of the conditions or operating the unit against environmental laws after following the due process of law and if further violations are noticed, they are at liberty to impose further Environmental Compensation apart from initiating further action as provided under the respective statutes in accordance with law.

(v) The Andhra Pradesh Pollution Control Board is also directed to monitor the operation of Respondent Nos.3 & 4 periodically and if there is any violation noticed, then they are directed to take appropriate action against them, including imposition of environmental compensation apart from taking further coercive action as provided under the respective statutes in accordance with law.

(vi) The 4th Respondent/GAIL is directed to comply with the recommendations made by the Joint Committee and also directed to carry out the recommendations made and operate their unit strictly complying with the conditions imposed in the consent and other clearances granted.

(vii) Both the Respondent Nos.3 & 4 are directed to carry out the safety measures which they are expected to carry out as per the guidelines issued by the MoEF&CC and the Ministry of Oil and Natural Gas from time to time so as to avoid any incidents of leakage in future in that area.

(viii) Respondent Nos.3 & 4 are also directed to strictly comply with the utilization of CSR Fund which they are expected to spend in the project affected area and utilization of the amount by Respondent Nos.3 & 4 has to be monitored by the District Collector of the concerned district.

(ix) The MoEF&CC is directed to monitor the compliance of the conditions of Environmental Clearance (EC), including utilization of CSR Fund, if any imposed and if there is any violation found, they are directed to take appropriate action against the violating unit in accordance with law.

(x) On recovery of the compensation amount from the 3rd respondent, the State Pollution Control Board in coordination with the District Collector of the concerned district, is directed to prepare an action plan for providing remedial measures, if any, required in the project affected area and utilize the amount for carrying out that action plan in a scientific manner.

(xi) The right of the applicant to approach this Tribunal in future for any violations or pollution caused on account of the operation of Respondent Nos.3 & 4 in that area, is left open and the other reliefs claimed by the applicant in the application are rejected.

(xii) Considering the circumstances, parties are directed to bear their respective costs in the application.

(xiii) The Registry is directed to communicate this order to the MoEF&CC both New Delhi and Regional Office at Vijayawada, Ministry of Oil and Natural Gas, Andhra Pradesh Pollution Control Board, District Collector of East Godavari District and West Godavari District, ONGC and GAIL for their information and compliance of directions.

56. With the above observations and directions, this Original Application is disposed of.

Sd/-
Justice K. Ramakrishnan, J.M.

Sd/-
Shri. Saibal Dasgupta, E.M.

O.A. No.175/2020 (SZ),
02nd August 2022. Mn.

Annexure-III

ANDHRA PRADESH POLLUTION CONTROL BOARD
D.No.33-26-14D/2, Near Sunrise Hospital, Pushpa Hotel Center,
Chalamalavari Street, Kasturibaipet, Vijayawada – 520010
Phone: 0866-2463200, Website: https://pcb.ap.gov.in

Lr. No.APPCB/HO/UH-II/NGT OA No.175 of 2020/2022 **06/09/2022**

Sub: APPCB – HO – Unit-II – Hon'ble NGT Order dt. 02.08.2022 in OA No 175 of 2020 – Payment of Environmental Compensation to APPCB and to furnish station wise detailed compliance status report on the violations observed by the Joint Committee – Reg.

Ref: Hon'ble NGT Order dt. 02.08.2022 in OA No 175 of 2020.

***

With reference to the above, it is to inform that Sri Venkatapathi Raja Yenumula filed O.A No 175 of 2020 before the Hon'ble National Green Tribunal, Southern Zone, Chennai on the allegation that large scale air, sound, soil and water pollution are being caused in East and West Godavari Districts due to operation of various stations by ONGC & GAIL. The Hon'ble NGT appointed a Joint Committee and the said committee submitted its reports to Hon'ble NGT on 09.04.2021 and 23.03.2022.

The Hon'ble NGT in its Order dt. 02.08.2022 (copy enclosed) allowed the Original Application in part and disposed of with the following directions:

1. We accept the reports submitted by the Joint Committee on two occasions, one filed on the basis of the directions issued by this Tribunal while admitting the matter and other filed after considering the objections filed by the parties.
2. We reject the contention of the 3rd respondent /ONGC that they are fully compliant unit and they are not liable to pay any compensation for the violations committed.
3. We direct the 3rd respondent/ONGC to pay the Environmental Compensation of Rs.22,76,62,500/- (Rupees Twenty Two Crore Seventy Six Lakh Sixty Two Thousand and Five Hundred only) assessed by the Joint Committee as per their second report dated 23.03.2022 to the Andhra Pradesh Pollution Control Board within a period of 6 (Six) months, failing which, the Andhra Pradesh Pollution Control Board is directed to take steps to recover the amount from the 3rdrespondent in accordance with law.
4. The Andhra Pradesh Pollution Control Board is also directed to take further action (if any) required against the 3rd respondent for non-compliance of the conditions or operating the unit against environmental laws after following the due process of law and if further violations are noticed, they are at liberty to impose further Environmental Compensation apart from initiating further action as provided under the respective statutes in accordance with law.
5. The Andhra Pradesh Pollution Control Board is also directed to monitor the operation of Respondent Nos.3 & 4 periodically and if there is any violation noticed, then they are directed to take appropriate action against them, including imposition of environmental compensation apart from taking further coercive action as provided under the respective statutes in accordance with law.

....

In view of the above, you are hereby directed -

i. To pay the Environmental Compensation of Rs.22,76,62,500/- (Rupees Twenty Two Crore Seventy Six Lakh Sixty Two Thousand and Five Hundred only) assessed by the Joint Committee as per their second report dated 23.03.2022; to the Andhra Pradesh Pollution Control Board within a period of 6 (Six) months.
ii. To submit station wise detailed compliance status report on the violations observed by the Joint Committee to the concerned Regional Offices of APPCB and to this office within 15 days.

Should you fail to pay the environmental compensation within the specified period, further action will be initiated against your industry under section 33(A) of Water (Prevention & Control of Pollution) 1974 and under section 31(A) of Air (Prevention & Control of Pollution) Act, 1981 and amendments thereof, in the interest of safeguarding Public Health and Environment, without any further notice.

Vijay Kumar Gsrkr Ias
MEMBER SECRETARY

To
The Executive Director,
M/s.Oil & Natural Gas Corporation Ltd.,
Base Complex, Rajamahendravaram.
e-mail: narayan_amit@ongc.co.in

Copy to:

1. The Joint Chief Environmental Engineer, A.P. Pollution Control Board, Zonal Office, Visakhapatnam for necessary follow up.
2. The Environmental Engineer, APPCB, Regional Office, Kakinada & Eluru with directions to submit detailed reports on all the respective stations within a period of one month along with the replies furnished by the ONGC; for taking further necessary action as directed by the Hon'ble NGT. He is also instructed to closely monitor the operations of ONGC & GAIL and ensure compliance with Hon'ble NGT directives.

Annexure-IV

OIL AND NATURAL GAS CORPORATION LIMITED
HEALTH,SAFETY AND ENVIRONMENT DEPARTMENT
RAJAHMNDRY ASSET::RAJAHMUNDRY
FAX : 0883-2427788
PHONE: 2431570-75 EXTN.4419

No: ONG/RA/HSE/APPCB/2022-23, Dated : 14.09.2022.

From: O/o Head HSE, ONGC, Rajahmundry Asset.

To,
The Member Secretary,
The Andhra Pradesh Pollution Control Board,
D.No.33-2614D/2, Near Sunrise Hospital,
Pushpa Hotel Center,
Chalamalavari Street, Kasturibaipet,
Vijayawada -520010.

Sub: Payment of Environmental Compensation as per Honorable NGT verdict dated 02.08.2022– Reg.

Respected Sir,

Please find enclosed herewith the Demand Draft bearing the No:673422, Dt .13.09.2022 for Rs.7,52,10,000/- (Rupees seven crores fifty two lakhs and ten thousand only) for the payment of Environment Compensation as per Honorable NGT Verdict dated 02.08.2022 with respect to the following installations of ONGC Rajahmundry Asset:

Name of Installations:	**Total Environmental Compensation to be paid to APPCB with respect to these installations:**
Kesanapalli GGS	Rs.6,38,40,000/-
Gopavaram GGS	Rs.1,13,70,000/-
Total	**Rs. 7,52,10,000/-**

Kindly acknowledge receipt of the same.

Thanking You Sir,

Encl : 1. Demand Draft No.673422, Dt.13.09.2022.

Yours faithfully,

14/09/22

Head HSE(officiating)
ONGC Rajahmundry Asset

A.P. POLLUTION CONTROL BOARD
15 SEP 2022
D.No. 33-25-14 O/2
Chalamalavari St.,
KASTURIBAIPETA, VIJAYAWADA - 520 010.

