

BEFORE HONOURABLE NATIONAL GREEN TRIBUNAL
WESTERNZONE BENCH, PUNE

APPLICATION NO. 74 OF 2020
(Earlier PIL 03/2018 before
Hon'ble High Court of Bombay, Nagpur Bench)

BETWEEN:

Madhusudan Roongata

R/o M-2, Madhuban Complex,
Shivaji Nagar, Mul Road,
Chandrapur - 442401

..... **Applicant**

VERSUS

State of Maharashtra & Ors

Ministry of Energy and Environment
Mantralaya, Mumbai - 400032
Through The Principal Secretary
Phone:
Email:

..... **Respondent**

AFFIDAVIT BY RESPONDENT NO. 5 and 6
(MAHAGENCO CSTPS Chandrapur)

Next Date: 24 November 2021

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Place: Pune

Date: **15.11.2021**

Filed by:

R.B.Mahabal रघुनाथ भालचंद्र महाबळ

BE (Mechanical), ME (Industrial Management) VJTI-Mumbai, LLM (Mumbai)
Chartered Engineer, Fellow of Indian Institution of Engineers, IIE Arbitrator
ex-Govt. Environmental Laboratory Analyst, NABET Accredited EIA Consultant

ADVOCATE NATIONAL GREEN TRIBUNAL
Bombay High Court [Roll No.MAH/349/2012]

B - 202, Chandravijay Society, Opposite Bansuri Hotel,
Phule Road, Mulund East, Mumbai 400081, Maharashtra
mahabal60@gmail.com 7400116222 / 022-21631573



Note: Uploaded to website and circulated to all
respondents on their email IDs.

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LIST OF ABBREVIATIONS USED

| Short-form | Full-form |
|--------------------|---|
| CSTPS | Chandrapur Super Thermal Power Station |
| Ph.D | Doctor of Philosophy |
| MPCB | Maharashtra Pollution Control Board |
| CPCB | Central Pollution Control Board |
| PIL | Public Intrest Litigation |
| NGT | National Green Tribunal |
| SPM | Suspended Peticulate Matters |
| SO2 | Sulfur Dioxide |
| NOx | Oxides of Nitrogen |
| CEMS | Continuous Emission Monitoring System |
| CAAQMS | Continuous Ambient Air Quality Monitoring System |
| S% | Sulfur Percentage |
| FGD | Flue-Gas Desulfurization |
| AAQ | Ambient Air Quality |
| NAAQS | National Ambient Air Quality Standards |
| CEA | Central Electricity Authority of India |
| MoEF&CC | Ministry of Environment, Forests & Climate Change |
| IIT Delhi | Indian Institute of Technology Delhi |
| NEERI | National Environmental Engineering Research Institute |
| MAHAGENCO | Maharashtra State Power Generation Company Limited |

MOST RESPECTFULLY SUBMITTED:

1. I, Vijay Yeul, PhD, **working as Senior Chemist (Environment) CSTPS, MAHAGENCO Chandrapur**, am filing this Affidavit in Reply for Maharashtra State Power Generation Co. Ltd. and Chandrapur Super Thermal Power Station (CSTPS) [hereafter referred as the **Respondent No. 5 and 6 respectively**]. I have the authority to file this reply. I further state and submit that I have not suppressed any relevant material facts and this reply is submitted as and by way of Affidavit on oath.
2. That this is in continuation of the earlier affidavits submitted in the High Court of Bombay, Nagpur Bench on 15.03.2018 and to the NGT dated 14.06.2021.
3. That important points were raised regards to maintainability, ambit & scope of the transferred PIL now converted as application and causes that can be entertained in the single application as per NGT Rule. I press and urge on those points, without repeating them for the sake of brevity.
4. That based on the last hearing, there are few questions raised that need clarification.
 - a. Unit-wise year of installation, generation, consumption of coal, compliance of all emission parameters SPM, SO₂, NO_x (based on data from CEMS connected to MPCB & CPCB website) **[■ Ax.R1]**
 - b. Continuous Ambient Air Quality Monitoring Stations installed and levels of pollutants (based on data from CAAQMS connected to MPCB website) **[■ Ax.R2]**
 - c. S% in Coal and the resultant SO₂ levels in Stack Emissions (based on stoichiometric calculations) **[■ Ax.R3]**
 - d. The dilution in emission levels achieved with stack heights of 150m, 200m and 275m, before it reaches the ground and the point/area of impact from CSTPS distance in m and area in m² (plotted on Map)
 - e. The areas that are in the air-shed and hence

