

BEFORE THE NATIONAL GREEN TRIBUNAL (SZ) CHENNAI

**ORIGINAL APPLICATION No. 227 of 2021 (SZ)
IN THE MATTER OF**

Battu Satish Reddy

.... Applicant

Versus

National Thermal Power Corporation Ltd
Simhadri Super Thermal Power Station & others

... Respondents

**RESPONSE FILED ON BEHALF OF THE 1st RESPONDENT
TO THE FINAL REPORT OF THE JOINT COMMITTEE ALONG
WITH ANNEXURES**

**M/s. KING & PARTRIDGE
C.MOHAN
M.KUMARESAN
ADVOCATES FOR 1st RESPONDENT**

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Dated at Chennai on this 15th Day of July 2022



**M/s. KING & PARTRIDGE
C.MOHAN
M.KUMARESAN
ADVOCATES FOR 1st RESPONDENT**

BEFORE THE NATIONAL GREEN TRIBUNAL (SZ) CHENNAI
ORIGINAL APPLICATION No. 227 of 2021 (SZ)
IN THE MATTER OF

Battu Satish Reddy
H.No. 5-55, Pittavani Palem, Kalapaka
Pedgantyada, Visakhapatnam District
Andhra Pradesh-530031
Mobile No. 9666391895
Mail id: advsravan@gmail.com

.... Applicant

Versus

1. National Thermal Power Corporation Ltd
Simhadri Super Thermal Power Station
Rep by its Plant In-charge
Near Pittavani Palem Village
Simhadri Post 531020
Vishakhapatnam, Andhra Pradesh
Phone: 08924-243874
Mail: ntpccc@ntpc.co.in, Premchand02@ntpc.co.in
2. Union of India,
Through the Secretary
Ministry of Environment and Forests &
Climate Change,
Indira Paryavaran Bhawan, Jor Bagh Road,
Ali Gunj, New Delhi – 110 003.
Mail: secy-moef@nic.in .
Phone: 011-24695262, 24695265
3. State of Andhra Pradesh
Rep. by its Chief Secretary
Interim Government Complex
Velagapudi, Guntur District
Andhra Pradesh-522503
Mail: cs@ap.gov.in
Ph:08632444461
4. Central Pollution Control Board
Through Member Secretary
Parivesh Bhawan, CBD- Cum Office Complex


शेषगिरि राव सत्तिराजू / SESHAGIRI RAO SATTIRAJU
उपर महाप्रबंधक (ई.एस.जी) / Addl. General Manager (EMG)
एनटीपीसी लिमिटेड - सिम्हाद्री / NTPC Limited - Simhadri
विशाखपणम / VISAKHAPATNAM - 531 020.

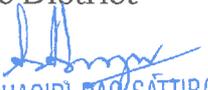
East Arjun Nagar, Delhi-110032
 Mail: mscb@cpcb.nic.in
 Phone: 22307078

5. Andhra Pradesh Pollution Control Board
 Rep. by its Member Secretary
 D.No.33-26-14/D2
 Near Sunrise Hospital, Pushpa Hotel Center,
 Chalamvari Street, Kasturibaipet,
 Vijayawada, Andhra Pradesh – 520010
 Mail: membersecy@appcb.gov.in, 08662463202
6. District Collector and Magistrate
 Visakhapatnam
 Main Road, Ranivari Peta
 Krishna Nagar, Visakhapatnam,
 Andhra Pradesh – 530002
 Mail: collector_vspm@ap.gov.in, 08912563121 Respondents

**RESPONSE FILED ON BEHALF OF THE RESPONDENT NO.1- NTPC
 TO THE FINAL REPORT OF THE JOINT COMMITTEE**

The above-named Respondent No.1 most respectfully submits as follows:

1. It is most respectfully submitted by the Respondent No.1 that this Hon'ble Tribunal shall read and treat the Reply Statement dated 18.04.2022 filed by the Respondent No.1 along with documents as part and parcel thereof with this response. The Respondent No.1 denies all the allegations and averments contained in the Joint Committee report except for those that are specifically admitted hereunder.
2. The Respondent No.1 shall also hereafter be referred as NTPC for brevity.
3. At the outset O.A.No.227 of 2021 was filed by the Applicant against the Respondent No.1 praying for a multitude of reliefs. This Hon'ble Tribunal had vide Order dated 23.11.2021 in order to ascertain the genuineness of the allegations raised by the Applicant had felt it appropriate to constitute a Joint Committee comprising of The District


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 विशाखपणम / VISAKHAPATNAM - 531 020.

Collector, Visakhapatnam District, Senior Officer from Ministry of Environment and Forest & Climate Change (MoEF&CC) Integrated Regional Office, Vijayawada, Senior Officer from Central Pollution Control Board (CPCB) Regional Office Chennai, Senior Officer from Andhra Pradesh Pollution Control Board (APPCB), Vijayawada, Andhra Pradesh and had directed the Joint Committee to file a Report vide Order dated 07.01.2022.

4. It is respectfully submitted by the Respondent that the above Committee had inspected the Respondent No.1 plant on 29.12.2021 and had verified the compliance status and had submitted a Final Report before this Hon'ble Tribunal.
5. It is humbly submitted by the Respondent No.1 that the Joint Committee in its Final Report had concluded in favour of the Respondent No.1 with regard to the following:

a. Pollution control mechanism provided with respect to Air (Pg.Nos.10,11,15 of Report of Joint Committee)

6. Provided 2 Nos. of bi-flue stacks of 275m height each to disperse emissions. M/s. Simhadri Super Thermal Power Project, NTPC Limited has installed 4 No of Boilers of capacity 1675 tons per hour (TPH) and provided with Electro Static Precipitators as air pollution control equipment to the Boilers. The industry has provided 3 Nos. of Silos (500 Tons each) for collection of dry ash for Phase-I and 3 Nos. of Silos (1200 Tons each) for Stage-II and Dry ash system Stage-I is augmented with 2x1200 Tons+1x500 MT silos for better fly ash collection.
7. M/s. Simhadri Super Thermal Power Project, NTPC Limited has provided dust suppression systems at coal handling sections to avoid fugitive emissions. Tall growing species of tree plantation developed in around coal piles to mitigate fugitive emissions. Dust extraction



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systems have been provided in coal handling area including coal stock yard.

8. Flue Gas Desulphurization is under implementation, to be commissioned on or before December 2022. Combustion modification (De-NOx/Low NOx) is under implementation, to be completed on or before December 2022.

b. Pollution control mechanism provided with respect to Water (Pg.Nos.11,12, 15,16 of Report of Joint Committee)

9. M/s. Simhadri Super Thermal Power Project, NTPC Limited has provided Effluent Treatment Plant consisting of Neutralization Pond, Tube settler and Coal settling pond for treating the DM plant regeneration effluents, CHP effluents.
10. M/s. Simhadri Super Thermal Power Project, NTPC Limited has provided 2 no. of STPs of 1700 KLD capacity for township and 70 KLD capacities for Plant. The treated sewage utilized for on land irrigation within the industry premises.
11. Sea water is being used for power plant for cooling water circuit. The plant effluent mainly consists of sea water that is used for cooling purpose in the Cooling water circulation system. The seawater blows down from the Cooling water circuit is sent to the Common Monitoring Basin from where a combined treated effluent having parameters within the stipulated limits is sent to designated marine out fall as per the consent conditions.

M/s. Simhadri Super Thermal Power Project has installed:

- i. Continuous ambient air quality monitoring stations (CAAQMS) for monitoring parameters such as PM₁₀, PM_{2.5}, SO₂ & NO_x in real time basis are available at three (03) different locations which are identified as per APPCB guidance. In addition to the above, three (03) no.s continuous PM₁₀ monitoring stations at

Pittavanipalem, Devada and Dasaripeta are available and are in service on continuous basis .

- ii. Continuous Emission Monitoring System (CEMS) is installed in four stacks for monitoring of the emission parameters like SPM, SO₂, NO_x in real time basis and the data is being uploaded to CPCB/APPCB on continuous real time basis.
- iii. Continuous Effluent Monitoring system (EQMS) for monitoring the effluent quality parameters such as P_H, TSS, Temperature and conductivity in real time basis and data is being uploaded regularly to CPCB/APPCB on continuous basis.

c. Solid Waste Management:

12. There are two ash (02) dykes comprising of four (04) ash lagoons. Ash lagoons 1&3 are of area 85 acres each and Ash lagoons 2 & 4 are of area 115 acres each. Both ash dykes are provided with toe drains which are connected to garland drain for collection of seepage water which is pumped back for recirculation of ash slurry preparation and dust suppression in pond area.
13. From 2017 to 2020, the industry has achieved more than 100% utilization of fly ash. Total stock in ash pond as on January 2022 is 160 lakh MT.

d. Ground Water Quality (Pg.Nos.16,17 of Report of Joint Committee

14. Ground Water Department, Visakhapatnam collected 41 water samples from the existing bore wells and dug wells, covering three villages including 3 samples from fly ash ponds & trenches and analysed the samples for the parameters available. 3 No.s of water samples of ash ponds fall under over grade, remaining 38 No's of water sample chemical analysis results reveal that 36 samples falls in acceptable limits and balance 2 No's of samples under permissible

limits which are suitable for domestic purpose as per Bureau of Indian standards (BIS).

15. One Piezometer net work station with digital water level recorder established by ground water department at T.Devada village to monitor the water levels for every month and all four season and and to study the quality of ground water from pre-monsoon (i.e May) and post- Monsoon (November) in every year. After careful observation of the chemical analysis of water samples of last five-year data reveals that quality of ground water in the area is potable.

e. Soil Quality Monitoring:

16. As per the Joint Director of Agriculture, Visakhapatnam report “the soil samples analysis except sample collected from dyke of ash pond located in the premises of factory showed slightly critical levels but other two samples collected from coconut and cashew nut, Orchards of Pittavanipalem village indicated that no significant disastrous levels of the components analysed”.

**f. Medical Health Reports (PHCs)
(Pg.Nos.19 of Report of Joint Committee)**

17. Reports of Treatment and data for the major diseases in Medical Health reports issued by Primary Health Centers (PHCs) of Vadacheepurupalli, Parawada, Devada villages during 2018-19, 2019-2020 & 2020-21. There is no prevalence of major diseases is reported in all the three PHCs and in particular that of related to dust pollution.
18. The Respondent No.1 through this Response would advert to the Joint Committee report as para wise hereunder:
19. It is respectfully submitted by the Respondent No.1 that with regard to Paras 1&2 of the joint committee report except for matters of record


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and specifically admitted herein each and every allegation made in the said paragraphs are denied.

- 20.** It is respectfully submitted by the Respondent No.1 that with regard to Para 3 except for matters of record and specifically admitted herein each and every allegation made in the said paragraphs are denied. It is brought to the forefront of this Hon'ble Tribunal that there is non-compliance of this Hon'ble Tribunals order dated 23.11.2021 as to who should take part in the inspection. The Hon'ble Tribunal in its order considering the gravity of the allegations had mandated the District Collector himself/herself to participate in the inspection instead of any deputy officer. Unfortunately, contrary to the specific direction made the District Collector instead of participating in the inspection had nominated the Joint Collector & Additional District Magistrate as member of the committee.
- 21.** It is submitted by the Respondent No.1 with regard to para 4 of the Joint Committee Report pertain to the issuance of directions by the Hon'ble Tribunal vide Order dated 23.11.2021. Therefore, no specific traversal is necessary by the Respondent No.1.
- 22.** It is submitted by the Respondent No.1 with regard to para 5 of the Joint Committee Report in so far as the proceedings of the committee does not warrant any specific advert by this Respondent.
- 23.** It is submitted by the Respondent No.1 in regard to para 5.1 of the Joint Committee Report as it pertains to the Applicant is concerned for which the Respondent No.1 had fully stated about the antecedents and conduct of the Applicant in the Reply Statement which this Hon'ble Tribunal shall look into. It is also pertinent to mention that during the committee visit on 29.12.2021 the same set of 4-5 people with the Applicant chiefly among them, were only raising hue and cry in all the villages wherever the committee has visited. This same

aspect was noticed by the Joint Collector Mr.M.Venugopal Reddy had to enquire, why only these 4-5 people were representing in all the villages. This aspect is pointed out by the Respondent No.1 to show that how vested interests are prevalent in the present case. As far the other villagers are concerned the Respondent No.1 had already brought to the attention of this Hon'ble Tribunal in the Reply Statement that the villagers of Pittavanipalem village are located on Wakf board properties as also stated by the Joint Committee in page 19 of 25 in its report. Therefore, being encroachers, the villagers are not entitled to have any locus standi to participate in the inspection of the Joint Committee which this Hon'ble Tribunal ought to take serious note of.

- 24.** The allegation regarding emissions from ash pond is completely denied. The Respondent No.1 is discharging ash mixed with water into the ash ponds as per Consent to Operate accorded by State Pollution Control Board and Environmental Clearance accorded by Ministry of Environment & Forests and Climate Change, Government of India and maintaining water cover on the lagoons that are in operation. For the dykes from which ash is being issued to road projects, Respondent No.1 has deployed fugitive dust control measures such as deploying water sprinkler networks inside dykes, installation of wind barriers, spreading earth cover over dykes, and cow dung mulching over loose ash areas etc., Also Simhadri STPS has done adequate tall raising plantation/trees around the ash ponds to arrest fugitive dust emission from ash ponds all across 2 kms length of ash dykes between ash ponds and village. It is denied that health issues like skin allergies, breathing problems and cancer are due to pollution from M/s. Simhadri Super Thermal Power Project, NTPC Limited. NTPC-Simhadri is not violating any statutory act and is not polluting water and air which are being checked by APPCB on regular basis. Further as per the committee final report submitted to the Hon'ble Tribunal it was observed that the reports of Primary Health Centre (PHC) there

are no specific major diseases are reported in other all the three PHCs. Hence it can be stated that there are no cases of severe illness due to dust pollution related diseases in and around project.

- 25.** As per the committee final report submitted to the Hon'ble Tribunal, it was observed that the ground water department has collected 41 water samples from the existing bore wells and dug wells covered three villages including 3 samples from fly ash ponds and analysed the samples for the parameters available. 3 No's of water samples of ash ponds fall under over grade, remaining 38 No's of water samples chemical analysis results reveal that 36 samples falls in acceptable limits and balance 2 No's of samples under permissible limits which are suitable for domestic purpose as per Bureau of Indian Standards (BIS). After careful observation of the chemical analysis of water samples of last five-year data, reveals that quality of ground water in the area is potable. Hence, there is no significant impact on surface water quality. NTPC has provided one Mobile Health care unit in association with HelpAge India and conducting regular health check-up's in all the villages in the vicinity. Also the Respondent No.1 is conducting regular medical camps and special medical camps in the villages every year. There are about 2500 contract workers from the nearby villages who are working in Respondent No.1 project on regular basis. Any new requirements are also being met from the available local pool of workers. The Respondent No.1 has not discharged cenosphere into the creek. Ash from ash pond is being transported in trucks covered with tarpaulin and all the roads nearby the villages are sprinkled with 8 Nos of water tankers on daily basis to avoid any fugitive dust emissions. All the tankers are being deployed through contractors from the local villages only.
- 26.** It is submitted by this Respondent No. with regard to para 5.2 of the Joint Committee Report are matters of record which does not require any traversal.

27. It is respectfully submitted by Respondent No.1 that with regard to Para 5.3, i) Air quality Monitoring of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. It is also stated by the Respondent No.1 that the plant premises is located amidst industrial clusters surrounded by Pharma City having 150 Industries and Hinduja Power Plant, Vizag Steel Plant and many small industries and many construction activities are going on in the vicinity. The Ambient Air Quality exceeding the norms cannot be attributed to Respondent No.1 power project only as there are a number of anthropogenic as well as background sources of pollution like industries, aerosols from sea, agricultural activity, construction of roads, highways, rail transport, chullahs operated with coal and wood, etc. The APPCB monitoring was done during winter season of 2021 and during the winter season, due to temperature inversion effect and high presence of marine aerosols due to proximity to seacoast the PM₁₀ & PM_{2.5} values are normally beyond stipulated limits during the winter seasons which is a natural phenomenon.
28. The ambient air quality is monitored by the Respondent No.1 through 3 AAQMS stations at BBPS (inside NTPC Township), R&D cabin (Just outside NTPC boundary) and Kalpaka substation (in the nearby Village close to ash dykes). The data from the 3 ambient air quality stations clearly shows that the PM₁₀ values around the Respondent No.1 station is less than prescribed limit of 100 ug/m³ for about 65% (yearly Average) period during any year considering period from 2017 to 2021. The period in which the values of PM₁₀ is maintained more than 100 ug/m³ is mainly during the winter season. The yearly data of the above stations is represented through graphs (**Annexure R-22**) to support the above fact. During the winter periods the values of PM₁₀ and PM_{2.5} are maintaining above the prescribed limits due a natural phenomenon called 'Temperature Inversion', due to which the dust

gets concentrated in the ambient air due to high moisture and mist present in the air which will precipitate due to low atmospheric temperatures prevalent during the winter periods in India. The PM₁₀ values during the winter period remain high throughout India, and the same can be verified from the data of PRANA portal of CPCB. Also, non-attainment city report for the year 2017 of the city of Visakhapatnam shows high values of PM₁₀ during the winters since 2017. Considering the PM₁₀ stations situated at Pittavanipalem, Dasaripeta and Devada, the cyclic graphic trends clearly shows that the PM₁₀ values are maintained well below 100 ug/m³ during the non-winter periods.

29. The same data can be substantiated as per PRANA portal (prana.cpcb.gov.in) for regulation of air pollution in non-attainment cities controlled by CPCB. The PM₁₀ value for Visakhapatnam city during December 2021, highest being 241 ug/m³ and the total average for 2021 was 104 ug/m³. In this regard a letter dated 10.02.2022 was submitted to APPCB (**Annexure R-23**). The sampling method adopted by APPCB for assessment of air quality is through a high volume sampler in which dust is collected over a period of 24 hours under a filter paper. The reading of High Volume Samplers (HVS) would be 10 to 15 % higher as compared to instantaneous values. The present values of stack Suspended Particulate Matter (SPM) are well within the limits of 115 mg/Nm³ Suspended Particulate Matter (SPM) for Stage-I units and 100 mg/Nm³ Suspended Particulate Matter (SPM) for Stage-II units. It is also stated by the Respondent No.1 that the Consent Order dated 31.07.2017 only stipulates for emission standards of 115 mg/Nm³ in chimney No.1 and 100 mg/Nm³ in chimney for Suspended Particulate Matter (SPM) only whereas the values given in monitoring table given for SO₂, NO_x, Hg is not applicable herein. Even as the MOEF&CC applicable limits are taken wrongly. For example, Stage-II stack emission limit was taken as 50 whereas as the applicable limit was 100 and for SO₂ and NO_x there are no limits prescribed. The

Installation of Flue Gas Desulphurization (FGD) system for controlling and limiting SO₂ emission 100 mg/Nm³ under all design conditions has commenced in 2019, work in progress, expected completion by December, 2022. The de NO_x controls modifications are already implemented in Unit-3 & Unit-4.

30. It is respectfully submitted by Respondent No.1 that with regard to Para 5.3, ii) Water quality Monitoring of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. No specific advert is necessary as it pertains to water quality monitoring report submitted by the Joint Committee as the analysis of waste water samples collected from outlet of effluent disposal points into the sea are well within the APPCB norms as stated in the Joint Committee report.

31. It is respectfully submitted by Respondent No.1 that with regard to Para 5.3, iii) Ground Water Quality Monitoring of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. The Respondent No.1 is monitoring the ground water through third party testing and the result is being forwarded to APPCB regional and head office on monthly basis and compliances to MoEF&CC office on half yearly basis. All the parameters in the ground water samples of surrounding villages are well within the permissible limits as per IS:10500. It is also observed by the committee the following

“After careful observation of the chemical analysis of water samples of last five-year data reveals that quality of ground water in the area is potable”

32. It is respectfully submitted by Respondent No.1 that with regard to Para 5.3, iv) Soil Quality Monitoring of the Joint Committee report except for matters of record and specifically admitted herein each and

every allegation made in the said paragraph is denied. The soil quality monitoring done by the committee does not reveal contamination or adverse inference.

- 33.** It is respectfully submitted by Respondent No.1 that with regard to Para 5.3, v) APPCB monitoring data during the period 2019-2021 of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. The contentions raised by the Joint Committee is fully addressed by the Respondent No.1 in para 13 irrespective of the following is brought to the forefront of this Hon'ble Tribunal. The Respondent No.1 undertakes regular monitoring of ambient air quality parameters through three nos. fixed Continuous Automatic Ambient Air Quality Monitoring Stations (CAAQMS) and additionally monitored by MOEF&CC/NABT accredited laboratories on fortnightly basis. It is also submitted that 3 Continuous Automatic Ambient Air Quality Monitoring Stations are in operation for continuous monitoring of all Ambient Air Quality (AAQ) parameters and the online data is being shared continuously on real time basis by Respondent No. 1 to SPCB / CPCB and are available in public domain. Due to temperature inversion effect during winter seasons and high presence of marine aerosols due to proximity to seacoast the PM₁₀ & PM_{2.5} values are normally beyond stipulated limits during the winter seasons. The same data can be substantiated as per PRANA portal (prana.cpcb.gov.in) for regulation of air pollution in non-attainment cities controlled by CPCB. The PM₁₀ value for Visakhapatnam city is normally high during winter seasons and for December 2021, highest being 241 ug/m³ and the total average for 2021 was 104 ug/m³. In this regard a letter dated 10.02.2022 was submitted to APPCB. As above said station has also installed 4 No's of online continuous emission monitoring system which are connected to all 4 stacks to monitoring the real time basis of online stack emission monitoring.

34. It is submitted by the Respondent No.1 that with respect to analysis of water samples collected from outlet of Effluent Disposal Point the value of parameters of TSS values submitted by the APPCB monitoring data is totally inconsistent with the monitored online data of the Respondent No.1. **(Annexure R-24)**. Even the values of the samples of the APPCB are well within the limits. Hence this Hon'ble Tribunal may, if necessary, order retesting of EQMS effluent samples.
35. It is submitted by the Respondent No.1 that as per NEERI studies there is no leachates from Respondent No.1 ash ponds to groundwater. About 500 acres of salt panes are in operation in closed proximity to ash dykes and nearby villages, which are drawing ground water as a source for salt production. Also the village is very close to the backwaters. Hence excess TDS and Hardness cannot be attributed to the Respondent No.1.
36. It is respectfully submitted by Respondent No.1 that with regard to Para 6 of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. The Joint Committee report says pertained to the industry and the Pollution Control Mechanism provided by this Respondent No.1 with respect to Air, Water and Soil which are matters of record and no specific advert is necessary by this Respondent. It is also submitted by the Respondent No.1 that the Joint Committee has taken note of the fact that this Respondent has provided dust suppression systems at coal handling area to avoid fugitive emissions, tall tree plantation developed in around coal piles to mitigate fugitive dust emissions, dust extraction systems have been provided in coal handling area including coal stock yard which fact this Hon'ble Tribunal may to take note of. Also the Joint Committee has taken note of the fact Flue Gas Desulphurization (FGD) is under implementation to be commissioned on or before December 2022 and De-NOx is under implementation to be completed on or before December 2022 by the Respondent No.1. It is also submitted by the Respondent No.1 that the

Joint Committee has noted that the Respondent No.1 had provided Effluent Treatment Plant (ETP) consisting of neutralization pond, tube settler and coal settling pond for treating the DM plant regeneration effluents, Coal Handling Plant (CHP) effluent etc. Also, the Joint Committee had held that the sea water blows down from the Cooling water circuit is sent to the common monitoring basin from where a combined treated effluent having parameters within the limits is sent to marine outfall by the Respondent No.1. Another aspect is to take note of by this Hon'ble Tribunal is the continuous emission/effluent monitoring system installed by the industry for continuous monitoring of emissions and effluent provided by the Respondent No.1 which is affirmed by the committee in its report along with the solid waste management provided by the Respondent No.1. Also, another fact to be noted by this Hon'ble Tribunal was that the Respondent No.1 during 2017-2020, had achieved more than 100% fly ash utilization which was affirmed by the Joint Committee in its report.

- 37.** It is respectfully submitted by Respondent No.1 that with regard to Para 7, Direction - i of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. A folder containing all materials including Half Yearly Reports, all compliances was handed over to all the members of the Joint Committee when they visited the Respondent No.1 premises as on 29.12.2021. It is humbly submitted that, the committee members have not taken note of the compliances which were provided in the brochure during their visit. The Respondent No.1 would clarify before this Hon'ble Tribunal that the deemed non-compliances of EC conditions as observed by the Joint Committee is erroneous as would be expounded hereunder in order:

a. As far as the alleged First Non-Compliance of EC

38. The District Collector, Visakhapatnam during a meeting held on 12.10.1998 on Rehabilitation & Resettlement (R&R) opined that, in view of the negotiated compensation, there is no need for a Rehabilitation & Action Plan (RAP) as per Rehabilitation & Resettlement R&R policy of Respondent No.1. The Rehabilitation & Resettlement facilities have been provided as per the District Collector of Visakhapatnam who had opined that the Respondent No.1 should engage in Corporate Social Responsibility (CSR) activities and that there was no need for RAP as per the R&R policy of the Respondent. Accordingly, Respondent No.1 herein vide letter dated 10.12.1998 has communicated the decision of District Collector, Visakhapatnam enclosing the MOM held on 12.10.1998 to the MOEF&CC. The Respondent No. 1 has undertaken community development activities in the nearby villages. Facilities like approach roads to villages, drinking water, school buildings, hospital, community halls, agnanwadi centres etc for the people of the villagers have been undertaken. It is also to be noted that the Respondent No. 1 as a responsible corporate citizen has already installed Reverse Osmosis (RO) plant at 20 No's in neighbouring villages for supplying treated drinking water to the surrounding villages under its Corporate Social Responsibility – Community Development (CSR-CD) programmes.

b. As far as alleged Second Non-Compliance of EC

39. There was no stipulation regarding employment of high pressure mist spray sprinklers at coal storage yard as part of EC conditions, Consent for Operation (CFO) or the Consent for Establishment (CFE). As per EC and consent conditions the Respondent No.1 has provided adequate Dust Suppression, Dust Extraction, Water spray nozzles and fog canons in coal handling plant to control the fugitive dust. At the time of the visit of the Joint Committee there were already 44 No's of

mist spray sprinklers in operation. As suggested by the Joint Committee the number of mist spray sprinklers is now increased to a total of 88 No's and are in operation. It is also submitted by the Respondent No.1 that the above was also taken note by the Joint Committee in page no.15 wherein the following conclusion is reached by the Joint Committee:

"M/s.Simhadri Super Thermal Power Project, NTPC Limited has provided dust suppression systems at coal handling sections to avoid fugitive emissions"

c. As far as alleged Third Non-Compliance of EC

40. The Respondent No. 1 has adopted mechanisms for continuous monitoring of ground water establishing good network of observation with the Central Ground Water Board (CGWB). The monitoring of ground water quality is through MOEF&CC and NABT accredited third party testing. Monitoring of ground water around ash disposal area is being done regularly and the data is being submitted through hard copies to Regional Office of MOEF&CC, Bangalore on half-yearly basis and every month to APPCB and the Central Ground Water Board (CGWB). Also compliance reports are being uploaded to PCB website on time copy of submission and e-mails screen shots are part of annexures to the Reply Statement filed by the Respondent No.1. Besides it is further stated by the Respondent No.1 that the Joint Committee in its report in pages 16, 17 has found that "After careful observation of the chemical analysis of water samples of last five years data reveals that quality of ground water in the area is potable"

d. As far as alleged Fourth Non-Compliance of EC

41. The Respondent No.1 has installed piezo wells at 04 locations for monitoring of leachates through Lysimeter samplers near ash pond. Even as per the NEERI ground monitoring report there was no leachates found. Heavy metal analysis & monitoring of 10 No's of

ground water sampling around ash (sampling from relief well, existing around ash dyke and tube wells) disposal area is being done every fortnight, in plant and township area and the data is being submitted every month to APPCB and compliance status to Regional Office of MOEF&CC, Bangalore on half-yearly basis. Initially piezo wells were established at 6 locations; 3 locations on upstream and 3 locations on down stream of ash ponds. However, due to poor soil conditions (loose calcium carbonate or lime stone natured soil below 15 m), the wells are getting sucked in and no sample could be collected. However, with difficulty the Respondent No.1 could establish piezo wells at 2 locations on the upstream and 2 locations on the downstream of ash ponds. The monitoring of ground water wells from surrounding villages and ash dyke area these piezo well is awarded on M/s NEERI. The ground water study carried out through M/s NEERI, at the Respondent No.1 ash dykes in 2011 to determine impact of leachates near ash pond area revealed no significant impact on ground water regime. Also, as per PCB directives, advance Isotopic study of ground water was also taken up in 2015-16 through M/s NEERI also revealed no direct connection between ash pond water to nearby ground water aquifers. The entire surrounding areas comprise of many salt panes and the ground water is saline in nature. Even as per the Joint Committee report as found in page 17 the water samples of the last five-year data reveals that quality of ground water in the area is potable.

e. As far as alleged Fifth Non-Compliance of EC

- 42.** The Respondent No.1 humbly states that land is not available around ash dyke to raise green belt. However, approximately 8,000 tall growing species trees have been planted within the land available between ash dyke and Pittivanipalem village which consists of 8 rows of plantation across 2 km length. For control of fugitive dust there was establishment of wind barriers; continuous water sprinkling

through water tankers, water cover is being maintained on the ash ponds. The area around the ash ponds in particular reference to the soil is saline in nature. Ever since the inception of the plant the Respondent No.1 had been planting many trees but due to the soil quality there was loss of trees. But despite that this Respondent had continued to plant many trees. Due to cyclone HUDHUD a lot of green belt around the dyke was lost which this Respondent has now restored. Around 2 km length of the dyke, tall growing trees are already planted. Further 2200 trees are planted after the Joint Committee visit which comprises 2 rows in addition to existing 8 rows as suggested by the Committee in page no.23 in the area available around the ash ponds.

f. As far as alleged Sixth Non-compliance of EC

43. The Respondent No.1 has submitted the latest half yearly reports through soft copy/hard copies on the status of the implementation of the conditions and environmental safeguards to regional office of MOEF&CC, Bangalore. As a new MOEF&CC office was established at Chennai the Respondent No.1 was mandated to file its compliances to the Chennai office. The Respondent No.1 had submitted all the half yearly compliances through soft copy/Hard copies to the MOEF&CC Chennai office till 2021. As per OM dated 13.08.2020 a new Integrated Regional Office was established at Vijayawada for the State of Andhra Pradesh. After the Joint Committee visit the Respondent No.1 had submitted the half yearly compliance report to MOEF&CC Vijayawada. Henceforth the Respondent No.1 will submit the half yearly compliances to MOEF&CC Vijayawada regularly. A copy of which was submitted to MOEF&CC is annexed as **(Annexure R-25)**

g. As far as alleged Seventh Non-compliance of EC

44. It is submitted by Respondent No.1 that the ash and sulphur content as mandated in the Notification GSR.02 (E) dated 02.01.2014 and in

the EC and CFO is submitted on a half yearly basis to MOEF&CC promptly as part of Half Yearly Compliance and Quarterly report to APPCB. The compliance of ash & sulphur content which was part of EC & CFO was submitted in a booklet to the Joint Committee members at the time of visit.

