

**BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE,  
CHENNAI**

**Original Application No.175 of 2020 (SZ)**

Venkatapathi Raja Yenumula  
H.No. 2-232, Kesavadasupalem  
RAZOLU Taluka,  
Sakhinetipalli Mandal  
East Godavari  
Andhra Pradesh – 533 252  
Mobile: 9528345678; +44 7837 200953  
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.....Applicant

Vs.

1. Union of India  
Through its Secretary  
Ministry of Environment, Forest & CC  
Indira Paryavaran Bhavan,  
Jorbagh,  
New Delhi-110003  
E-mal: secy-moef@nic.in  
Phone: 011- 24695262, 24695265

2. Union of India  
Represented by its Secretary  
Ministry of Petroleum & Natural Gas  
Shastri Bhavan,  
New Delhi-110001  
E-mail: sec.png@nic.in,  
Phone: 011-23383501/23383562

3. Oil and Natural Gas Corporation Ltd.  
Represented by its Chairman  
Deendayal Upadhyaya Urja Bhavan,  
5, Nelson Mandela Marg,  
Vasant Kunj  
New Delhi-110070  
E-mail: ongcdelhicc@ongc.co.in  
Phone: 011-26752021, 26122148

4. GAIL (India) Limited  
A company incorporated under  
the Companies Act, 1956  
having its office at:  
GAIL Bhavan, Door No. 72-2-14A,  
AV Appa Rao Road,  
Rajahmundry – 533 103

Through its:  
Deputy General Manager (Law)  
Mr. A.Venkatesan  
Having office at Chennai Zonal Office  
5<sup>th</sup> floor, “Kuppu Arcade”  
New No. 4 Old No. 60, Venkatanarayana Road,  
T.Nagar, Chennai – 600 017.

5. State of Andhra Pradesh  
Represented by its Chief Secretary  
Secretariat, Velagapudi,

  
**BARLA SRIKANTH**  
ADVOCATE  
# 77-3-33/8, Katari Gardens,  
RAJAHMUNDRY-533 106

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I/M. KCP (W)-GGS & PNMD-GCS  
Area-I, Surface Team  
ONGC, RY ASSET  
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Guntur,  
Andhra Pradesh-522503  
E-mail: cs@ap.gov.in,  
Phone: 08632444461

6. Central Pollution Control Board  
Through Member Secretary  
Parivesh Bhawan, CBD-cum office  
Complex, East Arjun Nagar,  
Delhi-110032  
E-mail: mscb@cpcb.nic.in,  
Phone: 22307078

7. Andhra Pradesh Pollution Control Board  
Represented by its Member Secretary  
D.No. 33-26-14/D2, Pushpa Hotel Center  
Chalamvari Street, Kasturibaipet  
Vijayawada,  
Andhra Pradesh-520010  
E-mail: membersecy@appcb.gov.in  
Phone: 08662463202

8. Director General Fire Services  
Office of the Director General, State  
Disaster Response & Fire Services  
Department, Near Police Control Room,  
Governorpet Vijayawada,  
Andhra Pradesh-534006  
E-mail: peshi\_apfire@yahoo.com,  
Ph: 0866-2570101

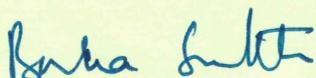
9. Andhra Pradesh Police Department  
Represented by its DIG of Police  
Eluru Range, Eluru,  
Andhra Pradesh-522501  
Phone : 9490618572,  
E-mail: dgp@appolice.gov.in

10. District Collector and Magistrate  
East Godavari at Kakinada  
Andhra Pradesh-533001  
E-mail: collector\_egd@ap.gov.in  
Phone: 0884-2365424

11. District Collector and Magistrate  
West Godavari District  
Ameenapeta, Eluru,  
Andhra Pradesh-534006  
E-mail: collectorwrg@gmail.com

12. Andhra Pradesh Coastal Zone  
Management Authority  
Represented by its Chairman  
Chalamvari Street, Kasturibaipeta  
Vijayawada-520010  
E-mail: apczma2016@gmail.com  
Phone: 0866-2463200

.....Respondents

  
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**OBJECTIONS FILED BY THE 3<sup>RD</sup> RESPONDENT (ONGC) TO THE  
COMMITTEE REPORT**

The Third Respondent – ONGC respectfully states as follows :

1. The Signatory of this Respondent filing the present Objections is working as General Manager (Production), ONGC, Rajahmundry Asset, East Godavari Dist., Andhra Pradesh and is well aware of the facts and circumstances of the case.
  
2. 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. It is submitted that the Respondent was not given any opportunity of hearing or opportunity make their statements and submit evidence in their support during the Committee's inspection. As such, the comments in the Report are highly subjective and unfair and do not reflect the ground realities or an appreciation of the environmental safety protocols practices adopted and practiced by this Respondent towards the overall goal of sustainable development. Hence, the Report of the Committee cannot be relied upon in the present proceedings. Without prejudice to the foregoing, the present objections are placed on record.

**ABOUT RESPONDENT- ONGC:**

3.1. Maharatna ONGC is the largest crude oil and natural gas Company in India, contributing around 71 per cent 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, the Respondent has a dedicated team of around 28,500 professionals who toil round the clock in challenging locations.