unaffected from the emissions of CSTPS

- f. Requirement of FGD to achieve the levels, as stated in AAQ standards of SO₂. In Chandrapur area SO₂ in Ambient Air is already much lower than the NAAQS 2009. CEA has published a review paper on "Plant Location Specific Emission Standards" and already communicated the same to MoEF&CC pointing out this fact. [■ Ax.R4]
 - g. List of industrial units within 30km radius (the other power plants, Steel, Coal Mining, Sponge Iron, Cement) [■ Ax.R5]
 - h. Study Report Thesis of IIT Delhi
 - i. Study Report by NEERI which says that air pollution is mainly from other sources (pages marked) [■ Ax.R6]
 - j. AAQ Data from CPCB website for the period March to April 2020 when CSTPS was producing with full capacity but other industries and activities were closed due to lockdown. It shows substantial reduction in air pollution. [■ Ax.R7]
 - k. Letter written to CPCB about their website data of 24/03/2020 [■ Ax.R8]
 - l. Commitment/Agreement by industries to lift the 100% Fly Ash, as against the actual lifting due to poor demand for their production [■ Ax.R9]
5. The original prayers plural in nature, raising various causes in one single application. It is not permissible, even if the application is transferred from Hon'ble High Court, as additional jurisdiction is NOT given to entertain plural causes bypassing the specific Rule framed. As such the adjudication can be done on any one clause only.
6. In light of all the affidavits submitted, we urge the Hon'ble Tribunal to adjudicate and decide on the maintainability of this application and entertaining all plural causes, with speaking order.

AND for this act of kindness, as duty bound shall ever pray.



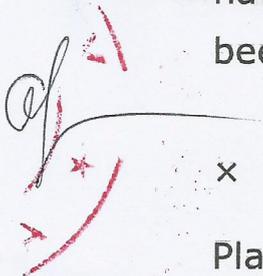
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Place: Pune
Date: **15.11.2021**

(Dr. Vijay Yeul)
Sr. Chemist (Env)CSTPS
Chandrapur, MAHAGENCO
Respondent No. 5 & 6

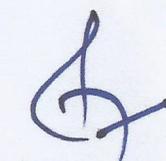
VERIFICATION

I Dr. Vijay Yeul, age about 38 years, Sr. Chemist (Env) CSTPS Chandrapur, MAHAGENCO do hereby verify that the contents of affidavit in Reply are true to my personal knowledge and believed to be true on legal advice and that I have not suppressed any material fact. Translation of it has been explained to me in brief.



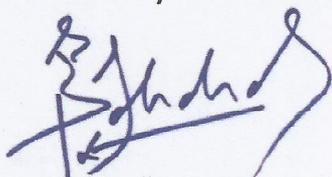
x

Place: Pune
Date: **15.11.2021**



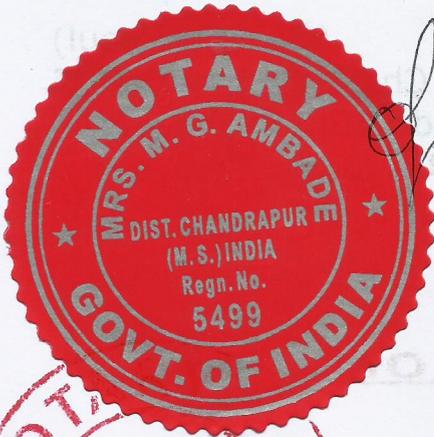
DEPONENT

Identified by & before me:



Advocate R.B.Mahabal





Sworn before me on this 17-11-2021
by Shri Vijay
Residence of CSTRS Colony Chandrapur
who is personally known to me & who
identified by Shri _____
whose signature is appended here to.

[Signature]
Mrs. M. G. Ambade, Advocate
NOTARY, (Govt. of India)
Reg. No. 5499/08, Chandrapur (M.S.)

Notarial Regr.

Entry No. 4425

Date 17-11-2021



DEPONENT

Advocate R. B. Mahabadi

Continuous Emission Monitoring System data from MPCB & CPCB

website

Station Name: Chandrapur Super Thermal Power Station

(CSTPS, MSPGCL), Chandrapur

| Unit No. | Size MW | Date of first synchronization | Installed Capacity (MW) | Height of Stack (Mtrs.) | Generation (Mus) (2020-21) | Coal Consumption (MT) (2020-21) |
|----------|---------|-------------------------------|-------------------------|-------------------------|----------------------------|---------------------------------|
| 3 | 210 | 01-04-1986 | 210 | 150 | 997.932 | 853006 |
| 4 | 210 | 04-11-1986 | 210 | 150 | 1010.312 | 858670 |
| 5 | 500 | 01-12-1992 | 500 | 200 | 2783.069 | 2360947 |
| 6 | 500 | 01-12-1993 | 500 | 200 | 2897.284 | 2445984 |
| 7 | 500 | 01-03-1998 | 500 | 275 | 1382.962 | 1171701 |
| 8 | 500 | 04-06-2016 | 500 | 275 | 3291.963 | 2353183 |
| 9 | 500 | 24-11-2016 | 500 | 275 | 3735.133 | 2667883 |