45. Even as per MOEF&CC Notification NO S.O 1561 (E) Dated 21.05.2020 (**Annexure R-26**) it stated that use of coal by thermal power plants, without stipulation as regards ash content or distance shall be permitted.

h. As far as alleged Eight Non-Compliance of EC

46. It is submitted by the Respondent No.1 that as per EC conditions the uploading of EC letters and half yearly compliance is not mandated. However, the Respondent No.1 had voluntarily uploaded the half yearly compliance and EC letters in the NTPC website (www.ntpc.co.in) for public transparency.

In so far as the non-compliances of the main conditions of consent for operation of APPCB to control pollution, the following would state compliance observed by the Respondent No.1.

i. As far as alleged First Non-compliance of consent condition

47. The Respondent No.1 has provided black top road around ash dyke and even the ash dyke approach road. During normal operation of ash dykes no fugitive dust emissions occur from the haul roads or bund roads. However, as a compliance measure, a MS water header with mechanical sprinklers was provided during 2011-14; as the area is exhaustive and open, the MS pipe header and sprinklers were getting stolen on regular basis. Hence, water sprinkling through nozzles mounted on water tankers is being done on daily basis. A Purchase Order (PO) cost of about Rs.49,14,630/= lakhs (**Annexure R-27**)

placed with Pittavanipalem Village LLSTPP MALCCS LTD for deployment of water tankers for sprinkling water on approach roads, ash dyke haul roads and inside lagoon area of Stage I & II ash dykes with minimum 4 trips per day is of water is being undertaken by the Respondent No.1. At present as large quantities of pond ash are being issued NHAI projects to meet MOEF&CC notification guidelines on legacy ash 8 No's of water tankers are being deployed every day in addition to 4 No's of water tankers.

j. As far as alleged Second Non-compliance of consent condition

- 48.** It is submitted by the Respondent No.1 suitable / sufficient water cover is maintained on ash dykes which are in operation and no fugitive emissions are taking place from the dykes that are in operation. The water cover or the water slurry is maintained in such a way that the whole surface of ash dyke that are operation are always completely wet. A predominant portion of the ash dyke surface area is always covered in water. The remaining portion is slushy and thoroughly wet. In addition to the water cover on ash dykes in operation earth cover is also provided to control dust emission from dykes from the ash dykes that are not in operation. Also Respondent No. 1 has taken measures such as wind barriers installed in ash dykes for the control of fugitive dust emission, continuous water sprinkling on dykes through network of water sprinklers and rain guns in addition to drenching of roads using water tankers. Copy of photos ash pond water cover are enclosed as **(Annexure R-28)**.

k. As far as alleged Third Non-compliance of consent condition

- 49.** The Respondent No. 1 has installed AWRS & Toe drain pump house for collection and recirculation ash pond water, which is working round the clock. During excessive and continuous heavy rains for days

together (such as 5 days continuous heavy rains during October and November 2021), the rain water from the 880 acres of ash pond area is let out through a garland canal and sluice gate arrangement. It is only in exigent circumstances during which the heavy rain water from Over Flow Lagoon (OFL) of ash dyke has escaped along with traces of Cenosphere (an air entrapped ash particle which floats on water, a very small quantity of which is collected on daily basis) to nearby creek. The Respondent No.1 has taken immediate mitigative measures to clean and remove the same and take preventive measures such as providing of meshes in Over Flow Lagoon (OFL) to stop escape of cenosphere particles and additional pumping arrangement to pump the rainwater back into system.

1. As far as alleged Fourth Non-compliance of consent condition

50. It is a matter of record that after establishment of the plant in the year 2002, Respondent No.1 has carried out aggressive afforestation by planting more than 12,00,000 lakh trees which are now fully grown. Over 6,60,000 No's of trees are planted in area covering 1470 acres of land in and around NTPC-Simhadri. In addition, 5,50,000 No's of plantation of trees under the Green Visakha Plantation programme, in and around city of Visakhapatnam was carried out by the Respondent No.1. It amounts to contribution of an afforestation area of about 2550 acres in total and an expenditure of around Rs.60 Crores. Around 2,80,000 of trees were planted in Paderu as a part of A.P Accelerated Afforestation program. Distribution of 3,00,000 Lakhs worth fruit bearing tree plantations to surrounding villages every year. After the HUDHUD cyclone, to compensate the greenery loss, NTPC Simhadri distributed 3,50,000 No's of fruit bearing trees in six mandals of Visakhapatnam District by expending Rs, 50,00,000/-.

51. It is respectfully submitted by Respondent No.1 that with regard to Para 7, Direction - ii of the Joint Committee report except for matters

of record and specifically admitted herein each and every allegation made in the said paragraph is denied. The domestic effluents are being continuously treated as per the stipulated statutory standard in the dedicated Sewage Treatment Plant (STP). The STP outlet samples are being collected by APPCB and analysed in the PCB laboratory on monthly basis and none of the APPCB sample reports reflect any adverse malfunction of STP. Also MOEF&CC accredited third party test reports does not indicate malfunctioning of STP.

- 52.** It is respectfully submitted by Respondent No.1 that with regard to Para 7, Direction - iii of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. The Respondent No.1 would state that at the very outset that the ground water department had collected numerous water samples from the bore wells and dug wells covering three villages including samples from fly ash ponds and had found that the samples fell within the permissible limits which are suitable as per Bureau of Indian Standards (BIS). Also it was observed by the Joint committee that this Hon'ble Tribunal ought to take note of is that "the chemical analysis of water samples of last five years reveals that the water is potable". In respect to this Respondent not providing HDPE lining in ash ponds as per the recommendations of the National Institute of Hydrology, Roorkee. The lining of the ash pond is clearly waived off/dispensed with. The amendment to the EC has held the following "*The ash disposal area identified for the project need not be lined*". Therefore this Respondent states that the EC Amendment No.J.13011/19/94-IA.II (T) is mistook/misinterpreted by the Joint Committee.
- 53.** It is respectfully submitted by Respondent No.1 that with regard to Para 7, Direction - iv of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation

made in the said paragraph is denied. The fly ash generated from Simhadri STPS Stage-I is being sent to silos and also being supplied to cement and other ash-based industries and the remaining ash is sent to the ash ponds. Simhadri STPS ash utilisation is more than 100% since 2017-2018. From 2017 to 2020, the industry has achieved 100% utilization of fly ash as was taken note of the Joint Committee in page 13. During 2021-22 alone the Respondent No.1 was facing difficulties in achieving the 100% ash utilization due to providing the fly ash to end users through a transparent bidding process only as per recent guidelines issued by Ministry of Power (MOP), Government of India (GOI). Irrespective of the above the Respondent No.1 has an average ash utilisation rate of 120.88% for the last 5 years and in the year 2021-2022 there is an ash utilisation rate of 111%.

- 54.** It is respectfully submitted by Respondent No.1 that with regard to Para 7, Direction - v of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. Ambient Air Quality (AAQ) exceeding the norms cannot be attributed to Simhadri STPS only as there are a number of anthropogenic as well as background sources of pollution like industries, aerosols from sea, agricultural activity, construction of roads, high ways, rail transport, chullahs operated with coal and wood, etc. Also the ambient air quality during the winter, will be maintaining higher than the standard limit of 100 mg/Nm³ all across India, due a phenomenon called 'Low dust dispersion due to temperature inversion' in foggy/misty conditions of winter. It is very much evident with the value of PM₁₀ in Visakhapatnam city in the same period is 114 mg/Nm³. The ambient air quality is monitored by the Respondent No.1 through 3 AAQMS stations at BBPS (inside NTPC Township), R&D cabin (Just outside NTPC boundary) and Kalpaka substation (in the nearby Village close to ash dykes).

55. The data from the 3 ambient air quality stations clearly shows that the PM₁₀ values around the Respondent No.1 station is less than prescribed limit of 100 ug/m³ for about 65% (yearly Average) period during any year considering period from 2017 to 2021. The period in which the values of PM₁₀ is maintained more than 100 ug/m³ is mainly during the winter season. The yearly data of the above stations is represented through graphs (**Annexure R-22**) to support the above fact. During the winter periods the values of PM₁₀ and PM_{2.5} are maintaining above the prescribed limits due a natural phenomenon called 'Temperature Inversion', due to which the dust gets concentrated in the ambient air due to high moisture and mist present in the air which will precipitate due to low atmospheric temperatures prevalent during the winter periods in India. The PM₁₀ values during the winter period remain high throughout India, and the same can be verified from the data of PRANA portal of CPCB.
56. Also, non-attainment city report of the city of Visakhapatnam shows high values of PM₁₀ during the winters since 2017. Considering the PM₁₀ stations situated at Pittavanipalem, Dasari peta and Devada, the cyclic graphic trends clearly shows that the PM₁₀ values are maintained well below 100 ug/m³ during the non-winter periods. Other than the direction sought by the committee for installation of permanent mechanical sprinklers which gets stolen on a regular basis this Respondent No.1 shall endeavour to follow the remaining seven directions as per the Joint Committee report Direction V. In respect to the chance of 22-30 % reduction in yields of horticulture crops like cashew and coconuts may be due to the fly ash deposits which this Hon'ble Tribunal ought to take note of is that there is no certainty in this observation by the Joint Committee. It is also stated that the Joint Committee is in consonance with the Respondent No.1 on the following "that the entire Horticulture cropped area of Pittavanipalem village by the residents are all on government lands". The Respondent

No.1 is very much open to the conduct of long term impact study to ascertain the impact of pollution on agricultural crops. It is humbly stated by the Respondent No.1 that the Joint Committee had held that there are no specific major diseases reported in other two PHCs.

57. It is respectfully submitted by Respondent No.1 that with regard to Para 7, Direction - vi of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. The Joint committee has mentioned the following five non-compliances of the Respondent No.1.

1. Ambient air quality recorded more than National ambient air quality standards for PM₁₀ and PM_{2.5} parameters.
2. Not provided the mechanical water sprinkling system at haul roads.
3. Not developed the 33% green belt in the industry premises.
4. Not maintaining the water curtains in the ash ponds properly.
5. Cenosphere discharge from ash ponds along with storm water takes place now and then to nearby sub creek into nearby particularly during the heavy rains.

The Respondent no.1 humbly submits the following before this Hon'ble Tribunal for each of the above perceived Environmental Non Compliances:

32.1 In so far as the first alleged non-compliance as cited by the Joint Committee:

58. The Ambient Air Quality (AAQ) exceeding the norms cannot be attributed to Simhadri STPS only as there are a number of anthropogenic as well as background sources of pollution like industries, aerosols from sea, agricultural activity, construction of roads, high ways, rail transport, chullahs operated with coal and wood, etc. It is also stated by this Respondent No.1 that the plant premises is located amidst industrial clusters surrounded by Pharma

City having 150 Industries, Hinduja Power Plant, Vizag Steel Plant and many small industries and many construction activities are going on in the vicinity. The ambient air quality is monitored by the Respondent No.1 through 3 AAQMS stations at BBPS (inside NTPC Township), R&D cabin (Just outside NTPC boundary) and Kalpaka substation (in the nearby Village close to ash dykes). The data from the 3 ambient air quality stations clearly shows that the PM₁₀ values around the Respondent No.1 station is less than prescribed limit of 100 ug/m³ for about 65% (yearly Average) period during any year considering period from 2017 to 2021. The period in which the values of PM₁₀ is maintained more than 100 ug/m³ is mainly during the winter season. The yearly data of the above stations is represented through graphs **(Annexure R-22)** to support the above fact. During the winter periods the values of PM₁₀ and PM_{2.5} are maintaining above the prescribed limits due a natural phenomenon called 'Temperature Inversion', due to which the dust gets concentrated in the ambient air due to high moisture and mist present in the air which will precipitate due to low atmospheric temperatures prevalent during the winter periods in India. The PM₁₀ values during the winter period remain high throughout India, and the same can be verified from the data of PRANA portal of CPCB. Also, non-attainment city report of the city of Visakhapatnam shows high values of PM₁₀ during the winters since 2017. Considering the PM₁₀ stations situated at Pittavanipalem, Dasari peta and Devada, the cyclic graphic trends clearly shows that the PM₁₀ values are maintained well below 100 ug/m³ during the non-winter periods.

32.2 In so far as the second alleged non-compliance as cited by the Joint Committee:

59. The Respondent No. 1 has provided black top road around ash dyke and even the ash dyke approach road. During normal operation of ash dykes no fugitive dust emissions occur from the haul road or bund

roads. However, as a compliance measure, a MS water header with mechanical sprinklers was provided during 2011-14; as the area is exhaustive and open, the MS pipe header and sprinklers were getting stolen on regular basis. The photos of earlier provided mechanical water sprinkling system on haul roads (i.e. outer bund roads of ash dykes) is attached as **(Annexure R-29)**. Hence, water sprinkling through nozzles mounted on water tankers is being done on daily basis. A Purchase Order (PO) cost of about Rs.49,14,630/= lakhs **(Annexure R-27)** placed with Pittavanipalem Village LLSTPP MALCCS LTD for deployment of water tankers for sprinkling water on approach roads, ash dyke haul roads and inside lagoon area of Stage I & II ash dykes with minimum 4 trips per day is of water is being undertaken by the Respondent No.1. At present as large quantities of pond ash are being issued NHA projects to meet MOEF&CC notification guidelines on legacy ash 8 No's of water tankers are being deployed every day in addition to 4 No's of water tankers.

32.3 In so far as the third alleged non-compliance as cited by the Joint Committee:

- 60.** It is a matter of record that after establishment of the plant in the year 2002, the Respondent No.1 has carried out aggressive afforestation by planting more than 12,00,000 lakh trees which are now fully grown. The EC of Stage-I mandates afforestation should be undertaken covering an area of around 292 acres which the Respondent No.1 has duly complied with. The Respondent No.1 has planted over 6,60,000 No's of trees are planted inside and surrounding the boundary of the plant covering 1470 acres of land in and around NTPC-Simhadri. The EC of Stage-II mandate of afforestation in 75 acres of land was completed at Thotlakonda area and green belt in an area of 10 acres between coal handling plant and cooling towers of Stage-II was developed by the Respondent. The CFO mandated 33% green belt to be developed by the Respondent No.1. As there was no additional land

allocated to the Respondent No.1 while establishing Stage-II units the Respondent herein has developed afforestation of 5,50,000 trees from 2010-2020. It amounts to contribution of an afforestation area of about 2550 acres in total which is 50% more than the 33% of plant area (1180 Acres) prescribed by the APPCB.

32.4 In so far as the fourth alleged non-compliance as cited by the Joint Committee:

61. It is kindly submitted by the Respondent No.1 that suitable/ sufficient water cover is maintained on ash dykes which are in operation and no fugitive emissions are taking place from the dykes that are in operation. The water cover or the water slurry is maintained in such a way that the whole surface of ash dyke that are in operation are always completely wet. In addition to the water cover on ash dykes in operation, earth cover is also provided to control dust emission from dykes from the ash dykes that are not in operation. The Respondent No.1 has always maintained the water cover on the dykes that are in operation. However, considering the large area to the maximum extent of 115 acres of each ash dyke, 2 to 3 ash slurry discharge lines in service at any point of time and due to the slope of ash dyke towards decant wells for ensuring the continuous flow of water through decant wells, there may exist small patches of dyke surface where there will be less water. However, the whole surface of ash dykes in operation will always wet and slushy. It can be corroborated by the fact that during none of the APPCB officials site visits, the fugitive dust emissions from ash dykes that are in operation, were observed and recorded.

32.5 In so far as the fifth alleged non-compliance as cited by the Joint Committee:

62. The Respondent No. 1 has installed AWRS & Toe drain pump house for collection and recirculation ash pond water, which is working

round the clock. During excessive and continuous heavy rains for days together (such as 5 days continuous heavy rains during October and November 2021), the rain water from the 880 acres of ash dyke area is let out through a garland canal and sluice gate arrangement. It is one of such exigent condition during which the heavy rainwater from Over Flow Lagoon (OFL) of ash dyke has escaped along with traces of cenosphere (an air entrapped ash particle which floats on water, a very small quantity of which is collected on daily basis) to nearby creek. The Respondent No.1 has taken immediate mitigative measures to clean and remove the same and take preventive measures such as providing of meshes in Over Flow Lagoon (OFL) to stop escape of cenosphere particles. After due consideration of the mitigative measures taken by the Respondent No.1, APPCB task force committee had waived off the Rs. 1.28 Cr of Bank Guarantee (BG). (Order copy enclosed in **Annexure R-30.**) During the committee visit it was shown to the members of the committee that no cenosphere is getting discharged in to the creek. The same was acknowledged in the committee report which states the cenosphere let out into creek 'particularly during the incessant heavy rains for which preventive measures are already in place.

- 63.** The Respondent No.1 strongly denies the allegations made by the committee that their units have been continuously violating the directions issued by APPCB on 13.04.2017. The Respondent No.1 would address hereunder the compliance to the APPCB directions dated 13.04.2017:

The Industry shall maintain proper water curtain in Ash Pond

- 64.** The Respondent No.1 has always maintained the water cover on the dykes that are in operation. However, considering the large area to the maximum extent of 115 acres of each ash dyke, 2 to 3 ash slurry

discharge lines in service at any point of time, and due to the slope of ash dyke towards decant wells for ensuring the continuous flow of water through decant wells, there may exist small patches of dyke surface where there will be less water. However, the whole surface of ash dykes in operation will always wet and slushy. It can be corroborated by the fact that during none of the APPCB officials site visits, the fugitive dust emissions from ash dykes that are in operation, were observed and recorded.

The Industry shall take all necessary precautionary measures during dyke wall rising works at ash pond

65. The ash dyke raising works involves stacking and layering of the pond ash and earth on continuous basis and same will be compacted using Compact Roller on daily basis. There are about 150 to 200 sprinklers deployed in a network manner during the dyke raising activity. The location of deployment of sprinklers in the whole area of ash dyke raising will be changing dynamically after ensuring wetting of one area from another on a regular basis. However, it is always ensured that no fugitive dust emissions are there during the dyke raising activity. There is an exclusive ash dyke maintenance and Ash Management Department at site, consisting of about 10 executives in total. The team of NTPC-Simhadri, proactively monitors all the safety and environment issue of the ash dyke.

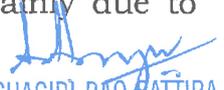
The Industry shall achieve 100% fly ash utilisation as per the fly ash notification

66. Simhadri STPS ash utilisation is more than 100% since 2017-2018. From 2017 to 2020, the industry has achieved more than 100% utilization of fly ash as was taken note of the Joint Committee in page 13. During 2021-22 alone the Respondent No.1 was facing difficulties

in achieving the 100% ash utilization due to providing the fly ash to end users through a transparent bidding process only as per recent guidelines issued by Ministry of Power (MOP), Government of India (GOI). Irrespective to the above the Respondent No.1 has an average ash utilisation rate of 120.88% for the last 5 years and in the year 2021-2022 there is an ash utilisation rate of 111%.

The Industry shall submit Action Plan for long term monitoring on the impact of ash ponds on ground water quality in the surrounding villages as per recommendations of NEERI

- 67.** NTPC Simhadri has initiated the advanced ground water study through M/s NEERI and study was completed during 2016. The implementation of NEERI recommendations requires a budget to the tune of Rs.50-75 lakh and the Respondent no.1 has initiated immediate approvals for the works to be taken up based on the recommendations of the M/s NEERI at the time of Task force visit. The ground water studies through NEERI as per recommendations of APCCB are always taken up and also Ground water studies through NEERI are in progress even at present.
- 68.** The directions cited vide order dated 21.12.2021 are all addressed by the Respondent No.1 supra. The Respondent No.1 had complied with all the directions issued by the APCCB. The period considered for the calculation of Environmental compensation (EC) by the Joint committee is from 13.04.2017 to 29.12.2021 shall not be the yardstick which this Hon'ble Tribunal ought to consider as the Respondent No.1 is not in violation of any EC nor consent conditions.
- 69.** From the above it is very much evident that the deemed/perceived environmental non-compliance or violations cited are not directly attributable to actions of Respondent No.1 and are mainly due to


 शेधगिरि राव सत्तिराजु / SESHAGIRI RAO GATTIRAJU
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 एनटीपीसी लिमिटेड - सिक्हादि / NTPC Limited - Simhadri
 विशाखपणम / VISAKHAPATNAM - 531 020.

external exigent uncontrollable factors such as Atmospheric phenomenon (High PM₁₀ values in winter), nature's fury (incessant very high rains causing escape of cenosphere), and continuous thefts by the local villagers in open, uncontrollable vast extent of area of ash dykes. The Respondent No.1 has taken every step and ensured the control mechanisms in place to protect the environment and maintained the parameters well within the stipulated limits during the normal conditions but for nature/atmospheric exigent conditions. The Respondent No.1 has deployed all the fugitive dust control measures such as complying with conditions of Green belt development and maintaining water curtain on ash dykes. The values of PM₁₀ have been maintained well below the stipulated limit in normal course of time but for winter durations. The industry has taken every measure to recirculate and re use and cenosphere escape is an exigent condition during the heavy incessant rainy condition which happened for a 3-4 days duration twice in last 5 years. Additional pumping mechanism and screens to prevent escape are put in place as per APPCB directives. The mechanised water sprinkling arrangement which is not feasible due to repeated thefts, is met with by placing a work order worth Rs. 49,14,630/= lakhs for deployment of water tanker sprinkling arrangement on every year.

- 70.** The Respondent no.1 vehemently opposes the period of 1722 days considered for calculation of Environment non-compliances, which are not continuous and are observed throughout India due to external atmospheric factors and during the exigent nature's fury conditions. The Respondent No. 1 has complied with all the conditions of EC. As there is no damage caused to environment by the units of Respondent no.1, the Environmental Compensation of 8.26 Crores as suggested to be levied on Respondent No.1 is unjustified and not based on facts and purely imaginary besides being unconscionable.



शेषगिरि राव सतिराजु / SESHAGIRI RAO SATTIRAJU
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एनटीपीसी लिमिटेड - सिम्हाद्री / NTPC Limited - Simhadri
विशाखपट्टणम / VISAKHAPATNAM - 531 020.

- 71.** It is respectfully submitted by Respondent No.1 that with regard to Para 7, Direction - vii of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. The Respondent No.1 is ready to carry out the long term impact assessment study through NEERI to ascertain the impact of pollution on water, air and soil within 5 km radius of the project area.
- 72.** It is respectfully submitted by Respondent No.1 that with regard to Para 7, Direction - viii of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. The 11 No's of recommendations suggested by the Joint Committee are examined and 7 out of 11 recommendations such as additional 10 rows of plantations near ash dyke, additional mist spray guns at coal stock yards etc, are already implemented by Respondent No.1. The remaining recommendations will be endeavoured to be complied with in total by the Respondent No.1.
- 73.** It is respectfully submitted by Respondent No.1 that with regard to Para 8, of the Joint Committee report except for matters of record and specifically admitted herein each and every allegation made in the said paragraph is denied. As the Respondent No.1 has complied with all conditions of EC and there being no damage caused to the environment by this Respondent. The environmental compensation of Rs.8.26 Crores as sought against this Respondent may be dismissed by this Hon'ble Tribunal. The Respondent No.1 shall endeavour to comply with the recommendation/suggestion of the study report. Also the Respondent No.1 shall endeavour to comply with the directions issued by the statutory authorities and the measures recommended by the Joint Committee.



शेषगिरि राव सत्तिराजु / SESHAGIRI RAO SATTIRAJU
 उपर महाप्रबंधक (ई.एस.जी) / Addl. General Manager (EMG)
 एनटीपीसी लिमिटेड - सिम्हाद्रि / NTPC Limited - Simhadri
 विशाखपत्तणम / VISAKHAPATNAM - 531 020.

For all the reasons stated hereinabove, this Hon'ble Tribunal may be pleased to take the Response filed by the Respondent No.1 on record and reject the Joint Committee Report against this Respondent and thus render justice.

Dated at Chennai on this the 14th day of July 2022



शेषगिरी राव सत्तिराजु / SESHAGIRI RAO SATTIRAJU
उपर महाप्रबंधक (ई.एस.जी) / Addl. General Manager (EMG)
एनटीपीसी लिमिटेड - सिम्हाद्रि / NTPC Limited - Simhadri
विशाखपणम / VISAKHAPATNAM - 531 020.

Advocates for Respondent No.1

Respondent No.1

VERIFICATION

I, Seshagiri Rao Sattiraju, Additional General Manager (EMG&AU) of NTPC Limited, Respondent No.1, do hereby declare that what is stated in the above paragraphs 1-73 are true and correct to the best of my knowledge, information and belief.

Verified at Chennai on this the 14th day of July, 2022



शेषगिरी राव सत्तिराजु / SESHAGIRI RAO SATTIRAJU
उपर महाप्रबंधक (ई.एस.जी) / Addl. General Manager (EMG)
एनटीपीसी लिमिटेड - सिम्हाद्रि / NTPC Limited - Simhadri
विशाखपणम / VISAKHAPATNAM - 531 020.