3.2. ONGC is a Central Public Sector Undertaking (PSU) Company incorporated under the Companies Act, 1956 and is having its Corporate Registered Office at Deen Dayal Urja Bhawan, No.05, Nelson Mandela Marg, Vasant Kunj, New Delhi- 110070. This public sector enterprise operates with

  
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14 seismic crews, manages 262 onshore production installations, 268 offshore installations, 69 drilling (plus 37 hired) and 54 work-over rigs (plus 25 hired), owns and operates more than 25,500 kilometers of pipeline in India, including 4,500 kilometers of sub-sea pipelines. ONGC has adopted Best-in-class business practices for modernization, expansion and integration of all Infocom systems.

3.3. The Government of India (GoI) holds 60.41% stake in ONGC as on 31 December 2020. ONGC 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. 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.

#### **ACTIVITIES CARRIED OUT BY ONGC:**

4.1. ONGC has two establishments in Andhra Pradesh, i.e. Rajahmundry Asset in Rajahmundry and an Eastern Offshore Asset in Kakinada. The Rajahmundry Asset looks after and is concerned with the onshore hydrocarbons fields and the ONGC – Eastern Offshore Asset is concerned with the development of offshore shallow and deep-water fields in the East Coast of India for exploration of hydrocarbons.

4.2. ONGC Rajahmundry Asset operates in Krishna-Godavari basin of Andhra Pradesh for Exploration & Production of Hydrocarbons in East Godavari, West Godavari and Krishna District of Andhra Pradesh. Producing wells are connected through pipelines to nearby Production Installations for further process which includes separation of well produce in two phases to Gas and Liquid. Gas is directly transported through other party though pipeline only at the boundary of installations itself. Liquid produce comprises of Produced water (with Gas condensate) in case of Gas well and it comprises of Crude oil & Produced Water in case of Oil well.

4.3. In the former case the Produced water is either re-injected to subsurface in abandoned wells, or sent to nearest Effluent Treatment Plant (ETP) for further treatment prior to reinjection in abandoned wells below 1000 m. In latter case, liquid produce is further treated in Heater-Treater for separation of Crude Oil & Produced Water. The Crude Oil is sent to Refinery & Produced Water is treated in similar way as mentioned earlier. Since Kesanapalli GGS

  
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is close to sea-shore it has both the facility for re-injection of treated produced water to subsurface and Marine Disposal for which CRZ clearance and other statutory clearances are obtained. The Produced Water (Raw Effluent) is treated to the concentration levels as per the statutory requirement so as to ensure it doesn't have impact on environment (Marine/subsurface).

**PARAWISE REPLY TO THE COMMITTEE REPORT:**

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) Tatipaka Complex (Mini Refinery +GCS)
- c).Kesanapalli GGS and
- d) Odalarevu Onshore Gas Terminal.

The para wise reply and objections to the Committee's report are as follows:

**RAJAHMUNDRY ASSET:**

5.1. In the Joint Committee Report, at para 3.a.iv., it has been stipulated that natural gas produced from Kesanapalli GGS (Gas Gathering Station 'GGS' for short), Tatipaka and Gopavaram fields contains high level of H<sub>2</sub>S (Hydrogen Sulphide) concentration; that Liquid Scavenger system is used for reducing the H<sub>2</sub>S gas concentration and the same is referred to as Sweetening and as such Sweetening of gas is one of the contributors to emissions. It is submitted that sweetening is a process wherein a water-based chemical called as Liquid scavenger is inserted into the natural gas and the scavenger absorbs H<sub>2</sub>S gas. As this process takes place in a closed loop, there is no possibility of escape of H<sub>2</sub>S into the atmosphere. Moreover, this system is very effective and is a best industry practice for reducing H<sub>2</sub>S from the natural gas. Hence the allegation that sweetening may cause considerable emissions is baseless and incorrect. **Annexure- 1** is a brief report by the Chemistry Section- Surface Team, ONGC on this matter.

5.2. It was reported in the Committee Report at para 3.b.ii. 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

  
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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. This is evident from **Annexure- 2 & 3** which are the Notifications of Awards given to M/s. Pamula Prakash Deep for housekeeping work at Tatipaka GGS and Tatipaka Refinery, respectively.

5.3. The Committee report at para 3.c states that 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 and at present flow lines are replaced based on the condition of pipelines and that there is no specific guideline or time frame for replacement of pipeline. The allegation that the Rajahmundry Asset is using the pipelines laid during 1988 is not correct. All the pipelines with the designed life of 20 Yrs are replaced periodically and as of now there is no use of pipeline beyond 20 years for transportation of Oil & Gas fluids. However, some pipelines are changed much early considering the well fluid conditions. Therefore, the allegation that the age of pipelines is varying from 30 yrs is not correct. The allegation that there are no specific guidelines or time frame for replacement of the pipelines is incorrect and it is misleading as this 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**. However, the Committee has positively observed that this Respondent has incorporated the upgraded technology of using 3 LPE pre-coated pipes as they are stronger, and thus external corrosion of the pipelines have been minimized. The details of pipeline replacement carried out by ONGC in the Rajahmundry Asset from the year 2010 to 2021 are filed in **Annexure- 5**

5.4. The Committee has reported at para 4.a.i. of its Report that the storm water from the installation is discharged into main drains laid outside the unit premises and that 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. It is important to note that there exist 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

  
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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. It is pertinent to note that 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 Tatipaka Mini Refinery, Mandapeta GCS and Endamuru GCS are transferred to the ETP at Tatipaka Refinery and treated over there. It is also important to note that the 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, Mandapeta GCS and Endamuru GCS.

5.6.1. It is well known that 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 **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**.

5.6.2. 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. **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.

5.6.3. 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.