CHANDRAPUR SUPER THERMAL POWER STATION, CHANDRAPUR

STACK MONITORING REPORTS FOR THE YEAR - 2020 - 2021

| MONTH | PARAMETERS | UNIT # 3 | UNIT # 4 | UNIT # 5 | UNIT # 6 | UNIT # 7 | UNIT # 8 | UNIT # 9 |
|--------|---------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| Apr-20 | SPM (mg/NM ³) | 92 | S/D | S/D | 95 | S/D | 32 | 29 |
| | SO ₂ (mg/NM ³) | 1130 | S/D | S/D | 1222 | S/D | 1185 | 1204 |
| | NOx (mg/NM ³) | 307 | S/D | S/D | 306 | S/D | 287 | 282 |
| May-20 | SPM (mg/NM ³) | 90 | 90 | 92 | 95 | 94 | 25 | 26 |
| | SO ₂ (mg/NM ³) | 1151 | 1212 | 1216 | 1219 | 1264 | 1179 | 1186 |
| | NOx (mg/NM ³) | 306 | 291 | 305 | 316 | 308 | 275 | 284 |
| Jun-20 | SPM (mg/NM ³) | 90 | 89 | 93 | 94 | 91 | 27 | 26 |
| | SO ₂ (mg/NM ³) | 1157 | 1157 | 1220 | 1230 | 1194 | 1147 | 1230 |
| | NOx (mg/NM ³) | 313 | 305 | 311 | 325 | 301 | 287 | 284 |
| Jul-20 | SPM (mg/NM ³) | 85 | 87 | 91 | 91 | 94 | 23 | 30 |
| | SO ₂ (mg/NM ³) | 1169 | 1153 | 1166 | 1184 | 1166 | 1160 | 1192 |
| | NOx (mg/NM ³) | 318 | 322 | 303 | 310 | 322 | 287 | 289 |
| Aug-20 | SPM (mg/NM ³) | 92 | 87 | 92 | 88 | 98 | 20 | 24 |
| | SO ₂ (mg/NM ³) | 1115 | 1117 | 1184 | 1181 | 1032 | 1124 | 1112 |
| | NOx (mg/NM ³) | 322 | 315 | 312 | 316 | 345 | 286 | 285 |
| Sep-20 | SPM (mg/NM ³) | 86 | 91 | 91 | 86 | SD | 21 | 26 |
| | SO ₂ (mg/NM ³) | 1160 | 1182 | 1208 | 1212 | SD | 1222 | 1173 |
| | NOx (mg/NM ³) | 304 | 309 | 311 | 316 | SD | 280 | 284 |
| Oct-20 | SPM (mg/NM ³) | 91 | 90 | 92 | 91 | SD | 22 | 19 |
| | SO ₂ (mg/NM ³) | 1206 | 1170 | 1235 | 1221 | SD | 1152 | 1133 |
| | NOx (mg/NM ³) | 306 | 312 | 312 | 314 | SD | 286 | 281 |
| Nov-20 | SPM (mg/NM ³) | 88 | 88 | 93 | 93 | SD | 22 | 18 |
| | SO ₂ (mg/NM ³) | 1174 | 1158 | 1219 | 1227 | SD | 1184 | 1160 |
| | NOx (mg/NM ³) | 327 | 313 | 317 | 323 | SD | 286 | 275 |
| Dec-20 | SPM (mg/NM ³) | 89 | 90 | 91 | 93 | 92 | 21 | 24 |
| | SO ₂ (mg/NM ³) | 1202 | 1145 | 1204 | 1267 | 1231 | 1185 | 1213 |
| | NOx (mg/NM ³) | 307 | 334 | 320 | 322 | 323 | 287 | 284 |
| Jan-21 | SPM (mg/NM ³) | 90 | 90 | 95 | 95 | 89 | 29 | 20 |
| | SO ₂ (mg/NM ³) | 1128 | 1130 | 1208 | 1240 | 1230 | 1250 | 1270 |
| | NOx (mg/NM ³) | 326 | 324 | 346 | 344 | 327 | 295 | 299 |
| Feb-21 | SPM (mg/NM ³) | 96 | 94 | 95 | 98 | 92 | 29 | 28 |
| | SO ₂ (mg/NM ³) | 1128 | 1095 | 1253 | 1290 | 1272 | 1258 | 1251 |
| | NOx (mg/NM ³) | 308 | 352 | 339 | 326 | 333 | 302 | 295 |
| Mar-21 | SPM (mg/NM ³) | 95 | 95 | 96 | 98 | SD | 25 | 29 |
| | SO ₂ (mg/NM ³) | 1117 | 1192 | 1292 | 1273 | SD | 1268 | 1264 |
| | NOx (mg/NM ³) | 323 | 337 | 327 | 342 | SD | 305 | 316 |