Respondent No.1

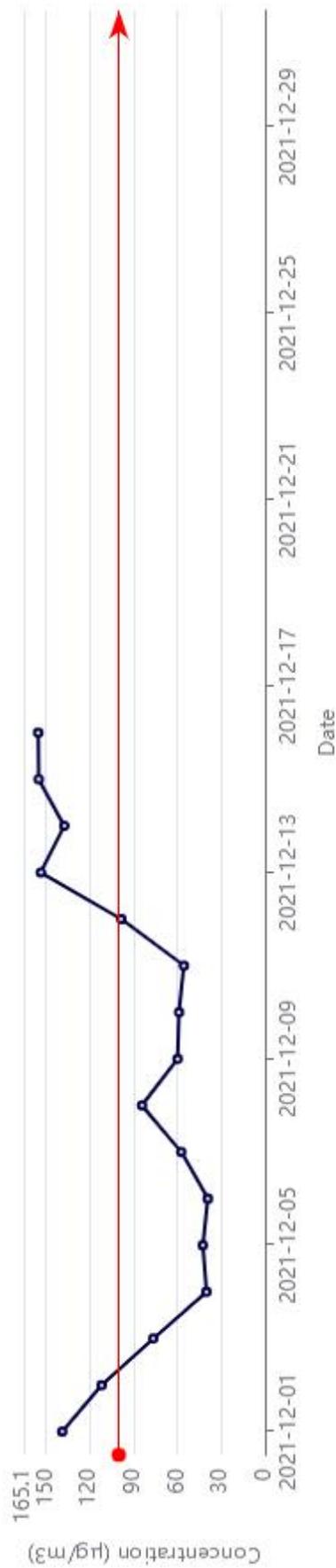
24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

December

Year

2021



PM10

Standard for PM₁₀



Air Quality Index

Air Quality Index (AQI) is a key measure for communicating air quality status to people based on ambient pollutant concentration and their likely health impacts.

Air Quality Index
विश्वसनीयता

189

MODERATE

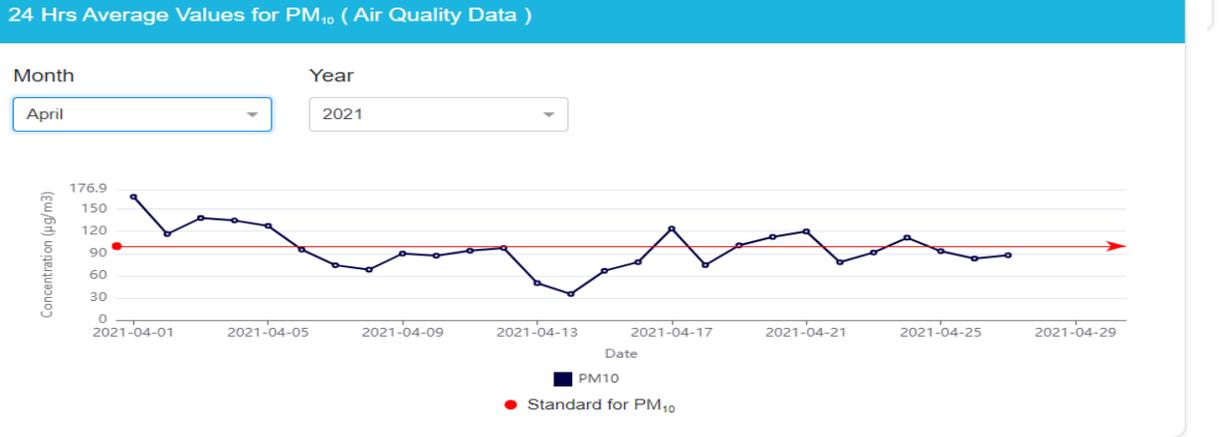
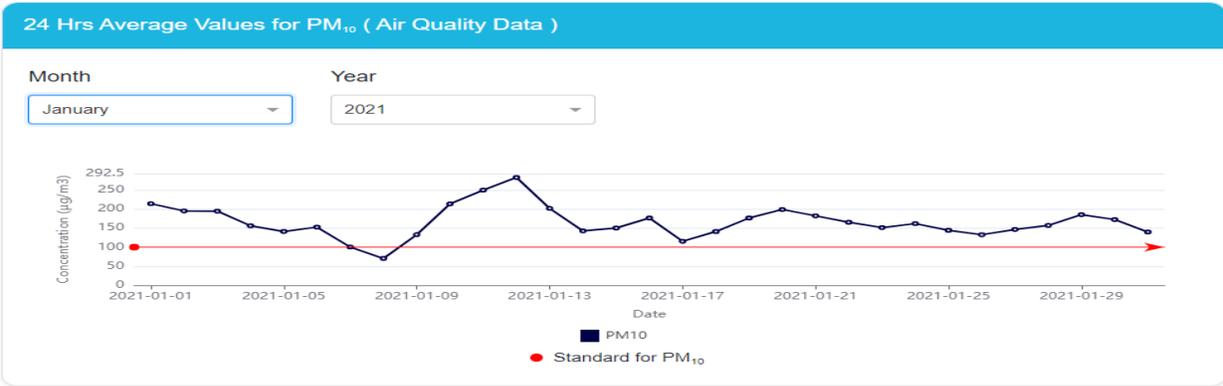
28 °C

3 m/s

SE

[Meteorological Data](#) Last Updated: 2021-12-30

SNAPSHOTS OF CPCB PRANA PORTAL – ANNUAL DATA - 2021



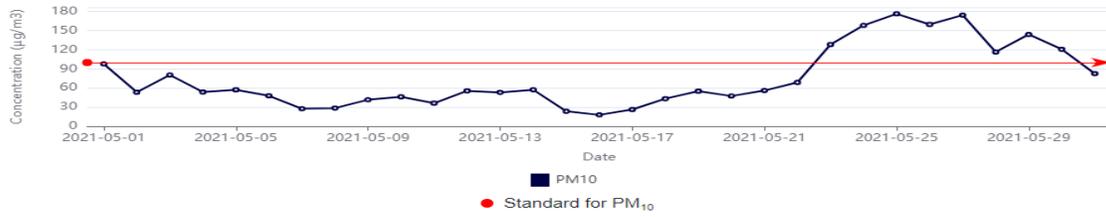
24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

May

Year

2021



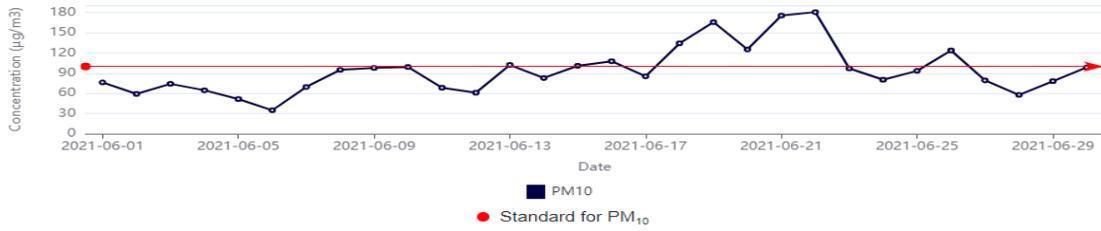
24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

June

Year

2021



24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

July

Year

2021



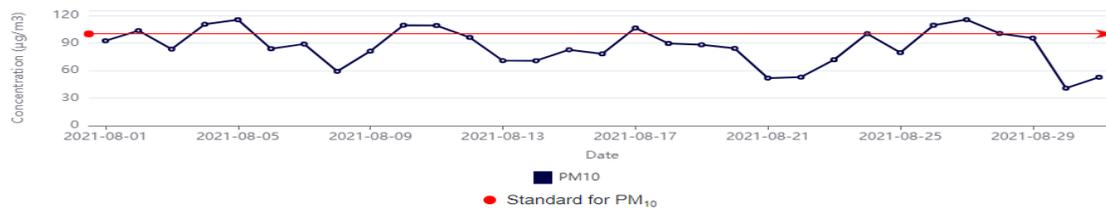
24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

August

Year

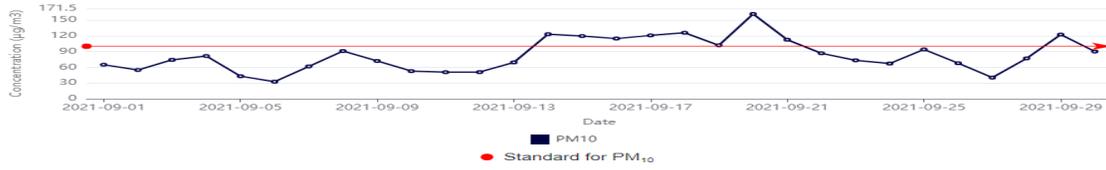
2021



24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month:

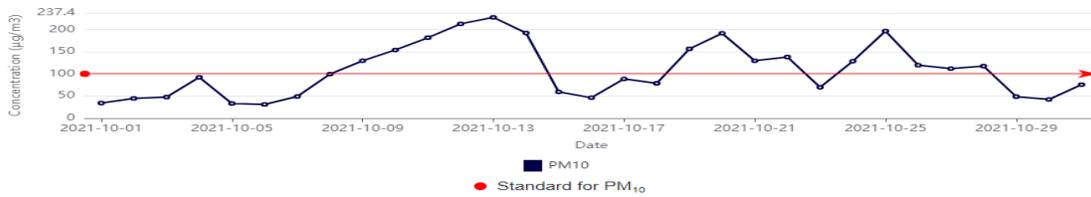
Year:



24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month:

Year:



24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month:

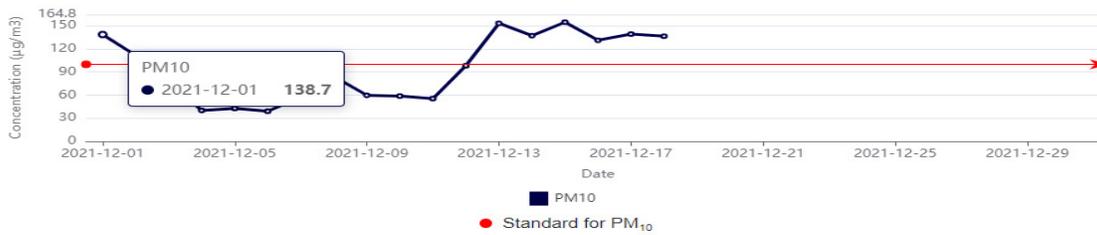
Year:



24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month:

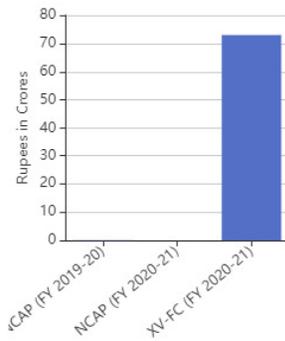
Year:



Funds Utilization

Funds Released

₹73.12 Crores



Annual data of PM₁₀ since 2018

Result



Nodal Officer Details

Name: Mr.Pramod Kumar Reddy

Email:

Name: Mr. K.V.N. Ravi

Email: sep2gvmc@gmail.com



एनटीपीसी लिमिटेड

(भारत सरकार का उद्यम)

NTPC Limited

(A Government of India Enterprise)

सिम्हाद्री / Simhadri

Ref. No. SMPS: EMG & AU: 2022:

Date: 10.02.2022

To

Environmental Engineer- RO
Andhra Pradesh Pollution Control Board,
D.No. 39-33-20/4/1, Madhavadhara Vuda Colony,
Visakhapatnam - 530018, Phone: 0891 -2755356

Dear Sir,

Subject: Your notice 1011/PCB/RO-VSP/2022/250 dated 27.01.2022

With reference to the subject and above letter, it is represented that, NTPC Simhadri power generation strictly adheres to emission control measures as stipulated by CPCB, APPCB guidelines and daily average emissions are always well within the prescribed limits.

It is brought to your kind attention that, due to temperature inversion effect during winter seasons and high presence of marine aerosols due to proximity to seacoast, the PM 10 & P2.5 values will be normally beyond stipulated limits

The same data can be substantiated as per PRANA portal (<https://prana.cpcb.gov.in>) for Regulation of Air Pollution in Non-Attainment Cities controlled by CPCB, the PM10 value of Vishakhapatnam city, during December 2021, highest being 241 and the total average for 2021 was 104. (PRANA Snapshots enclosed as Annexure -I)

We assure you that the stack emissions at NTPC-Simhadri are always maintained as per the prescribed norms of CPCB/MOEF and it is a continuous endeavor of NTPC Simhadri to ensure Environment protection aspects in all respects.

We assure you that under your kind guidance NTPC Simhadri will strive hard to ensure Environment protection aspects in all respects

Thanking you,

Yours sincerely,

Dr.V Jayan
AGM (EMG & AU)

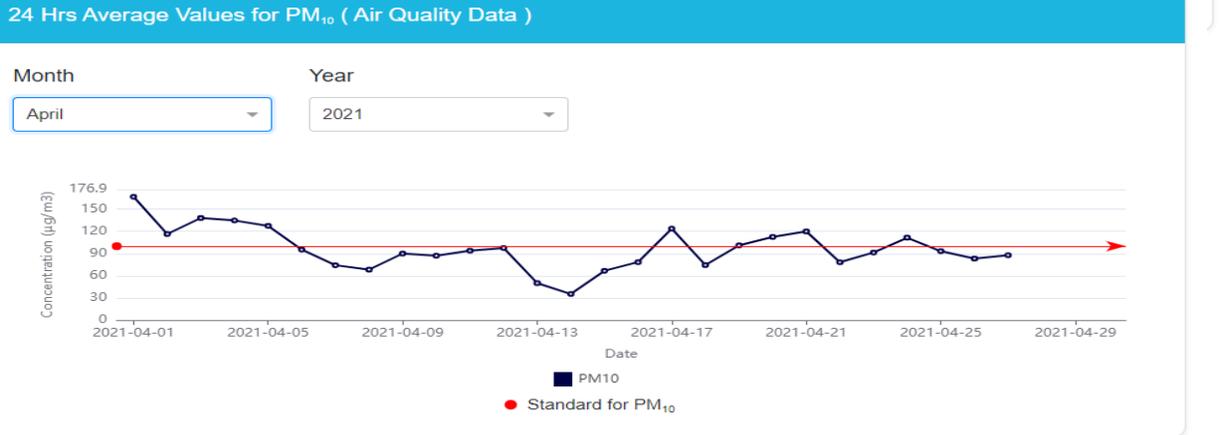
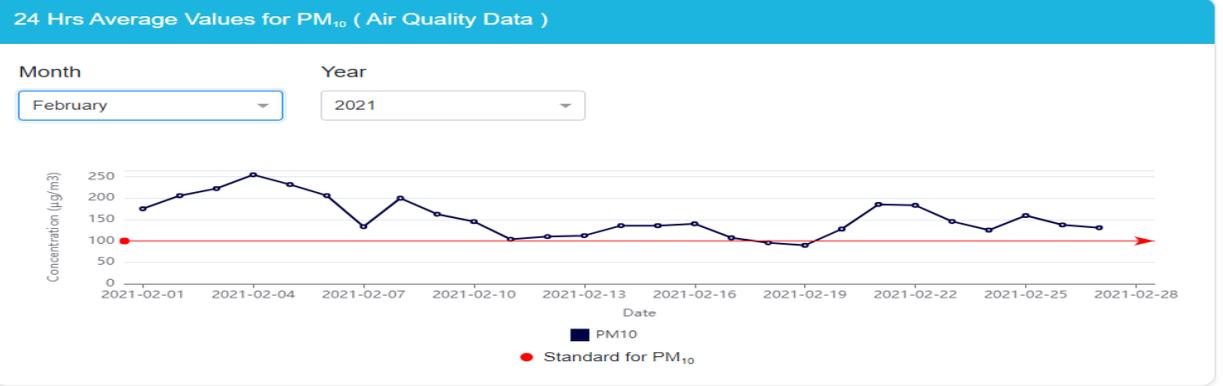
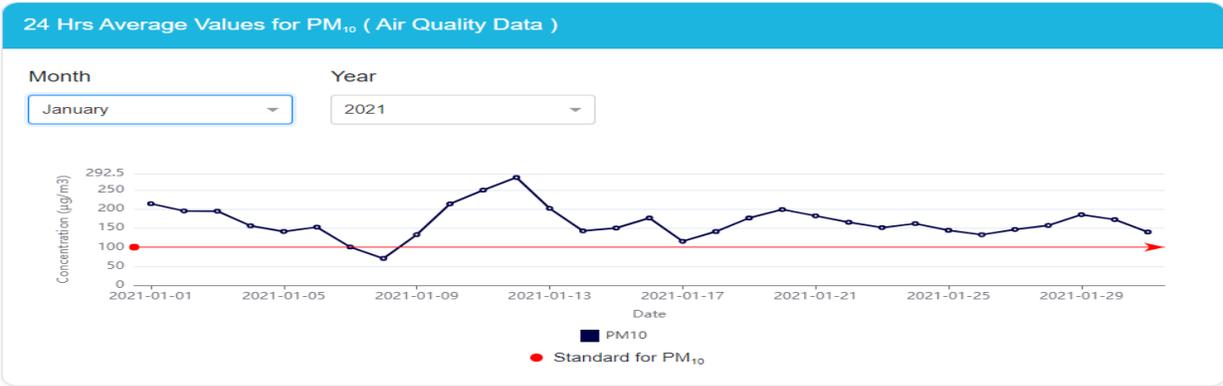
सिम्हाद्री सुपर थर्मल पावर प्रोजेक्ट, पोस्ट: एनटीपीसी-सिम्हाद्री - 531 020. जिला : विशाखपट्टणम (अं.प्र.)

Simhadri Super Thermal Power Project Post : NTPC Simhadri - 531 020. Dist : Visakhapatnam (A.P.)
Phone No. : 08924-243858, Fax No. : 08924-243092

पंजीकृत कार्यालय : एन टी पी सी भवन, स्कोप कॉम्प्लेक्स 7, इन्स्टिट्यूशनल एरिया, लोदी रोड, नई दिल्ली - 110003
दूरभाष : 11-24360100, फैक्स : 11-24361018, वेबसाईट: www.ntpc.co.in

Regd Office : NTPC Bhawan, Scope Complex 7, Institutional Area, Lodi Road, New Delhi - 110003,
Tel : 011-243601000, Fax : 011-24361018, Website : www.ntpc.co.in

ANNEXURE -I -SNAPSHOTS OF CPCB PRANA PORTAL – ANNUAL DATA 2021



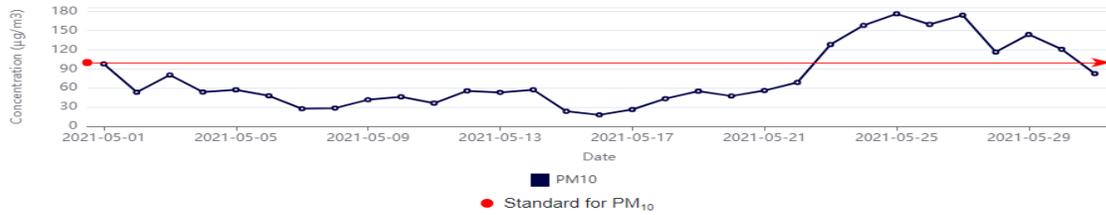
24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

May

Year

2021



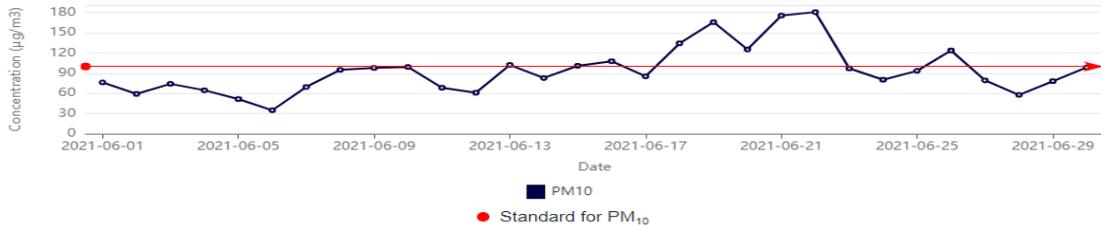
24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

June

Year

2021



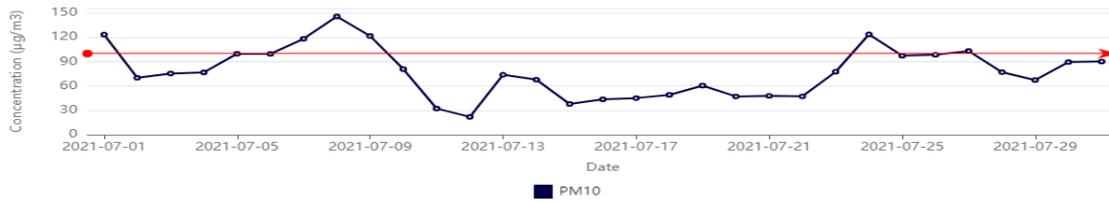
24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

July

Year

2021



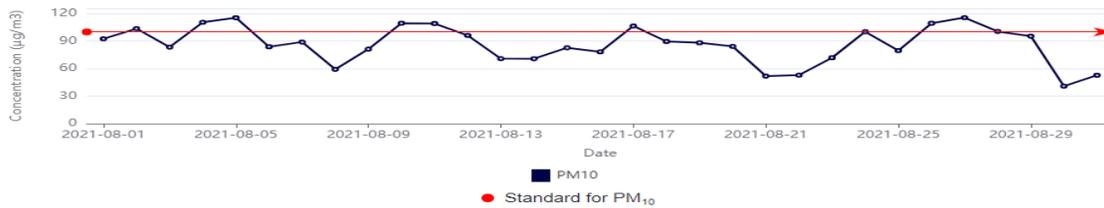
24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month

August

Year

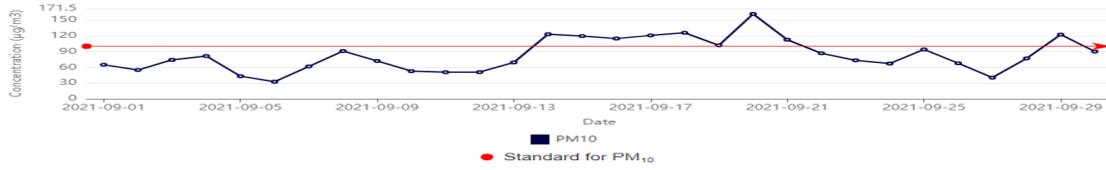
2021



24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month:

Year:



24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month:

Year:



24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month:

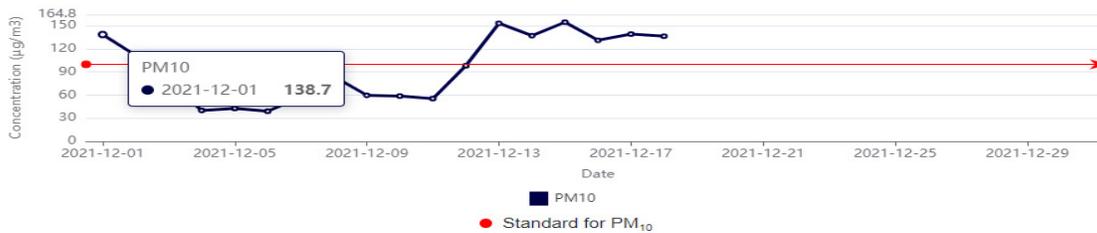
Year:

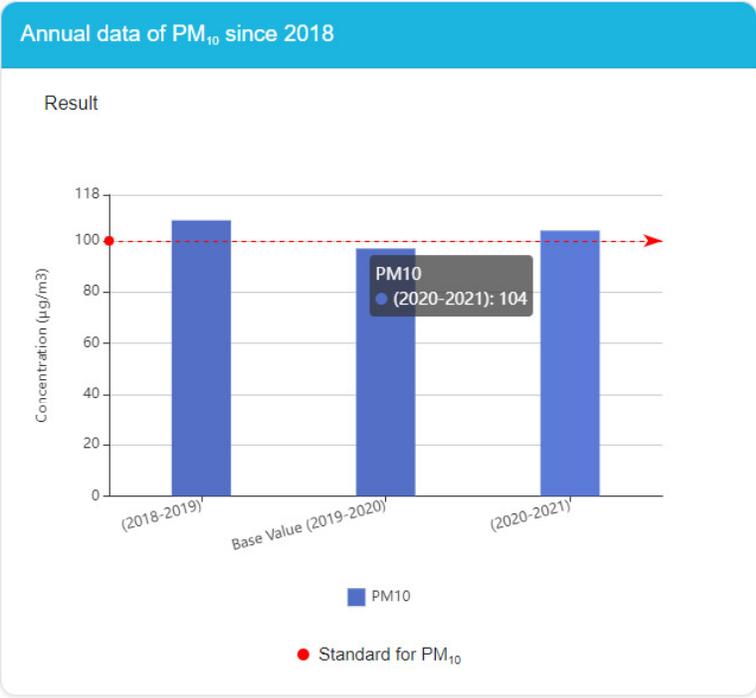
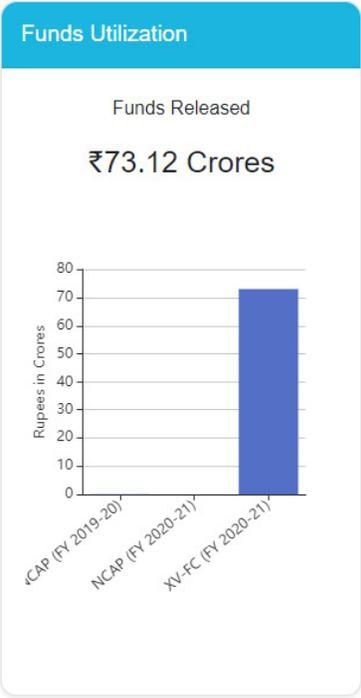


24 Hrs Average Values for PM₁₀ (Air Quality Data)

Month:

Year:





Nodal Officer Details

Name: Mr.Pramod Kumar Reddy	Name: Mr. K.V.N. Ravi
Email:	Email: sep2gvmc@gmail.com

Parameter Report

Simhadri Thermal Power Project

Generated On 2022-03-20 12:33:25 **Generated By** EMG
Period 2017-01-01 00:00:00 - 2017-12-31 12:33:03 **Station Type** EQMS
Stations EQMS_1,EQMS_2 **Parameters** Temperature,TSS,pH,BOD From TOC,COD From TOC,TOC

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
1	2017-01-31 00:00:00:0	6.24	31.22	9.54	36.52	12.49	13.75	3.56	17.78	9.46	35.3	7.11	12.83
2	2017-02-01 00:00:00:0	2.99	14.93	8.92	32.27	5.97	10.82	9.0	44.99	8.78	32.36	18.0	7.45
3	2017-02-02 00:00:00:0	2.83	14.13	9.07	33.15	5.65	13.93	7.14	35.68	8.97	32.93	14.27	9.07
4	2017-02-03 00:00:00:0	2.06	10.31	8.83	31.61	4.13	38.81	9.31	46.54	8.73	31.51	18.62	7.21
5	2017-02-04 00:00:00:0	2.88	14.41	8.89	31.38	5.76	30.85	9.21	46.03	8.74	31.21	18.41	7.41
6	2017-02-05 00:00:00:0	2.97	14.86	8.95	31.85	5.94	8.42	9.36	46.81	8.84	32.56	18.72	7.92
7	2017-02-06 00:00:00:0	2.62	13.08	8.9	32.33	5.23	11.74	9.77	48.83	8.75	31.85	19.53	7.35
8	2017-02-07 00:00:00:0	1.82	9.1	8.64	30.58	3.64	8.0	0.05	0.23	8.46	30.12	0.09	5.15
9	2017-02-08 00:00:00:0	1.71	8.53	8.69	30.61	3.41	8.26	0.04	0.22	8.47	30.0	0.09	5.3

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	08 00:00:00:0												
10	2017-02- 09 00:00:00:0	1.67	8.34	8.71	29.78	3.34	10.99	0.05	0.23	8.46	29.17	0.09	5.41
11	2017-02- 10 00:00:00:0	1.59	7.97	8.56	29.36	3.19	24.46	6.67	33.37	8.38	29.76	13.35	4.51
12	2017-02- 11 00:00:00:0	0.29	1.43	8.28	27.46	0.57	36.7	15.27	76.35	8.04	27.16	30.54	2.12
13	2017-02- 12 00:00:00:0	0.15	0.76	8.27	26.99	0.31	31.39	16.78	83.88	8.02	26.61	33.55	2.13
14	2017-02- 13 00:00:00:0	0.66	3.28	8.27	26.76	1.31	30.33	14.93	74.65	8.03	26.98	29.86	2.13
15	2017-02- 14 00:00:00:0	0.04	0.21	8.29	27.33	0.08	31.7	17.26	86.32	8.06	28.06	34.53	2.14
16	2017-02- 15 00:00:00:0	0.04	0.21	8.28	26.84	0.08	33.73	16.29	81.43	8.04	27.42	32.57	2.16
17	2017-02- 16 00:00:00:0	0.09	0.43	8.27	26.47	0.17	32.3	16.77	83.85	8.04	27.31	33.54	2.21
18	2017-02- 17 00:00:00:0	0.04	0.21	8.27	26.79	0.08	28.97	17.87	89.34	8.03	26.92	35.73	2.18
19	2017-02- 18 00:00:00:0	0.04	0.21	8.29	27.11	0.08	33.7	17.73	88.65	8.06	27.93	35.46	2.19
20	2017-02- 19 00:00:00:0	0.29	1.43	8.3	27.87	0.57	44.01	18.38	91.89	8.08	28.81	36.76	2.19