  
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Therefore, the Committee has erroneously concluded that the Respondent does not possess a valid consent for the revised quantity effluent generated, which is not true. Regarding the amendment in CFOs (Consent for Operation) in respect of the revised effluent quantities, ONGC has submitted its application to APPCB. However, the increased quantities are within the ETP capacity and payment has been made for the increased infrastructure and increased effluent treatment.

5.7. The averments at para 4.a.i.b. of the Committee report that the sludge drying beds are not in operation is not admitted. 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 Control Board Norms for their usage. In respect of the sludge obtained at the Rajahmundry Assets, TERI (The Energy and Resources India) is in communication with ONGC 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**.

5.8. The Committee has observed at para 4.a.i.c of its report that the 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. Once the spillage/leakage/accumulation is identified and cleared, the TVOC levels will be negligible. This is proved by the Committee's second inspection during Feb-2021. The abnormal conditions was not a permanent phenomenon, but was of temporary in nature. The observation that TVOC level is high at the ONGC Plants situated at Rajahmundry is factually incorrect. ONGC has a standard mechanism to analyze these TVOC levels regularly and 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

  
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Board for Testing and Calibration Laboratories) which are being engaged by ONGC in carrying out these TVOC level tests at regular intervals. The 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** and the 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**.

5.9. The Committee has observed in its report at para 4.a.i.d. that there is no dedicated hazardous waste storage shed in the Tatipaka GGS and the ETP sludge, empty barrels, slop oil are stored haphazardly within the unit premises. This observation of the committee was considered and two new sheds have been constructed for dedicated usage of storing hazardous wastes and the photograph of the same is filed as **Annexure-22**. Presently, the hazardous wastes have been shifted to these new sheds and stored there. Also the ETP Sludge will be treated as per Hazardous Waste Management Rules 2016. In compliance of the observations of the Committee, ONGC has complied with the same.

5.10. It was observed in the Committee report at para 4.a.i.e. that in old GCS plant, drain effluent is joining storm water drains and pH of drain effluent was 14 when the same was joining storm water drain. As stated at para 5.4, 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. Hence, the allegation that effluents are getting mixed with storm water is not admitted. 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**.

5.11. The Committee has observed at para 4.a.i.f. of its report that 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 of the Committee's observations, the 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

  
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come down. This is evident from the photograph filed as **Annexure- 25**. Thus the Respondent has complied with the observation of the Committee in this regard.

5.12. The Committee has observed at para 4.a.i.g that 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; that during knocking out some glycol vapors are carried along with moisture and that there was odor nuisance in the area. The allegations of the Committee on this issue is false and misleading. 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. 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. The Committee's observation that TEG escapes with water vapour during Knocking out process is scientifically incorrect. The photograph showing the GDU without any vapour emission is filed as **Annexure- 26**. Further, with regard to the allegation of odour nuisance, 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.

5.13. The Committee has reported that during the first round of monitoring, it was observed that the unit was complying with ambient air quality standards w.r.t all parameters except Benzene and that 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. The Respondent states that Benzene is a constituent of Crude oil and

  
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Petroleum products produced in refineries and of course ONGC's main business is Exploration and 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" on monitoring of Benzene content in NCT Delhi is worth mentioning here and is filed as **Annexure- 27**.

5.13.1. Few of the pertinent excerpts in the said report are reproduced here. At Para no. 3 of page no. 6, it was reported that "Crude oil contains benzene and its homologues account for 3.9%-4.8%". Last sentence of Page no.6 states that, "Similarly in gasoline handling systems from the refinery storage tank to gasoline dispensing stations evaporative losses take place" Table no. 7 of the report gives the data on Gasoline Vapour and Benzene Emission Factors for a Typical Bulk Plant.

Emission Source	Gasoline Vapour Emission Factor a Ib/1000 gal (mg/liter)	Benzene Emission Factor b Ib/1000 gal (mg/liter)
Storage Tanks – Fixed Roof Breathing Loss	5.0(600)	0.5(5.4)
Storage Tanks – Fixed Roof Working Loss Filling Emptying	9.6(1150) 3.8(460)	0.086(10.3) 0.34(4.1)
Gasoline Loading Racks Splash Loading (normal service)	11.9(1430)	0.107(12.9)
Submerged Loading (normal service)	4.9(590)	0.044(5.3)
Splash and Submerged Loading (balance service)C	0.3(40)	0.002(0.4)

Note: 1 mg/l=1000000 µg/M3

Table 11: Benzene Levels in Delhi's Urban Environment, 1998

S.No.	Location	Concentration µg/m3

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		August, 1998	November, 1998
1.	Residential Area	110* (21-267)	248+ (187-308)
2.	Traffic intersection	116** (70-163)	382** (271-540)
3.	Petrol Pump	169** (83-238)	428+ (294-456)

5.13.2. Para no. 4 of page no. 15 of the said Report states as follows:  
*“As regards to permissible level of benzene concentration for occupational exposure, American Conference of Government Industrial Hygienists prescribes a threshold limit value (TLV) of 0.5 ppm (1622 µg/m<sup>3</sup>) (TWA). Occupational Safety and Health Administration regulations also call for human exposure limit of less than 0.5 ppm. National Institute of Occupational Safety and Health (NIOSH) suggests Recommended Exposure Limit (REL) of 320 µg/m<sup>3</sup> (0.1ppm)”*

5.13.3. As acknowledged by CPCB, in its report, 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 ambient air quality. Evidently, during the second visit of the Committee, the level of Benzene has reduced significantly.