| Limit as per MoEF notification dt. 07.12.2015 w.e.f. 07.12.2017 is as | | | |
|---|-------------|-----------------------|---|
| S.N. | PARAMETER | LIMITS for U # 3 to 7 | LIMITS for U # 8 & 9 |
| 1 | SPM(mg/Nm3) | 100 | 50 |
| 2 | SO2(mg/Nm3) | U#3&4=600, 7=200 | U#5- 200 |
| 3 | NOx(mg/Nm3) | 600 | 450 as per MoEF notification dated 19.10.2020 |
| 4 | Hg(mg/Nm3) | U#3&4=N/A, 7=0.03 | U#5- 0.03 |

| Maharashtra Pollution Control Board | | | | |
|---|-----------------------|--------------------|---------------------|---------------------|
| Site Name: Chandrapur Super Thermal Power | | | | |
| From Date: 2020/01/01 To Date: 2020/10/01 | | | | |
| Report Name: Custom Report | | | | |
| Report Created by CSTPS on 2021-10-19 16:59:53 | | | | |
| Sl No. | Time | Unit_8-PM_U | Unit_8-SOx_U | Unit_8-NOx_U |
| 1 | 2020-01-01 | 28.99 | 746.33 | 220.9 |
| 2 | 2020-02-01 | 28.24 | 846.17 | 204.23 |
| 3 | 2020-03-01 | 31.01 | 667.87 | 198.08 |
| 4 | 2020-04-01 | 24.3 | 834.45 | 183.35 |
| 5 | 2020-05-01 | 22.2 | 1007.55 | 227.57 |
| 6 | 2020-06-01 | 24.34 | 959.76 | 218.68 |
| 7 | 2020-07-01 | 30.16 | 895.98 | 209.53 |
| 8 | 2020-08-01 | 24.44 | 680.9 | 157.44 |
| 9 | 2020-09-01 | 28.97 | 1078.12 | 232.51 |
| 10 | 2020-10-01 | 24.85 | 1034.48 | 248.69 |
| 11 | Prescribed Standards | 0 - 50 | 0 - | 0 - 300 |
| 12 | Maximum Value | 31.01 | 1078.12 | 248.69 |
| 13 | Maximum Value At Time | 2020-03-01 | 2020-09-01 | 2020-10-01 |
| 14 | Minimum Value | 22.2 | 667.87 | 157.44 |
| 15 | Minimum Value At Time | 2020-05-01 | 2020-03-01 | 2020-08-01 |
| 16 | Geometric Mean | 26.75 | 875.16 | 210.1 |
| 17 | Median | 26.54 | 871.08 | 214.1 |
| 18 | Standard Deviation | 3.04 | 145.87 | 26.15 |
| 19 | Valid Data Points | 10 | 10 | 10 |
| 20 | Total Data Points | 10 | 10 | 10 |
| 21 | Data Availability % | 100 | 100 | 100 |

| Maharashtra Pollution Control Board | | | | |
|--|-----------------------|-------------|--------------|--------------|
| Site Name: Chandrapur Super Thermal Power | | | | |
| From Date: 2020/01/01 To Date: 2021/01/01 | | | | |
| Report Name: Custom Report | | | | |
| Report Created by CSTPS on 2021-10-19 16:41:08 | | | | |
| SI No. | Time | Unit_3-PM_U | Unit_3-SOx_U | Unit_3-NOx_U |
| 1 | 2020-01-01 | 80.87 | 1150.1 | 247.42 |
| 2 | 2020-02-01 | 37.49 | 476.57 | 121.21 |
| 3 | 2020-03-01 | 65.57 | 772.09 | 168.26 |
| 4 | 2020-04-01 | 12.77 | 118.43 | 42.03 |
| 5 | 2020-05-01 | 44.84 | 693.84 | 110.44 |
| 6 | 2020-06-01 | 73.04 | 1146.86 | 181.9 |
| 7 | 2020-07-01 | 59.61 | 551.98 | 149.54 |
| 8 | 2020-08-01 | 27.43 | 331.09 | 131.25 |
| 9 | 2020-09-01 | 74.4 | 1000.85 | 186.13 |
| 10 | 2020-10-01 | 81.68 | 378.37 | 133.24 |
| 11 | 2020-11-01 | 84.71 | 938.09 | 203.37 |
| 12 | 2020-12-01 | 87.24 | 934.25 | 301.08 |
| 13 | 2021-01-01 | NA | NA | NA |
| 14 | Prescribed Standards | 0 - 999 | 0 - | 0 - 600 |
| 15 | Maximum Value | 87.24 | 1150.1 | 301.08 |
| 16 | Maximum Value At Time | 2020-12-01 | 2020-01-01 | 2020-12-01 |
| 17 | Minimum Value | 12.77 | 118.43 | 42.03 |
| 18 | Minimum Value At Time | 2020-04-01 | 2020-04-01 | 2020-04-01 |
| 19 | Geometric Mean | 60.8 | 707.71 | 164.66 |
| 20 | Median | 69.31 | 732.96 | 158.9 |
| 21 | Standard Deviation | 24.66 | 338.24 | 67.37 |
| 22 | Valid Data Points | 12 | 12 | 12 |
| 23 | Total Data Points | 13 | 13 | 13 |
| 24 | Data Availability % | 92.31 | 92.31 | 92.31 |