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
21	2017-02-20 00:00:00:0	0.59	2.96	8.31	28.2	1.18	68.92	17.75	88.73	8.08	28.58	35.49	2.22
22	2017-02-21 00:00:00:0	1.0	4.98	8.32	28.51	1.99	60.82	18.4	92.0	8.1	29.17	36.8	2.19
23	2017-02-22 00:00:00:0	1.32	6.59	8.3	30.02	2.64	56.02	15.0	75.01	8.11	29.57	30.0	2.27
24	2017-02-23 00:00:00:0	1.77	8.83	8.4	29.47	3.53	26.81	14.11	70.56	8.2	30.69	28.23	2.92
25	2017-02-24 00:00:00:0	3.03	15.13	8.79	32.41	6.05	28.73	11.33	56.66	8.72	34.27	22.66	6.49
26	2017-02-25 00:00:00:0	4.22	21.08	9.24	36.03	8.43	32.19	13.16	65.79	9.16	37.24	26.32	9.74
27	2017-02-26 00:00:00:0	4.88	24.38	9.38	37.51	9.75	35.46	12.19	60.94	9.35	38.02	24.38	11.23
28	2017-02-27 00:00:00:0	4.81	24.06	9.44	37.95	9.62	37.52	12.95	64.73	9.43	38.59	25.89	11.75
29	2017-02-28 00:00:00:0	4.71	23.53	9.36	37.28	9.41	52.17	14.82	74.12	9.35	37.59	29.65	11.33
30	2017-03-01 00:00:00:0	3.95	19.75	9.2	35.94	7.9	30.42	13.39	66.93	9.16	36.16	26.77	9.99
31	2017-03-02 00:00:00:0	4.74	23.68	9.28	36.65	9.47	17.58	15.17	75.85	9.24	36.57	30.34	10.65
32	2017-03-03 00:00:00:0	3.57	17.87	9.06	34.83	7.15	18.34	6.43	32.13	9.02	34.88	12.85	9.1

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:000												
33	2017-03-04 00:00:00:0	2.06	10.31	8.66	32.84	4.12	40.97	0.21	1.05	8.59	32.63	0.42	5.72
34	2017-03-05 00:00:00:0	1.66	8.31	8.7	32.75	3.32	65.36	0.05	0.24	8.58	33.96	0.1	5.31
35	2017-03-06 00:00:00:0	1.82	9.08	8.53	31.7	3.63	36.26	0.04	0.21	8.38	32.64	0.08	3.88
36	2017-03-07 00:00:00:0	0.14	0.69	8.28	30.38	0.28	30.85	N/A	N/A	8.15	31.0	N/A	2.14
37	2017-03-08 00:00:00:0	0.04	0.21	8.29	30.5	0.09	36.76	N/A	N/A	8.15	31.31	N/A	2.13
38	2017-03-09 00:00:00:0	0.04	0.21	8.3	30.34	0.09	56.6	N/A	N/A	8.13	30.54	N/A	2.13
39	2017-03-10 00:00:00:0	1.31	6.57	8.29	30.28	2.63	47.99	4.02	20.12	8.13	30.33	8.05	2.13
40	2017-03-11 00:00:00:0	1.66	8.31	8.3	30.37	3.32	21.92	1.77	8.85	8.14	30.58	3.54	2.12
41	2017-03-12 00:00:00:0	1.15	5.75	8.32	30.53	2.3	30.18	1.06	5.31	8.16	31.3	2.12	2.16
42	2017-03-13 00:00:00:0	1.03	5.16	8.33	30.17	2.06	33.55	2.68	13.42	8.14	30.73	5.37	2.27
43	2017-03-14 00:00:00:0	0.97	4.87	8.34	30.33	1.95	78.03	2.15	10.73	8.15	30.59	4.29	2.41

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
44	2017-03-15 00:00:00:0	0.92	4.61	8.29	30.39	1.84	35.49	1.28	6.4	8.13	30.48	2.56	2.12
45	2017-03-16 00:00:00:0	0.84	4.19	8.34	30.35	1.67	5.8	1.42	7.08	8.15	30.84	2.83	2.31
46	2017-03-17 00:00:00:0	0.87	4.33	8.33	30.37	1.73	5.09	1.72	8.61	8.15	30.97	3.44	2.25
47	2017-03-18 00:00:00:0	0.81	4.06	8.31	30.44	1.63	5.19	1.61	8.03	8.15	30.96	3.21	2.24
48	2017-03-19 00:00:00:0	0.79	3.94	8.3	30.31	1.58	5.2	1.19	5.97	8.14	30.78	2.39	2.24
49	2017-03-20 00:00:00:0	0.49	2.46	8.3	30.65	0.98	5.57	1.42	7.11	8.16	31.33	2.84	2.29
50	2017-03-21 00:00:00:0	0.43	2.14	8.31	30.83	0.85	19.19	1.22	6.08	8.19	31.64	2.43	2.51
51	2017-03-22 00:00:00:0	0.21	1.06	8.35	31.05	0.42	49.92	0.93	4.64	8.25	32.3	1.86	2.91
52	2017-03-23 00:00:00:0	0.23	1.17	8.32	30.82	0.47	32.27	1.45	7.25	8.23	31.81	2.9	2.76
53	2017-03-24 00:00:00:0	0.42	2.1	8.3	30.6	0.84	11.37	1.54	7.69	8.17	31.48	3.07	2.4
54	2017-03-25 00:00:00:0	0.05	0.26	8.31	30.61	0.11	10.88	1.25	6.25	8.17	31.24	2.5	2.44
55	2017-03-26 00:00:00:0	0.05	0.27	8.34	30.5	0.11	9.7	1.41	7.03	8.17	31.29	2.81	2.43

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
56	2017-03-27 00:00:00:0	0.07	0.33	8.34	30.47	0.13	9.25	1.94	9.68	8.18	31.22	3.87	2.47
57	2017-03-28 00:00:00:0	0.07	0.33	8.36	30.36	0.13	11.87	7.2	35.99	8.16	30.72	14.4	2.5
58	2017-03-29 00:00:00:0	0.31	1.54	8.37	30.59	0.62	13.4	11.24	56.21	8.21	31.85	22.49	2.73
59	2017-03-30 00:00:00:0	0.2	1.02	8.36	30.43	0.41	15.98	10.94	54.72	8.18	31.19	21.89	2.61
60	2017-03-31 00:00:00:0	0.96	4.82	8.36	30.63	1.93	11.77	9.93	49.66	8.19	31.19	19.87	2.64
61	2017-04-01 00:00:00:0	0.44	2.2	8.35	30.73	0.88	12.43	10.7	53.52	8.21	31.38	21.41	2.73
62	2017-04-02 00:00:00:0	0.35	1.75	8.33	31.05	0.7	11.89	10.23	51.15	8.25	31.88	20.46	2.95
63	2017-04-03 00:00:00:0	0.37	1.83	8.38	31.7	0.73	10.09	10.12	50.58	8.33	33.12	20.23	3.41
64	2017-04-04 00:00:00:0	1.49	7.44	8.48	32.02	2.98	14.86	10.39	51.93	8.43	33.35	20.77	4.18
65	2017-04-05 00:00:00:0	1.72	8.58	8.44	32.08	3.43	29.69	10.96	54.78	8.41	33.16	21.91	3.97
66	2017-04-06 00:00:00:0	1.31	6.55	8.42	32.49	2.62	26.63	11.53	57.66	8.38	32.83	23.06	3.79

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
67	2017-04-07 00:00:00:0	1.91	9.55	8.5	33.47	3.82	22.16	10.61	53.07	8.5	34.35	21.23	4.39
68	2017-04-08 00:00:00:0	2.71	13.55	8.73	34.83	5.42	29.65	7.31	36.53	6.19	35.48	14.61	6.14
69	2017-04-09 00:00:00:0	2.77	13.86	8.68	34.44	5.54	28.04	6.68	33.39	8.45	35.72	13.35	5.88
70	2017-04-10 00:00:00:0	2.72	13.6	8.69	34.71	5.44	35.91	8.24	41.22	8.58	35.99	16.49	5.91
71	2017-04-11 00:00:00:0	3.62	18.08	8.89	35.7	7.23	34.15	7.29	36.44	8.86	36.65	14.58	7.13
72	2017-04-12 00:00:00:0	3.27	16.36	8.83	35.07	6.55	32.64	10.17	50.87	8.8	36.49	20.35	6.61
73	2017-04-13 00:00:00:0	3.14	15.72	8.84	35.12	6.29	53.06	9.31	46.53	8.77	35.92	18.61	6.55
74	2017-04-14 00:00:00:0	3.55	17.75	8.94	35.51	7.1	43.5	9.88	49.39	8.89	36.38	19.76	7.51
75	2017-04-15 00:00:00:0	2.78	13.92	8.7	33.98	5.57	33.16	10.76	53.78	8.68	35.03	21.51	5.96
76	2017-04-16 00:00:00:0	2.66	13.29	8.67	34.3	5.32	31.72	11.01	55.03	8.67	35.68	22.01	5.74
77	2017-04-17 00:00:00:0	2.62	13.12	8.67	34.92	5.25	34.11	13.33	66.65	8.67	36.56	26.66	5.5
78	2017-04-18 00:00:00:0	1.71	8.57	8.38	33.12	3.43	29.62	5.86	29.31	8.39	36.27	11.72	24.51

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
79	2017-04-19 00:00:00:0	2.39	11.93	8.58	34.56	4.77	26.4	9.22	46.11	8.72	40.07	18.44	28.39
80	2017-04-20 00:00:00:0	2.31	11.57	8.57	34.26	4.63	24.1	7.61	38.05	8.71	39.87	15.22	22.93
81	2017-04-21 00:00:00:0	2.74	13.68	8.76	34.94	5.47	30.29	10.78	53.9	9.0	41.44	21.56	31.31
82	2017-04-22 00:00:00:0	2.64	13.18	8.73	34.89	5.27	31.4	7.46	37.3	8.76	40.23	14.92	28.0
83	2017-04-23 00:00:00:0	1.11	5.56	8.28	31.3	2.22	33.44	16.2	81.0	8.29	36.43	32.4	21.85
84	2017-04-24 00:00:00:0	1.69	8.46	8.28	32.71	3.39	29.88	7.08	35.39	8.34	38.25	14.15	39.31
85	2017-04-25 00:00:00:0	1.54	7.7	8.43	33.13	3.08	31.96	9.46	47.28	8.53	39.09	18.91	48.56
86	2017-04-26 00:00:00:0	2.49	12.44	8.68	35.55	4.98	45.05	9.83	49.13	8.84	41.36	19.65	53.41
87	2017-04-27 00:00:00:0	3.96	19.8	9.0	37.73	7.92	50.22	8.87	44.34	9.18	43.49	17.74	50.65
88	2017-04-28 00:00:00:0	2.89	14.47	8.78	35.62	5.79	39.75	9.25	46.23	8.94	41.45	18.49	46.43
89	2017-04-29 00:00:00:0	3.51	17.53	8.9	36.49	7.01	39.15	8.47	42.34	9.04	41.77	16.94	19.66

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
90	2017-04-30 00:00:00:0	3.34	16.72	8.84	36.4	6.69	32.39	7.58	37.9	9.04	42.14	15.16	6.45
91	2017-05-01 00:00:00:0	3.43	17.16	8.9	35.96	6.86	25.9	8.64	43.18	9.05	41.31	17.27	6.77
92	2017-05-02 00:00:00:0	1.16	5.78	8.3	31.28	2.31	17.43	10.49	52.44	8.43	36.44	20.98	7.7
93	2017-05-03 00:00:00:0	1.41	7.06	8.37	32.25	2.82	15.65	10.69	53.43	8.48	37.88	21.37	1.78
94	2017-05-04 00:00:00:0	1.63	8.16	8.43	31.89	3.26	17.12	9.91	49.56	8.57	38.75	19.82	2.43
95	2017-05-05 00:00:00:0	2.35	11.73	8.57	34.19	4.69	30.86	10.41	52.03	8.75	40.0	20.81	3.71
96	2017-05-06 00:00:00:0	1.98	9.89	8.47	33.13	3.96	50.9	10.77	53.85	8.59	38.45	21.54	2.66
97	2017-05-07 00:00:00:0	1.15	5.73	8.32	31.53	2.29	48.8	10.44	52.18	8.38	36.3	20.87	20.73
98	2017-05-08 00:00:00:0	1.27	6.35	8.35	31.87	2.54	26.87	10.4	51.98	8.41	37.23	20.79	3.08
99	2017-05-09 00:00:00:0	1.41	7.05	8.34	31.92	2.82	15.47	10.31	51.56	8.45	37.47	20.62	2.79
100	2017-05-10 00:00:00:0	1.53	7.66	8.43	32.93	3.06	14.22	9.74	48.68	8.56	38.16	19.47	3.62
101	2017-05-11 00:00:00:0	1.65	8.25	8.41	33.54	3.3	11.54	9.3	46.5	8.54	38.43	18.6	19.18

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
102	2017-05-12 00:00:00:0	1.92	9.61	8.5	34.11	3.84	12.83	9.5	47.52	8.68	39.63	19.01	10.72
103	2017-05-13 00:00:00:0	2.47	12.35	8.67	35.2	4.94	13.89	10.03	50.14	8.83	40.8	20.06	4.28
104	2017-05-14 00:00:00:0	3.21	16.05	8.86	36.46	6.42	14.76	9.11	45.56	9.03	41.92	18.22	5.79
105	2017-05-15 00:00:00:0	2.56	12.78	8.69	35.76	5.11	14.8	9.7	48.5	8.87	41.09	19.4	4.87
106	2017-05-16 00:00:00:0	2.18	10.88	8.55	35.41	4.35	15.72	9.4	47.01	8.73	40.42	18.8	4.99
107	2017-05-17 00:00:00:0	3.05	15.27	8.8	37.15	6.11	15.56	9.45	47.24	8.96	41.31	18.9	7.58
108	2017-05-18 00:00:00:0	2.38	11.92	8.58	36.25	4.77	13.01	9.92	49.61	8.75	40.56	19.84	6.45
109	2017-05-19 00:00:00:0	1.9	9.52	8.51	34.95	3.81	9.02	9.66	48.29	8.66	39.76	19.31	6.02
110	2017-05-20 00:00:00:0	2.26	11.3	8.62	34.6	4.52	9.3	9.01	45.05	8.76	39.81	18.02	7.77
111	2017-05-21 00:00:00:0	1.94	9.71	8.53	34.22	3.88	9.42	9.61	48.07	8.72	39.67	19.23	8.53
112	2017-05-22 00:00:00:0	3.09	15.47	8.78	37.18	6.19	11.26	8.82	44.09	8.95	41.69	17.63	10.94

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
113	2017-05-23 00:00:00:0	3.27	16.37	8.81	39.54	6.55	13.53	8.26	41.3	9.0	42.02	16.52	13.05
114	2017-05-24 00:00:00:0	2.99	14.94	8.78	37.28	5.98	16.72	9.24	46.2	8.93	41.59	18.48	14.15
115	2017-05-25 00:00:00:0	2.89	14.47	8.74	37.15	5.79	14.36	7.98	39.92	8.89	40.53	15.97	15.28
116	2017-05-26 00:00:00:0	2.11	10.53	8.5	34.84	4.21	15.51	1.84	9.2	8.64	38.64	3.68	15.62
117	2017-05-27 00:00:00:0	1.96	9.78	8.53	32.46	3.91	14.08	1.51	7.55	8.59	36.28	3.02	47.58
118	2017-05-28 00:00:00:0	1.68	8.4	8.34	32.36	3.36	13.03	1.72	8.58	8.46	36.86	3.43	17.95
119	2017-05-29 00:00:00:0	2.06	10.31	8.42	34.27	4.12	14.44	1.66	8.29	8.58	38.68	3.32	13.31
120	2017-05-30 00:00:00:0	2.6	13.02	8.39	35.02	5.21	13.91	1.78	8.92	8.53	39.04	3.57	11.38
121	2017-05-31 00:00:00:0	2.34	11.7	8.38	33.97	4.68	14.94	1.57	7.86	8.49	38.41	3.15	11.77
122	2017-06-01 00:00:00:0	2.42	12.1	8.54	34.94	4.84	25.24	1.96	9.78	8.66	39.5	3.91	13.98
123	2017-06-02 00:00:00:0	2.28	11.4	8.56	34.87	4.56	28.45	1.86	9.29	8.68	39.73	3.72	8.29
124	2017-06-03 00:00:00:0	2.11	10.55	8.52	34.47	4.22	24.64	1.7	8.48	8.62	39.39	3.39	2.76

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
125	2017-06-04 00:00:00:0	1.72	8.59	8.43	33.05	3.44	23.27	1.54	7.68	8.51	37.03	3.07	2.13
126	2017-06-05 00:00:00:0	1.78	8.9	8.45	33.86	3.56	22.91	1.61	8.06	8.56	38.21	3.22	2.5
127	2017-06-06 00:00:00:0	1.78	8.89	8.46	32.04	3.56	26.64	1.54	7.7	8.54	35.25	3.08	27.97
128	2017-06-07 00:00:00:0	0.73	3.64	8.25	30.3	1.46	22.59	1.6	8.0	8.21	31.91	3.2	5.73
129	2017-06-08 00:00:00:0	0.75	3.74	8.21	30.29	1.5	64.79	3.25	16.27	5.6	33.21	6.51	11.8
130	2017-06-09 00:00:00:0	0.83	4.17	8.29	30.67	1.67	80.7	12.67	63.35	8.28	35.79	25.34	21.82
131	2017-06-10 00:00:00:0	0.77	3.85	8.28	30.31	1.54	37.46	12.89	64.47	8.27	35.59	25.79	90.32
132	2017-06-11 00:00:00:0	0.83	4.17	8.32	30.4	1.67	7.85	13.55	67.75	8.28	35.85	27.1	55.65
133	2017-06-12 00:00:00:0	0.9	4.49	8.27	30.4	1.8	7.75	13.76	68.8	8.28	36.02	27.52	28.99
134	2017-06-13 00:00:00:0	1.01	5.03	8.31	30.32	2.01	10.01	13.35	66.76	8.28	35.98	26.7	20.07
135	2017-06-14 00:00:00:0	1.06	5.3	8.31	29.91	2.12	14.96	13.26	66.31	8.28	35.78	26.52	49.73

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
136	2017-06-15 00:00:00:0	1.0	5.0	8.34	29.92	2.0	26.65	14.79	73.95	8.29	36.13	29.58	95.34
137	2017-06-16 00:00:00:0	0.1	0.51	8.31	28.85	0.2	21.19	15.27	76.34	8.25	34.55	30.54	92.24
138	2017-06-17 00:00:00:0	0.48	2.42	8.27	30.25	0.97	15.82	14.88	74.41	8.29	36.26	29.76	45.46
139	2017-06-18 00:00:00:0	0.09	0.45	8.34	30.51	0.18	16.29	13.05	65.25	8.29	36.32	26.1	17.24
140	2017-06-19 00:00:00:0	0.04	0.21	8.32	30.85	0.08	21.54	13.33	66.64	8.29	36.35	26.66	10.16
141	2017-06-20 00:00:00:0	0.05	0.24	8.34	31.23	0.1	25.69	12.1	60.48	8.33	36.93	24.19	68.46
142	2017-06-21 00:00:00:0	0.22	1.1	8.29	30.62	0.44	39.34	14.35	71.76	8.33	36.32	28.7	99.93
143	2017-06-22 00:00:00:0	0.92	4.62	8.45	31.15	1.85	50.6	11.64	58.22	8.49	37.49	23.29	96.89
144	2017-06-23 00:00:00:0	0.13	0.67	8.3	30.4	0.27	55.12	12.39	61.94	8.36	36.98	24.78	97.64
145	2017-06-24 00:00:00:0	0.41	2.03	8.34	30.88	0.81	34.46	13.45	67.24	8.47	37.5	26.9	88.1
146	2017-06-25 00:00:00:0	0.66	3.28	8.5	30.36	1.31	25.83	12.04	60.19	8.55	37.08	24.08	99.36
147	2017-06-26 00:00:00:0	0.76	3.82	8.51	29.99	1.53	19.69	10.55	52.77	8.58	37.38	21.11	63.58

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
148	2017-06-27 00:00:00:0	0.27	1.34	8.31	28.92	0.54	15.74	12.63	63.14	8.35	35.79	25.26	47.08
149	2017-06-28 00:00:00:0	0.04	0.22	8.28	28.46	0.09	19.18	16.07	80.35	8.24	34.26	32.14	70.58
150	2017-06-29 00:00:00:0	N/A	N/A	8.3	28.95	N/A	26.18	17.31	86.56	8.25	34.87	34.62	99.82
151	2017-06-30 00:00:00:0	N/A	N/A	8.31	29.42	N/A	30.44	17.42	87.09	8.26	35.01	34.84	99.76
152	2017-07-01 00:00:00:0	N/A	N/A	8.27	29.24	N/A	31.0	16.88	84.42	8.25	34.76	33.77	99.93
153	2017-07-02 00:00:00:0	N/A	N/A	8.25	29.62	N/A	N/A	16.77	83.87	8.26	35.01	33.55	99.93
154	2017-07-03 00:00:00:0	5.04	25.19	8.25	29.92	10.08	27.38	16.29	81.43	8.27	35.48	32.57	99.92
155	2017-07-04 00:00:00:0	1.54	7.72	8.26	30.44	3.09	17.62	13.41	67.04	8.28	36.1	26.82	86.23
156	2017-07-05 00:00:00:0	1.02	5.12	8.33	30.86	2.05	25.19	13.04	65.19	8.3	36.95	26.08	79.47
157	2017-07-06 00:00:00:0	0.94	4.68	8.32	31.05	1.87	15.83	13.45	67.26	8.29	36.3	26.91	70.48
158	2017-07-07 00:00:00:0	0.83	4.15	8.29	30.83	1.66	10.62	11.51	57.56	8.27	35.66	23.02	49.8

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
159	2017-07-08 00:00:00:0	0.82	4.12	8.3	30.99	1.65	9.77	2.46	12.31	8.29	36.23	4.92	40.85
160	2017-07-09 00:00:00:0	0.78	3.88	8.32	30.11	1.55	6.56	0.04	0.2	8.27	35.48	0.08	25.71
161	2017-07-10 00:00:00:0	0.88	4.38	8.32	31.01	1.75	6.71	6.84	34.22	8.3	36.75	13.69	15.76
162	2017-07-11 00:00:00:0	0.99	4.93	8.31	31.02	1.97	73.28	10.95	54.75	8.29	36.46	21.9	13.59
163	2017-07-12 00:00:00:0	0.94	4.71	8.28	31.13	1.88	N/A	11.15	55.77	8.29	36.09	22.31	40.59
164	2017-07-13 00:00:00:0	0.95	4.75	8.32	30.62	1.9	13.1	12.06	60.3	8.29	35.88	24.12	57.69
165	2017-07-14 00:00:00:0	1.0	4.99	8.32	29.57	2.0	34.93	12.26	61.3	8.26	34.9	24.52	36.16
166	2017-07-15 00:00:00:0	0.92	4.58	8.31	29.45	1.83	15.87	11.77	58.86	8.26	34.99	23.54	30.43
167	2017-07-16 00:00:00:0	0.94	4.72	8.29	29.19	1.89	32.14	11.63	58.16	8.25	34.85	23.26	32.56
168	2017-07-17 00:00:00:0	0.97	4.83	8.26	28.33	1.93	15.08	12.0	60.0	8.24	34.37	24.0	29.15
169	2017-07-18 00:00:00:0	0.94	4.68	8.21	27.44	1.87	12.58	12.58	62.91	8.24	34.13	25.16	21.89
170	2017-07-19 00:00:00:0	0.95	4.75	8.22	28.57	1.9	25.73	13.21	66.07	8.26	34.96	26.43	33.85

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:000												
171	2017-07-20 00:00:00:0	1.22	6.11	8.28	29.76	2.44	28.09	12.24	61.22	8.34	35.99	24.49	80.19
172	2017-07-21 00:00:00:0	0.93	4.67	8.22	30.56	1.87	42.49	12.49	62.46	8.29	36.32	24.98	99.93
173	2017-07-22 00:00:00:0	0.91	4.54	8.24	30.64	1.82	56.11	12.6	63.0	8.29	36.37	25.2	99.93
174	2017-07-23 00:00:00:0	0.98	4.89	8.25	29.99	1.95	73.8	12.65	63.26	8.3	36.7	25.3	99.93
175	2017-07-24 00:00:00:0	0.97	4.84	8.28	29.99	1.94	75.23	10.61	53.07	8.3	36.56	21.23	99.93
176	2017-07-25 00:00:00:0	0.99	4.95	8.31	29.89	1.98	56.21	11.73	58.63	8.32	36.81	23.45	99.93
177	2017-07-26 00:00:00:0	1.17	5.86	8.31	30.41	2.35	25.69	9.23	46.16	8.41	37.61	18.46	99.93
178	2017-07-27 00:00:00:0	1.12	5.62	8.32	30.61	2.25	26.84	10.64	53.18	8.4	37.52	21.27	99.93
179	2017-07-28 00:00:00:0	1.19	5.94	8.41	30.63	2.38	14.96	11.06	55.31	8.42	37.12	22.13	99.93
180	2017-07-29 00:00:00:0	1.19	5.95	8.37	30.52	2.38	9.55	8.33	41.66	8.43	37.35	16.66	84.76
181	2017-07-30 00:00:00:0	3.3	16.52	8.25	31.51	6.61	10.84	5.3	26.48	9.0	42.28	10.59	64.63

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
182	2017-07-31 00:00:00:0	3.85	19.27	8.41	33.42	7.71	11.08	7.65	38.23	9.17	43.83	15.29	40.44
183	2017-08-01 00:00:00:0	3.93	19.67	8.31	33.26	7.87	10.4	6.9	34.49	9.26	44.91	13.8	32.88
184	2017-08-02 00:00:00:0	3.71	18.57	8.41	33.03	7.43	8.21	6.36	31.82	9.16	44.03	12.73	33.06
185	2017-08-03 00:00:00:0	2.27	11.35	8.6	31.58	4.54	5.55	8.97	44.86	8.73	40.34	17.94	35.41
186	2017-08-04 00:00:00:0	0.99	4.97	8.25	30.66	1.99	9.02	11.04	55.19	8.32	37.11	22.08	45.31
187	2017-08-05 00:00:00:0	0.92	4.61	8.24	30.27	1.84	17.71	12.51	62.54	8.33	36.5	25.01	44.8
188	2017-08-06 00:00:00:0	1.06	5.3	8.3	31.07	2.12	14.0	9.69	48.45	8.33	36.97	19.38	36.32
189	2017-08-07 00:00:00:0	1.13	5.64	8.22	31.45	2.26	14.96	9.99	49.94	8.4	37.76	19.98	32.16
190	2017-08-08 00:00:00:0	0.79	3.95	8.16	30.72	1.58	15.68	9.91	49.56	8.31	36.69	19.82	39.62
191	2017-08-09 00:00:00:0	0.82	4.08	8.29	30.73	1.63	21.46	9.0	45.0	8.31	37.07	18.0	61.71
192	2017-08-10 00:00:00:0	1.72	8.61	7.98	30.89	3.44	23.99	8.2	41.01	8.57	39.12	16.4	68.32
193	2017-08-11 00:00:00:0	1.53	7.63	7.69	30.8	3.05	23.2	9.45	47.27	8.48	38.53	18.91	65.07