5.13.4. Moreover, as per the said CPCB’s report, Benzene Levels in Delhi’s Urban Environment, 1998 in residential area, traffic intersection and petrol pump in are in the ranges of 21-308, 70-548 and 83-456 respectively. It can be seen that the 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/m<sup>3</sup> which was well within OSHA exposure limit of 1622 µg/m<sup>3</sup> and plant operations area cannot be compared with ambient air quality standards.

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5.14. With regard to the Stack Monitoring, i.e., monitoring of the crude furnace stack, it was observed by the Committee at para no. 4.a.iv of its report that all the parameters are within the notified limits and so the Tatipaka unit has complied with stack emission norms. Further, on 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 as per para no. 4.a.v. of the Committee report. The Committee after analysis of soil samples collected from the nearby villages, reported in its report at that there is no soil pollution. The Committee at Page No. 19 of its report concludes that the Tatipaka unit is meeting the standards with respect to Deep Well Injection. Also, it was reported that the 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.

5.15. With regard to the Environmental Compensation from Tatipaka Refinery, the Committee has stated in its report at para no. 4.a.vi. 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 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  $\mu\text{g}/\text{m}^3$  against the standard limit of 05  $\mu\text{g}/\text{m}^3$ . Considering these points the date of non- compliance is considered from 01.11.2015.”*

5.15.1. 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 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”*

  
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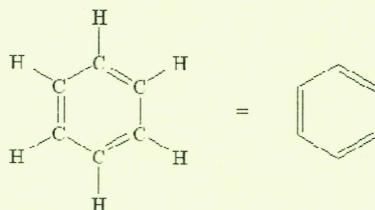
  
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5.15.2. The allegation that the TEG dehydration system is leading to knock out of moisture along with glycol vapours causing high benzene in the area is incorrect and misleading. The introduction of TEG dehydration system is for the purpose of removing 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 factually 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 worldwide. Accordingly, the Respondent has introduced and currently using the TEG dehydration system.

5.15.3. The Committee has mentioned that the glycol vapours released along with moisture was one of the main source of ambient benzene. It is important to note that both compounds i.e., Triethylene glycol used in dehydration of natural gas and the benzene found in air quality monitoring are completely different and following are their structural formulas.



Triethylene Glycol (HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OH)



Benzene (C<sub>6</sub>H<sub>6</sub>)

5.15.4. There is no relation between both compounds and hence Triethylene glycol vapours even if it escapes from the Gas Dehydration Unit (GDU), it could not be the reason/source of Benzene. 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. The Committee's observation that TEG escapes with water vapour during Knocking out process is scientifically incorrect and the same is explained in detail at para no. 5.12 of this objection statement.

5.16. In the light of the Respondent's submissions and evidences that the TEG dehydration system is not a major source for Benzene in the Tatipaka

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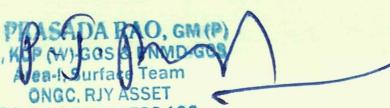
complex; that the present ETP at Tatipaka complex is adequate enough to treat the actual effluents generated and that the unit is maintaining proper procedure and standards in disposing off the hazardous waste, this Hon'ble Tribunal may be pleased to dismiss the Environment Compensation calculated by the Committee for Tatipaka GCS.

**KESANAPALLI GGS:**

6.1. In the Joint Committee report at para no. 4.b.i.1, it was observed by the Committee that the effluent is getting mixed with storm water and storm water is getting discharged into main drain outside the unit premises. ONGC states that during the rainy season, drains are water logged at Kesanapalli GGS due to falling of leaves from nearby trees. However, these drains are being cleaned periodically. The leaves and garden waste in the storm water drain has been cleaned. The Committee has also observed that that the pH (pH is a measure of how acidic/basic water is) of the storm water was 12 and in addition, the leaves and garden waste is in the drain and getting petrified in the drain itself. 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**. In terms of the observations given by the Committee, 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 leaves and garden waste in the storm water drain is cleaned and its photograph is filed as **Annexure- 29**. Thus the Respondent has complied with cleaning of storm water drains and in maintaining the pH of the storm water drains.

6.2. The Committee has observed at para 4.b.i.2. of its Report that 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 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**. The Committee has observed at para 4.b.i.3. of its Report that 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 complied with the Committee's observation on cleaning of valve pit and

  
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construction of a shed for storage of Hazardous waste with regard to the Kesanapalli GGS.

6.3. The Committee has observed at its report at para 4.b.i.4 that 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, it was observed that the part of the pipeline used for deep sea disposal (1500m stretch of pipeline taking deep sea) is broken and washed away and presently the unit is disposing the effluent in the coast. The Committee has further observed that the Kesanapalli unit had obtained CRZ clearance for laying of pipelines. The said CRZ Clearance dated 11.08.2016 was issued by the Ministry of Environment, Forest and Climate Change is a consent for laying of pipelines for marine disposal of effluents at Kesanapalli GGS. The said CRZ clearance is filed as **Annexure- 32**.

6.3.1. The Respondent states that 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, ONGC started its establishment work in 2015 and completed the same in 2017.

6.3.2. 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**).



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6.3.3. Subsequently, the Respondent sent a mail dated 28.06.2018 **(Annexure-38)** to APPCB, where in it was stated that the CFO (consent order for operation) 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.

6.3.4. 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 along 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 and as on date, the Respondent possess a valid CFO for operation of Marine disposal.

6.3.5. 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. Recently 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

  
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Rs 78,000 on 3.12.2020 to APPCB, Regional office, Kakinada. The online payment receipt for the same is filed as **Annexure-44**.