[Back](#) / [View Custom Report](#)

Industry Name
 Chandrapur Super Thermal Power

Address
 Urjanagar-Chandrapur

District
 Chandrapur

State
 Maharashtra

Report Format
 Graph

City
 Chandrapur

Category
 R48 Thermal Power Plants

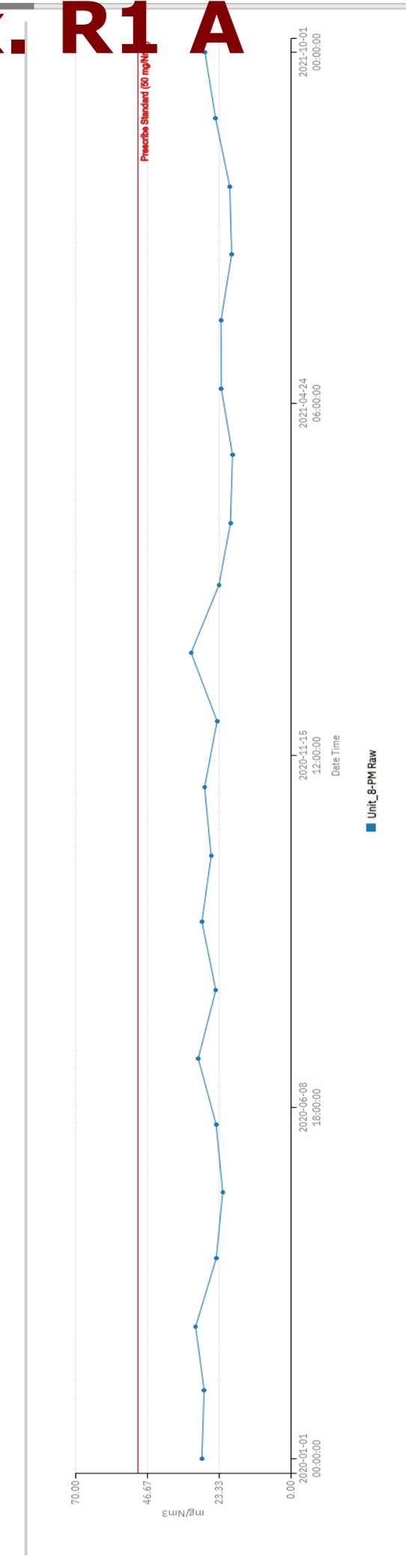
Criteria
 Monthly

Parameters
 Unit_8-PM,Unit_8-SOx,Unit_8-NOx

Date
 From 2020/01/01 00:00:00 To 2021/10/19 15:54:34

Ax. R1 A

[Print](#)