जारी करने वाली शाखा भारतीय स्टेट बैंक
Issuing Branch: State Bank of India RAJAHMUNDRY BAZAR
कोड क्र /CODE No: 03485
Tel No. 88300-244239

मांगड्राफ्ट
DEMAND DRAFT

Key: WOKBAN
Sr. No: 861736

1	3	0	9	2	0	2	2
D	D	M	M	Y	Y	Y	Y

मांगे जानेपर MEMBER SECRETARY,APPCB,VIJAYAWADA********** या उनके आदेश पर
ON DEMAND PAY OR ORDER

रुपये RUPEES Seven Crore Fifty Two Lakh Ten Thousand Only

अदा करें ₹ 75210000.00

IOI 000533673422 Key: WOKBAN Sr. No: 861736 AMOUNT BELOW 75210001(0/8) मूल्य प्राप्त / VALUE RECEIVED
Name of Applicant OIL AND NATURAL GAS CORPORATIO

भारतीय स्टेट बैंक
STATE BANK OF INDIA
अदाकर्ता शाखा / DRAWEE BRANCH:VIJAYAVADA
कोड क्र. /CODE No: 00948

प्राधिकृत हस्ताक्षरकर्ता
AUTHORISED SIGNATORY

B.V.Durga Rao
Deputy Manager
PF No. 562243
Spl. Letter

कम्प्यूटर द्वारा मुद्रित होने पर ही वैध
VALID ONLY IF COMPUTER PRINTED

केवल 3 महीने के लिए वैध
VALID FOR 3 MONTHS ONLY

₹ 1,50,000/- एवं अधिक के लिखत दो अधिकारियों द्वारा हस्ताक्षरित होने पर ही वैध है।
INSTRUMENTS FOR ₹ 1,50,000/- & ABOVE ARE NOT VALID UNLESS SIGNED BY TWO OFFICERS

S. GOWTHAM KUMAR
7458746

⑈673422⑈ ⑆00000 20001⑆ 000533⑈ 16

MANIPAL TECHNOLOGIES LIMITED KARNATAKA | CTS 2010

Annexure-V

Item No.01:-

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

(Through Video Conference)

Execution Application No. 12 of 2023(SZ)
in
Original Application No.175 of 2020(SZ)

IN THE MATTER OF:

Venkatapathi Raja Yenumula,
Andhra Pradesh.

…Applicant(s)

Versus

Union of India,
Through its Secretary,
MOEF & CC, New Delhi and ors.

..Respondent(s)

Date of hearing: 20.11.2023.

CORAM:

HON'BLE Smt. JUSTICE PUSHPA SATHYANARAYANA, JUDICIAL MEMBER

HON'BLE Dr. SATYAGOPAL KORLAPATI, EXPERT MEMBER

For Applicant(s): Mr. Sravan Kumar.

For Respondent(s): Mr. R. Sankaranarayanan, ASGI for ONGC.
Mrs. Madhuri Donti Reddy for State of AP.

ORDER

1. The learned Additional Solicitor General appearing for the 3rd Respondent/Oil and Natural Gas Corporation would seek 6 (six) weeks time for depositing the amount that has been directed to be paid in the order.

2. He also mentioned that there is an arithmetical error in the calculation of the environmental compensation to be paid by them based on the Joint Committee report and he also filed a Review Application to that effect.

3. Therefore, the deposit that may be made will be subject to the order which may be passed in the Review Application.

4. Regarding the compliances to be done by the official respondents, the learned counsel seeks 3 (three) weeks time to file a report.

5. Post the matter on **03.01.2024.**

Sd/-
Smt. Justice Pushpa Sathyanarayana, JM

Sd/-
Dr. Satyagopal Korlapati, EM

E.A. No.12/2023(SZ) in
O.A. No.175/2020(SZ)
20th November, 2023. AD.

Annexure-VI

OIL AND NATURAL GAS CORPORATION LIMITED
HEALTH,SAFETY AND ENVIRONMENT DEPARTMENT
RAJAHMNDRY ASSET::RAJAHMUNDRY
FAX : 0883-2427788
PHONE: 2431570-75 EXTN.4419

No: ONG/RA/HSE/APPCB/NGT/2023-24

Date : 22.12.2023

To
The Member Secretary,
Andhra Pradesh Pollution Control Board,
Paryavaran Bhavan
APIIC Colony Road,Gurunanak Colony,
Autonagar, Vijayawada-520007

Sub: Payment of Environmental Compensation as per Honourable NGT verdict dated 02.08.2022 and E.A.NO.12 of 2023(SZ) in O.A.No.175 of 2020(SZ) dated 20th November ,2023.AD.

Respected Sir,

Please find enclosed herewith the Demand Draft bearing the no. 471838 Dt 22.12.2023 for Rs 8,42,32,500/-(Eight Crores Forty Two Lakhs Thirty Two thousand Five Hundred) for the payment of Environment Compensation as per Honourable NGT verdict dated 02.08.2022 and E.A.nO.12/2023(SZ) in O.A.No.175/2020(SZ) 20th November ,2023.AD, with respect to the installation of ONGC Rajahmundry Asset mentioned below at no 2.

1.In first part compensation levied for Rs.7.52 Cr paid by ONGC to the Andhra Pradesh Pollution Control Board on 15.09.2022 for,

Kesanapalli GGS,Rs	6,38,40,000
Gopavaram GGS,Rs	1,13,70,000
Total,Rs	7,52,10,000/-

2. Now remaining amount of compensation of ONGC Rajahmundry Asset as,

Installation	Environmental compensation – 1st visit on committee, In Rs	Environmental compensation – 2nd visit of Committee in Rs	Total amount to be paid in Rs
Tatipaka GCS	7,28,62,500	1,13,70,000	8,42,32,500

Note: As per Execution Application No.12 of 2023(SZ)(refer point 2&3) hearing dated 20.11.2023, "the deposit that may be made will be subject to the order which may be passed in the review Application by ONGC" .

Kindly acknowledge receipt of the same,

Thanking You sir

Enc: 1.Demand Draft No.471838 dated 22.12.2023.

2. Execution Application no .12 of 2023(sz).

A.P. POLLUTION CONTROL BOARD
28 DEC 2023
AUTONAGAR, VIJAYAWADA-520 007.

Yours faithfully

(Head HSE)

ONGC ,Rajahmundry Asset.

Item No.01:-

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

(Through Video Conference)

Execution Application No. 12 of 2023(SZ)
in
Original Application No.175 of 2020(SZ)

IN THE MATTER OF:

Venkatapathi Raja Yenumula,
Andhra Pradesh.

...Applicant(s)

Versus

Union of India,
Through its Secretary,
MOEF & CC, New Delhi and ors.

..Respondent(s)

Date of hearing: 20.11.2023.

CORAM:

HON'BLE Smt. JUSTICE PUSHPA SATHYANARAYANA, JUDICIAL MEMBER

HON'BLE Dr. SATYAGOPAL KORLAPATI, EXPERT MEMBER

For Applicant(s): Mr. Sravan Kumar.

For Respondent(s): Mr. R. Sankaranarayanan, ASGI for ONGC.
Mrs. Madhuri Donti Reddy for State of AP.

ORDER

1. The learned Additional Solicitor General appearing for the 3rd Respondent/Oil and Natural Gas Corporation would seek 6 (six) weeks time for depositing the amount that has been directed to be paid in the order.

2. He also mentioned that there is an arithmetical error in the calculation of the environmental compensation to be paid by them based on the Joint Committee report and he also filed a Review Application to that effect.

3. Therefore, the deposit that may be made will be subject to the order which may be passed in the Review Application.

4. Regarding the compliances to be done by the official respondents, the learned counsel seeks 3 (three) weeks time to file a report.

5. Post the matter on **03.01.2024.**

Sd/-
Smt. Justice Pushpa Sathyanarayana, JM

Sd/-
Dr. Satyagopal Korlapati, EM

E.A. No.12/2023(SZ) in
O.A. No.175/2020(SZ)
20th November, 2023. AD.

Annexure-VII

OIL AND NATURAL GAS CORPORATION LIMITED
EASTERN OFFSHORE ASSET
1st Floor, B-Block, ONGC Logistic Park, APIIC Industrial Area,
Vakalapudi, Kakinada-533 005
Ph No. 9968282234, 0884 – 2322100

No: ONGC/EOA/Surface/APPCB/NGT/2023-24 **Date: 22.12.2023**

To
The Member Secretary,
Andhra Pradesh Pollution control Board,
Paryavaran Bhavan
APIIC Colony Road, Gurunanak Colony,
Auto Nagar, Vijayawada-520007.

Sub: Payment of Environmental compensation as per the Honorable NGT Verdict date 02.08.2022 and E.A. No.12/2023(SZ) in O.A. No.175/2020(SZ) 20th November, 2023. AD.

Respected Sir,

Please find enclosed herewith the Demand Draft bearing the No.484296 dated 22.12.2023 for Rs 6,82,20,000 (Rupees Six Crore Eighty Two lakh Twenty Thousand Only) for the payment of Environmental Compensation as per Honorable NGT Verdict Dated 02.08.2022 and E.A. No.12/2023(SZ) in O.A. No.175/2020(SZ) 20th November, 2023. AD with respect to the following installation of ONGC Eastern Offshore Asset, Kakinada. As per Execution Application No. 12 of 2023(SZ)(refer point 3) hearing dated 20.11.2023, this deposit will be subject to the order which may be passed in the review Application by ONGC.

S.No	Name of the installation	EC amount assessed during first visit of the committee	EC amount assessed during 2nd visit of the committee	Total EC amount in INR to be paid to APPCB
1	Odalarevu GCS	Rs.5,68,50,000/-	Rs.1,13,70,000/-	Rs.6,82,20,000/-
Total (Rupees Six Crore Eighty Two lakh Twenty Thousand Only)				**6,82,20,000/-**

Kindly acknowledge the receipt of the same.