6.3.6. 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 dated 07.01.2021 (**Annexure- 48**).

6.4. The Committee Report at para 4.b.i.5. states that water logging was observed at the entrance of the unit. The Respondent states that during heavy rains/ cyclones, water logging took place near entrance gate of the Kesanapalli GGS. However, based on the Committee's observations, the entire area near the entrance gate was cleaned; the said area was levelled and grass is being grown in the area. This is evident from the photograph filed as **Annexure- 49**. At para 4.b.i.6 of the Committee report, it was observed that in the ETP area, the unit was 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 and upon enquiring it was informed that there was oil spill and the unit had covered with fresh soil. The Respondent states 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. Photograph showing the same is filed as **Annexure- 50**. The Respondent has complied with the above said observations of the Committee.

6.5. At para 4.b.i.7. of the Committee's report, it was observed that 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 of Area opposite to ETP likely to be contaminated. The Respondent states 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

  
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boundary wall is filed as **Annexure-51**. The Respondent has complied with the Committee's observations on this regard. Moreover, at point 4.b.ii. of the Committee's report, it was reported by the Committee that 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 due to the activities of ONGC and GAIL. Also, the Committee has analysed and tested the parameters of effluents sent into deep well ejection. At page 26 of the Committee's report it was reported that the effluents from the Kesanapalli GGS are complying with the deep well standards.

6.6. The Committee observes at page 27 of its Report that in and around 5acres of land opposite to DG room, the effluent & sludge is accumulated and from the sediment sampling it was learnt that mercury is present in the range of 201 mg/Kg. The Respondent states that the 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 Environmental Monitoring Report of Tatipaka Complex dated 21.11.2020 submitted by Hubert Enviro Care Systems Pvt Ltd. is filed as **Annexure- 53**. It was observed by the Committee at para 4.b.iii. that 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 complied with the Committee's observation and as such 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 as shown in **Annexure- 54**. With regard to the black colour of beach soil, the Committee has observed that naturally the beach sand in Kesanapalli area is rich in iron content due to which the colour of the beach sand is slightly black.

6.7. In the light of the Respondent's submissions and evidences that the Kesanapalli unit has necessary permissions for deep sea disposal and has a valid CFO (Consent for operate) and CFE (Consent for Establishment) for the same as discussed in elaborate at para no.6.3, this Hon'ble Tribunal may be pleased to dismiss the Environment Compensation calculated by the Committee for Kesanapalli GGS. It is important to note that in compliance of the observations of the Committee, the Respondent has done the necessary and majority of the compliance were completed.

  
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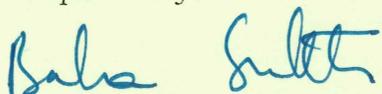
**ODALAREVU ONSHORE GAS TERMINAL:**

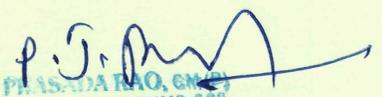
7.1. The Committee has reported at its report at para 4.c.i.1. that the ETP is not functioning properly. The Respondent states that the allegations that Effluent Treatment Plant (ETP) is not in operation is false. The ETP is operated in batches depending upon the load to ETP. It is important to note that Odalarevu is a small unit that has a ETP capacity of 160 KLD per day and the present effluents to be treated in its ETP is 70-86 KLD. 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. **Annexure- 55** filed herein shows elaborate details about the quantity of effluents treated at Odalarevu ETP along with their parameters from the year 2017 to 2021, which 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**. Therefore, the Committee's observation that the said ETP is not functioning is baseless.

7.2. It was also observed by the Committee at para 4.c.i.1. of its report that after the oil is removed from slop oil tank, the effluent is stored in holding ponds and that the Multimedia filters were not in operation on the day of the visit. The Respondent states that a settling tank has been added to the ETP process on 28.06.2018 to increase the settling time for efficient separation. The Notice of Award placed for hook up of the 70 m3 settling tank in pursuit of the improvement is filed as **Annexure- 61**. A three step process before the water is transferred to holding ponds ensures efficient oil separation. The multimedia filters were not in operation during the Committee's visit because the ETP is run intermittently depending on the load.

7.3. It was also observed by the Committee that the effluent is disposed on the ground without treatment. The Respondent states that the said allegation is false and it is always ensured 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 is reproduced below:

7.3.1. In 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.

  
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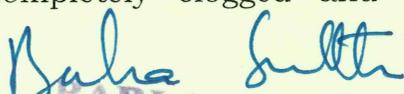
7.3.2. The effluent parameters are within limits as indicated at **Annexure-55**.

7.3.3. The Oil and Grease and TSS (Total Suspended Solids) within the CPCB/APPCB limits and the Annexure IVa of the Committee's report also indicate the same. Oil and Grease in BDL(Below detection limits 4.0 at both Inlet and outlet) and TSS is within limits ( less than 100, inlet :75,79 outlet:15).

7.4. The Committee has reported at para 4.c.i.2 of its report that 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 states that 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. The Ambient air quality test reports dated 07.01.2021 is filed as **Annexure- 62**. 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.

7.5. The Committee has observed at para 4.c.i.3 that during the visit, there were rains and water logging was observed in the area and that 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. Also, it was reported that the pH of the lagoon Water was around 5. The Respondent states that the water logging in the low lying area within the installation observed 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. A photograph of the CRWS at Odalarevu plant is filed as **Annexure- 63**. MEG barrels were placed near the referred area 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.