Industry Name
 Chandrapur Super Thermal Power

Address
 Urjanagar-Chandrapur

State
 Maharashtra

Report Format
 Graph

City
 Chandrapur

Category
 R48 Thermal Power Plants

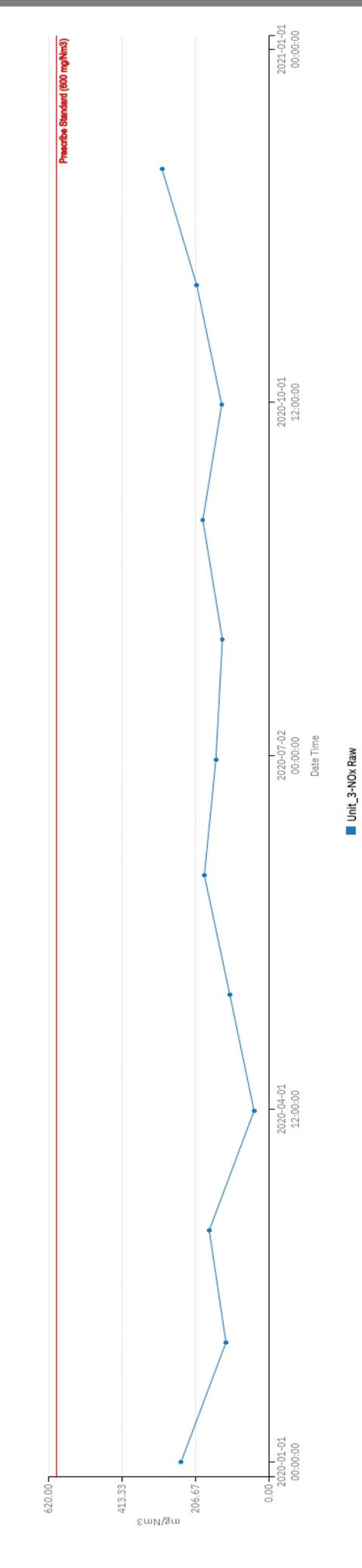
Criteria
 Monthly

Parameters
 Unit_9-PM,Unit_9-SOX,Unit_9-NOX

Date
 From 2020/01/01 00:00:00 To 2021/01/01 00:00:34

[Print](#)





Signature

Continuous Ambient Air Quality Monitoring station installed and levels of pollutants

| Parameter | Value | Limit | Range | Status |
|-------------------------------|---------------|---------------------------|------------------------|-----------------|
| CAAQMS.C - CO | 0.67 mg/m3 | 15 MinsAvg: 0.79 mg/m3 | Limit: 0 - 229 mg/m3 | Range: 0 - 1000 |
| CAAQMS.C - NO2 | 4.54 ug/m3 | 15 MinsAvg: 4.91 ug/m3 | Limit: 0 - 20000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.C - PM10 | 43.0 ug/m3 | 15 MinsAvg: 31.80 ug/m3 | Limit: 0 - 1000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.C - SO2 | 9.38 ug/m3 | 15 MinsAvg: 9.41 ug/m3 | Limit: 0 - 30000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.ETP4 - NO2 | 18.44 ug/m3 | 15 MinsAvg: 20.86 ug/m3 | Limit: 0 - 20000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.ETP4 - PM10 | 39.5 ug/m3 | 15 MinsAvg: 31.36 ug/m3 | Limit: 0 - 1000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.ETP4 - SO2 | 8.62 ug/m3 | 15 MinsAvg: 9.22 ug/m3 | Limit: 0 - 30000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.MS - CO | NA mg/m3 | 15 MinsAvg: NA mg/m3 | Limit: 0 - 229 mg/m3 | Range: 0 - 1000 |
| CAAQMS.MS - NO2 | 23.54 ug/m3 | 15 MinsAvg: 18.03 ug/m3 | Limit: 0 - 20000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.MS - PM2.5 | 19.98 ug/m3 | 15 MinsAvg: 18.43 ug/m3 | Limit: 0 - 10000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.MS - PM10 | 44.4 ug/m3 | 15 MinsAvg: 40.96 ug/m3 | Limit: 0 - 1000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.MS - Relative humidity | 50.18 Percent | 15 MinsAvg: 68.32 Percent | Limit: 0 - 100 Percent | Range: 0 - 1000 |
| CAAQMS.MS - Wind_Speed | 0.51 m/s | 15 MinsAvg: 0.61 m/s | Limit: 0 - m/s | Range: 0 - 1000 |
| CAAQMS.MS - Wind_Direction | 49.03 Degree | 15 MinsAvg: 61.09 Degree | Limit: 0 - 360 Degree | Range: 0 - 1000 |
| CAAQMS.Solar - NO2 | 22.61 ug/m3 | 15 MinsAvg: 20.58 ug/m3 | Limit: 0 - 20000 ug/m3 | Range: 0 - 1000 |
| CAAQMS.Solar - PM10 | 43.5 ug/m3 | 15 MinsAvg: 31.74 ug/m3 | Limit: 0 - 1000 ug/m3 | Range: 0 - 1000 |

T.C.
[Signature]