Yours faithfully
Prabal Sengupta 23/12/23
Prabal Sengupta, GGM(P)
Surface Manager

Enclosures:
1) Demand Draft No: 484296, dated 22.12.2023
2) Execution Application No. 12 of 2023(SZ)

A.P. POLLUTION CONTROL BOARD ★ AUTONAGAR, VIJAYAWADA-520 007. 28 DEC 2023

A.P. POLLUTION CONTROL BOARD ★ AUTONAGAR, VIJAYAWADA-520 007. 28 DEC 2023

जारी करने वाली शाखा
Issuing Branch: COMMERCIAL BRANCH, KAKINADA
कोड क्र /CODE No: 04248
Tel No. 0884-2383413

भारतीय स्टेट बैंक
State Bank of India

मांगड्राफ्ट
DEMAND DRAFT

Key: SEJBOW
Sr. No: 114473

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मांगे जानेपर MEMBER SECRETARY AP POLLUTION CONTROL BOARD**********
ON DEMAND PAY

या उनके आदेश पर
OR ORDER

रुपये RUPEES Six Crore Eighty Two Lakh Twenty Thousand Only

अदा करें ₹ 68220000.00

IOI 000478484296
Name of Applicant

Key: SEJBOW Sr. No: 114473
OIL AND NATURAL GAS CORPORATIO

AMOUNT BELOW 68220001(0/8)

मूल्य प्राप्त / VALUE RECEIVED

भारतीय स्टेट बैंक
STATE BANK OF INDIA
अदाकर्ता शाखा / DRAWEE BRANCH:VIJAYAVADA
कोड क्र . /CODE No: 00948

प्राधिकृत हस्ताक्षरकर्ता
AUTHORISED SIGNATORY

शाखा प्रबंधक
BRANCH MANAGER
S.V.K. PRASAD
SS No: 10095
ME Branch-04248

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कम्प्यूटर द्वारा मुद्रित होने पर ही वैध
VALID ONLY IF COMPUTER PRINTED

केवल 3 महीने के लिए वैध
VALID FOR 3 MONTHS ONLY

₹ 1,50,000/- एवं अधिक के लिखत दो अधिकारियों द्वारा हस्ताक्षरित होने पर ही वैध है।
INSTRUMENTS FOR ₹ 1,50,000/- & ABOVE ARE NOT VALID UNLESS SIGNED BY TWO OFFICERS

MANIPAL TECHNOLOGIES LIMITED KARNATAKA / CTS-2010

⑈484296⑈ 000002000⑆ 000478⑈ 16

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Annexure-VIII

REPORT IN E.A. NO. 12 OF 2023 IN O.A. NO.175 OF 2020 (SZ)

O.A no. 175 of 2020 was filed before the Hon'ble NGT Southern Bench on alleged pollution by M/s ONGC (Oil & Natural Gas Corporation Ltd) units in the State of Andhra Pradesh along the Krishna-Godavari Basin located in East Godavari and We Godavari District of Andhra Pradesh regarding oil leakage in the pipe lines there by damaging agricultural land and water bodies In order to ascertain the impact of the activities of M GAIL and M/s ONGC, the Hon'ble NGT in its orders dated 08.09.2020 (Annexure-I) has appointed a Joint Committee comprising of 1) a Senior Officer from Regional Office, Ministry of Environment Climate Change (MoEF&CC), Chennai, 2) a Senior Officer from Regional Office, Centr Pollution Control Board (CPCB), Chennai, 3) a Senior Officer as deputed by the Chairman the Andhra Pradesh Pollution Control Board (APPCB), 4) the District Collector, East Godavari and West Godavari Districts or a Senior Officer not below the rank of Assistant Collector/Sub Divisional Magistrate designated by the respective District Collectors and 5) an Expert from Petroleum Engineering from Andhra University College of Engineering, Visakhapatnam inspect the area in question and submit a factual as well as action taken report. The Joint Committee submitted the report to the Hon'ble NGT.

The Hon'ble NGT in its order 02.08.2022 (Annexure-II) in OA No.175 of 2020, allowed the Original Application in part and disposed of with certain directions. The APPCB addressed letter on 06.09.2022 (Annexure-III) to M/s ONGC directing them to pay Environmental Compensation of Rs.22,76,62,500/- (Total for Four facilities) within a period of six months abiding to the instructions of the Hon'ble NGT.

In response to the above, M/s.ONGC vide letter dt.14.09.2022 (Annexure-IV) paid Environmental Compensation of Rs.7,52,10,000/- pertains to two facilities i.e. Kesanapalli GGS & Gopavaram GGS. As per the directions of the Hon'ble NGT in E.A. No.12 0f 2023(SZ) in OA No175 of 2020(SZ) dated 20.11.2023 (Annexure-V), M/s ONGC vide letter dated 22.12.2023 (Annexure-VI) has paid the total EC of Rs. 15,24,52,500/-.

Thus, abiding to the directions of the Hon'ble NGT, M/s ONGC has paid total Environmental Compensation of Rs.22,76,62,500/-

The present status of compliance of the joint committee observations in the facilities of M/s ONGC relating to the OA No175 of 2020(SZ) is herewith submitted for kind perusal (Annexure-VII).

Further, it is to submit that the status of compliance of the facilities was reviewed in the External Advisory Committee (EAC) meeting held on 26.02.2024 and directions were issued to the facilities located at Odalarevu, Tatipaka GCS, Gopavaram GGS and Showcause Notice issued to Kesanapalli GGS (enclosed).

This report is submitted for kind consideration. The APPCB will abide by all such directions as this Hon'ble Tribunal may deem fit and appropriate.

Date:12.04.2024
Place: Kakinada.

Environmental Engineer,
A.P. Pollution Control Board,
Regional Office, Kakinada.

ENVIRONMENTAL ENGINEER
A.P.POLLUTION CONTROL BOARD
Regional Office,KAKINADA

The present status of non-compliance observed by the Joint Committee at specific installations is submitted as below:

1. <u>Tatipaka GGS</u>

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Status of compliance as per the Joint Committee report dated March, 2022	Remarks of the Joint Committee	Current Status
1	The storm water from the installation is discharged into main drains laid outside the unit premises. During inspection the committee observed that due to heavy rains and water logging, effluent was getting mixed with storm water and from the main drain it may ultimately join sea.	Oil catchers are provided in two storm water drains located near process area and any oil carried over from the process area is recovered in the oil catcher. Unit has taken measures to desilt and clean the storm water drains twice a year to prevent logging. Unit has submitted that all the drains were cleaned and unit has taken measures to recover oil from the storm water drains. Unit claims as complying	Storm water drains are cleaned up in the most of storm water drains. However, no information is available with regard to mode of disposal the silt & oily sludge. Seepages of effluent near the effluent collection tank, unloading tank were observed. Provision of discharge of Storm water is made outside the unit. Not made any arrangements for collection and treatment of first flush of rain water in ETP.	Partially complying	No stagnation in storm water drains observed. Made arrangement for collection of first flush of storm water. By providing two tanks with pumps in the storm water network for the collection of contaminated storm water and to pump contaminated water to ETP.
2	The tilted plate interceptor	ETP Upgradation work is yet to	Supporting civil structure (wall) is strengthened only.	Not complying	The industries yet to take up the works for

	and slop oil tank are not working properly. The capacity and retention time of plate interceptor is not adequate to treat the effluent. Hence the oil removed from effluent is stagnated and overflowing.	be undertaken. Support structure of Tilted Plate interceptor is strengthened and is in operation as per the design capacity of 21 cum per hour which is adequate as per the design criteria of ETP. Unit claims as works under progress.	Tilted plate interceptor is not upgraded. The existing plate interceptor and oil separators are not adequate to treat the effluent generated.		upgradation of tilted plate interceptor. The TPI is proposed to replace. The industry has awarded the works (project) of revamping the entire ETP facility to M/s. Hubert Enviro Care Systems Pvt. Ltd, Chennai. The works are proposed to be completed by May, 2024.
3	The units have not amended the consent for the revised quantity of effluent generated. Thereby presently the effluent generated from the installation is more than the quantity specified in the CFO issued by APPCB and moreover the existing ETP is not adequate in terms of capacity to treat the present effluent generated. As per the CFO issued	ETP upgradation works is yet to be undertaken. Post committee inspection, Tatipaka GGS is taking effluent from other installations only on rare occasions and effluent generated from Tatipaka GGS is only treated in the ETP. Unit claims as work under progress	The unit has Neither obtained amendment nor filed any application to the Board to obtain amendment of the consent order for increased quantity of effluent generated. As per the records, average effluent generated from the installation is 350m^3/day and provided collection tank of 40 KL only. Thus, the unit has not even one day storage of effluent. Effluent samples from inlet and outlet of ETP, leachate near sludge pit were collected and the analysis results are given in table 1.	Complying with consent discharge standards.	Complying with consent discharge standards as per the analysis of samples collected on 23.01.2024. The ETP was constructed for treatment of 500 KLD effluent. However, the treated effluent storgae capacity is only 180KLD. The average wastewater treated in the ETP of the facility is about 207 KLD and the same is being pumped to ED well

	to Tatipaka GGS on 27.02.2015 the quantity of effluent is 225 KLD but presently effluent generated is more than 500 KLD. In addition, 15 KLD of effluent generated from Tatipaka mini refinery, Endamuru GGS and Mandapeta GGS has to be treated. Hence the existing ETP of capacity 500KL is not adequate to treat the present quantity of effluent generated.		Old ETP is not in use and is filled with effluent. Oily effluent is still present in clarifier. No time bound action plan submitted to treat the effluent present in the old ETP.		