7.6. The Committee has observed in para 4.c.i.4. that the storm water drains are completely clogged and were filled with thick oily sludge. The

  
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Respondent states that 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. 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 fish in the channels. It was also reported that the unit is facing water logging issues since 2017 onwards. The Respondent states that based on the Annexures- 63 to 65, it can be proved that the Respondent has complied with the observations made by the Committee.

7.7. The Committee has stated at para 4.c.i.5 that the ETP is not properly working since 2017 and the unit is yet to replace worn out pumps. The Respondent states that the functioning and operation of ETP is discussed in elaborate at para 7.1 and the relevant Annexures filed proves that the Committee's allegation that ETP is not functioning is baseless. ONGC 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, following the observations of the Committee, the existing ETP pumps were serviced and painted to control corrosion. The photographs are filed as **Annexure- 66**. ETP is meeting the requirements of injection into abandoned wells (only TSS and Oil and Grease are required parameters if effluent is injected below 1000m in abandoned wells) as brought out in the Committee Report.

7.8. The Committee has reported at para 4.c.ii. of its 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 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**.

7.9. The Committee has observed and reported that the Odalarevu plant is meeting with the standards of deep well injection. It was also observed that the main storm drain water collected outside the unit premises has no contamination of the effluents. It was observed at Page 32 of the Committee's

  
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report that the sediment samples from Odalarevu ETP and near the sludge storage tank were not contaminated.

7.10. 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.

7.10.1. The Respondent states 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.

7.10.2. The Committee's allegation that CFO (consent for operate) conditions are violated is not true. 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 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.

7.10.3. 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.

7.10.4. 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.

Therefore, the environmental compensation levied upon ONGC from the year 2017 is not justified and the Hon'ble tribunal may dismiss the Environmental Compensation calculated by the Committee in 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.

  
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**OBSERVATIONS IN PREVIOUS ACCIDENT SITES:**

8. The Committee has reported at para 5 of its report that it visited two sites where previously accidental leakage took place, i.e., Kesanadasipalem and Nagaram; that it was observed that the area herein previously accident took place was completely restored; that there was no leakage in the pipelines and no odour nuisance and VOC monitoring was also under the correct level. It was reported that sediment samples were collected and tested. The test results indicate that the soil was not contaminated with hazardous wastes. This shows the promptness and care with which post-accident restoration is attended to by this Respondent.

**CONCLUSIONS AND RECOMMENDATIONS GIVEN BY THE COMMITTEE:**

9. 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:

<b>S.No</b>	<b>COMMITTEE'S RECOMMENDATIONS</b>	<b>RESPONDENT'S COMPLIANCE</b>
1.	<p>The design life period of pipes are 20 years. In KG basin, CTE pipelines older than 30 years are still in use.</p> <p>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.</p>	<p>In Rajahmundry Asset, most of the pipelines older than 20 years are either abandoned/not in use or are replaced with new one. Since the year 2010, only "3 LPE pre-coated" pipes are being used for the laying of new pipe line/ for replacement. As this type of coating is better and stronger, external corrosion of pipelines has minimized. The same was observed by the Committee in its report at page no. 14</p> <p>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. <b>Annexure- 5</b> 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.</p> <p>The allegation that there are no specific guidelines or time frame for replacement of the pipelines is not</p>

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		<p>admitted as this Respondent has a Standard Operating Procedure (SOP) dated 24.12.2014 for Onshore Pipelines and the extract of the same is filed as <b>Annexure-4</b>.</p> <p>Every year, there is plan of the replacement of the pipe line. Measures in place for upkeep of pipelines are as follows:</p> <ol style="list-style-type: none"> <li>1. Use of corrosion inhibitors to mitigate internal corrosion of pipelines</li> <li>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.</li> <li>3. Periodic hydro testing of pipelines to check the integrity of pipelines.</li> <li>4. Identification and systematic replacement of old and vulnerable pipelines.</li> <li>5. Ultrasonic thickness measurement of 235 KM length had been done to assess the integrity of pipelines.</li> <li>6. Use of Hi-lo Safety valves on high pressure wells and monitoring of gas flow rates using automatic SCADA measurement at GCS</li> </ol> <p>The Respondent is regularly checking the conditions of the pipelines. The <b>Annexure- 69</b> is a Certificate dated 04.09.2019 issued by ONGC to M/s. Sanmarg projects Pvt Ltd for conducting Corrosion survey at Rajahmundry Asset.</p>
2.	<p>Presently nine out of 20 flowing wells are provided with gravel pack to minimize sand entrainment.</p> <p>The unit shall provide gravel pack near the perforation to all flowing wells to reduce entrainment of sand in pipelines thereby reduce the</p>	<p>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</p>

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chances of pipeline leakage.