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
194	2017-08-12 00:00:00:0	0.76	3.8	7.94	29.9	1.52	23.68	9.87	49.36	8.31	35.82	19.74	63.41
195	2017-08-13 00:00:00:0	0.77	3.83	7.92	29.78	1.53	26.91	10.46	52.28	8.28	36.04	20.91	74.51
196	2017-08-14 00:00:00:0	0.79	3.94	7.92	30.44	1.58	21.99	11.03	55.16	8.28	35.95	22.07	50.8
197	2017-08-15 00:00:00:0	0.76	3.8	7.94	31.36	1.52	15.19	10.49	52.47	8.31	36.54	20.99	32.58
198	2017-08-16 00:00:00:0	0.87	4.34	7.97	31.84	1.74	13.3	9.17	45.85	8.38	37.14	18.34	22.59
199	2017-08-17 00:00:00:0	0.89	4.45	7.97	31.11	1.78	12.77	9.75	48.77	8.35	36.36	19.51	25.5
200	2017-08-18 00:00:00:0	0.8	4.0	7.93	29.55	1.6	13.35	10.34	51.7	8.25	34.75	20.68	55.41
201	2017-08-19 00:00:00:0	0.75	3.73	7.89	28.83	1.49	17.63	10.06	50.31	8.22	33.72	20.12	32.41
202	2017-08-20 00:00:00:0	0.86	4.31	7.9	28.82	1.72	19.44	10.4	52.02	8.24	34.34	20.81	22.34
203	2017-08-21 00:00:00:0	0.77	3.87	7.91	29.76	1.55	30.13	9.74	48.68	8.27	35.37	19.47	20.03
204	2017-08-22 00:00:00:0	0.8	3.99	7.94	30.08	1.6	26.18	9.09	45.46	8.31	35.69	18.18	20.49

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
205	2017-08-23 00:00:00:0	0.95	4.77	7.97	29.87	1.91	32.0	7.9	39.49	8.36	35.14	15.79	25.58
206	2017-08-24 00:00:00:0	0.61	3.05	7.97	29.58	1.22	29.13	8.46	42.31	8.28	33.68	16.92	24.19
207	2017-08-25 00:00:00:0	0.91	4.56	7.95	30.68	1.82	25.26	8.07	40.34	8.38	34.89	16.13	18.5
208	2017-08-26 00:00:00:0	0.9	4.49	8.02	30.7	1.8	26.97	7.53	37.67	8.4	34.46	15.07	16.5
209	2017-08-27 00:00:00:0	1.1	5.5	8.0	30.92	2.2	24.22	8.32	41.6	8.42	34.99	16.64	20.62
210	2017-08-28 00:00:00:0	0.72	3.59	7.92	29.49	1.43	22.62	7.32	36.6	8.22	33.16	14.64	10.55
211	2017-08-29 00:00:00:0	1.49	7.47	8.01	30.1	2.99	22.93	8.22	41.1	8.46	35.91	16.44	11.91
212	2017-08-30 00:00:00:0	4.81	24.04	8.23	34.95	9.62	53.1	5.24	26.18	9.36	45.2	10.47	22.82
213	2017-08-31 00:00:00:0	2.55	12.77	8.45	34.18	5.11	32.85	5.23	26.14	8.71	39.85	10.46	16.76
214	2017-09-01 00:00:00:0	2.78	13.91	8.64	21.23	5.56	27.56	2.76	13.78	9.56	45.92	5.51	23.53
215	2017-09-02 00:00:00:0	5.9	29.49	N/A	0.06	11.79	9.16	1.23	6.14	9.65	45.85	2.45	23.93
216	2017-09-16 00:00:00:0	1.12	5.6	7.97	16.47	2.24	29.5	10.3	51.51	8.28	35.22	20.6	21.12

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
217	2017-09-17 00:00:00:0	1.21	6.07	8.0	31.63	2.43	51.47	11.2	55.99	8.27	33.85	22.4	16.9
218	2017-09-18 00:00:00:0	0.87	4.35	7.98	32.1	1.74	55.17	12.46	62.31	8.23	34.0	24.92	14.68
219	2017-09-19 00:00:00:0	0.81	4.06	7.97	31.99	1.62	77.69	10.61	53.03	8.23	34.28	21.21	19.04
220	2017-09-20 00:00:00:0	1.02	5.12	8.02	31.79	2.05	26.26	0.84	4.18	8.24	34.45	1.67	20.24
221	2017-09-21 00:00:00:0	1.03	5.16	8.02	31.85	2.06	25.61	0.55	2.75	8.24	34.37	1.1	14.96
222	2017-09-22 00:00:00:0	1.11	5.56	8.01	31.13	2.22	24.81	1.36	6.81	8.26	35.11	2.73	18.87
223	2017-09-23 00:00:00:0	1.05	5.27	7.96	32.37	2.11	25.51	1.35	6.73	8.26	35.38	2.69	17.3
224	2017-09-24 00:00:00:0	1.01	5.03	7.96	32.11	2.01	19.61	1.27	6.35	8.22	33.67	2.54	11.0
225	2017-09-25 00:00:00:0	0.94	4.68	7.98	31.99	1.87	8.65	1.11	5.53	8.26	35.11	2.21	10.28
226	2017-09-26 00:00:00:0	0.96	4.82	8.0	31.73	1.93	4.92	0.96	4.78	8.25	34.78	1.91	15.97
227	2017-09-27 00:00:00:0	0.95	4.76	7.99	31.8	1.91	4.68	1.05	5.25	8.25	34.85	2.1	23.59

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
228	2017-09-28 00:00:00:0	0.98	4.92	7.99	32.52	1.97	6.04	1.19	5.93	8.26	35.25	2.37	46.89
229	2017-09-29 00:00:00:0	1.01	5.06	8.0	32.4	2.03	5.94	0.96	4.8	8.25	34.95	1.92	61.17
230	2017-09-30 00:00:00:0	1.11	5.53	8.01	31.62	2.21	7.85	0.94	4.69	8.24	34.3	1.88	69.53
231	2017-10-01 00:00:00:0	1.2	5.98	7.99	31.77	2.39	11.2	1.05	5.23	8.21	33.35	2.09	15.71
232	2017-10-02 00:00:00:0	1.16	5.82	8.02	31.72	2.33	17.22	0.96	4.82	8.22	33.57	1.93	4.57
233	2017-10-03 00:00:00:0	1.26	6.32	8.03	31.83	2.53	17.79	1.07	5.35	8.21	33.18	2.14	3.09
234	2017-10-04 00:00:00:0	1.36	6.82	8.0	32.0	2.73	14.08	1.24	6.21	8.24	34.39	2.48	2.56
235	2017-10-05 00:00:00:0	1.3	6.52	7.95	32.03	2.61	9.61	1.25	6.23	8.24	34.33	2.49	3.29
236	2017-10-06 00:00:00:0	1.26	6.29	7.97	31.95	2.51	6.19	1.17	5.86	8.23	34.24	2.34	4.47
237	2017-10-07 00:00:00:0	1.28	6.39	8.0	31.12	2.56	5.9	1.08	5.39	8.24	34.55	2.16	6.99
238	2017-10-08 00:00:00:0	1.28	6.39	8.03	31.15	2.56	17.93	1.14	5.68	8.24	34.2	2.27	8.77
239	2017-10-09 00:00:00:0	1.52	7.61	8.03	30.21	3.04	8.5	1.06	5.3	8.25	35.0	2.12	23.11

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
240	2017-10-10 00:00:00:0	1.41	7.07	7.98	30.75	2.83	8.02	1.23	6.15	8.25	34.85	2.46	34.17
241	2017-10-11 00:00:00:0	1.33	6.67	7.99	30.86	2.67	12.61	1.27	6.35	8.26	35.26	2.54	26.78
242	2017-10-12 00:00:00:0	1.38	6.88	7.98	30.43	2.75	13.85	1.19	5.97	8.26	35.09	2.39	33.58
243	2017-10-13 00:00:00:0	1.36	6.81	7.99	30.22	2.72	12.31	1.18	5.9	8.26	35.35	2.36	31.31
244	2017-10-14 00:00:00:0	1.37	6.83	8.0	29.82	2.73	10.99	1.1	5.51	8.26	35.37	2.2	N/A
245	2017-10-15 00:00:00:0	1.46	7.3	7.99	29.72	2.92	10.34	1.25	6.24	8.26	35.1	2.5	N/A
246	2017-10-16 00:00:00:0	1.41	7.06	8.0	29.62	2.82	9.31	4.33	21.64	8.26	35.41	8.66	N/A
247	2017-10-17 00:00:00:0	1.51	7.55	8.01	29.86	3.02	9.57	9.41	47.03	8.27	35.51	18.81	N/A
248	2017-10-18 00:00:00:0	1.51	7.53	8.01	29.24	3.01	9.71	9.36	46.78	8.24	34.52	18.71	N/A
249	2017-10-19 00:00:00:0	1.5	7.52	8.01	30.32	3.01	7.34	10.22	51.12	8.23	34.01	20.45	N/A
250	2017-10-20 00:00:00:0	1.46	7.31	8.05	30.83	2.92	6.25	9.22	46.09	8.26	35.11	18.43	N/A

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
251	2017-10-21 00:00:00:0	1.47	7.33	8.06	30.06	2.93	10.42	7.46	37.3	8.26	35.17	14.92	N/A
252	2017-10-22 00:00:00:0	1.51	7.54	8.07	30.85	3.02	14.25	8.18	40.91	8.24	34.56	16.36	N/A
253	2017-10-23 00:00:00:0	1.61	8.06	8.08	30.02	3.22	28.65	7.75	38.76	8.23	34.1	15.5	N/A
254	2017-10-24 00:00:00:0	1.92	9.6	8.07	29.74	3.84	30.59	7.97	39.83	8.28	36.14	15.93	N/A
255	2017-10-25 00:00:00:0	2.33	11.64	8.06	30.1	4.66	25.43	11.57	57.84	8.28	36.1	23.14	N/A
256	2017-10-26 00:00:00:0	2.03	10.13	8.07	28.17	4.05	20.0	9.16	45.82	8.25	34.84	18.33	N/A
257	2017-10-27 00:00:00:0	1.83	9.14	8.06	27.92	3.66	13.23	8.35	41.74	8.22	33.68	16.7	N/A
258	2017-10-28 00:00:00:0	1.69	8.43	8.06	28.55	3.37	8.11	8.39	41.94	8.24	34.38	16.78	N/A
259	2017-10-29 00:00:00:0	1.66	8.28	8.08	27.94	3.31	7.44	9.28	46.42	8.23	33.97	18.57	N/A
260	2017-10-30 00:00:00:0	1.55	7.73	8.06	27.47	3.09	5.5	8.2	40.99	8.22	33.58	16.4	46.95
261	2017-10-31 00:00:00:0	1.49	7.45	8.06	27.28	2.98	4.05	8.22	41.1	8.22	33.61	16.44	N/A
262	2017-11-01 00:00:00:0	1.53	7.67	8.08	25.78	3.07	6.98	6.09	30.47	8.15	31.19	12.19	98.51

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
263	2017-11-02 00:00:00:0	1.69	8.46	8.09	25.59	3.38	6.57	0.84	4.22	8.1	29.33	1.69	99.93
264	2017-11-03 00:00:00:0	1.78	8.89	8.08	26.45	3.56	6.84	N/A	N/A	8.1	29.36	N/A	99.93
265	2017-11-04 00:00:00:0	1.91	9.56	8.06	26.93	3.82	8.4	3.61	18.04	8.14	30.97	7.22	99.93
266	2017-11-05 00:00:00:0	1.83	9.16	8.08	28.32	3.66	7.34	9.01	45.03	8.24	34.51	18.01	99.93
267	2017-11-06 00:00:00:0	1.65	8.24	8.08	28.12	3.3	8.13	9.57	47.86	8.24	34.51	19.14	99.93
268	2017-11-07 00:00:00:0	1.57	7.86	8.1	27.49	3.14	6.55	9.91	49.55	8.24	34.33	19.82	99.93
269	2017-11-08 00:00:00:0	1.66	8.28	8.06	28.21	3.31	5.57	11.43	57.14	8.22	33.73	22.86	99.93
270	2017-11-09 00:00:00:0	1.71	8.56	8.01	31.2	3.42	7.07	0.5	2.48	8.23	34.25	0.99	95.45
271	2017-11-10 00:00:00:0	1.63	8.14	8.02	30.73	3.26	4.13	N/A	N/A	8.15	33.61	N/A	89.36
272	2017-11-11 00:00:00:0	1.67	8.33	8.0	29.96	3.33	3.91	N/A	N/A	8.2	32.7	N/A	N/A
273	2017-11-12 00:00:00:0	1.69	8.46	8.01	29.62	3.38	3.96	N/A	N/A	8.2	32.94	N/A	N/A

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
274	2017-11-13 00:00:00:0	1.76	8.79	7.98	29.61	3.52	5.77	12.56	62.8	8.21	33.26	25.12	N/A
275	2017-11-14 00:00:00:0	1.8	8.99	7.99	28.48	3.6	6.2	15.46	77.3	8.2	32.66	30.92	N/A
276	2017-11-15 00:00:00:0	1.82	9.08	7.98	28.53	3.63	8.14	15.18	75.91	8.2	32.74	30.36	N/A
277	2017-11-16 00:00:00:0	1.79	8.93	8.01	29.59	3.57	11.33	15.1	75.5	8.21	33.26	30.2	N/A
278	2017-11-17 00:00:00:0	1.74	8.72	8.02	30.76	3.49	11.69	15.45	77.23	8.22	33.48	30.89	N/A
279	2017-11-18 00:00:00:0	1.65	8.26	8.03	31.5	3.3	10.33	15.16	75.79	8.24	34.29	30.32	N/A
280	2017-11-19 00:00:00:0	1.55	7.76	8.05	31.59	3.1	6.96	15.68	78.39	8.25	34.58	31.36	N/A
281	2017-11-20 00:00:00:0	1.6	7.98	8.04	31.91	3.19	5.38	15.92	79.62	8.26	34.9	31.85	N/A
282	2017-11-21 00:00:00:0	1.19	5.95	8.06	31.49	2.38	6.71	11.18	55.9	8.26	34.7	22.36	N/A
283	2017-11-22 00:00:00:0	1.67	8.35	8.06	31.23	3.34	5.58	15.16	75.8	8.23	33.72	30.32	N/A
284	2017-11-23 00:00:00:0	1.79	8.97	8.03	30.94	3.59	3.87	14.74	73.69	8.21	33.3	29.47	N/A
285	2017-11-24 00:00:00:0	1.86	9.29	8.04	30.45	3.72	4.84	14.15	70.73	8.22	33.53	28.29	N/A

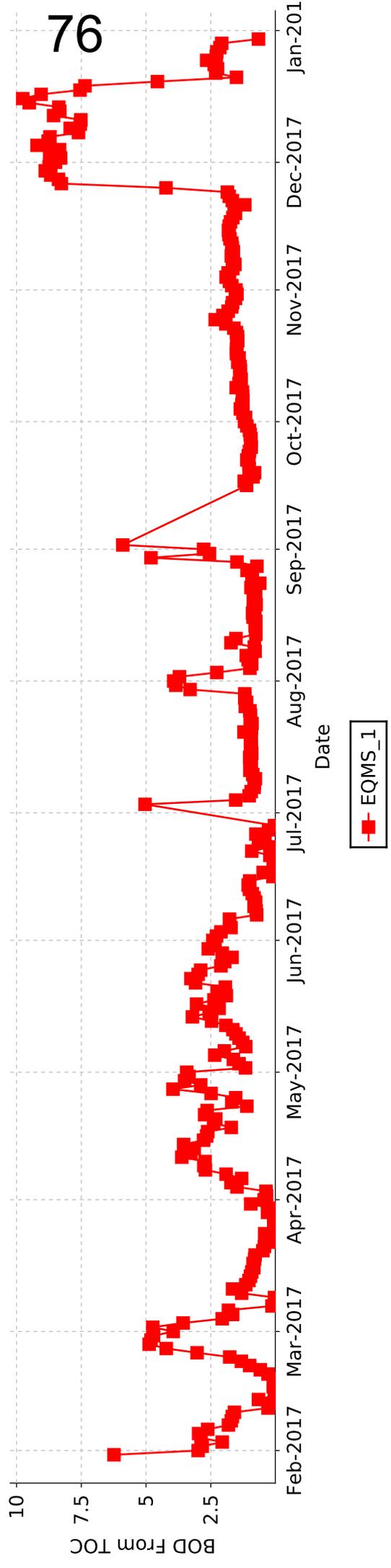
S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
286	2017-11-25 00:00:00:0	4.23	21.15	8.08	28.93	8.46	7.04	14.09	70.45	8.22	32.05	28.18	N/A
287	2017-11-26 00:00:00:0	8.27	41.33	8.02	28.75	16.53	4.72	14.77	73.85	8.16	31.43	29.54	N/A
288	2017-11-27 00:00:00:0	8.38	41.9	8.02	28.94	16.76	6.23	14.73	73.63	8.16	31.45	29.45	N/A
289	2017-11-28 00:00:00:0	8.68	43.42	8.03	28.8	17.37	6.59	14.37	71.85	8.16	31.48	28.74	N/A
290	2017-11-29 00:00:00:0	8.89	44.46	8.02	28.35	17.79	7.18	14.08	70.42	8.16	31.21	28.17	N/A
291	2017-11-30 00:00:00:0	8.74	43.7	8.01	28.18	17.48	8.39	13.31	66.57	8.15	31.0	26.63	N/A
292	2017-12-01 00:00:00:0	8.5	42.48	8.04	28.0	16.99	6.69	13.35	66.73	8.15	30.87	26.69	N/A
293	2017-12-02 00:00:00:0	8.3	41.51	8.01	27.65	16.6	7.55	13.43	67.13	8.14	30.69	26.85	N/A
294	2017-12-03 00:00:00:0	8.72	43.6	8.01	27.09	17.44	5.45	13.12	65.58	8.12	30.06	26.23	N/A
295	2017-12-04 00:00:00:0	8.34	41.72	7.99	27.13	16.69	5.06	13.76	68.82	8.13	30.33	27.53	N/A
296	2017-12-05 00:00:00:0	9.21	46.05	7.99	26.86	18.42	12.13	12.99	64.93	8.13	30.14	25.97	N/A

S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
297	2017-12-06 00:00:00:0	8.78	43.91	8.02	27.2	17.56	5.43	11.45	57.23	8.14	30.47	22.89	N/A
298	2017-12-07 00:00:00:0	8.71	43.54	8.03	27.29	17.42	5.87	12.0	60.02	8.13	30.33	24.01	N/A
299	2017-12-08 00:00:00:0	7.61	38.03	8.03	28.59	15.21	7.13	13.23	66.16	8.17	31.75	26.46	N/A
300	2017-12-09 00:00:00:0	7.93	39.64	8.02	29.38	15.86	13.25	14.1	70.51	8.18	32.18	28.2	N/A
301	2017-12-10 00:00:00:0	7.54	37.69	8.03	29.3	15.08	11.69	14.12	70.61	8.17	31.67	28.25	N/A
302	2017-12-11 00:00:00:0	7.52	37.58	8.04	30.42	15.03	9.16	15.1	75.48	8.22	33.31	30.19	N/A
303	2017-12-12 00:00:00:0	8.57	42.83	8.05	29.93	17.13	7.86	15.81	79.04	8.19	32.42	31.62	N/A
304	2017-12-13 00:00:00:0	8.33	41.65	7.91	29.72	16.66	7.24	15.95	79.75	8.19	32.33	31.9	N/A
305	2017-12-14 00:00:00:0	8.37	41.83	8.05	29.82	16.73	5.61	15.16	75.8	8.2	32.56	30.32	N/A
306	2017-12-15 00:00:00:0	9.51	47.54	8.11	29.04	19.01	7.35	14.21	71.04	8.23	32.02	28.42	N/A
307	2017-12-16 00:00:00:0	9.76	48.79	8.18	28.36	19.52	8.5	11.99	59.96	8.29	32.03	23.99	N/A
308	2017-12-17 00:00:00:0	9.05	45.24	8.01	28.17	18.09	6.33	11.83	59.15	8.14	30.47	23.66	N/A

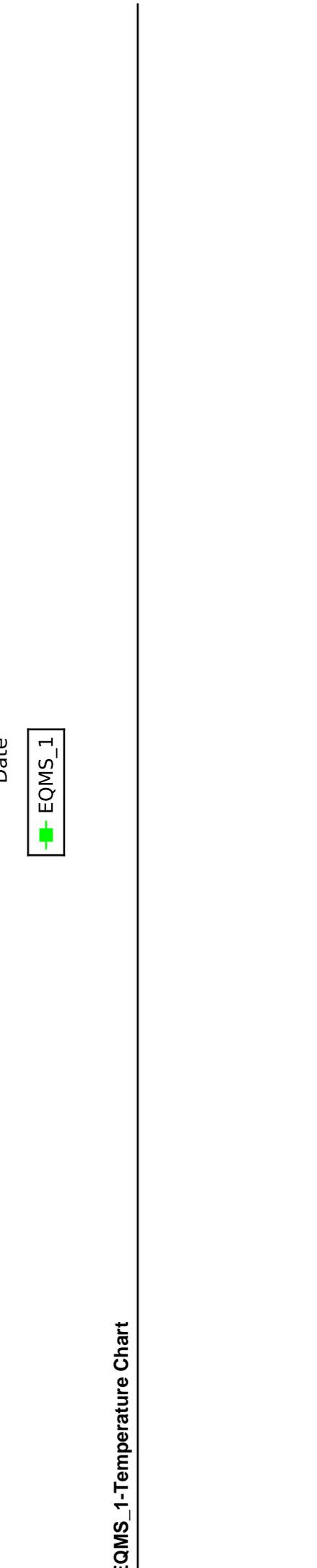
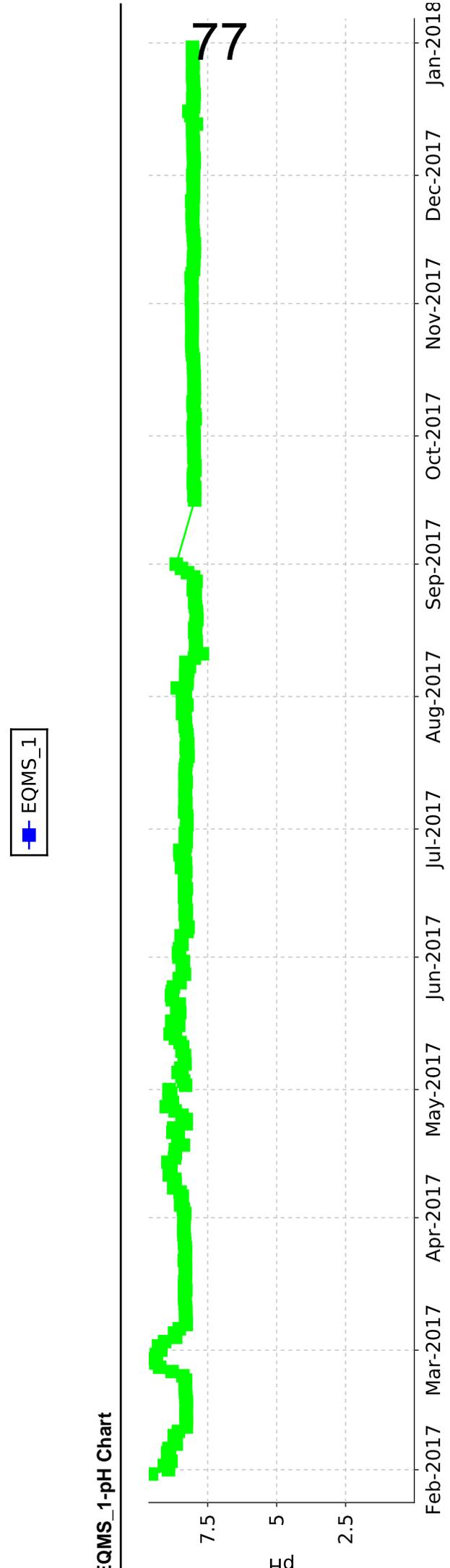
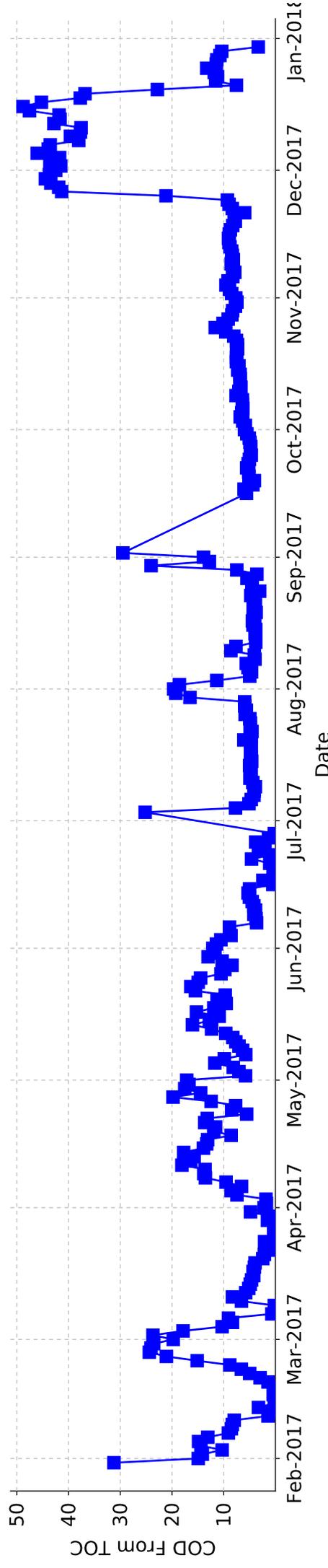
S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
	00:00												
309	2017-12-18 00:00:00:0	7.55	37.73	8.0	27.45	15.09	6.95	11.09	55.44	8.12	29.82	22.18	N/A
310	2017-12-19 00:00:00:0	7.36	36.82	8.04	27.21	14.73	5.86	11.73	58.64	8.12	29.8	23.45	N/A
311	2017-12-20 00:00:00:0	4.56	22.82	7.99	26.57	9.13	5.2	11.3	56.5	8.11	29.6	22.6	N/A
312	2017-12-21 00:00:00:0	1.51	7.54	8.01	26.58	3.02	9.57	12.0	60.01	8.11	29.62	24.0	N/A
313	2017-12-22 00:00:00:0	2.31	11.56	8.03	27.57	4.63	8.48	10.64	53.18	8.14	30.37	21.27	N/A
314	2017-12-23 00:00:00:0	2.24	11.19	8.02	28.34	4.48	10.51	12.59	62.93	8.17	31.58	25.17	N/A
315	2017-12-24 00:00:00:0	2.37	11.84	8.04	27.9	4.73	11.48	11.63	58.17	8.13	30.22	23.27	N/A
316	2017-12-25 00:00:00:0	2.66	13.29	8.05	28.27	5.32	11.21	13.25	66.27	8.15	30.71	26.51	N/A
317	2017-12-26 00:00:00:0	2.29	11.45	8.03	28.33	4.58	12.86	12.96	64.81	8.15	30.84	25.92	N/A
318	2017-12-27 00:00:00:0	2.27	11.34	8.03	27.57	4.54	8.46	11.92	59.58	8.12	29.82	23.83	N/A
319	2017-12-28 00:00:00:0	2.15	10.74	8.04	26.64	4.3	6.94	10.72	53.6	8.1	29.02	21.44	N/A

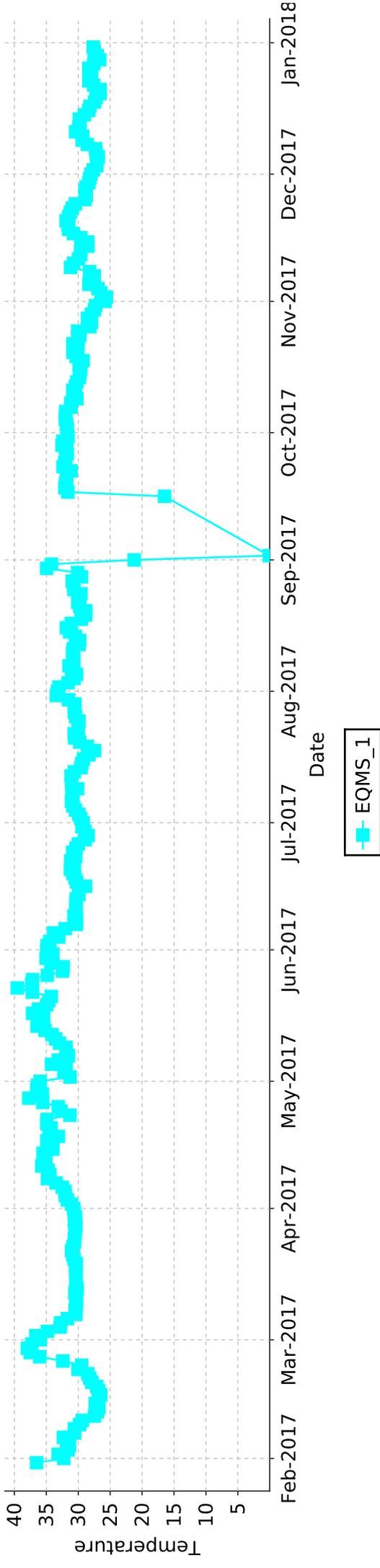
S.No.	Time	EQMS_1 BOD From TOC (mg/L)(av g)	EQMS_1 COD From TOC (mg/L)(av g)	EQMS_1 pH (pH)(avg)	EQMS_1 Temperat ure (°C)(avg)	EQMS_1 TOC (mg/L)(av g)	EQMS_1 TSS (mg/L)(av g)	EQMS_2 BOD From TOC (mg/L)(av g)	EQMS_2 COD From TOC (mg/L)(av g)	EQMS_2 pH (pH)(avg)	EQMS_2 Temperat ure (°C)(avg)	EQMS_2 TOC (mg/L)(av g)	EQMS_2 TSS (mg/L)(av g)
320	2017-12-29 00:00:00:0	2.08	10.39	8.04	27.05	4.16	7.29	10.98	54.91	8.11	29.44	21.96	N/A
321	2017-12-30 00:00:00:0	0.66	3.32	8.04	27.49	1.33	8.29	11.29	56.45	8.12	29.72	22.58	N/A
322	2017-12-31 00:00:00:0	N/A	N/A	8.05	27.65	N/A	9.57	10.88	54.39	8.13	29.95	21.75	N/A