Table 1: Wastewater analysis results of Tatipaka GGS (Collected on 23.01.2024)

	Sampling Location	**Inlet of ETP**	**Outlet of ETP which is being reinjection into abandoned wells**	**As per CFO standards**
S.No	**Parameter**	**Values (mg/l) Except pH**		
1.	pH	7.36	7.74	--
2.	Total Suspended Solids at 105^0 C	312	72	100
3.	Total Dissolved Solids at 105^0 C	12600	2428	--
4.	Chemical Oxygen Demand	2000	212	--
5.	Biochemical Oxygen Demand	580	46	--
6.	Oil & Grease	128	7.6	10

As per the analysis reports, the treated effluent is conforming to the Board's standards for ED well disposal.

4	Sludge drying beds	Unit has invited	Oily sludge is being stored in open	Not complying	The industry has awarded

	are not in operation	tenders for disposal of sludge. Oily sludge is collected in Sludge storage tank. Tendering work is in progress for Oil recovery from Sludge (E-tender No. K16JC21015) followed by Bioremediation of residual for which NOA exist with TERI. Unit claims as work under progress.	sludge pit which is completely filled up to the brim. Lot of spillages observed all around the sludge pit. As the sludge pit completely filled up to the brim, there is every possible of over flow and contamination of rain water during rainy season.		the project of revamping the entire ETP facility to M/s. Hubert Enviro Care Systems Pvt. Ltd, Chennai. The works are proposed to be completed by May, 2024. The industry has awarded works of oil recovery from the sludge followed by bioremediation. At present, the 1st phase of work at Gopavaram completed and proposed to complete bioremediation works by 31.05.2024. M/s. ONGC intends to complete the bioremediation at Tatipaka in the 2nd phase i.e., by 31.03.2025.
5	TVOC levels measured using handheld PID analyser in the ETP area is varying from 2.2ppm to 4.0ppm	Online Hydrocarbon detectors are installed to monitor fugitive emissions. Guard pond and storm water drains cleaning has been carried out and TVOC levels are within the limits. Unit claims as	No perceptible smell was observed during the inspection.	Complying	No perceptible smell was observed during the inspection.

		complying			
6	There is no dedicated hazardous waste storage shed. ETP sludge, empty barrels, slop oil are stored haphazardly within the unit premises	Hazardous waste and chemical sheds are constructed. Storage of hazardous waste & chemicals are being stored in the designated sheds. Unit claims as complying	Provided closed shed for storage of hazardous waste, but no hazardous waste stored in the shed.	Partially complying	Provided closed shed for storage of hazardous waste and storing the hazardous waste under sheds.
7	In old GGS plant drain effluent is joining storm water drains and pH of drain effluent was 14 and same was joining storm water drain.	Drain channels are cleaned. The pH levels are observed to be within the limits. Unit claims as complying	No effluent was observed in the drains. Near old GGS plant. However, there is possibility of contamination of storm water during rains. The unit has to isolate the process area from storm water drains in order to prevent contamination during rainy season.	Complying	No effluent was observed in the drains Made arrangement for collection of pumping the contaminated water for treatment.
8	LDAR of refinery is not carried out. TVOC levels near the valves of distillation column is around 5ppm and near sampling point is 70ppm	Unit is periodically monitoring TVOC levels internally. Unit claims as complying	Not carrying out Leak detection and repair (LDAR) study through certified agencies.	Partially complying	LDAR carried out by third party and report submitted.

9	In the gas dehydration unit in the re-boiler system, rich glycol (containing moisture) is heated to 200^{0}C and moisture is knocked out into the atmosphere. During knocking out some glycol vapors is carried along with moisture. There was odor nuisance in the area.	The Boiling point of TEG is more than 240^{o}C whereas, the re-boiler temperature is maintained at 190^{o}C. So the chances of glycol vaporisation is nil. Unit claims as complying	No perceptible smell was observed during the inspection.	Complying	No perceptible smell was observed during the inspection
10	Odour nuisance	Due to cleaning of drains, removal of oily sludge and controlled knock out emissions TVOC levels are within the limits and hence there is no odour nuisance. Unit claims as complying	No perceptible smell was observed during the inspection.	Complying	No perceptible smell was observed during the inspection

2. <u>Kesanapalli-W: GGS</u>

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Status of compliance as per the Joint Committee report dated March, 2022	Remarks of the Joint Committee	Current Status

1	Effluent is getting mixed with storm water and storm water is discharged into main drain outside the unit premises. pH of the storm water was 12. In addition, the leaves and garden waste is in the drain and getting putrefied in the drain itself	Drains were cleaned.	Storm water drains were cleaned and dry at present. However, there is possibility of contamination of storm water during rains. The unit has to isolate the process area from storm water drains in order to prevent contamination during rainy season. No records available regarding quantity of oily sludge removed and disposed.	Partially complying	Storm water drains were cleaned and dry at present. 3 nos of oil catchers installed in storm water drain facilitating lifting of contaminated water to the ETP.
2	The effluent stored in treated effluent sump was red in color and pH was more than 12	Red colored effluent is taken to ETP for treatment. Unit informed that awareness was created among the workers as not to add any chemicals into treated water or fresh water sumps. Unit claims as complying	Treated effluent samples were collected and analysis reports were submitted	Complying	Treated effluent samples were collected and samples are meeting the standards for injection to the abandoned wells. However, the industry shall meet the marine discharge standards.
3	There is no dedicated hazardous waste storage sheds	Dedicated storage sheds for hazardous waste and chemicals have been built. Unit claims as complying	Provided two sheds for chemical storage and hazardous waste storage. However, the unit has been	Partially complying constructed shed, but continuing storage of oil sludge openly in	Provided dedicated hazardous waste storage sheds. The oily

			storing ETP sludge / oily sludge openly in sludge tanks. No records pertaining to storage and disposal of Hazardous waste i.e., waste lube oil/ sludge shown during the inspection.	sludge pits.	sludge was stored in the sludge tanks and it was informed that oily sludge will be sent for the recovery of oil and then to the bioremediation, which shall be completed by 31.03.2025
4	The unit was disposing the effluent by means of marine disposal but however the unit has not obtained necessary permissions from APPCB for marine disposal. Further, part of the pipeline used for deep sea disposal (1000m stretch of pipeline taking deep sea) is broken and washed away. Presently the unit is disposing the effluent in the coast. The unit had obtained CRZ clearance for laying of pipelines.	ONGC having CFE and auto renewal of CFO for the operation of Kesanapalli-w ETP which is available upto 31.07.2023. CRZ clearance was also obtained for laying disposal line. New contract/tender was awarded for laying New Marine disposal line in place of broken line (which is expected to be completed by March-2022, in the favourable climate window) Meanwhile, temporary arrangement was made with 8”casing pipe and GRE flexible	Unit has obtained CRZ clearance for laying of pipeline for marine disposal. Unit has obtained CFE from APPCB for laying of pipeline for marine disposal on 13.08.2015. The facility applied for CFO of the Board for marine disposal on 03.12.2020 and same was rejected by APPCB on 09.03.2021 as the unit has not completed the marine pipeline. Copy of the rejection letter is enclosed as Annexure-1.	Not complying	The unit has obtained CRZ clearance from MoEF&CC, dated 11.08.2016 for the marine disposal of treated effluent from ETP. M/s. ONGC has executed the sub-sea pipe line with diffuser to dispose the treated effluent of 3000 m^3 / day. Due to the pipeline breakage at the landfall point the same was replaced.

		connection in place of the washed out portion (till the permanent line will be made available). Also additional arrangement was done to take a substantial portion of N.ETP treated effluent to ED wells ETP (old) for disposal for deep well injection, and subsequently to reduce marine disposal quantity from New ETP. Additional high pressure water injection pump was installed for this purpose. Also, additional Effluent disposal wells were commissioned after WOR for effluent disposal (deep well injection) for capacity expansion. Unit claims as work under progress	The unit has laid a pipeline for marine disposal of treated water from the new ETP into Sea at a distance about 60 mtrs., only. from the shore. The facility discharging 1200 KLD of wastewater through pipeline. As per the analysis report of the effluent discharging through pipeline into sea, the COD levels recorded as 528 mg/l against the general standard of 250 mg/l. During inspection, the facility has been laying a new pipeline at a distance of about 150 mtrs., from the existing marine disposal The facility has completed laying of 1500 m HDPE line with diffuser in the sea and trenching work by dredger pontoon		However, since there was minor deviation in the alignment of the pipeline, the facility Carried out EIA studies for obtaining CRZ clearance. During the inspection, it was observed that the unit has been discharging the treated water into Sea through marine disposal. As per the CRZ clearance, the offshore pipeline shall be at 1.5 kms from the Sea shore to disposal point in the Sea. However, the facility shall obtain amendments in the respective consent orders. The APPCB will issue necessary directions.

			Marine is in progress.		