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

  
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		installation of gravel pack in well bore.
3.	<p>M/s ONGC and M/s GAIL in KG basin are more focused on production and extraction of oil &amp; gas which is essentially required for the development but the environmental aspects and pollution mitigation measures within their premises are not much focused.</p> <p>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.</p> <p>On verification of records the committee observed 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.</p>	<p>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.</p> <p>5 no's of ETP's at various location are spread across East Godavari, West Godavari &amp; Krishna District. All the 5 ETPS are capable of handling the effluent produced from the oil &amp; 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.</p> <p>As per paras 4.a. ii and 4.b.ii of the Committee's report, the results of Water and wastewater analysis at Tatiapaka &amp; Kesanapalli-w GGS were 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.</p> <p>Similarly, at Table 6b: Analysis results of effluent samples collected in Kesanapalli shows that the units are complying with deep injection well standard.</p> <p>Further the committee stated in its report that in the borewell samples</p>

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		<p>collected, the level of benzene, TPH, O&amp;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.</p> <p>As per para 4.a. iv of the committee report, it was concluded that the unit is complying with stack monitoring results.</p> <p>A per para 4.a. v of the committee report, it wa observed that the unit is complying with ambient air quality standards w.r.t noise.</p> <p>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.</p>
4.	<p>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.</p> <p>In no case the unit shall knock out the untreated moisture containing glycol vapours into the atmosphere.</p>	<p>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.</p> <p>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.</p> <p>This was explained in detail at para nos. 5.12 and 5.13</p>
5.	<p>The unit has dumped the ETP sludge within its premises, oil spill inside the premises is not cleaned up, and effluent is</p>	<p>The ETP sludge is stored in the designated and isolated sludge drying bed inside the installation.</p>

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	<p>getting mixed with storm water, ambient benzene in the unit premises is very high, Leak Detection and Repair (LDAR) is not carried out.</p> <p>But however, the committee observed that the unit has not dumped any waste outside its premises.</p>	<p>Periodic cleaning of drains is taken up to improve the house keeping.</p> <p>This was explained in detail at para nos. 5.7 and 5.11</p>
6.	<p>Around five acres of land in Kesanapalli GGS is probably contaminated with mercury.</p> <p>The committee submits to Hon'ble NGT to direct unit to clean &amp; restore the probably contaminated area under supervision of APPCB as per procedure laid in the "Guidance document on Assessment and remediation of contaminated sites" .</p>	<p>The said area was totally water logged with vegetation and some leakage from drain area. After cleaning the area opposite to the ETP area and 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.</p> <p>This was explained in detail at para no. 6.6</p>
7.	<p>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.</p>	<p>The marine disposal of treated effluents at Kesanapalli takes place with proper consent orders obtained from the APPCB. This was explained in detail at para no. 6.6. Also, the photograph filed as <b>Annexure- 70</b> shows the modifications done to the ETP for Marine disposal.</p> <p>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.</p> <p>Tendering process has been completed and Notice of Award placed on 21.06.2021 (<b>Annexure- 71</b>) for installing new 1.5 km length of pipeline</p>

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		<p>from shore to subsea and the works shall be completed within a year, based on fair weather window in Bay of Bengal Sea.</p> <p>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.</p>
8.	<p>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.</p> <p>The unit shall ensure that effluent will not allowed to mix with storm water.</p>	<p>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.</p> <p>Water logging in the low-lying area within the installation observed during the Committee visit was due to unprecedented rains before the Committee visit. This is explained in detail at para 5.4 along with photograph proofs.</p> <p>Separate CRWS (Contaminated Rain water system) system is in place to treat rain water from process area.</p> <p>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. This is explained in detail at para 7.5 along with photograph proofs.</p>
9.	<p>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</p>	<p>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.</p> <p>Sample VOC Monitoring reports obtained from Tatipak Complex and</p>

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SO<sub>2</sub>, Nitrogen Dioxide as NO<sub>2</sub>, particulate matter (PM<sub>10</sub>), particulate matter (PM<sub>2.5</sub>), 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.

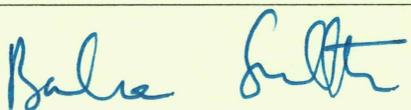
The ambient benzene concentration in the Tatipaka unit premises is ranging between 92 µg/ m<sup>3</sup> to 2051 µg/ m<sup>3</sup> and in odalarevu installation 68.8 µg/ m<sup>3</sup> and 122 µg/ m<sup>3</sup> against the ambient standard of 05 µg/ m<sup>3</sup>. One of the reason for high ambient benzene 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/ m<sup>3</sup> to 0.48 µg/ m<sup>3</sup> and within unit premises it is reduced to 0.1 µg/ m<sup>3</sup>.

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

Kesanapalli Complex is filed as **Annexure- 72.**



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	connected to APPCB server.	
10.	<p>The committee observed during both the visits that the treatment plants are not properly operated and storm water drains are filled with sludge.</p> <p>Records on hazardous waste disposal was not shown to the committee.</p> <p>The ETP sludge and oily sludge from slop oil tank is stored in open.</p> <p>The unit has not taken any measures for the cleanup of sludge and storm water drains under the supervision of APPCB.</p> <p>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.</p>	<p>The oily sludge is stored in the sludge drying bed inside the installations and shall be treated suitably through bio remediation process.</p> <p>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.</p> <p>A proposal was submitted by TERI for Bioremediation of oil -contaminated soil at Rajahmundry Assets on 17.02.2021. <b>(Annexure- 73).</b></p> <p>The storm water drains are being cleaned frequently to ensure good house-keeping and photograph proofs of the same is filed.</p>
11.	<p>The units shall pay Environmental compensation to CPCB as follows:</p> <p>Tatipaka GGS □ Rs. 7,28,62,500/-</p> <p>Kesanapalli GGS □ Rs.4,11,00,000/-</p> <p>Odalarevu GGS □ Rs. 5,68,50,000/-</p>	<p><b><u>Tatipaka GGS:</u></b></p> <p>In the light of the Respondent's submissions and evidences at para 5, the 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 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.</p> <p><b><u>Kesanapalli GGS:</u></b></p> <p>In the light of the Respondent's submissions and evidences at para 6 that the Kesanapalli unit has necessary permissions for deep sea disposal and has a valid CFO, this Hon'ble Tribunal may be pleased to dismiss the Environment Compensation calculated by the Committee for Kesanapalli GGS.</p>