EQMS_1-BOD From TOC Chart

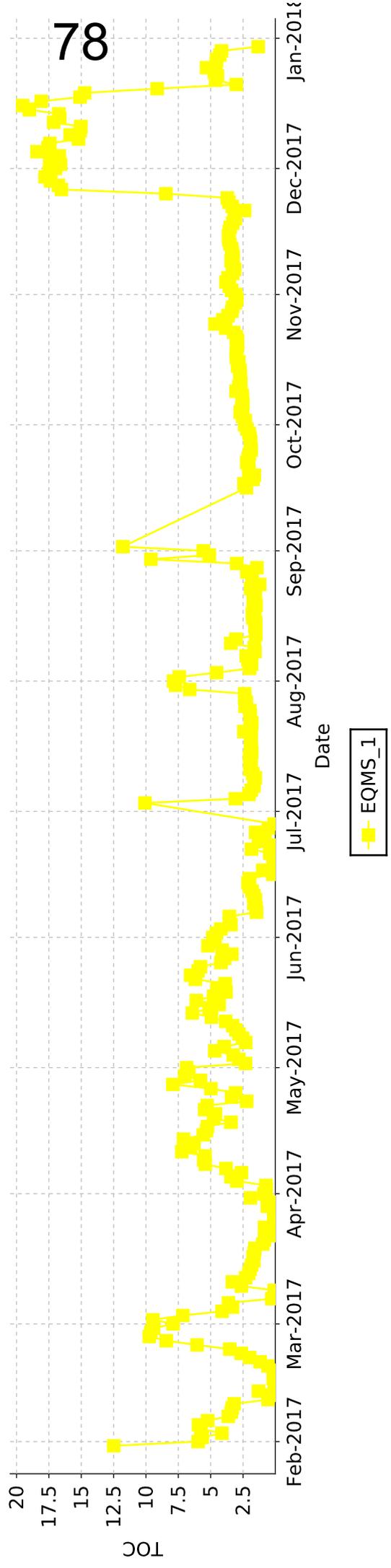


EQMS_1-COD From TOC Chart

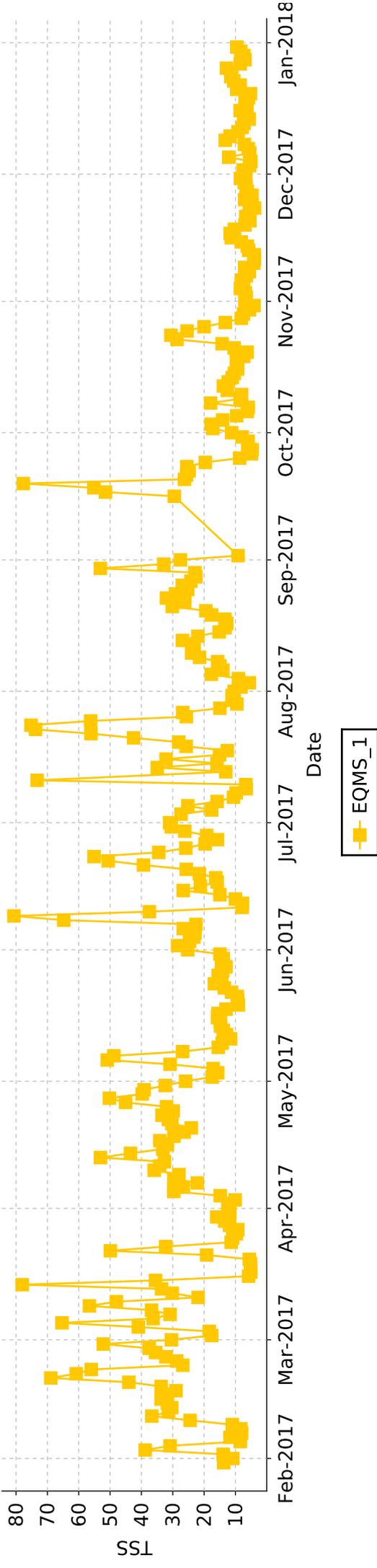




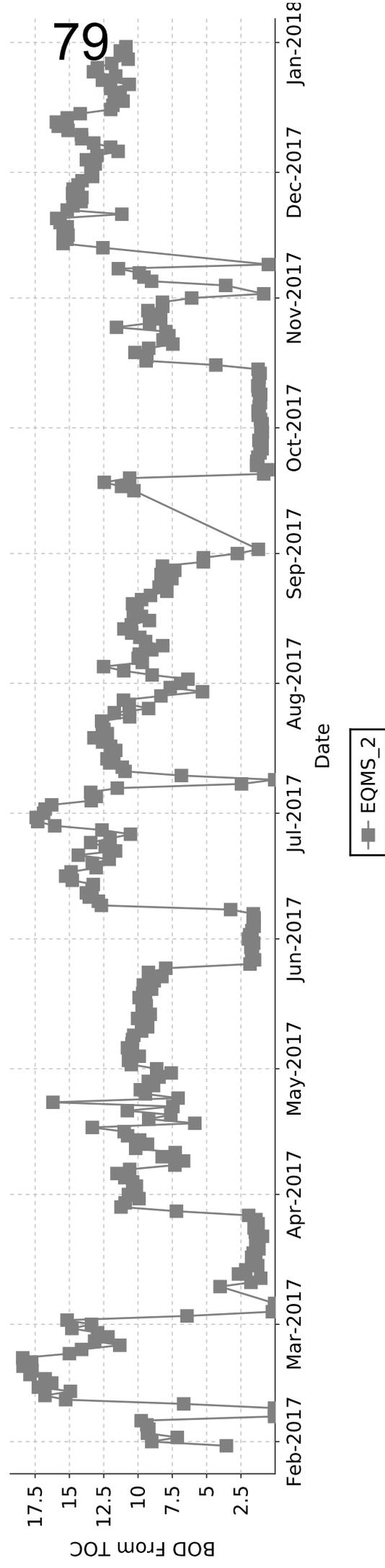
EQMS_1-TOC Chart



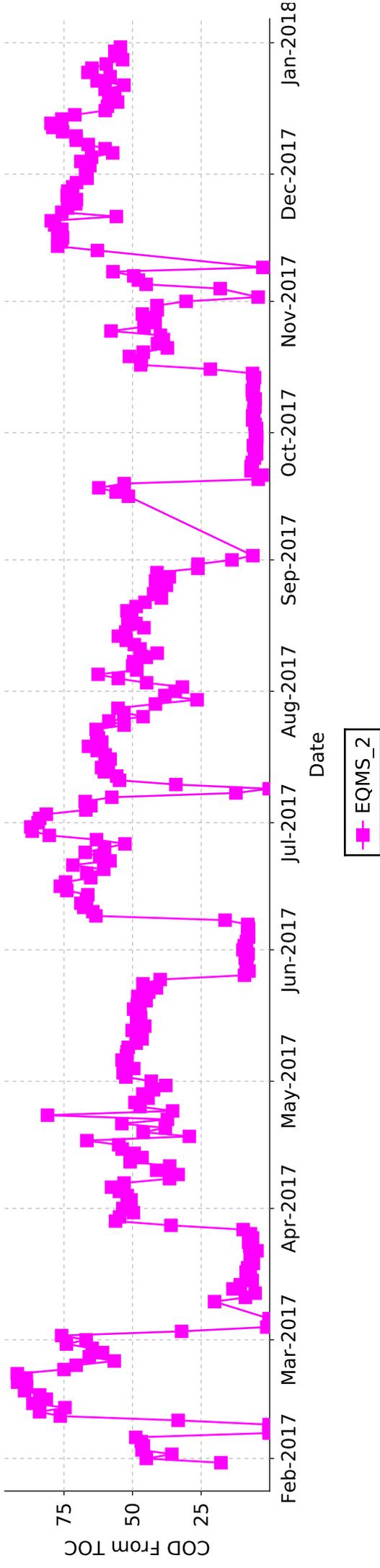
EQMS_1-TSS Chart



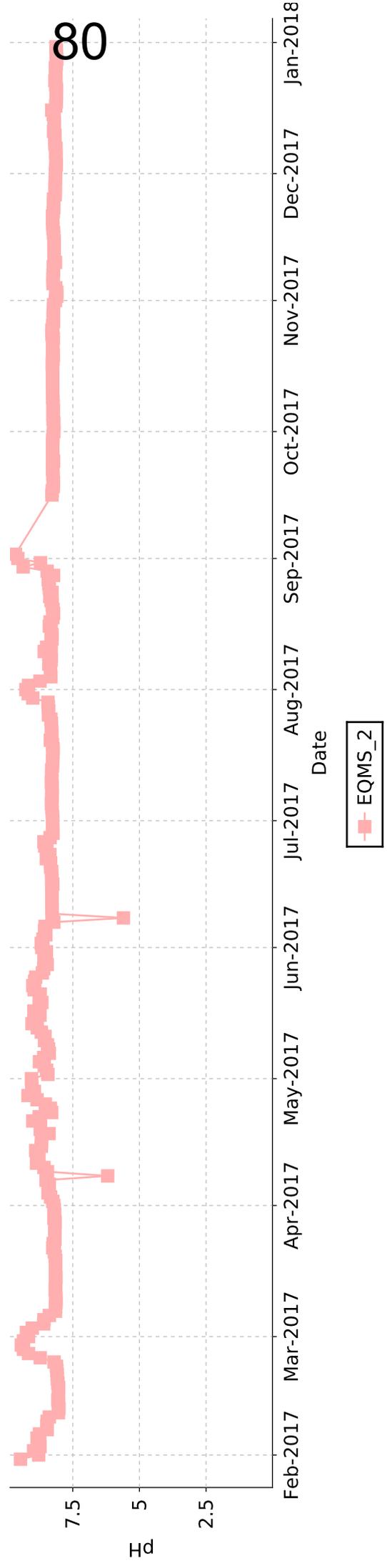
EQMS_2-BOD From TOC Chart



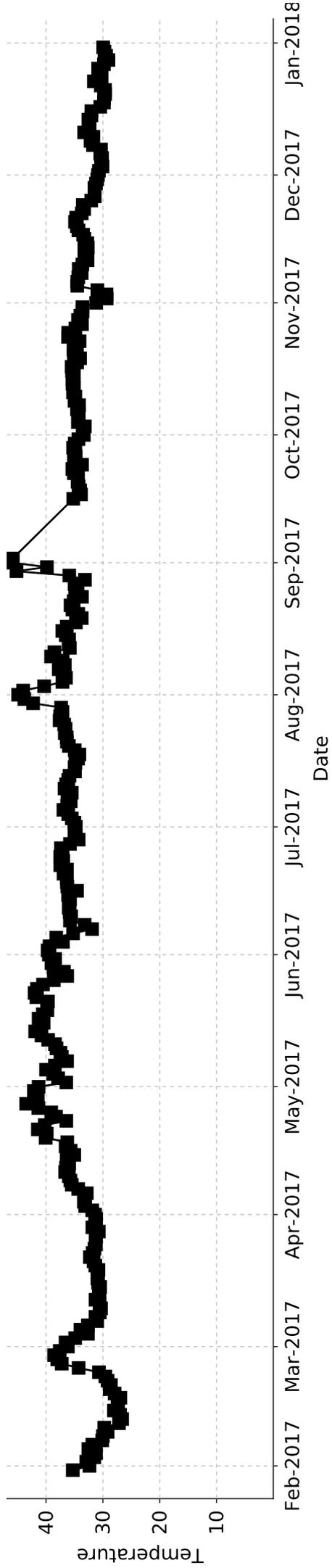
EQMS_2-COD From TOC Chart



EQMS_2-pH Chart

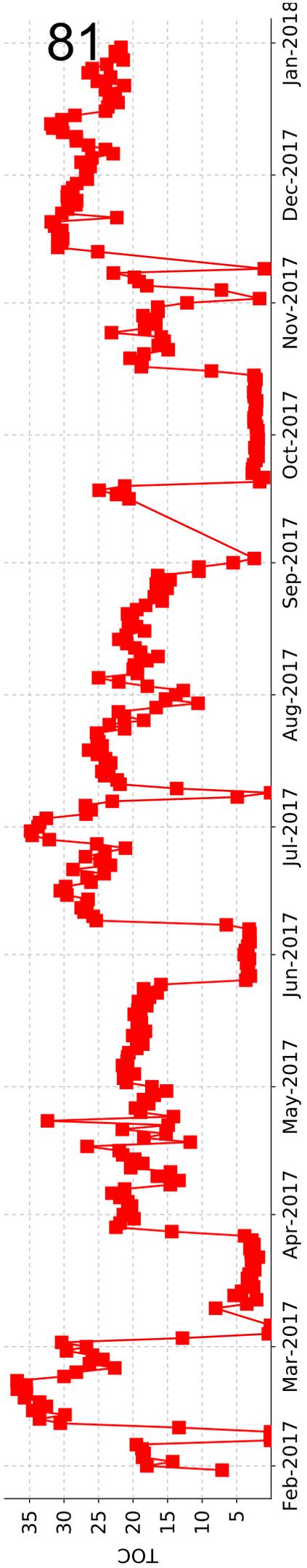


EQMS_2-Temperature Chart



■ EQMS_2

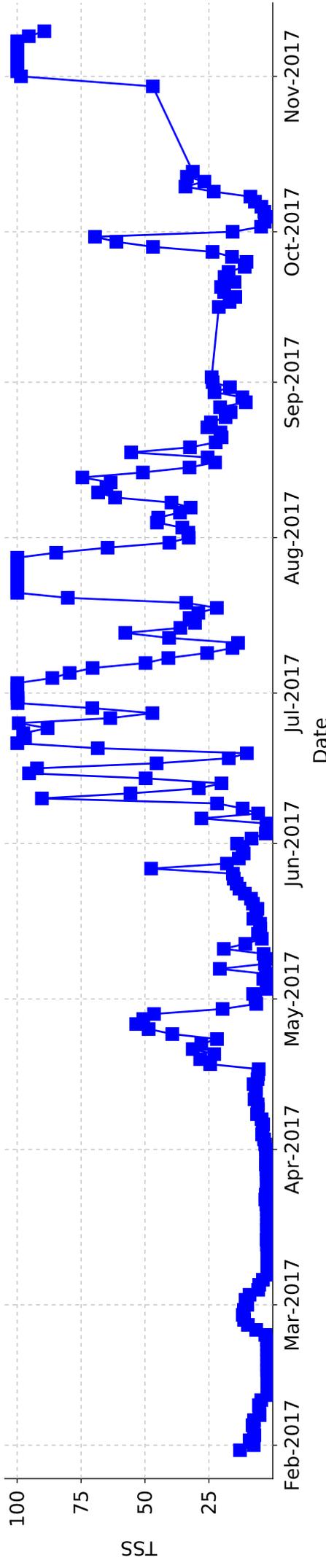
EQMS_2-TOC Chart



■ EQMS_2

EQMS_2-TSS Chart

81



EQMS_2



एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Government of India Enterprise)

सिम्हाद्री
SIMHADRI

SIMHADRI/EMG/012/

Date: 15.10.2021

TO
The Member Secretary,
A.P. Pollution Control Board,
Door No 33-26-14 D/2, Near Sunrise Hospital,
Pushpa Hotel Centre, Chalmalavari Street, Kasturibaipet
Vijayawada – 520 010

Dear Sir,

Sub: Submission of Half Yearly Compliance Reports

Ref: Consent order No. APPCB/VSP/VSP/12334/HO/CFO/2017 dated 31.07.2017 valid up to 31.08.2022.
Amendment order APPCB/VSP/VSP/12334/CFO/HO/2021 dated 09.03.2021

Please find herewith enclosed “Half Yearly Compliance” of NTPC-Simahadri Super Thermal Power Station, Visakhapatnam for the second half of 2021:

- 01) Compliance CRZ conditions
- 02) Compliance of CFO conditions
- 03) Compliance of CFE St-I conditions
- 04) Compliance of CFE St-II conditions
- 05) Compliance of EC St-I conditions
- 06) Compliance of EC St-II conditions

Thanking you,

Yours faithfully,

(S S Rao)
AGM (EMG & AU)

Copy to:

- | | | |
|---|---|--|
| <p>1) The Chairman ,CPCB
Parivesh Bhavan
CBD-CUM Office complex
East Arjun Nagar
New Delhi – 110032</p> | <p>2) The Environmental Engineer,
Regional Office,
D.No.39/30/20/4/1, 3rd Floor,
A.P. Pollution Control Board,
VUDA Colony, Phase-
MadhavaDhara,
Visakhapatnam-530 008</p> | <p>3) The Director (South Zone),
Ministry of Environment & Forests (MoEF)
Regional Office, Kendriya Sadan,
4th Floor, E&FWings, 17th Main Road,
2nd Block, Koramangala,
BANGALORE-34,
PIN: 560 034</p> |
|---|---|--|

सिम्हाद्री सुपर थर्मल विद्युत परियोजना

पॉस्ट : एन.टी.पी.सी. - सिम्हाद्री -531020, जीला : विशाखपट्टणम, आंध्रप्रदेश

SIMHADRI SUPER THERMAL POWER PROJECT

P.O. NTPC-SIMHADRI, PARAVADA MANDALAM, DISTT. VISAKHAPATNAM (AP) PIN: 531 020

Telephone: 08924 – 243029(0), FAX: 08924 – 243061



एनटीपीसी लिमिटेड

(भारत सरकार का उद्यम)

NTPC Limited

(A Government of India Enterprise)

सिम्हाद्री / Simhadri

SIMHADRI/EMG/019/

Date: 15.11.2019

TO
The Member Secretary,
Paryavaran Bhawan,
A-3, Industrial Estate,
Sanath Nagar, HYDERABAD –18

Dear Sir,

Sub: Submission of "Half yearly Environmental Reports- Reg.

Please find herewith enclosed copies of the following compliance reports of NTPCSimhadri Super Thermal Power Project, Visakhapatnam as on Sept, 2019.

1. Compliance CRZ conditions.
2. Compliance of CFO conditions.
3. Compliance of CFE Stage-I conditions.
4. Compliance of CFE Stage -II conditions.
5. Compliance of EC Stage -I conditions.
6. Compliance of EC Stage -II conditions.

Thanking you,
Yours faithfully,

S.S Rao
AGM (EMG & AU)

Copy to:

01) The Chairman , CPCB
Parivesh Bhavan,
CBD-Cum-Office Complex,
East Arjun Nagar
Delhi 110032

2)The Environmental Engineer,
Regional Office,
D.No.39/30/20/4/1, 3rd Floor,
A.P. Pollution Control Board,
VUDA Colony, Phase-I, MadhavaDhara,
VISAKHAPATNAM-530 008 424

3)The Director (South Zone),
Ministry of Environment & Forests (MoEF)
Regional Office, Kendriya Sadan,
4th Floor, E&F Wings, 17th Main Road,
2nd Block, Koramangala,
BANGALORE-34,
PIN: 560 034

सिम्हाद्री सुपर थर्मल पावर प्रोजेक्ट, पोस्ट: एनटीपीसी-सिम्हाद्री - 531 020. जिला : विशाखपट्टणम (अं.प्र.)
Simhadri Super Thermal Power Project Post : NTPC Simhadri - 531 020. Dist : Visakhapatnam (A.P.)
Phone No. : 08924-243858, Fax No. : 08924-243092

पंजीकृत कार्यालय : एन टी पी सी भवन, स्कोप कॉम्प्लेक्स 7, इन्स्टिट्यूशनल एरिया, लोदी रोड, नई दिल्ली - 110003
दूरभाष : 11-24360100, फैक्स : 11-24361018, वेबसाईट: www.ntpc.co.in

Read Office : NTPC Bhawan. Scope Complex 7. Institutional Area, Lodi Road, New Delhi - 110003,



एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Government of India Enterprise)

सिम्हाद्रि
SIMHADRI

SIMHADRI/EMG/012/

Date: 15.11.2020

TO
The Member Secretary,
A.P. Pollution Control Board,
Door No 33-26-14 D/2, Near Sunrise Hospital,
Pushpa Hotel Centre, Chalmalavari Street, Kasturibaipet
Vijayawada – 520 010

Dear Sir,

Sub: Submission of Half Yearly Compliance Reports

Ref: Consent order No. APPCB/VSP/VSP/12334/HO/CFO/2017 dated 31.07.2017 valid up to 31.08.2022.

Please find herewith enclosed "Half Yearly Compliance" of NTPC-Simahadri Super Thermal Power Station, Visakhapatnam for the month of **September 2020**:

- 01) Compliance CRZ conditions
- 02) Compliance of CFO conditions
- 03) Compliance of CFE St-I conditions
- 04) Compliance of CFE St-II conditions
- 05) Compliance of EC St-I conditions
- 06) Compliance of EC St-II conditions

Thanking you,

Yours faithfully,

(S S Rao)
AGM (EMG & AU)

Copy to:

1)The Chairman ,CPCB
Parivesh Bhavan
CBD-CUM Office complex
East Arjun Nagar
New Delhi – 110032

2) The Environmental Engineer,
Regional Office,
D.No.39/30/20/4/1, 3rd Floor,
A.P. Pollution Control Board,
VUDA Colony, Phase-I, MadhavaDhara,
VISAKHAPATNAM-530 008

3)The Director (South Zone),
Ministry of Environment & Forests (MoEF)
Regional Office, Kendriya Sadan,
4th Floor, E&F Wings, 17th Main Road,
2nd Block, Koramangala,
BANGALORE-34,
PIN: 560 034

सिम्हाद्रि सुपर थर्मल विद्युत परियोजना
पॉस्ट : एन.टी.पी.सी.- सिम्हाद्रि -531020, जीला : विशाखपट्टणम, आंध्रप्रदेश
SIMHADRI SUPER THERMAL POWER PROJECT
P.O. NTPC-SIMHADRI, PARAVADA MANDALAM, DISTT. VISAKHAPATNAM (AP) PIN: 531 020
Telephone: 08924 – 243029(0), FAX: 08924 – 243061



A Maharatna Company

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NTPC Limited
(A Government of India Enterprise)

सिम्हाद्रि
SIMHADRI

SIMHADRI/EMG/012/

Date: 26.06.2020

TO
The Member Secretary,
A.P. Pollution Control Board,
Door No 33-26-14 D/2, Near Sunrise Hospital,
Pushpa Hotel Centre, Chalmalavari Street, Kasturibaipet
Vijayawada – 520 010

Dear Sir,

Sub: Submission of Half Yearly Compliance Reports

Ref: Consent order No. APPCB/VSP/VSP/12334/HO/CFO/2017 dated 31.07.2017 valid up to 31.08.2022.

Please find herewith enclosed "Half Yearly Compliance" of NTPC-Simhadri Super Thermal Power Station, Visakhapatnam for the month of **June 2020**:

- 01) Compliance CRZ conditions
- 02) Compliance of CFO conditions
- 03) Compliance of CFE St-I conditions
- 04) Compliance of CFE St-II conditions
- 05) Compliance of EC St-I conditions
- 06) Compliance of EC St-II conditions

Thanking you,

Yours faithfully,

(S S Rao)
AGM (EMG & AU)

Copy to:

1)The Chairman ,CPCB
Parivesh Bhavan
CBD-CUM Office complex
East Arjun Nagar
New Delhi – 110032

2) The Environmental Engineer,
Regional Office,
D.No.39/30/20/4/1, 3rd Floor,
A.P. Pollution Control Board,
VUDA Colony, Phase-I, MadhavaDhara,
VISAKHAPATNAM-530 008

3)The Director (South Zone),
Ministry of Environment & Forests (MoEF)
Regional Office, Kendriya Sadan,
4th Floor, E&F Wings, 17th Main Road,
2nd Block, Koramangala,
BANGALORE-34,
PIN: 560 034

सिम्हाद्रि सुपर थर्मल विद्युत परियोजना

पॉस्ट : एन.टी.पी.सी. - सिम्हाद्रि -531020, जीला : विशाखपट्टणम, आंध्रप्रदेश

SIMHADRI SUPER THERMAL POWER PROJECT

P.O. NTPC-SIMHADRI, PARAVADA MANDALAM, DISTT. VISAKHAPATNAM (AP) PIN: 531 020

Telephone: 08924 – 243029(0), FAX: 08924 – 243061



एनटीपीसी लिमिटेड

(भारत सरकार का उद्यम)

NTPC Limited

(A Government of India Enterprise)

सिम्हाद्री / Simhadri

BY SPEED POST

Ref: SIMHADRI/EMG/AU/

Date: 28-11-2018

TO
The Member Secretary,
A.P. Pollution Control Board,
Paryavaran Bhawan,
A-3, Industrial Estate,
Sanath Nagar, HYDERABAD -18

Dear Sir,

Sub: Submission of "Half yearly Environmental Reports- Reg.

Ref: 1) Ref : Consent order No.APPCB/VSP/VSP/12334/HO/CFO/2018

Please find herewith enclosed copies of the following compliance reports of NTPC Simhadri Super Thermal Power Project, Visakhapatnam for the period from April 2018 to September 2018

1. Compliance CRZ conditions.
2. Compliance of CFO conditions.
3. Compliance of CFE Stage-I conditions.
4. Compliance of CFE Stage-II conditions.
5. Compliance of EC Stage-I conditions.
6. Compliance of EC Stage-II conditions.

Thanking you,
Yours faithfully,


S.S. Rao
AGM (EMG & AU)

Copy to:

1) The Chairman , CPCB
Parivesh Bhavan,
CBD-Cum-Office Complex,
East Arjun Nagar
Delhi 110032

2)The Environmental Engineer,
Regional Office,
D.No.39/30/20/4/1, 3rd Floor,
A.P. Pollution Control Board,
Phase-I,Madhava Dhara
VISAKHAPATNAM-530 008 424

3)The Director (South Zone),
Ministry of Environment & Forests (MoEF)
Regional Office, Kendriya Sadan,
4th Floor, E&FWings, 17th Main Road,
2nd Block, Koramangala,
BANGALORE-34
PIN : 560 034

सिम्हाद्री सुपर थर्मल पावर प्रोजेक्ट, पोस्ट: एनटीपीसी-सिम्हाद्री - 531 020. जिला : विशाखपट्टणम (अं.प्र.)