Table 2: Effluents samples collected and the analysis results are as follows:

	Sampling Location	**Inlet of ETP (New ETP)**	**Outlet of ETP (New ETP)**	**Inlet of ETP (Old ETP)**	**Outlet of ETP (Old ETP)**
S.No	**Parameter**	**Values (mg/l) Except pH**			
1.	pH	7.35	7.31	7.12	7.45
2.	Total Suspended Solids at 105^0 C	36	11	293	25
3.	Total Dissolved Solids at 105^0 C	18896	7332	19004	13436
4.	Chemical Oxygen Demand	1024	288	1312	296
5.	Biochemical Oxygen Demand	270	65	310	70
6.	Oil & Grease	38	6.8	28	6.2

5	Water logging observed at the entrance of the unit	Area is cleared of water logging. Levelling and cleaning was done. Now the premise is properly maintained.	No water logging was observed during the inspection.	Complying	No water logging was observed during the inspection.
6	In the ETP area, the unit had covered with fresh soil. The committee excavated the portion of the soil and found that black oily soil was present below upto depth of 1m	After excavation of the area, where ever oily soil was observed and which was removed and transferred to sludge bed for bioremediation.	No oil spillage / dumping of sludge was observed.	Complying	No oil spillage / dumping of sludge was observed.
7	Opposite to new ETP boundary wall, waste oil & sludge is dumped on land to an extent of two to three acres	The said area was allowed to dried up water, where ever oily soil was observed and was removed and transferred to sludge bed for bioremediation. After cleaning properly,	No waste oil / sludge was observed.	Complying	No waste oil / sludge was observed.

		initiative was taken to bring this area under green belt (by growing greenery)			
8	In around 5acres of land opposite to DG room the effluent & sludge is accumulated. From the sediment sampling it is learnt that mercury is present in the range of 201 mg/Kg	The area allowed to dry water and where ever contaminated soil was observed and that portion was cleared from the area to sludge pit. Now greenery is visible in the area. The soil analysis by HECS, shows mercury levels below the quantifiable limit.	No accumulation of effluent and sludge were observed in the land opposite to DG room.	Complying	No accumulation of effluent and sludge were observed in the land opposite to DG room.

3. <u>Odalarevu</u>

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Status of compliance as per the Joint Committee report dated March, 2022	Remarks of the Joint Committee	Current Status
1	The ETP is not functioning properly. Oil is removed from slop oil tank and then effluent is stored in holding ponds. Multimedia filters were not in operation on the day of the visit. Effluent is disposed on the ground without treatment. ETP is not properly	Unit has improved housekeeping and maintenance activities. Unit has replaced corroded valves, serviced pumps & pipelines, installation of new diaphragm pump, replacement of media of multi-media filters.	ETP of 160 KLD capacity was in operation. Collected samples from inlet and outlet of ETP and as per analysis reports, the treated water is conforming to the Board's discharge standards into ED wells. Flow meters are installed	Complying	The samples of ETP inlet & outlet collected on23.01.2024 are complying with the consent limits. However, the industry has awarded the works for revamping of the entire ETP to M/s. ACE Dynamics, Visakhapatnam dated 12.01.2024. As

	working since 2017 and the unit is yet to replace worn out pumps	Unit is producing 18-30 m^3/day of effluent which is processed in 3-5 hours and injected into effluent disposal wells. The ETP is operational and functioning properly and operated in batches depending upon load to ETP. Unit claims as Complying	at inlet and outlet of ETP. Effluent samples results are given at table.3.		per the, work order same shall be completed within 6 months.

Table 3: Odalarevu raw and treated effluent analysis results

	Sampling Location	**Inlet of ETP**	**Outlet of ETP**	**Sample collected from storm water drain**	**Sample collected from near GAIL terminal**
S.No.	**Parameter**	**Values (mg/l) Except pH**			
1.	pH	6.76	7.79	8.13	8.52
2.	Total Suspended Solids at 105^0 C	131	12	10	14
3.	Total Dissolved Solids at 105^0 C	16144	9000	864	7334
4.	Chemical Oxygen Demand	18720	11440	20	96
5.	Biochemical Oxygen Demand (BOD) 3 days @27^OC	5600	2600	4	20
6.	Oil & Grease	10.6	5.4	--	--
7.	Phenols (as C6H5OH)	1.48	0.94	BDL	BDL
8.	Sulphide (as S^2-)	14.4	6.8	BDL	0.4
9.	Hexavalent Chromium (as Cr+6	0.26	0.02	BDL	BDL
10.	Cyanide (as CN)	0.18	0.04	BDL	BDL

2	Severe odour nuisance and VOC levels inside unit premises was varying from	Oil in the CRWS tank and other operational area pits have been processed and being maintained regularly within limits so that VOC and odour nuisance is not available in the premises anymore.	No perceptible smell was observed.	Complying	No perceptible smell was observed.

	4.0ppm to 6.0ppm when measured using handheld PID (photo ionic detector) analyzer				
3	During the visit, there were rains and water logging was observed in the area. Both Effluent mixed with storm water was present in the unlined lagoon in more than 10acres of land between M/s GAIL and M/s ONGC terminals. The pH of the lagoon water was around 5	Unit claims that MEG barrels were placed near the referred lagoon having an area of 1.25 acres (not 10 Acres) during construction activities. Unintended and inadvertent leakage of one of the barrel of MEG in the area might have resulted into low pH value in the sample. The same has been rectified. Top layer of soil has been recovered and shall be processed for bio remediation/Transfer to TSDF for landfill depending upon sample analysis. After removal of the top layer of soil, the area will be properly protected with bund and rain water shall be stored in the pond. Unit claims as Complying	Patches of water was observed, in the area between M/s GAIL and M/s ONGC terminals. Collected samples and as per analysis reports COD levels reported as 568 mg/ltr indicating that storm water contaminated with oil / sludge finding its way from the facility into low lying area. the facility has to isolate all the process areas from contamination of storm water during rainy season.	Not complying	Sample of water collected in the storm water drains has no contamination. The samples collected near the M/s.GAIL Terminal is also observed to the having no contamination.
4	The storm water drains are completely clogged and was filled with thick oily sludge.	The storm water drains are being cleaned periodically in a phase wise manner to remove the vegetation.	Storm water drains were cleaned and dry at present. However, there is possibility of contamination of storm water during rains. The unit has to isolate the process area	Complying	Storm water drains were cleaned

			from storm water drains in order to prevent contamination during rainy season. No records available regarding quantity of oily sludge removed and disposed.		

4. <u>Gopavaram GGS</u>

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Status of compliance as per the Joint Committee report dated March, 2022	Remarks of the Joint Committee	Current Status
1	Unit is generating 1800 KLD of effluent but the capacity of ETP is 600 KL	Unit is in the process of upgrading ETP and augmenting the capacity. Unit claims as work under progress	As per the CFO of the Board, permitted quantity discharging into ED wells is 6 KLD only. But actual effluent generation varies from 1500 KLD to 1800 KLD. The existing ETP is capacity of 600 KLD. The facility has been discharging both treated & untreated effluent into ED wells. Collected samples from inlet, outlet of ETP and lagoon located at South-East direction, untreated wastewater discharging into ED wells. As per the analysis reports,	Not complying with respect to treatment capacity. Lot of effluent spillages observed near the effluent pumping station to ED wells. The effluent pumping stations, ETP area are not are not isolated and there is possibility of contaminatio n of storm water during rainy season.	Existing ETPs capacity is 600 KLD. The industry awarded works to M/s. Hubert Enviro Care Systems Pvt Ltd, Chennai to construct new ETP of capacity 1000 KLD. High water producing well has been closed. As per contract, the ETP works are proposed to complete by the end of March, 2024.

			effluents discharging into ED wells are conforming to Board's discharge standards.		

Table 4: Gopavaram raw and treated effluent analysis results

	Sampling Location	Inlet of ETP	Outlet of ETP
S. No	**Parameter**	**Values (mg/l) Except pH**	
1.	pH	7.31	7.36
2.	Total Suspended Solids at 105^0 C	34	13
3.	Total Dissolved Solids at 105^0 C	29836	29508
4.	Chemical Oxygen Demand	400	304
5.	Biochemical Oxygen Demand	120	75
6.	Oil & Grease	16	5.8

ENVIRONMENTAL ENGINEER
A.P.POLLUTION CONTROL BOARD
Regional Office,KAKINADA

Annexure-IX

Item No.04:-

JCEE-L

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

(Through Video Conference)

A.P. POLLUTION CONTROL BOARD ★★ AUTONAGAR, VIJAYAWADA-520 007. 4878 10 JAN 2024

Execution Application No.12 of 2023 (SZ) in
Original Application No.175 of 2020 (SZ)

IN THE MATTER OF

Venkatapathi Raja Yenumula,
Andhra Pradesh.

...Applicant (s)

Versus

Union of India
Through its Secretary
MoEF&CC, New Delhi and Ors.

...Respondent(s)

Date of hearing: 03.01.2024.

CORAM:

HON'BLE Smt. JUSTICE PUSHPA SATHYANARAYANA, JUDICIAL MEMBER

HON'BLE Dr. SATYAGOPAL KORLAPATI, EXPERT MEMBER

For Applicant (s): M/s. Shireesh Tyagi represented
Mr. Sravan Kumar.