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		<p><b><u>Odalarevu GGS:</u></b></p> <p>In the light of the detailed explanation at para 7 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 Hon'ble Tribunal may dismiss the Environment Compensation calculated by the Committee.</p>
12.	<p>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.</p> <p>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.</p> <p>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.</p>	<p>The storm water drains are being cleaned periodically as part of housekeeping.</p> <p>Any oily sludge in the drain shall be collected in the sludge drying bed for future bio remediation or as proposed by APPCB.</p> <p>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. <b>(Annexures- 75 to 77).</b></p>
13.	<p>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.</p> <p>The actual quantity of effluent generated is higher than the</p>	<p>The quantities of Oil, gas and produced water from the wells keeps on changing based on the reservoir behaviour.</p> <p>It has been seen that in the oil &amp; gas well, the quantity of produced water increases with time. The request for amendment to the CFOs has been submitted to APPCB, Kakinada in terms of the recommendations of the Committee.</p>

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	<p>quantities stipulated in the CFO.</p> <p>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. <u>Presently all units are having valid CFO issued by APPCB.</u></p>	
<p>14.</p>	<p>There are four ETP's to treat effluent generated from 12 installations.</p> <p>Capacity of Tatipaka ETP is 500 KL against the quantity of effluent received 330 KLD,</p> <p>Capacity of Kesanapalli ETP-2 is 1500 KLD against quantity of effluent received 2158 KLD and</p> <p>Capacity of Gopavaram ETP is 600 KLD against quantity of effluent received 1130 KLD</p> <p>which implies that the Kesanapalli and Gopavaram ETP's are inadequate to treat the actual effluent generated.</p> <p>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.</p>	<p><b><u>Kesanapalli ETP</u></b></p> <p>In Kesanapalli-w, 02 no of ETP are in operation, first one is ED well disposal ETP( old ETP) with capacity of 750m<sup>3</sup> and second one is Marine disposal ETP( New ETP) and <u>combined capacity of ETP is 2250m<sup>3</sup>/day.</u> 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.</p> <p>The average effluent generated from Kesanapalli GGS as mentioned in the report, is 2158m<sup>3</sup> which is less than the total capacity of 2250 m<sup>3</sup>/day. Hence, the observations made by the committee are not correct.</p> <p>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.</p> <p><b><u>Gopavaram ETP</u></b></p> <p>Gopavaram was having one additional injection facility known as GMAE disposal facility (600m<sup>3</sup>/day capacity) along with Gopavaram ETP capacity of 600m<sup>3</sup>/day and total Capacity of disposal system is 1200m<sup>3</sup>/day.</p> <p>The effluent generated from Gopavaram is 1130m<sup>3</sup>/day, which is less than the combined capacity of Gopavaram effluent disposal system, i.e, 1200m<sup>3</sup>/day. The capacities of the</p>

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		<p>effluent treatment facilities are also being augmented to process increased water production from wells.</p> <p>The Respondent states that the project for additional injection facility known as GMAE disposal facility (600m<sup>3</sup>/day capacity) was intimated to the APPCB and the Renewal for Consent for Operation of Gopavaram GGS dated 28.02.2015 (<b>Annexure- 33</b>) highlighted the proposed commissioning and consent for the ETP at additional injection facility known as GMAE disposal facility (600m<sup>3</sup>/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 <b>Annexure- 34</b>. Upon receipt of the Consent for Establishment of Marine disposal, ONGC started its establishment work in 2015 and completed the same in 2017.</p> <p>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 (<b>Annexure- 35</b>)</p> <p>Based on the communication from APPCB for payment of additional fee, ONGC sent an email to APPCB dated 05.10.2018 (<b>Annexure-78</b>) 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.</p>
15.	<p>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</p>	<p>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.</p> <p>It is to be noted that the committee had also visited several villages and residential areas and had taken</p>

Balra

Srikant

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**P. J. Prasad**  
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<p>also.</p> <p>Samples collected from the borewell samples around the installation do not contain benzene, TPH, O&amp;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 &amp; refinery, Kesanapalli GCS and odalarevu GCS is not contaminated.</p> <p>Sediment samples were collected from Nagaram &amp; 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.</p>	<p>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.</p>
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Hence it is clear that the comments of the Committee referred to above are either incorrect or made in error due to inadequate appreciation of the ground realities and of the relevant records. In any case, the facts set out above show that concerns have been addressed and the recommendations of the Committee have also been complied with.

It is therefore prayed before this Hon'ble Tribunal to dismiss the Original Application by accepting the objections of Respondent ONGC and thus render justice.

Counsel for the Respondent

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Respondent

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**P.J. PRASADA RAO, GM (P)**  
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## VERIFICATION

I Pidikiti Jawahara Prasada Rao, son of Sri. Venkata Seshaiah, aged 56 years, Indian, having office at ONGC, Rajahmundry Asset, East Godavari District, Andhra Pradesh working as General Manager (Production), ONGC, Rajahmundry Asset residing at Rajahmundry, East Godavari District, Andhra Pradesh do hereby declare and verify that what are stated in the above Counter Statement at paras 1 to 9 are all true to the best of my knowledge and belief.

Dated at Rajahmundry, this the 19th day of July 2021.

Counsel for Respondent

  
Signature of Respondent

P.J. PRASADA RAO, GM (P)  
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