Industry Name
Chandrapur Super Thermal Power

District
Chandrapur

Parameters
CAAQMS_C-CO,CAAQMS_C-SO2,CAAQMS_C-NO2,CAAQMS_C-PM10

Date
From 2021/10/01 00:00:00 To 2021/10/20 15:36:29

Address
Urjanagar-Chandrapur

State
Maharashtra

Report Format
Graph

City
Chandrapur

Category
R48 Thermal Power Plants

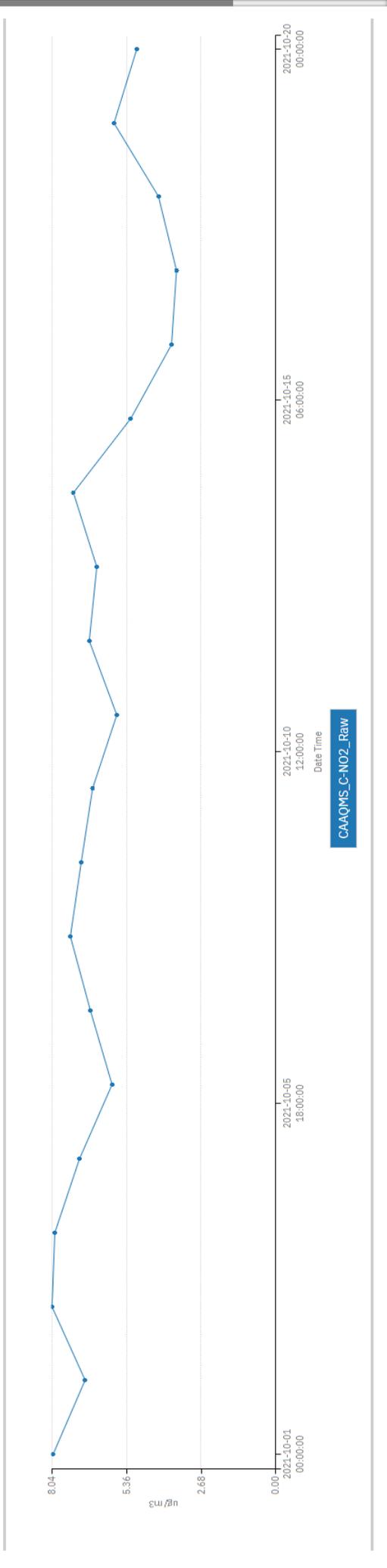
Criteria
daily



Graphical view



EnviroConnect - Ascent Intellima x MPCB
onlinecems.ecmpcb.in/#/landing/industryReports/dynamicReportIndustry
CSTPS Generation EnviroConnect - As... MPCB Logbook | Maharas... MPCB Web Portal CPCB | Registration Outlook CSTPS : Internal Site Log In - MAHAGEN... iLovePDF | Online P... Online Marathi Con... central pollution co...
Dashboard ▾ Live Status ▾ Regulator Reports ▾ Industry Reports ▾ Calibration ▾ Work Flow
378 CSTPS



report_202110201.....xlsx
Type here to search
Show all
15:42 20-10-2021
33°C Sunny ENG

EnviroConnect - Ascent Intellima x MPCB

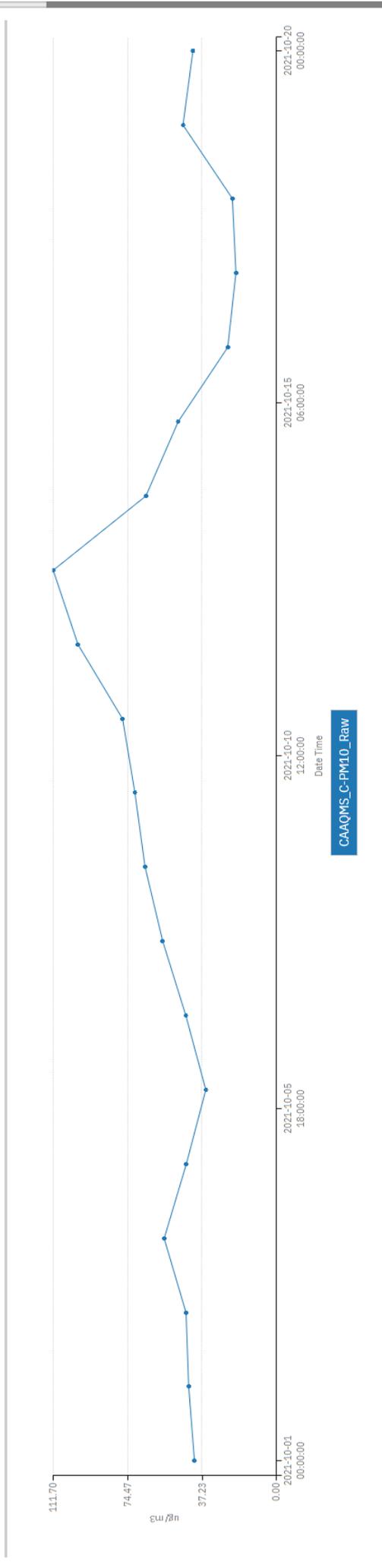
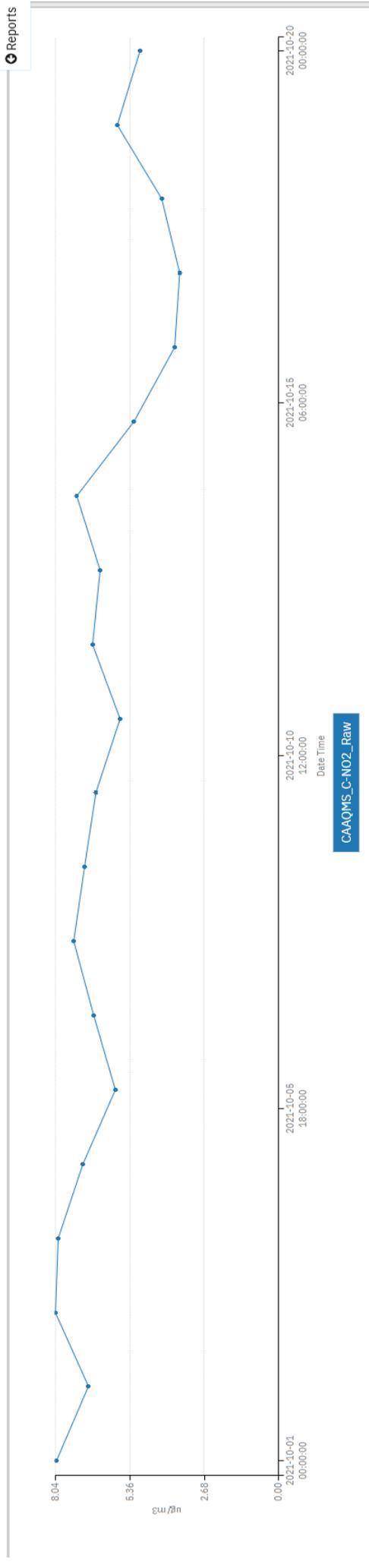
onlinecems.ecmpcb.in/#/landing/industryReports/dynamicReportIndustry