For Respondent(s): Mr. G.M. Syed Nurullah Sheriff for R1.
M/s. Giridhar & Sai, Y. Kavitha for R3.
Mrs. Madhuri Donti Reddy for R5, R7 to R12.

ORDER

1. For complying with the earlier order dated 20.11.2023, post the matter on **06.02.2024**.

Sd/-
Smt. Justice Pushpa Sathyanarayana, JM

Sd/-
Dr. Satyagopal Korlapati, EM

E.A. No.12/2023 (SZ) in
O.A. No.175/2020 (SZ)
03rd January, 2024. Mn.

Annexure-X

Item No.09:-

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

(Through Video Conference)

Execution Application No.12 of 2023 (SZ) in
Original Application No.175 of 2020 (SZ)

IN THE MATTER OF:

Venkatapathi Raja Yenumula,
Andhra Pradesh.

...Applicant (s)

Versus

Union of India
Through its Secretary
MoEF&CC, New Delhi and Ors.

...Respondent(s)

Date of hearing: 11.07.2024.

CORAM:

HON'BLE Smt. JUSTICE PUSHPA SATHYANARAYANA, JUDICIAL MEMBER

HON'BLE Dr. SATYAGOPAL KORLAPATI, EXPERT MEMBER

For Applicant (s): M/s. Shireesh Tyagi represented
Mr. Sravan Kumar.

For Respondent(s): Mr. G.M. Syed Nurullah Sheriff for R1.
M/s. Giridhar & Sai, Y. Kavitha for R3.
Mrs. Madhuri Donti Reddy for R5, R7 to R12.

ORDER

1. The report of the Andhra Pradesh Pollution Control Board (APPCB) dated 13.04.2024 is filed.

2. The report states that the environmental compensation of Rs.22,76,62,500/- is paid by the M/s. Oil and Natural Gas Corporation (ONGC). Regarding the compliance of the other aspects in comparison with the Joint Committee report, the current status is furnished. A few of the items are not complied with by the M/s. ONGC even till today.

3. Let the M/s. ONGC comply with the directions already issued within a specified time, failing which, they may be subjected to a penalty.

4. Let the APPCB cause an inspection and file a further compliance report in this regard.

5. Post the matter on **17.09.2024.**

Sd/-
Smt. Justice Pushpa Sathyanarayana, JM

Sd/-
Dr. Satyagopal Korlapati, EM

E.A. No.12/2023 (SZ) in
O.A. No.175/2020 (SZ)
11th July, 2024. AD.

Annexure-XI

The present status of non-compliance observed by the Joint Committee at specific installations is submitted as below:

1. Tatipaka GCS

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Status of compliance as per the Joint Committee report dated March, 2022	Remarks of the Joint Committee	Current Status
1	The storm water from the installation is discharged into main drains laid outside the unit premises. During inspection the committee observed that due to heavy rains and water logging, effluent was getting mixed with storm water and from the main drain it may ultimately join sea.	Oil catchers are provided in two storm water drains located near process area and any oil carried over from the process area is recovered in the oil catcher. Unit has taken measures to desilt and clean the storm water drains twice a year to prevent logging. Unit has submitted that all the drains were cleaned and unit has taken measures to recover oil from the storm water drains. Unit claims as complying	Storm water drains are cleaned up in the most of storm water drains. However, no information is available with regard to mode of disposal the silt & oily sludge. Seepages of effluent near the effluent collection tank, unloading tank were observed. Provision of discharge of Storm water is made outside the unit. Not made any arrangements for collection and treatment of first flush of rain water in ETP.	Partially complying	No stagnation in storm water drains observed. Made arrangement for collection of first flush of storm water, by providing two tanks with pumps in the storm water network for the collection of contaminated storm water and to pump contaminated water to ETP.

2	The tilted plate interceptor and slop oil tank are not working properly. The capacity and retention time of plate interceptor is not adequate to treat the effluent. Hence the oil removed from effluent is stagnated and overflowing.	ETP Upgradation work is yet to be undertaken. Support structure of Tilted Plate interceptor is strengthened and is in operation as per the design capacity of 21 cum per hour which is adequate as per the design criteria of ETP. Unit claims as works under progress.	Supporting civil structure (wall) is strengthened only. Tilted plate interceptor is not upgraded. The existing plate interceptor and oil separators are not adequate to treat the effluent generated.	Not complying	The facility has completed the revamping of the entire ETP on 10.09.2024 against the commitment to be completed by May, 2024. This office collected the samples of the ETP inlet and outlet on 20.07.2024. The values are exceeding the standards.
3	The units have not amended the consent for the revised quantity of effluent generated. Thereby presently the effluent generated from the installation is more than the quantity specified in the CFO issued by APPCB and moreover the existing ETP is not adequate in	ETP upgradation works is yet to be undertaken. Post committee inspection, Tatipaka GGS is taking effluent from other installations only on rare occasions and effluent generated from Tatipaka GGS is only treated in the ETP. Unit claims as work under progress	The unit has Neither obtained amendment nor filed any application to the Board to obtain amendment of the consent order for increased quantity of effluent generated. As per the records, average effluent generated from the installation is 350m^3/day and provided collection tank of 40 KL only. Thus, the unit has not even one day storage of effluent.	Complying with consent discharge standards.	Not complying with consent discharge standards. As per the analysis of samples collected on 20.07.2024. Hence, the facility is liable for the Environmental Compensation. The ETP was constructed for treatment of 500 KLD effluent. However, the treated effluent storage capacity is only 180KLD.

	terms of capacity to treat the present effluent generated. As per the CFO issued to Tatipaka GGS on 27.02.2015 the quantity of effluent is 225 KLD but presently effluent generated is more than 500 KLD. In addition, 15 KLD of effluent generated from Tatipaka mini refinery, Endamuru GGS and Mandapeta GGS has to be treated. Hence the existing ETP of capacity 500KL is not adequate to treat the present quantity of effluent generated.		Effluent samples from inlet and outlet of ETP, leachate near sludge pit were collected and the analysis results are given in table 1. Old ETP is not in use and is filled with effluent. Oily effluent is still present in clarifier. No time bound action plan submitted to treat the effluent present in the old ETP.		The average wastewater treated in the ETP of the facility is about 209 KLD and the same is being pumped to ED well

Table 1: Wastewater analysis results of Tatipaka GGS (Collected on 20.07.2024)

	Sampling Location	**Inlet of ETP**	**Outlet of ETP which is being reinjection into abandoned wells**	**As per CFO standards**
S.No	**Parameter**	**Values (mg/l) Except pH**		
1.	Total Suspended Solids at 105^0 C	476	262	100
2.	Oil & Grease	11	10	10

As per the analysis reports, the treated effluent is not conforming to the Board's standards for ED well disposal with respect to the TSS.					
4	Sludge drying beds are not in operation	Unit has invited tenders for disposal of sludge. Oily sludge is collected in Sludge storage tank. Tendering work is in progress for Oil recovery from Sludge (E-tender No. K16JC21015) followed by Bioremediation of residual for which NOA exist with TERI. Unit claims as work under progress.	Oily sludge is being stored in open sludge pit which is completely filled up to the brim. Lot of spillages observed all around the sludge pit. As the sludge pit completely filled up to the brim, there is every possible of over flow and contamination of rain water during rainy season.	Not complying	Partly complied. The industry has awarded works of oil recovery from the sludge followed by bioremediation M/s. ONGC intends to complete the bioremediation at Tatipaka by 31.03.2025.
5	TVOC levels measured using handheld PID analyser in the ETP area is varying from 2.2ppm to 4.0ppm	Online Hydrocarbon detectors are installed to monitor fugitive emissions. Guard pond and storm water drains cleaning has been carried out and TVOC levels are within the limits. Unit claims as complying	No perceptible smell was observed during the inspection.	Complying	No perceptible smell was observed during the inspection.

6	There is no dedicated hazardous waste storage shed. ETP sludge, empty barrels, slop oil are stored haphazardly within the unit premises	Hazardous waste and chemical sheds are constructed. Storage of hazardous waste & chemicals are being stored in the designated sheds. Unit claims as complying	Provided closed shed for storage of hazardous waste, but no hazardous waste stored in the shed.	Partially complying	Provided closed shed for storage of hazardous waste and storing the hazardous waste under sheds.
7	In old GGS plant drain effluent is joining storm water drains and pH of drain effluent was 14 and same was joining storm water drain.	Drain channels are cleaned. The pH levels are observed to be within the limits. Unit claims as complying	No effluent was observed in the drains. Near old GGS plant. However, there is possibility of contamination of storm water during rains. The unit has to isolate the process area from storm water drains in order to prevent contamination during rainy season.	Complying	No effluent was observed in the drains Made arrangement for collection of pumping the contaminated water for treatment.
8	LDAR of refinery is not carried out. TVOC levels near the valves of distillation column is around 5ppm and near sampling point is 70ppm	Unit is periodically monitoring TVOC levels internally. Unit claims as complying	Not carrying out Leak detection and repair (LDAR) study through certified agencies.	Partially complying	LDAR carried out by third party and report submitted.
9	In the gas dehydration unit in the re-boiler system,	The Boiling point of TEG is more than 240^{o}C	No perceptible smell was observed during the inspection.	Complying	No perceptible smell was observed during the inspection

	rich glycol (containing moisture) is heated to 200^{0}C and moisture is knocked out into the atmosphere. During knocking out some glycol vapors is carried along with moisture. There was odor nuisance in the area.	whereas, the re-boiler temperature is maintained at 190^{o}C. So the chances of glycol vaporisation is nil. Unit claims as complying			
10	Odour nuisance	Due to cleaning of drains, removal of oily sludge and controlled knock out emissions TVOC levels are within the limits and hence there is no odour nuisance. Unit claims as complying	No perceptible smell was observed during the inspection.	Complying	No perceptible smell was observed during the inspection