Simhadri Super Thermal Power Project Post : NTPC Simhadri - 531 020. Dist : Visakhapatnam (A.P.)
Phone No. : 08924-243858, Fax No. : 08924-243092

पंजीकृत कार्यालय : एन टी पी सी भवन, स्कोप कॉम्प्लेक्स 7, इन्स्टिट्यूशनल एरिया, लोदी रोड, नई दिल्ली - 110003
दूरभाष : 11-24360100, फैक्स : 11-24361018, वेबसाईट: www.ntpc.co.in

Regd Office : NTPC Bhawan, Scope Complex 7, Institutional Area, Lodi Road, New Delhi - 110003,
Tel : 011-243601000, Fax : 011-24361018, Website : www.ntpc.co.in



एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Government of India Enterprise)

सिम्हाद्रि
SIMHADRI

SIMHADRI/EMG/012/

Date: 30.06.2021

TO
The Member Secretary,
A.P. Pollution Control Board,
Door No 33-26-14 D/2, Near Sunrise Hospital,
Pushpa Hotel Centre, Chalmalavari Street, Kasturibaipet
Vijayawada – 520 010

Dear Sir,

Sub: Submission of Half Yearly Compliance Reports

Ref: Consent order No. APPCB/VSP/VSP/12334/HO/CFO/2017 dated 31.07.2017 valid up to 31.08.2022.
Amendment order APPCB/VSP/VSP/12334/CFO/HO/2021 dated 09.03.2021

Please find herewith enclosed “Half Yearly Compliance” of NTPC-Simhadri Super Thermal Power Station, Visakhapatnam for the first half of 2021:

- 01) Compliance CRZ conditions
- 02) Compliance of CFO conditions
- 03) Compliance of CFE St-I conditions
- 04) Compliance of CFE St-II conditions
- 05) Compliance of EC St-I conditions
- 06) Compliance of EC St-II conditions

Thanking you,

Yours faithfully,

(S S Rao)
AGM (EMG & AU)

Copy to:

1) The Chairman, CPCB
Parivesh Bhavan
CBD-CUM Office complex
East Arjun Nagar
New Delhi – 110032

2) The Environmental Engineer,
Regional Office,
D.No.39/30/20/4/1, 3rd Floor,
A.P. Pollution Control Board,
VUDA Colony, Phase-
MadhavaDhara,
Visakhapatnam-530 008

3) The Director (South Zone),
Ministry of Environment & Forests (MoEF)
Regional Office, Kendriya Sadan,
4th Floor, E&FWings, 17th Main Road,
2nd Block, Koramangala,
BANGALORE-34,
PIN: 560 034

सिम्हाद्रि सुपर थर्मल विद्युत परियोजना

पॉस्ट : एन.टी.पी.सी. - सिम्हाद्रि -531020, जीला : विशाखपट्टणम, आंध्रप्रदेश

SIMHADRI SUPER THERMAL POWER PROJECT

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भारत का राजपत्र The Gazette of India

सी.जी.-डी.एल.-अ.-21052020-219495
CG-DL-E-21052020-219495

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 1400]
No. 1400]

नई दिल्ली, बृहस्पतिवार, मई 21, 2020/वैशाख 31, 1942
NEW DELHI, THURSDAY, MAY 21, 2020/VAISAKHA 31, 1942

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 21 मई, 2020

का.आ. 1561(अ).—जबकि केन्द्रीय सरकार ने पर्यावरण (संरक्षण) नियमावली, 1986 के नियम 5 के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3, धारा 6 और धारा 25 के तहत अपनी शक्तियों का प्रयोग करते हुए, ऐश सामग्री (ऐश कंटेंट) को 34% तक की सीमा सहित कोयले का उपयोग करने के लिए ताप विद्युत संयंत्रों की कतिपय श्रेणियों को अधिदेशित करते हुए भारत के राजपत्र, असाधारण में सा.का.नि. 02 (अ), तारीख 2 जनवरी, 2014 द्वारा पर्यावरण (संरक्षण) नियमावली, 1986 के नियम 3 के उपनियम 8 का संशोधन प्रकाशित किया।

और जबकि सा.का.नि. 02 (अ), तारीख 2 जनवरी, 2014 द्वारा उक्त अधिसूचना द्वारा निम्नलिखित समय-सीमा तक कच्चे अथवा मिश्रित अथवा लाभकारी कोयले (बेनिफिसिएटिड कोल), जिसमें ऐश सामग्री चौंतीस प्रतिशत (34%) से अधिक ना हो, का उपयोग करने के लिए त्रैमासिक आधार पर कोयला आधारित ताप विद्युत संयंत्रों को अधिदेशित किया गया है :

क्रम सं.	विद्युत संयंत्र की श्रेणी	गर्तमुख(पिट-हैड)/कोयला खान से ताप विद्युत संयंत्र के अवस्थान की दूरी	समय-सीमा
(क)	एकल ताप विद्युत संयंत्र (किसी भी क्षमता के) और कैटिप्व ताप विद्युत संयंत्र (100 मेगावाट और अधिक क्षमता सहित)	गर्तमुख विद्युत संयंत्रों को छोड़कर गर्तमुख से दूरी पर ध्यान दिए बिना शहरी क्षेत्रों,या परिस्थितिकीय रूप से संवेदनशील क्षेत्रों या अत्यधिक प्रदूषित क्षेत्रों में अवस्थित	2 जून, 2014 से प्रभावी।
(ख)		1000 किमी से अधिक दूर	2 जून, 2014 से प्रभावी।
(ग)		750-1000 किमी के बीच	1 जनवरी, 2015 से प्रभावी।
(घ)		500-749 किमी के बीच	5 जून, 2016 से प्रभावी।

और जबकि, केंद्रीय सरकार ने पर्यावरण (संरक्षण) नियमावली के नियम 5 के उप-नियम (3) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 6 और धारा 25 के अधीन अपनी शक्तियों का प्रयोग करते हुए भारत के राजपत्र, असाधारण में स.का.आ. 3305 (अ), तारीख 7 दिसंबर, 2015 और सा.का.नि.593 (अ), तारीख 28 जून, 2018 द्वारा विद्युत उत्पादन की क्षमता और विद्युत संयंत्र की संस्थापना की तारीख और समय-बद्ध रीति से प्राप्त किए जाने के आधार पर ताप विद्युत संयंत्रों की विभिन्न श्रेणियों के लिए उत्सर्जन मानकों और विनिर्दिष्ट जल उपभोग को प्रकाशित किया था।

और जबकि, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय ने विद्युत मंत्रालय द्वारा दिनांक 13 अक्टूबर, 2017 को प्रस्तुत की गई यथा संशोधित योजना के अनुसार विभिन्न ताप विद्युत संयंत्रों को वर्ष 2022 तक प्रदूषण नियंत्रण उपकरण संस्थापित करने के लिए पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 5 के तहत निर्देश जारी करने के लिए केंद्रीय प्रदूषण नियंत्रण बोर्ड को दिनांक 7 दिसंबर, 2017 के फा.सं. क्यू-15017/40/2007-सीपीडब्ल्यू द्वारा निदेश दिए।

और जबकि, विद्युत मंत्रालय ने अन्य बातों के साथ-साथ यह अभ्यावेदन किया है कि प्रदूषण नियंत्रण प्रौद्योगिकियों के उन्नत होने के साथ ही ताप विद्युत संयंत्र दहन प्रक्रिया से उत्पन्न फ्लाइ-ऐश का पता लगाने में बेहतर उपकरणों से सुसज्जित हुए हैं और बिना धुला कोयला अधिक कुशलता और मितव्ययता से प्रयोग किया जा सकता है; ताप विद्युत संयंत्रों को राख अवयवों की विभिन्न किस्मों के साथ कोयले के लिए डिजाइन किया गया है और इनमें सूखी राख (ड्राई ऐश) निकालने, उसका रखरखाव करने और राख के उपयोग के लिए आपूर्ति प्रणालियों को उपलब्ध कराया गया है; धुले कोयले के उपयोग से बिजली उत्पादन महंगा हो जाता है; ताप विद्युत संयंत्रों में उत्पन्न फ्लाइ-ऐश सीमेंट निर्माण, ईंटें बनाने, सड़क बिछाने, खनन के उपरांत रिक्त हुए स्थलों और निचले क्षेत्रों को भरने के लिए बैक-फिल सामग्री जैसे कई लाभकारी उपयोगों के लिए प्रयोग की जा रही है; औसतन ऐश की मात्रा 34% तक बनाए रखने की आवश्यकता उद्योगों को कोयले का आयात करने के लिए प्रेरित करती है जिससे विदेशी मुद्रा इत्यादि का बहिर्वाह (आऊटफ्लो) होता है।

और जबकि, कोयला मंत्रालय ने अन्य बातों के साथ-साथ अभ्यावेदन किया है कि कोयला खानों वर्षों से कच्चे कोयले की गुणवत्ता, आकार और बाहरी सामग्री में सुधार के लिए निरंतर कड़े प्रयास कर रही हैं जिससे सभी संबंधित उपकरणों की टूट-फूट में उल्लेखनीय कमी आई है, कोयला धुलाई प्रक्रिया में कई प्रकार का रखरखाव होता है और कोयला खानों से धुलाई-स्थलों (वाशरीज़) तक कोयले की बड़ी मात्रा को सड़क द्वारा ले जाने और फिर आगे

विद्युत संयंत्रों तक ले जाने के लिए रेल साइडिंग तक ले जाने से बचना; धुलाई की प्रक्रिया केवल कोयले को धुले हुए कोयले और वाशरी अवशिष्ट में बॉटती है जबकि खनित कोयले की राख की मात्रा वही रहती है; निम्न श्रेणी कोयला वाशरी अवशिष्ट कई छोटे उपयोगकर्ता उद्योगों में, अधिक प्रदूषण आदि सृजित करते हैं।

और जबकि, कोयला मंत्रालय और विद्युत मंत्रालय ने इसलिए अनुरोध किया है कि दिनांक 2 जनवरी, 2014 की अधिसूचना पर पुनः विचार द्वारा, विद्युत संयंत्रों को धुले हुए कोयले के प्रयोग के लिए अधिदेशित करने पर गौर किया जाना अपेक्षित है जिससे पर्यावरण पर प्रतिकूल प्रभाव डाले बिना कोयले की लंबी दूरी की धुलाई के लिए बिजली के उत्पादन में आसानी होगी।

और जबकि, नीति आयोग ने अपनी रिपोर्ट में वाशरीज़, कोयला खनन, परिवहन और विद्युत संयंत्रों में कोयले की खपत की दृष्टि से इस विषय का विश्लेषण करने के बाद अन्य बातों के साथ-साथ संक्षिप्त में यह अभ्यावेदन किया है कि समीपवर्ती उद्योगों में वाशरी अवशिष्ट का इस्तेमाल अधिक प्रदूषण पैदा करता है; चूंकि वाशरी अवशिष्ट अनेक छोटे उद्योगों में वितरित होते हैं, इसलिए विद्युत संयंत्र पर उत्पन्न प्रदूषण की तुलना में अनेक स्थलों पर उत्पन्न प्रदूषण को नियंत्रित करना अधिक कठिन होता है; धुलाई प्रक्रिया में उत्पन्न राख (ऐश) कोयला कणों के साथ-साथ पानी को भी प्रदूषित करती है और इसका लाभकारी उपयोग नहीं किया जा सकता, कोयला धुलाई प्रक्रिया में पानी का अधिक प्रयोग होता है, अपशिष्ट सृजन होता है; वाशरी अवशिष्ट के निपटान का पर्यावरण पर प्रतिकूल प्रभाव होता है क्योंकि इसमें बड़ी मात्रा में निम्न श्रेणी कोयला अवशिष्ट, तरल अपशिष्ट प्रवाह, कोयला भण्डारण, कोयला मिट्टी का रखरखाव, अपवाह और उड़ने वाली धूल का रखरखाव और निपटान करना होता है, कोयला धुलाई का स्थलाकृति, जल निकास स्वरूप और गुणवत्ता, जल निकायों, बड़े पैमाने पर प्रतिवेशी वायु गुणवत्ता पर भी प्रतिकूल प्रभाव पड़ता है; धुलाई प्रक्रिया से विद्युत उत्पादन की लागत में भी वृद्धि होती है जिसका कोई पर्यावरणीय लाभ इत्यादि भी नहीं होता।

और जबकि, नीति आयोग ने इसलिए सिफारिश की है कि पर्यावरणीय और प्रदूषण मानकों का निर्धारण करना और उन्हें लागू करना विवेकपूर्ण होगा, जिन्हें कोयले में ऐश की मात्रा प्रतिबंधित किए जाने के बजाए, परिवहन दूरी के आधार पर विद्युत उत्पादकों के साथ जोड़ा जाना चाहिए।

और जबकि, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय ऊर्जा मंत्रालय, कोयला मंत्रालय के अभ्यावेदनों, नीति आयोग और कई हितधारकों की रिपोर्ट पर विवेचन करने तथा सावधानीपूर्वक विचार करने के बाद एवं जनहित में निम्नलिखित निष्कर्ष पर पहुंचा है—

- i) खनित कोयले में ऐश सामग्री की मात्रा समान रहती है। वाशरी से ऐश सामग्री दो स्थानों (वाशरी और विद्युत संयंत्र) में विभाजित हो जाती है जबकि बिना धुला कोयला विद्युत संयंत्र में प्रयोग किया जाता है, ऐश सामग्री का निपटान केवल एक स्थान अर्थात् विद्युत संयंत्र में किया जाता है;
- ii) ताप विद्युत संयंत्र प्रदूषण नियंत्रण, ऐश प्रबंधन के लिए तकनीकी रूप से सुसज्जित होते हैं क्योंकि उनमें फ्लाइ-ऐश का निराकरण करने के लिए उच्च क्षमता वाले उपकरण होते हैं, ड्राई ऐश निष्क्रमण और हैंडलिंग सिस्टम, ऐश उपयोग के लिए सप्लाय सिस्टम और फ्लू गैसों को तितर-बितर करने के लिए बड़े टाल (स्टैक) होते हैं;
- iii) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय ने उत्सर्जन मानक अधिसूचित किए हैं जिनमें क्रमशः ताप विद्युत संयंत्रों को समयबद्ध रीति से इन मानकों का पालन करने के लिए अधिदेशित किया गया है;

और जबकि, फ्लाई ऐश प्रबंधन और विभिन्न स्तरों पर बिना धुले कोयले के संसाधन के दौरान उत्पन्न अन्य संबंधित पर्यावरणीय पहलुओं सहित बिना धुले कोयले की हैंडलिंग के लिए यथासंभव उत्कृष्ट कार्यवाही को अपनाता समयोचित है।

और जबकि, कोयला मंत्रालय ने अभ्यावेदन किया है कि मौजूदा अप्रत्याशित कोविड-19 महामारी और इसके फलस्वरूप देश में ऊर्जा उत्पादन के लिए कोयला क्षेत्र की मांग को प्रोत्साहित कर घरेलू कोयले के उपयोग की तत्काल आवश्यकता को देखते हुए यह वांछनीय है कि तत्काल अधिसूचना जारी की जाए।

अब, इसलिए, केंद्रीय सरकार पर्यावरण (संरक्षण) नियमावली, 1986 के नियम 5 के उपनियम (4) के साथ पठित पर्यावरण संरक्षण अधिनियम, 1986 (1986 का 29) की धारा 3, धारा 6 और धारा 25 के तहत अपनी शक्तियों का प्रयोग करते हुए, उक्त नियमावली के नियम 5 के उपनियम (3) के भाग (अ) के तहत सूचना देने की अनिवार्यता को हटा देने के उपरांत जनहित में पर्यावरण (संरक्षण) नियमावली, 1986 को आगे संशोधित करते हुए एतद्वारा निम्नलिखित नियम बनाती है, अर्थात्:

1. (1) इन नियमों को पर्यावरण (संरक्षण) संशोधन नियमावली, 2020 कहा जाएगा।
- (2) ये सरकारी गज़ट में प्रकाशित होने की तारीख से लागू होंगे।
2. पर्यावरण (संरक्षण) नियमावली, 1986 में, नियम 3 में, उपनियम (8) के लिए निम्नलिखित उपनियम प्रतिस्थापित होगा, अर्थात् :-

“(8) ताप विद्युत संयंत्रों को, ऐश सामग्री अथवा दूरी संबंधी अनुबंधों के बिना, निम्नलिखित शर्तों के अध्याधीन कोयले के प्रयोग की अनुमति होगी:

(1) उत्सर्जन मानदण्डों के लिए प्रौद्योगिकीय समाधान निर्धारित करना:

- i. वर्तमान अधिसूचनाओं और केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा समय-समय पर जारी अनुदेशों के अनुसार विविक्त सामग्री के लिए विनिर्दिष्ट मानदंडों का अनुपालन करना।
- ii. वाशरी के मामले में मिडलिंग और अवशिष्टों का एफबीसी(तरलीकृत तल दहन) प्रौद्योगिकी आधारित विद्युत संयंत्रों में उपयोग किया जाए। एफबीसी संयंत्रों में मिडलिंग और अवशिष्टों के लिए वाशरी में संयोजन (लिकेज) होना चाहिए।

2. ऐश पॉन्ड का प्रबंधन:

- i. ताप विद्युत संयंत्र धुले हुए कोयले से बिना धुले हुए कोयले पर स्विच करने के कारण फ्लाई-ऐश पॉन्ड(मौजूदा विद्युत उत्पादन क्षमता) की अतिरिक्त क्षमता की पात्रता प्राप्त किए बिना, समय-समय पर जारी की गई अधिसूचनाओं में यथा-अधिसूचित शर्तों का पालन करें।
- ii. ऐश प्रबंधन के लिए जल की खपत को अनुकूल करने हेतु समुचित प्रौद्योगिकी समाधान लागू हों;
- iii. यदि आवश्यक हो तो फ्लाई-ऐश का अधिकतम उपयोग सुनिश्चित करने के लिए स्थल विशिष्ट स्थितियों के आधार पर ऐश का पृथक्करण इलैक्ट्रो-स्टैटिक अवक्षेपक (प्रेसीपिटेटर) स्तर पर किया जाए।
- iv. ताप विद्युत संयंत्र उपर्युक्त 2(i) के अध्याधीन, छोड़ी हुई अथवा चालू खानों (वर्किंग माइन्स) में (खान मालिकों द्वारा सुविधाजनक बनाया जाए) पर्यावरणीय सुरक्षा उपायों के साथ फ्लाई-ऐश का निपटान करें।

3. परिवहन:

- i. ढके हुए रेलवे वैगन (तिरपाल अथवा किसी अन्य माध्यम से ढके हुए रेलवे वैगन) और/अथवा खान-क्षेत्र से परे ढके हुए वाहक (कन्वेयर) द्वारा ही कोयले का परिवहन किया जाए। तथापि, जब तक रेल परिवहन/वाहक इन्फ्रास्ट्रक्चर उपलब्ध नहीं हो जाता, सड़क परिवहन ट्रकों द्वारा किया जाए जो तिरपाल अथवा किसी अन्य माध्यम से ढके हुए हों।
 - ii. ताप विद्युत संयंत्र द्वारा सुनिश्चित किया जाए कि
 - (क) रेल अथवा कन्वेयर द्वारा परिवहन के लिए विद्युत संयंत्र में अथवा इसके समीप रेल साइडिंग सुविधा अथवा कन्वेयर सुविधा स्थापित हो; और
 - (ख) यदि रेल अथवा कन्वेयर सुविधा की अनुपलब्धता के कारण परिवहन न हो पाए, तो यह सुनिश्चित किया जाए कि संबंधित खान के डिलीवरी स्थान से कोयले का परिवहन ढके हुए ट्रकों (तिरपाल अथवा किसी अन्य माध्यम द्वारा), अथवा किसी अन्य यंत्रिकृत बंद ट्रक से सड़क द्वारा हो।
- (4) इसे वित्तीय वर्ष 2020-21 और उसके बाद के लिए संबंधित परियोजनाओं हेतु संगत पर्यावरणीय स्वीकृति की अतिरिक्त शर्तें भी समझा जाएगा। मौजूदा पर्यावरणीय स्वीकृतियों को संशोधित किया जाएगा ताकि संगत क्षेत्रों के लिए उपरोक्त शर्तों को प्रवर्तनशील बनाया जा सके। तदनुसार संबंधित राज्य प्रदूषण नियंत्रण बोर्ड द्वारा प्रचालन की अनुमति जारी की जाएगी।

[फा.सं. 13014/01/2020-आईए-1(टी)]

गीता मेनन, संयुक्त सचिव

टिप्पण—मूल नियम भारत के राजपत्र में सं.का.आ. 844(अ), तारीख 19 नवंबर 1986 द्वारा प्रकाशित किए गए थे और पश्चातवर्ती संशोधन सं.का.आ. 82(अ), तारीख 16 फरवरी, 1987; का.आ. 64(अ), तारीख 18 जनवरी, 1988; सा.का.नि. 931(अ), तारीख 27 अक्टूबर, 1989; का.आ. 23(अ), तारीख 16 जनवरी, 1991; सा.का.नि. 95(अ), तारीख 12 फरवरी, 1992; सा.का.नि. 329(अ), तारीख 13 मार्च, 1992; सा.का.नि. 562(अ), तारीख 27 मई, 1992; सा.का.नि. 884(अ), तारीख 20 नवंबर, 1992; सा.का.नि. 386 (अ), तारीख 22 अप्रैल, 1993; सा.का.नि. 422 (अ), तारीख 19 मई, 1993; सा.का.नि. 801 (अ), तारीख 31 दिसंबर, 1993; सा.का.नि. 320 (अ), तारीख 16 मार्च, 1994; सा.का.नि. 560 (अ), तारीख 19 सितंबर, 1997; सा.का.नि. 378 (अ), तारीख 30 जून, 1998; सा.का.नि. 07 (अ), तारीख 22 दिसंबर, 1998; सा.का.नि. 407 (अ), तारीख 31 मई, 2001; सा.का.नि. 826 (अ), तारीख 16 नवंबर, 2009; सा.का.नि. 513 (अ), तारीख 28 जून, 2012; सा.का.नि. 02 (अ), तारीख 02 जनवरी, 2014; का.आ. 3305 (अ), तारीख 07 दिसंबर, 2015; सा.का.नि. 593 (अ), तारीख 28 जून, 2018; और का.आ. 236 (अ), तारीख 16 जनवरी, 2020 द्वारा किए गए।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 21st May, 2020

S.O. 1561(E).—Whereas the Central Government had, in exercise of its powers under Section 3, Section 6 and Section 25 of Environment (Protection) Act, 1986 (29 of 1986) read with rule 5 of Environment (Protection) Rules, 1986, published draft rules further to amend sub-rule (8) of rule 3 of Environment (Protection) Rules, 1986, in the Gazette of India, Extraordinary, *vide* number G.S.R. 02(E), dated the

2nd January, 2014 mandating certain categories of thermal power plants to use coal with ash content restricted to 34%.

And whereas, the said Notification *vide* number G.S.R. 02(E) dated the 2nd January, 2014, mandated coal based thermal power plants to use raw or blended or beneficiated coal with ash content not exceeding thirty-four percent (34%), on quarterly basis, by the time lines given below:

Sl. No.	Category of Power Plant	Distance of location of Thermal Power Plant from pit-head/coal mine	Time lines
(a)	Stand-alone Thermal Power Plants (any capacity), and Captive Thermal Power Plants (with capacity of 100 MW and above)	Located in urban areas, or ecologically sensitive areas or critically polluted areas, irrespective of distance from pit-head, except pit-head power plants.	With effect from 2 nd June, 2014.
(b)		beyond 1000 km	With effect from 2 nd June, 2014.
(c)		between 750-1000 km	With effect from 1 st January, 2015.
(d)		between 500-749 km	With effect from 5 th June, 2016.

And whereas, the Central Government had, in exercise of its powers under sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986) read with sub-rule (3) of rule 5 of the Environment (Protection) Rules, in the Gazette of India, Extraordinary, *vide* number S.O. 3305 (E), dated the 7th December, 2015 and G.S.R. 593 (E), dated the 28th June, 2018 published the emission standards and specific water consumption for various category of thermal power plants, based on capacity of power generation and date of installation of power plant and to be achieved in time bound manner.

And whereas, the Ministry of Environment, Forest and Climate Change directed the Central Pollution Control Board *vide* F.No.Q-15017/40/2007-CPW dated the 7th December, 2017 to issue Directions under Section 5 of Environment (Protection) Act, 1986, to various Thermal Power Plants to install pollution control equipment as per the revised plan submitted by the Ministry of Power dated the 13th October, 2017 by 2022.

And whereas, the Ministry of Power has, *inter alia*, represented that with advancement in pollution control technologies, thermal power plants are better equipped to capture fly-ash generated in combustion process and unwashed coal can be used more efficiently and economically; thermal power plants are designed for coal with wide variety of ash content and are equipped with dry ash evacuation, handling and supply systems for ash utilisation; using washed coal makes power generation costlier; fly ash generated in thermal power plants is being used in several beneficial uses like cement manufacturing, brick making, road laying, back-fill material for reclamation of mine voids and low lying areas; requirement of maintaining average ash content to 34% prompts industries to undertake import of coal, resulting in outflow of foreign exchange etc.

And Whereas, the Ministry of Coal has, *inter alia*, represented that the coal mines are constantly striving to improve raw coal in terms of quality, size and extraneous material over the years which has considerably reduced wear and tear of all related equipment, coal washing process involves multiple handling and avoidable road transportation of huge quantities of coal from coal mines to washeries and then to rail sidings for onward transport to power plants; the washing process only divides the coal into washed coal and washery rejects while the ash content of mined coal remains the same; use of low grade coal washery rejects, in the multiple small user industries, generates more pollution etc.

And Whereas, the Ministry of Coal and Ministry of Power have, therefore, represented that the mandating power plants to use washed coal requires to be revisited by reconsidering the notification dated the 2nd January, 2014 which will help ease power generation for long distance haulage of coal without adverse impact on the environment.

And Whereas, the NITI Aayog, in its report after analysing the issue from the perspective of washeries, Coal mining, transportation and consumption of coal at power plants has, *inter alia*, summed up that use of washery rejects in nearby industries generates more pollution; since washery rejects are distributed in number of smaller industries, the pollution control at numerous points is more difficult than controlling the

pollution at power plant end; Ash generated in the washing process pollutes water along with coal particles and cannot be gainfully utilised; Coal washing process involves increased water use, effluent generation; Disposal of washery rejects has negative environmental impact as it has to handle and dispose huge quantity of low grade coal washery rejects, liquid effluent streams, coal storage, handling coal dust, runoff and fugitive dust; Coal washing also adversely impacts topography, water drainage pattern and quality, water bodies, surrounding air quality at large scale; Washing process increases the cost of power generation with no commensurate environmental advantages etc.

And Whereas, NITI Aayog has, therefore, recommended that it may be prudent to determine and enforce the environmental and pollution norms, to be complied with by the power generators, rather than restricting the ash content in coal, based on distance of transportation.

And Whereas, the Ministry of Environment, Forest and Climate Change, after deliberating the representations from Ministry of Power, Ministry of Coal, report of NITI Aayog and various stakeholders and after careful considerations & in larger public interest, arrived at the following:

- (i) The extent of ash content in mined coal remains the same. With washeries, the ash content gets divided at two places (washeries and the power plant), whereas if unwashed coal is used in power plant, the ash content is handled at only one place viz. the power plant;
- (ii) Thermal power plants are technologically equipped to address pollution control, ash management as they have high efficiency equipment to capture fly ash, dry ash evacuation and handling systems, ash supply systems for ash utilisation and tall stacks for wider dispersal of flue gases;
- (iii) The Ministry of Environment, Forest and Climate Change has notified emission norms, mandating respective thermal power plants to adhere to such norms in a time bound manner;

And Whereas, it is expedient to adopt best possible framework towards handling of unwashed coal including management of fly ash and other associated environmental aspects arising out of processing of unwashed coal at different stages.

And Whereas, the Ministry of Coal has represented that in view of the existing unprecedented COVID-19 pandemic and the resultant immediate requirement of utilization of domestic coal by stimulating coal sector demand for power generation in the country, it is desirable to issue the notification at the earliest.

Now, therefore, in exercise of the powers conferred by Section 3, Section 6 and Section 25 of the Environment Protection Act, 1986 (29 of 1986) read with sub-rule (4) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government, after having dispensed with the requirement of notice under clause (a) of sub-rule (3) of rule 5 of the said rules, in public interest, hereby makes the following rules to further amend the Environment (Protection) Rules, 1986, namely :-

1. (1) These rules may be called the Environment (Protection) Amendment Rules, 2020
(2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Environment (Protection) Rules, 1986, in rule 3, for sub-rule (8), the following sub-rule shall be substituted, namely :-

“(8) Use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to following conditions:

- (1) **Setting Up Technology Solution for emission norms:**
 - (i) Compliance of specified emission norms for Particulate Matter, as per extant notifications and instructions of Central Pollution Control Board, issued from time to time.
 - (ii) In case of washeries, Middling and rejects to be utilized in FBC (Fluidised Bed Combustion) technology based thermal power plants. Washery to have linkage for middling and rejects in Fluidised Bed Combustion plants.
- (2) **Management of Ash Ponds:**
 - (i) The thermal powers plants shall comply with conditions, as notified in the Fly Ash notification issued from time to time, without being entitled to additional capacity of fly ash pond (for existing power generation capacity) on ground of switching from washed coal to unwashed coal.
 - (ii) Appropriate Technology solutions shall be applied to optimise water consumption for Ash management;

- (iii) The segregation of ash may be done at the Electro-Static Precipitator stage, if required, based on site specific conditions, to ensure maximum utilization of fly ash;
- (iv) Subject to 2(i) above, the thermal power plants to dispose flyash in abandoned or working mines (to be facilitated by mine owner) with environmental safeguards.