2. <u>Kesanapalli: GGS</u>

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Status of compliance as per the Joint Committee report dated March, 2022	Remarks of the Joint Committee	Current Status
1	Effluent is getting mixed with storm water and storm water is discharged	Drains were cleaned.	Storm water drains were cleaned and dry at present.	Partially complying	Storm water drains were cleaned and dry at

	into main drain outside the unit premises. pH of the storm water was 12. In addition, the leaves and garden waste is in the drain and getting putrefied in the drain itself		However, there is possibility of contamination of storm water during rains. The unit has to isolate the process area from storm water drains in order to prevent contamination during rainy season. No records available regarding quantity of oily sludge removed and disposed.		present. 3 nos of oil catchers installed in storm water drain facilitating lifting of contaminated water to the ETP.
2	The effluent stored in treated effluent sump was red in colour and pH was more than 12	Red coloured effluent is taken to ETP for treatment. Unit informed that awareness was created among the workers as not to add any chemicals into treated water or fresh water sumps. Unit claims as complying	Treated effluent samples were collected and analysis reports were submitted	Complying	Not complied. Treated effluent samples were collected and samples are not meeting the standards.
3	There is no dedicated hazardous waste storage sheds	Dedicated storage sheds for hazardous waste and chemicals have been built. Unit claims as complying	Provided two sheds for chemical storage and hazardous waste storage. However, the unit has been storing ETP sludge / oily sludge openly in sludge tanks.	Partially complying constructed shed, but continuing storage of oil sludge openly in sludge pits.	Provided dedicated hazardous waste storage sheds. The oily sludge was stored in the sludge tanks and it was

			No records pertaining to storage and disposal of Hazardous waste i.e., waste lube oil/ sludge shown during the inspection.		informed that oily sludge will be sent for the recovery of oil and then to the bioremediation, which shall be completed by 31.03.2025
4	The unit was disposing the effluent by means of marine disposal but however the unit has not obtained necessary permissions from APPCB for marine disposal. Further, part of the pipeline used for deep sea disposal (1000m stretch of pipeline taking deep sea) is broken and washed away. Presently the unit is disposing the effluent in the coast. The unit had obtained CRZ clearance for laying of pipelines.	ONGC having CFE and auto renewal of CFO for the operation of Kesanapalli-w ETP which is available upto 31.07.2023. CRZ clearance was also obtained for laying disposal line. New contract/tender was awarded for laying New Marine disposal line in place of broken line (which is expected to be completed by March-2022, in the favourable climate window) Meanwhile, temporary arrangement was made with 8”casing pipe and GRE flexible connection in place of the washed out	Unit has obtained CRZ clearance for laying of pipeline for marine disposal. Unit has obtained CFE from APPCB for laying of pipeline for marine disposal on 13.08.2015. The facility applied for CFO of the Board for marine disposal on 03.12.2020 and same was rejected by APPCB on 09.03.2021 as the unit has not completed the marine pipeline. Copy of the rejection letter is enclosed as Annexure-1. The unit has laid a pipeline for marine	Not complying	The unit has obtained CRZ clearance from MoEF&CC, dated 11.08.2016 for the marine disposal of treated effluent from ETP. M/s. ONGC has executed the sub-sea pipe line with diffuser to dispose the treated effluent of 3000 m^3 / day. Due to the pipeline breakage at the landfall point the same was replaced. However, since there

		portion (till the permanent line will be made available). Also additional arrangement was done to take a substantial portion of N.ETP treated effluent to ED wells ETP (old) for disposal for deep well injection, and subsequently to reduce marine disposal quantity from New ETP. Additional high pressure water injection pump was installed for this purpose. Also, additional Effluent disposal wells were commissioned after WOR for effluent disposal (deep well injection) for capacity expansion. Unit claims as work under progress	disposal of treated water from the new ETP into Sea at a distance about 60 mtrs., only. from the shore. The facility discharging 1200 KLD of wastewater through pipeline. As per the analysis report of the effluent discharging through pipeline into sea, the COD levels recorded as 528 mg/l against the general standard of 250 mg/l. During inspection, the facility has been laying a new pipeline at a distance of about 150 mtrs., from the existing marine disposal The facility has completed laying of 1500 m HDPE line with diffuser in the sea and trenching work by dredger pontoon Marine is in progress.		was minor deviation in the alignment of the pipeline, the facility Carried out EIA studies for obtaining CRZ clearance. During the inspection, it was observed that the unit has been discharging the treated water into Sea through marine disposal. As per the CRZ clearance, the offshore pipeline shall be at 1.5 kms from the Sea shore to disposal point in the Sea.

Table 2: Effluents samples collected and the analysis results are as follows:

	Sampling Location	Inlet of ETP (New ETP) 1500 KLD	Outlet of ETP (New ETP) 1500 KLD	Inlet of ETP (Old ETP) 750 KLD	Outlet of ETP (Old ETP) 750 KLD
S.No	**Parameter**	**Values (mg/l) Except pH**			
1.	pH	6.68	8.14	6.27	7.32
2.	Total Suspended Solids at 105^0 C	496	244	621	435
3.	Total Dissolved Solids at 105^0 C	20539	15663	18762	16156
4.	Chemical Oxygen Demand	720	320	620	380
5.	Biochemical Oxygen Demand	280	110	350	140
6.	Oil & Grease	60	21	42	16

Note: The values are not meeting the discharge standards.

5	Water logging observed at the entrance of the unit	Area is cleared of water logging. Levelling and cleaning was done. Now the premise is properly maintained.	No water logging was observed during the inspection.	Complying	No water logging was observed during the inspection.
6	In the ETP area, the unit had covered with fresh soil. The committee excavated the portion of the soil and found that black oily soil was present below upto depth of 1m	After excavation of the area, where ever oily soil was observed and which was removed and transferred to sludge bed for bioremediation.	No oil spillage / dumping of sludge was observed.	Complying	No oil spillage / dumping of sludge was observed.
7	Opposite to new ETP boundary wall, waste oil & sludge is dumped on land to an extent of two to three acres	The said area was allowed to dried up water, where ever oily soil was observed and was removed and transferred to sludge bed for bioremediation. After cleaning properly, initiative was taken to bring	No waste oil / sludge was observed.	Complying	No waste oil / sludge was observed.

		this area under green belt (by growing greenery)			
8	In around 5 acres of land opposite to DG room the effluent & sludge is accumulated. From the sediment sampling it is learnt that mercury is present in the range of 201 mg/Kg	The area allowed to dry water and where ever contaminated soil was observed and that portion was cleared from the area to sludge pit. Now greenery is visible in the area. The soil analysis by HECS, shows mercury levels below the quantifiable limit.	No accumulation of effluent and sludge were observed in the land opposite to DG room.	Complying	No accumulation of effluent and sludge were observed in the land opposite to DG room.

3. <u>Odalarevu</u>

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Status of compliance as per the Joint Committee report dated March, 2022	Remarks of the Joint Committee	Current Status
1	The ETP is not functioning properly. Oil is removed from slop oil tank and then effluent is stored in holding ponds. Multimedia filters were not in operation on the day of the visit. Effluent is disposed on the ground without treatment. ETP is	Unit has improved housekeeping and maintenance activities. Unit has replaced corroded valves, serviced pumps & pipelines, installation of new diaphragm pump, replacement of media of multi-	ETP of 160 KLD capacity was in operation. Collected samples from inlet and outlet of ETP and as per analysis reports, the treated water is conforming to the Board's discharge standards into ED wells. Flow meters are	Complying	The samples of ETP inlet & outlet collected on 17.08.2024 are not complying with the consent limits. The industry has awarded the works for revamping of the entire ETP to M/s. ACE Dynamics, Visakhapatnam dated 12.01.2024. As per the, work

	not properly working since 2017 and the unit is yet to replace worn out pumps	media filters. Unit is producing 18-30 m^3/day of effluent which is processed in 3-5 hours and injected into effluent disposal wells. The ETP is operational and functioning properly and operated in batches depending upon load to ETP. Unit claims as Complying	installed at inlet and outlet of ETP. Effluent samples results are given at table.3.		order same shall be completed within 6 months. However, the works are not completed.

Table 3: Odalarevu raw and treated effluent analysis results

	Sampling Location	Inlet of ETP	Outlet of ETP	Sample collected from storm water drain	Sample collected near GAIL Terminal
S.No.	**Parameter**	**Values (mg/l) Except pH**			
1.	pH	6.39	6.60	7.78	8.04
2.	Total Suspended Solids at 105^0 C	498	325	89	101
3.	Oil & Grease	32	9	BDL	BDL

2	Severe odour nuisance and VOC levels inside unit premises was varying from 4.0ppm to 6.0ppm when measured using handheld PID (photo ionic detector) analyzer	Oil in the CRWS tank and other operational area pits have been processed and being maintained regularly within limits so that VOC and odour nuisance is not available in the premises anymore.	No perceptible smell was observed.	Complying	No perceptible smell was observed.

3	During the visit, there were rains and water logging was observed in the area. Both Effluent mixed with storm water was present in the unlined lagoon in more than 10acres of land between M/s GAIL and M/s ONGC terminals. The pH of the lagoon water was around 5	Unit claims that MEG barrels were placed near the referred lagoon having an area of 1.25 acres (not 10 Acres) during construction activities. Unintended and inadvertent leakage of one of the barrel of MEG in the area might have resulted into low pH value in the sample. The same has been rectified. Top layer of soil has been recovered and shall be processed for bio remediation/Transfer to TSDF for landfill depending upon sample analysis. After removal of the top layer of soil, the area will be properly protected with bund and rain water shall be stored in the pond. Unit claims as Complying	Patches of water was observed, in the area between M/s GAIL and M/s ONGC terminals. Collected samples and as per analysis reports COD levels reported as 568 mg/ltr indicating that storm water contaminated with oil / sludge finding its way from the facility into low lying area. the facility has to isolate all the process areas from contamination of storm water during rainy season.	Not complying	Sample of water collected in the storm water drains has no contamination. The samples collected near the M/s.GAIL Terminal is also observed to the having no contamination.
4	The storm water drains are completely clogged and was filled with thick oily sludge.	The storm water drains are being cleaned periodically in a phase wise manner to remove the vegetation.	Storm water drains were cleaned and dry at present. However, there is possibility of contamination of storm water during rains. The unit has to isolate the process area from storm water drains in order to prevent contamination during rainy season.	Complying	Storm water drains were cleaned

			No records available regarding quantity of oily sludge removed and disposed.		

4. <u>Gopavaram GGS</u>

Sl. No	Non-compliances observed by committee during first visit	Compliance status submitted by the unit and Upgradations/ Modifications made by the unit	Status of compliance as per the Joint Committee report dated March, 2022	Remarks of the Joint Committee	Current Status
1	Unit is generating 1800 KLD of effluent but the capacity of ETP is 600 KL	Unit is in the process of upgrading ETP and augmenting the capacity. Unit claims as work under progress	As per the CFO of the Board, permitted quantity discharging into ED wells is 6 KLD only. But actual effluent generation varies from 1500 KLD to 1800 KLD. The existing ETP is capacity of 600 KLD. The facility has been discharging both treated & untreated effluent into ED wells. Collected samples from inlet, outlet of ETP and lagoon located at South-East direction, untreated wastewater discharging into ED wells. As per the analysis reports, effluents discharging into ED wells are conforming to	Not complying with respect to treatment capacity. Lot of effluent spillages observed near the effluent pumping station to ED wells. The effluent pumping stations, ETP area are not are not isolated and there is possibility of contaminatio n of storm water during rainy season.	Existing ETPs capacity is 600 KLD. The industry awarded works to M/s. Hubert Enviro Care Systems Pvt Ltd, Chennai to construct new ETP of capacity 1000 KLD. High water producing well has been closed. As per contract, the ETP works completed and new ETP is in operation.

			Board's discharge standards.		

Table 4: Gopavaram raw and treated effluent analysis results (600 KLD)

	Sampling Location	**Inlet of ETP**	**Outlet of ETP**
S. No	**Parameter**	**Values (mg/l) Except pH**	
1.	pH	7.01	7.95
2.	Total Suspended Solids at 105^0 C	204	89
3.	Oil & Grease	21	8

Gopavaram raw and treated effluent analysis results (1000 KLD)

	Sampling Location	**Inlet of ETP**	**Outlet of ETP**
S. No	**Parameter**	**Values (mg/l) Except pH**	
1.	pH	7.26	7.75
2.	Total Suspended Solids at 105^0 C	234	91
3.	Oil & Grease	19	5

Annexure-XII

1. Compliance of the M/s. Oil & Natural Gas Corporation Ltd., Tatipaka GCS & Mini Refinery, Tatipaka (V), Razole (M), Dr.B.R.Ambedkar Konaseema District to the APPCB directions dated 19.03.2024.

S.No.	Directions	Compliance
1.	The industry shall immediately obtain valid CTO & HWA from the Board to further operate the GCS station and Mini-refinery at Tatipaka, East Godavari District.	The industry has applied for the CTO and the Board considered to issue CTO upto 31.07.2025 vide letter dated 27.08.2024 subject to the submission of undertaking regarding the payment of the CTO fee.
2.	The industry shall immediately rectify the Tilted Plate Interceptor (TPI) and other units of the ETP by May, 2024 to ensure adequate treatment to the waste water to comply with prescribed discharge standards.	Not complied.
3.	The industry shall expedite bio-remediation process for recovery of oil from the sludge and the same shall be completed by March, 2025.Adequate measures shall be implemented to prevent any contamination of runoff.	M/s. ONGC submitted that they will complete the bio-remediation by March, 205.
4.	The industry shall provide flow meter with totalizer within a month at inlet and outlet of ETP to quantify the waste water generated, treated and disposed.	Provided.
5.	The industry shall provide separate energy meter with totalizer within a month to quantify the energy consumption for operation to the ETP.	Provided.
6.	The industry shall maintain the online emission monitoring system intact CO, NOx, PM & SO2 and they shall ensure compliance to the CPCB guidelines dated. 05.02.2014, 02.03.2015 and further notification issued for periodical calibration of online pollution monitoring systems from time to time.	Complied.
7.	The industry shall ensure that there shall not be any pollution problems in the surroundings.	The ETP outlet samples collected on 20.07.2024 are not meeting the standards with respect to TSS.

2. Compliance of the M/s. Oil & Natural Gas Corporation Ltd., Gopavaram GGS, Jaggarajupeta (V), Uppalaguptam (M), Dr.B.R. Ambedkar Konaseema District to the APPCB directions dated 27.08.2024.

S.No.	Directions	Compliance
1.	The industry shall immediately obtain valid CTO & HWA from the Board to further operate the GGS at Gopavaram, East Godavari District.	The facility is directed to submit an undertaking on Rs. 100/non-judicial stamp paper to take further course of action to process CTO application of the industry.

2.	The industry shall expeditiously complete the construction of the new ETP of 1000 KLD capacity within 2 months.	Completed the new ETP.
3.	The industry shall ensure continuous operation of the ETP to cater adequate treatment to the waste water to achieve compliance of the prescribed discharge standards.	Complied.
4.	The industry shall provide flow meter with totalizer within 2 months at inlet and outlet of ETP to quantify the waste water generated, treated and disposed.	The industry has provided flow meters.
5.	The industry shall provide separate energy meter with totalizer within 2 months to quantify the energy consumption for operation to the ETP.	Provided.
6.	The industry shall complete installation of online VOC meters at representative locations for continuous monitoring of VOC levels and network with web portal of APPCB & CPCB within 2 months.	The industry has not provided VOC meter. The facility has Hydro carbon sensors.
7.	The industry shall ensure that there shall not be any pollution problems in the surroundings.	The values of the ETP outlets samples are meeting the standards.

3. Compliance of the M/s. ONGC, KG Basin Project, Odalarevu Onshore Terminal Allavaram Mandal, Dr. B.R. Ambedkar Konaseema District to the APPCB directions dated 19.03.2024.

S.No.	Directions	Compliance
1.	The industry shall immediately obtain valid CTO & HWA from the Board to further operate the Odalarevu Onshore Terminal, East Godavari District.	The industry has applied for the CTO and the Board considered to issue CTO upto 31.07.2025 vide letter dated 27.08.2024 subject to the submission of undertaking regarding the payment of the CTO fee.
2.	The industry shall immediately obtain Environmental clearance to further operate marine disposal facility for the treated waste water disposal.	The representative of the industry informed that the EC is under process.
3.	The industry shall expeditiously complete revamping of the ETP to cater adequate treatment to the waste water to achieve compliance of the prescribed discharge standards.	Earlier, the industry submitted that they revamp the ETP by 31.07.2024 whereas not complied.
4.	The industry shall immediately retrofit the pipelines observed in dilapated condition within 2 months.	Earlier, the industry submitted that they revamp the ETP by 31.07.2024 whereas not complied.
5.	The industry shall complete installation of online emissions monitoring system for continuous monitoring of pollutants at point sources and network with web portal of APPCB & CPCB within 2 months.	The industry requested time vide their letter dated 20.05.2024 to grant time for compliance of the 31.03.2025.

6.	The industry shall complete installation of online VOC meters at representative locations for continuous monitoring of VOC levels and network with web portal of APPCB & CPCB within 2 months.	The industry requested time vide their letter dated 20.05.2024 to grant time for compliance of the 31.03.2025.
7.	The industry shall complete installation of digital flow meter with totalizer at intake of raw water, inlet & outlet of ETP to ascertain the actual water consumption and waste water generated, treated and disposed within 2 months.	Complied.
8.	The oily sludge beside the settling tank at ETP shall be removed immediately and adequate measures shall be implemented to prevent any re-occurrence of indiscriminate storage of waste. Good housekeeping shall be maintained at the premises.	Complied.
9.	The industry shall ensure that there shall not be any pollution problems in the surroundings.	Complied.

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