(3) **Transportation:**

- (i) Coal transportation may be undertaken by covered Railway wagon (railway wagons covered by tarpaulin or other means) and/or covered conveyer beyond the mine area. However, till such time enabling Rail transport/conveyer infrastructure is not available, road transportation may be undertaken in trucks, covered by tarpaulin or other means.
- (ii) It shall be ensured by the thermal power plant that
 - a. Rail siding facility or conveyor facility is set up at or near the power plant, for transportation by rail or conveyor; and
 - b. If transportation by rail or conveyor facility is not available, ensure that the coal is transported out from the Delivery Point of the respective mine in covered trucks (by tarpaulin or other means), or any mechanized closed trucks by road.
- (4) This shall also be deemed to be additional conditions of the relevant Environmental Clearances for respective projects for financial year 2020-21 and onwards. The existing Environmental Clearances shall stand modified so as to make the above conditions operative for relevant sectors. The Consent to Operate shall be issued by respective State Pollution Control Boards accordingly.”

[F.No.13014/01/2020-IA.I(T)]

GEETA MENON, Jt. Secy.

Note:-The principal rules were published in the Gazette of India *vide* number S.O. 844(E), dated the 19th November, 1986 and subsequently amended *vide* numbers S.O. 82(E), dated 16th February, 1987; S.O. 64(E), dated 18th January, 1988; G.S.R. 931(E), dated 27th October, 1989; S.O. 23(E), dated 16th January, 1991; G.S.R. 95(E), dated 12th February, 1992; G.S.R. 329(E), dated 13th March, 1992; G.S.R. 562(E), dated 27th May, 1992; G.S.R. 884(E), dated 20th November, 1992; G.S.R. 386(E), dated 22nd April, 1993; G.S.R. 422(E), dated 19th May, 1993; G.S.R. 801(E), dated 31st December, 1993; G.S.R. 320(E), dated 16th March, 1994; G.S.R. 560(E), dated 19th September, 1997; G.S.R. 378(E), dated 30th June, 1998; G.S.R. 7(E), dated 22nd December, 1998; G.S.R. 407(E), dated 31st May, 2001; G.S.R. 826(E), dated 16th November, 2009; G.S.R. 513(E), dated 28th June, 2012; G.S.R. 02(E) dated 2nd January, 2014; S.O. 3305 (E), dated 7th December, 2015; G.S.R. 593(E), dated 28th June, 2018 and S.O. 236 (E), dated 16th January, 2020.



97 NTPC Limited

(A Government of India Enterprise)
SSC - SR(Simhadri) Project
P.O. SIMHADRI VISAKHAPATNAM
VISAKHAPATNAM

Andhra Pradesh- 531020, India

Telephone No. : 08924-243032/243525 Fax No. : 08924-243590/243092

Service Purchase Order

PAN No. : AAACN0255D

CIN No. : L40101DL1975GOI007966

Purchase Order No. : 4000258082-026-1035 Date : (version : 1 Date : 17.02.2022
18.05.2021)

To

Vendor Code: 1132998

PITTA VANIPALEM VILLAGE LLSTPP (NTPC) MALCCS LTD
PEDAGANTYADA MANDAL
PO. PITTA VANIPALEM, HO. DEVADA
VISAKHAPATNAM
Andhra Pradesh
India - 531021
Tel: 9885527749
E-Mail : battusanyasirao@gmail.com

Subject: : 6 months contract for deployment of water tankers for controlling the fugitive dust emission in ash dyke area at NTPC Simhadri for the year 2021

Version 01: 1st interim quantity deviation with 1st provisional time extension up to 19.02.2022 without prejudice to the right to levy LD. (Ref:SMTTP/Civil Maint/2021-22/NTPCSIMH/564723)

NIT NO. : 9900218632/026/1035 Dated 17.05.2021

Your Offer No. :

Your Reference :

Our Reference : PR-200105554

Dear Sir,

This has reference to our above mentioned NIT, Your offer and subsequent discussions. We are pleased to accept your offer opened on 18.05.2021 and confirm having awarded on you the work of 6 months contract for deployment of water tankers for controlling the fugitive dust emission in ash dyke area at NTPC Simhadri for the year 2021 Version 01: 1st interim quantity deviation with 1st provisional time extension up to 19.02.2022 without prejudice to the right to levy LD. (Ref:SMTTP/Civil Maint/2021-22/NTPCSIMH/564723) of total value INR 4,914,630.00 (Rupee FORTY-NINE LAKH FOURTEEN THOUSAND SIX HUNDRED THIRTY ONLY) mentioned in the scope of works, special terms & conditions, Bill of quantities etc.

The duration of the service period shall be from 20.05.2021 to 19.02.2022. Though the duration of contract shall remain same, the actual date of commencement of the contract shall be as per the direction of EIC. HOD(O&M-CIVIL)/His authorised representative shall be EIC for this work.

This service purchase order along with its annexure is being issued to you in duplicate .We request you to return the duplicate copy of this service purchase order, duly signed on each page by your authorised signatory in token of your unequivocal acknowledgment of the same within 15 days from the date of this service purchase order. If no communication is received within 15 days of receipt of Purchase Order, it will be treated that order has been accepted in entirety.

We thank you for the interest shown by you in our project and the cooperation extended to us. We expect to receive your continued cooperation in future also.

Thanking You,



A Maharatna Company

For & on behalf of NTPC Limited.

Rajiv Kumar Jaiswal
DGM C&M
USSC

Enclosures :

Name of Work:

(Bill of Quantity)

6 months contract for deployment of water tankers for controlling the fugitive dust emission in ash dyke area at NTPC Simhadri for the year 2021

Version 01: 1st interim quantity deviation with 1st provisional time extension up to 19.02.2022 without prejudice to the right to levy LD. (Ref:SMTPP/Civil Maint/2021-22/NTPCSIMH/564723)

SI No.	Code	Description	Unit	Quantity	Net Price	Amount	Long Text
--------	------	-------------	------	----------	-----------	--------	-----------

Delivery/Invoicing Address:

1035 Simhadri Super Thermal Power Project
 P.O. SIMHADRI VISAKHAPATNAM
 Andhra Pradesh
 531020
 India
 08924-243032/243525
 08924-243590/243092
 Invoicing to be done on
GST No. : 37AAACN0255D2ZW

10		Non Scheduled Item	AU	1.000	4,914,630.00	4,914,630.00	
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Tax: IN:Central GST-ND @ 9.00 % **Extra**

IN: StateGST-ND @ 9.00 %

10 .10		Hiring water tanker for sprinkling water	NO	630	7,801.0000	4,914,630.00	YES
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TOTAL OF BOQ PART : 00010 INR 4914630.00

Amount **4914630.00**

Other Charges 0.00

Net Amount on BOQ PART 00010 INR 4914630.00

Net Total Amount INR 4,914,630.00

Less Rebate/Amount INR 0.00

Grand Total INR 4,914,630.00

INR FORTY-NINE LAKH FOURTEEN THOUSAND SIX HUNDRED THIRTY ONLY

Terms & Conditions

Payment Mode

As per GCC

Invoice to be raised on delivery/invoice address against the given PO line items.

Security Deposit

Security deposit @ 3.00 % shall be deducted from running bills with a ceiling of INR 84250.00
INR.

Break up of Price (For Service Related Lines Only)

SI No.	Service Code	Description	Qty.	UOM	Rate	Premium	Discount	Addl Discount	Net Rate	Value
10 .10		Hiring water tanker for sprinkling water	630	NO	7,801.00	0.00	0.00	0.00	7,801.00 00	4,914,630.0 0

SCOPE OF WORK
-----**00010 : Non Scheduled Item****1.SCOPE OF WORK:**

1. This contract envisage the hiring and deployment of water tankers in running condition for sprinkling water on approach roads, ash dyke haul roads and inside lagoon area of Stage-I&II ash dykes with minimum 4 trips per day, having minimum capacity of 12KL along with water filling pump set and with booster pump fitted backside on chassis for water sprinkling.
2. Four(04) nos of unskilled manpower per water tanker and one(01) no. skilled supervisor shall be engaged for sprinkling water and handling of discharge hose pipe. The length of the pipe should be minimum 200m for water sprinkling to control the fugitive dust at Stage-I&II ash dyke areas of NTPC Simhadri.
- 3.Each water tanker shall sprinkle water in specified areas as per EIC instruction. This item includes cost of all types of maintenance, spares, lubricants, operator/driver, road taxes etc.required for the same and any other cost for running of vehicle and pump etc.including the fuel(diesel),oil etc.complete.
4. No water tanker shall be deployed on rainy day and next day of rainy day. NTPC will not pay for idle charges for not deploying water tankers during rainy day/next day of rainy day.
5. After intimation, the agency has to mobilise water tankers in three working days.

2.SPECIAL TERMS &CONDITIONS:

- 2.1 Contract Period in Months/Days : Six(06) months.
- 2.2 Contract Extension Period in Months : As per GCC.
- 2.3 NTPC Scope of supply at free cost/Dept.Issue : Nil.
- 2.4 Number of water tankers to deploy: As per the directions of EIC.
- 2.5 Agency Scope of Supply : Water tankers with pump set arrangement for filling water and booster pumping system along with discharge hose pipes and all required men, materials, equipments tools & tackles including transportation etc., for execution of the work are in the scope of agency.
- 2.6 Price Basis : Firm Price.
- 2.7 Deviation Clause : 0 to (+) 150%.
- 2.8 Special Licenses required : As applicable for co-operative society.
- 2.9 Man Power with special Skills : Habit of working in ash dyke environment.
- 2.10 Payment Terms : As per GCC (Mobilization and equipment advance loan clauses not applicable).
- 2.11 Penalty Clauses : If the agency fails to deploy water tankers as per NTPC requirement, penalty of 1000rs per tanker per day shall be deducted from the running bills.
- 2.12 Quality requirements : Dust emission control.
- 2.13 Safety requirement : As per O&M-safety clauses list.
- 2.14 Defect liability period : NIL.

3.All other terms and conditions shall be as per tender documents and NTPC GCC.

SERVICE SPECIFICATIONS
-----**10 .10 - Hiring water tanker for sprinkling water**

1.Hiring and deployment of water tanker in running condition for sprinkling water on approach roads, Stage-I&II ash dykes, ash dyke haul roads and inside lagoon area with minimum 4 trips per day of 8 hours, having minimum capacity of 12KL along with water filling pump set and with booster pump fitted backside on chassis for water sprinkling. Four(04) nos of unskilled manpower per water tanker and one no. skilled supervisor shall be engaged for sprinkling water and handling of discharge hose pipe. The length of the pipe should be minimum 200m for water sprinkling to control fugitive dust at Stage-I&II ash dyke area of NTPC Simhadri.

2.Each water tanker shall sprinkle water in specified areas as per EIC instruction. This item includes cost of all type of maintenance, spares, lubricant, operator/driver, road taxes etc.required for the same and any other cost for running of vehicle and pump etc. including the fuel (diesel), oil etc. complete.

3.For payment purpose Unit of Measurement for 1 "No" of Hiring of water tanker means "Deployment of 1 water tanker along with required manpower and T&P per day(irrespective of No of trips per day).

Note- No of trips shall be minimum 4 trips per day of 8 hours as detailed above.

Prepared By:
Kolluri Satish

List of Documents

Please note that below documents are needed to be provided along with Invoice.

S.No.	Document Description
--------------	-----------------------------

NTPC VENDOR PAYMENT PORTAL & PAYMENT PROCEDURE

1.For all the cases where payment documents are to be directly submitted to NTPC (excluding Payment through Bank cases), the Invoice and supporting document(s) as required in the Purchase Order have to be Digitally Signed with class II or III digital signature and uploaded in the NTPC Vendor Payment Portal <https://pradip.ntpc.co.in/VendorFinal/Login.jsp>.

In such cases, there will be no requirement of physical copy of invoice & documents except for Lorry Receipts (LRs)/ Delivery Challan, which are normally sent along with the material/ transporter. Bank Guarantees to be sent in original wherever applicable.

2.From **15.5.2020**, NTPC will accept only digitally signed Invoice & supporting documents from Vendors for direct payment cases. Submission of documents in physical form shall not be accepted by NTPC unless otherwise asked for in the PO.

For such cases of physical submission, Vendors are required to send complete set of documents including invoice etc. addressed to the "Invoice Receipt Center" of the Delivery/ Invoicing Address as mentioned in the Purchase Order Annexure 1/ BOQ Sheet.

While submitting the Invoice/ Bills & related documents in physical form, Vendors are required to mention the following details on the top of the envelope:

- a. Invoice/Bill reference No.
- b. NTPC PO No./ Package no.
- c. NTPC Vendor Code as per PO

In addition to above, vendors are requested to mention their correspondence E-mail & Mobile No.in the Covering Letter, through which invoice processing related information/clarification request may be sent.

3.Vendors can track / monitor the status of payments from the Vendor payment portal. Help documents are available in the portal. Vendors are requested to make full use of the Vendor Payment Portal.

4. For payment cases through bank, all original documents are to be submitted in bank as per terms of PO.

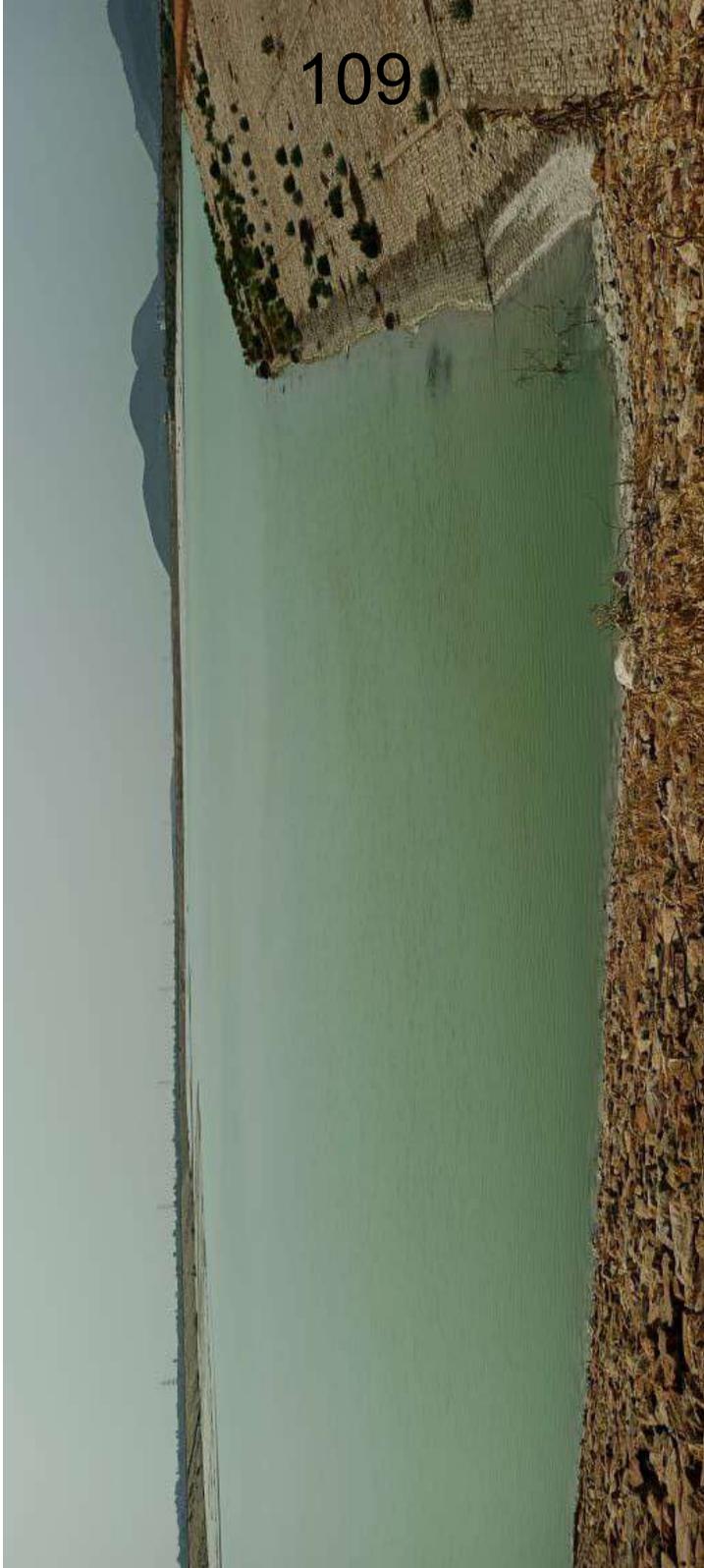


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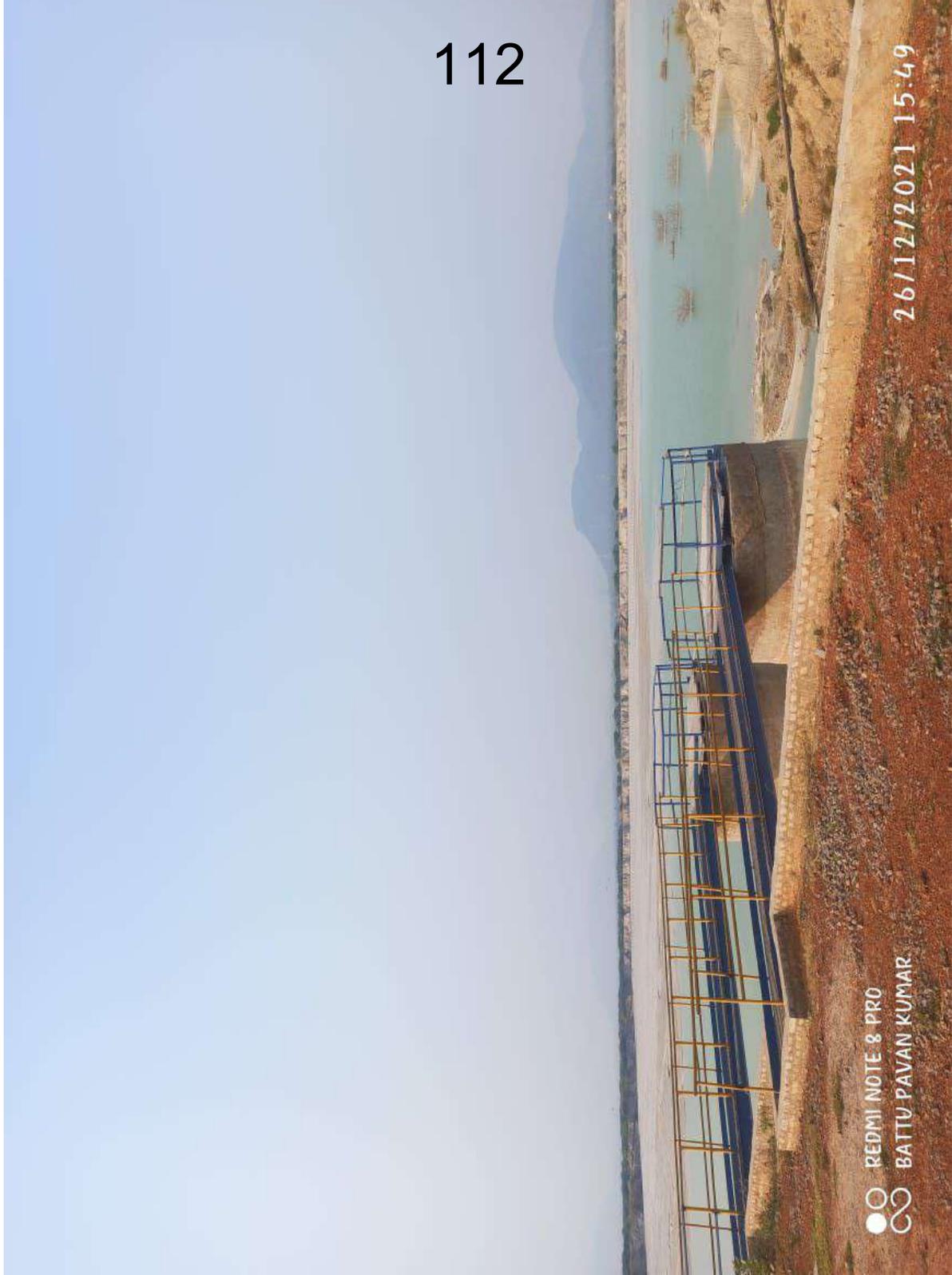


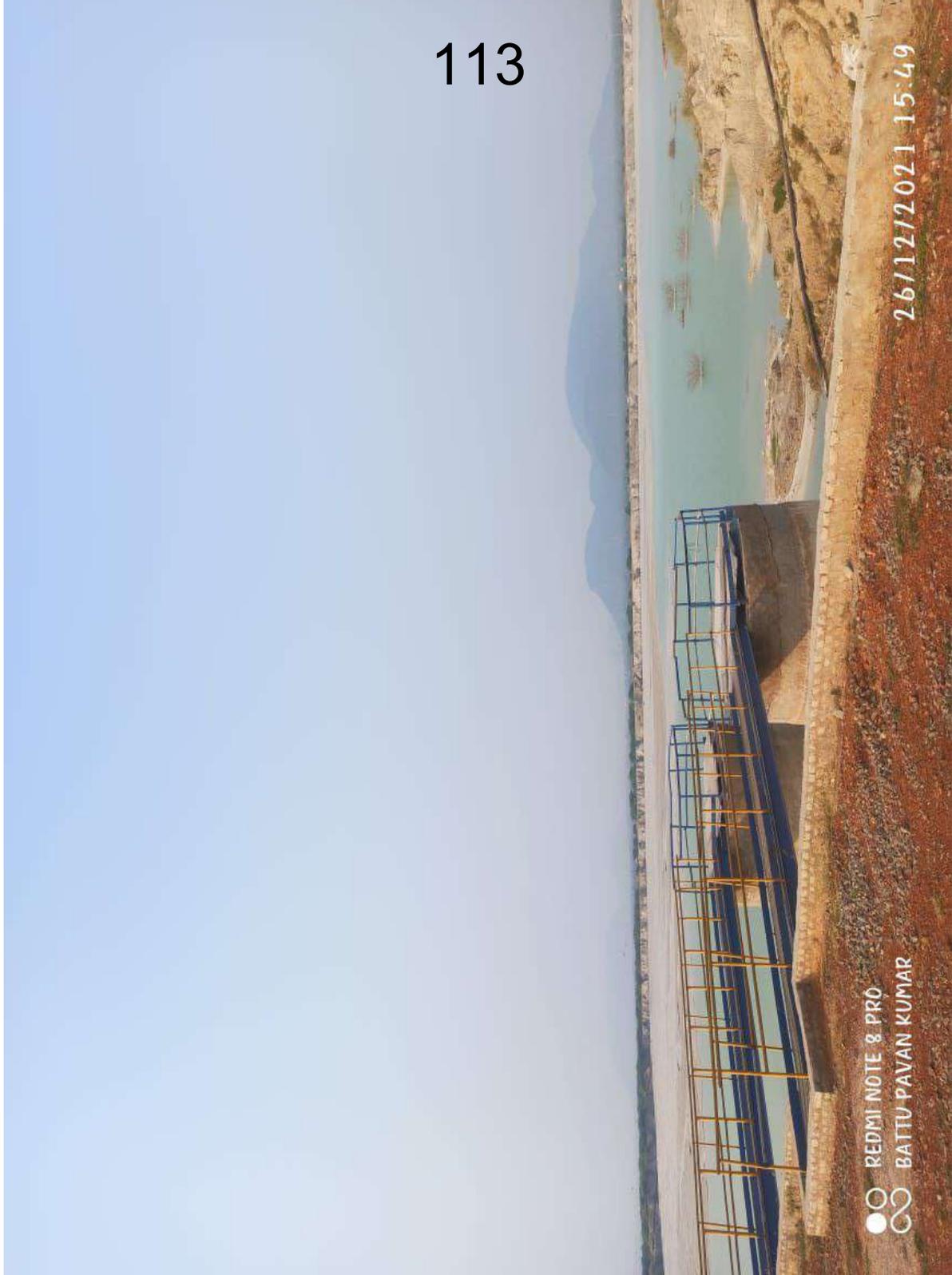
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Apr 15, 2022 11:50:34 am







**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. 720/APPCB/HO/UH-II/TF/VSP/2022-

Date:02/06/2022

To
M/s. Simhadri Super Thermal Power Project,
NTPC Limited,
Parawada,
Visakhapatnam

Sir,

Sub: APPCB - HO - UH-II - TF - M/s. Simhadri Super Thermal Power Project, NTPC Limited, Parawada, Visakhapatnam - Dircetions issued dated 21.12.2021 - Non-submission of Bank guarantee - Industry representation for exemption of Bank Guarantee - Legal hearing held on 06.05.2022 - Minutes communicated - Reg.

Ref: 1. Order No. 720/APPCB/UH-II/TF/VSP/2016, dt: 08.08.2016.
2. Order No. 720/APPCB/UH-II/TF/VSP/2017, dt: 13.04.2017.
3. CFO & HWA order No. APPCB/VSP/VSP/12334/HO/CFO/2017, dated 31.07.2017.
4. Order No. 720/APPCB/UH-II/TF/VSP/2021, dated 21.12.2021.
5. The industry submitted representation vide letter dated 05.01.2022.
6. Notice issued to the industry on 07.02.2022.
7. RO, Visakhapatnam submitted report on 19.02.2022.
8. External Advisory Committee (TF) meeting held on 06.05.2022.

* * *

WHEREAS you are operating the industry in the name & style of M/s Simhadri Thermal Power Project, a unit of M/s. NTPC. The Power Plant is operating Unit - I & Unit - II under phase - I and Unit - III & Unit - IV under Phase - II generating 2000 MW of electricity. The Power Plant was established in an extent of 3384 Acres (Plant Area: 1976 Acres, Green Belt - 737 Acres, Reservoir of 45 days capacity: 200 Acres (approx.), Township: 311 Acres and Ash Pond: 605 Acres).

WHEREAS the Board vide reference 1st & 2nd cited, issued directions to the industry on 08.08.2016 & 13.04.2017.

WHEREAS the Board vide reference 3rd cited, issued CFO & HWA order to the industry vide order dated 31.07.2017 to generate Electricity (Coal with maximum Sulphur content of 0.6% and ash content of 45%) - 2000 MW with certain conditions & standards valid up to 31.08.2022.

WHEREAS vide reference 4th cited, the Board reviewed the status of the industry in the EAC (TF) meeting held on 07.12.2021 and issued directions dated 21.12.2021.

WHEREAS vide reference 5th cited, the industry submitted representation vide letter dated 05.01.2022 that they has taken all necessary steps to prevent the escape of cenosphere which happens in very exigent conditions such as continuous heavy rains.

- Due to incessant rainfall in Oct & Nov 2021, more than the intensity reported in last 10 years, the water level in the OFL has increased, causing the OFL overflow. The cenosphere, a very fine air entrapped ash particle floating on the surface of water had drifted to creek side, and the same had been removed immediately & creek is made clean.
- They have taken control measures like installation of additional pumping arrangements and mesh arrangements (Photos enclosed) to curtail overflow and it will be ensured that utmost care is taken in avoiding such incidents. Also, as per the directions, we have initiated procedures for taking up dredging work on upetturu

WHEREAS the industry requested to consider the waiving off the BG amountof Rs. 128.0 lakhs.

WHEREAS the RO, Visakhapatnam issued notice to the industry on 07.02.2022 and directed to submit the Bank Guarantee of Rs.128.0 Lakhs immediately as perdirections.

WHEREAS the RO, Visakhapatnam submitted report on 19.02.2022 and requested the Board to issue necessary directions to the industry for non-submission of BG as per the directions issued by the Board vide order dated 21.12.2021.

WHEREAS vide reference 8th cited, the Board reviewed the status of the industry in the EAC (TF) meeting held on 06.05.2022 and after detailed discussions recommended to waive of the Bank Guarantee direction issued to the industry vide order dt 21/12/2021, with a direction that the industry shall expedite necessary action to ensure compliance of the Board directions.

This has the approval of Member Secretary.

Mohan Rajasekhar
JOINT CHIEF ENVIRONMENTAL ENGINEER

Copy to:

1. The Joint Chief Environmental Engineer, A.P.Pollution Control Board, Zonal Office, Visakhapatnam for information and necessary action.
2. The Environmental Engineer, A.P.Pollution Control Board, Regional Office, Visakhapatnam for information and necessary action.

Signed by Mohan
Rajasekhar

Date: 02-06-2022 18:48:25

Reason: Approved