Apps CSTPS Generation EnviroConnect - As... MPCB Logbook | Maharas... MPCB Web Portal CPCB | Registration Outlook CSTPS : Internal Site Log In - MAHAGEN... iLovePDF | Online P... Online Marathi Con... central pollution co... Reading list

Dashboard ▾ Live Status ▾ Regulator Reports ▾ Industry Reports ▾ Calibration ▾ Work Flow

276 CSTPS

Reports



report_202110201...xlsx

Show all

1543

33°C Sunny

20-10-2021

T.C.

Signature

Percentage of Sulphur in Coal and the resultant Sulphur dioxide levels in Stack Emissions

| Sulphur % in Coal | SO2 Emission |
|----------------------|-----------------|
| 0.1 | 280 |
| 0.2 | 560 |
| 0.3 | 840 |
| 0.4 | 1120 |

*(Emission (mg/Nm³)= (emission
rate (kg/hr)*10⁶) / TSVD (Nm³/hr)

CEA has published a review paper on "Plant Location Specific Emission Standards"

A

Paper

on

**Plant Location Specific
Emission Standards**

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1. Introduction

Hon'ble Minister of State (IC) Power & NRE chaired a meeting on 21.01.2020 to review the progress of installation of FGDs in Thermal Power Plants at Shram Shakti Bhawan, New Delhi. The para 4.5 of the above MOM is reproduced as below:

“It was noted that periodicity of pollutants monitoring was not specified by MoEF&CC and there is a need to have different emissions norms for different ambient conditions. CEA shall submit a paper to suggest periodicity of pollutants monitoring as well as plant location specific emission standards with suitable basis to be taken up with MOEF&CC. MOP shall take up the matter with MOEF&CC”

As per the minutes of meeting, CEA is required to submit a paper suggesting the plant location specific emission standards with suitable basis to MOP for further taking up with MoEF&CC.

So far thermal power plants were required to meet the particulate emission norms only and there was no regulation for SO₂, NO_x and Mercury emissions. Standards were specified only for the chimney height to ensure the flue gas pollutants were dispersed. On December 7, 2015, the Ministry of Environment, Forest and Climate Change (MoEF & CC) introduced stricter environmental standards for coal-based TPPs (Table-1) under the Environment (Protection) Act, 1986.

Table 1 New Environmental Norms, December 2015

| Date of Installation | PM | SO ₂ | NO _x | Mercury (Hg) |
|----------------------------------|-----------------------|--|------------------------|---------------------------------------|
| Before December 2003 | 100mg/Nm ³ | 600mg/Nm ³ < 500MW 200mg/Nm ³ ≥ 500MW | 600 mg/Nm ³ | 0.03 mg/Nm ³ for ≥500MW |
| January 2004 to December 2016 | 50mg/Nm ³ | 600mg/Nm ³ < 500MW 200mg/Nm ³ ≥ 500MW | 300 mg/Nm ³ | 0.03 mg/Nm ³ |
| January 2017 onwards | 30mg/Nm ³ | 100 mg/Nm ³ | 100 mg/Nm ³ | 0.03 mg/Nm ³ |

2. Ambient Air Quality (AAQ) Data

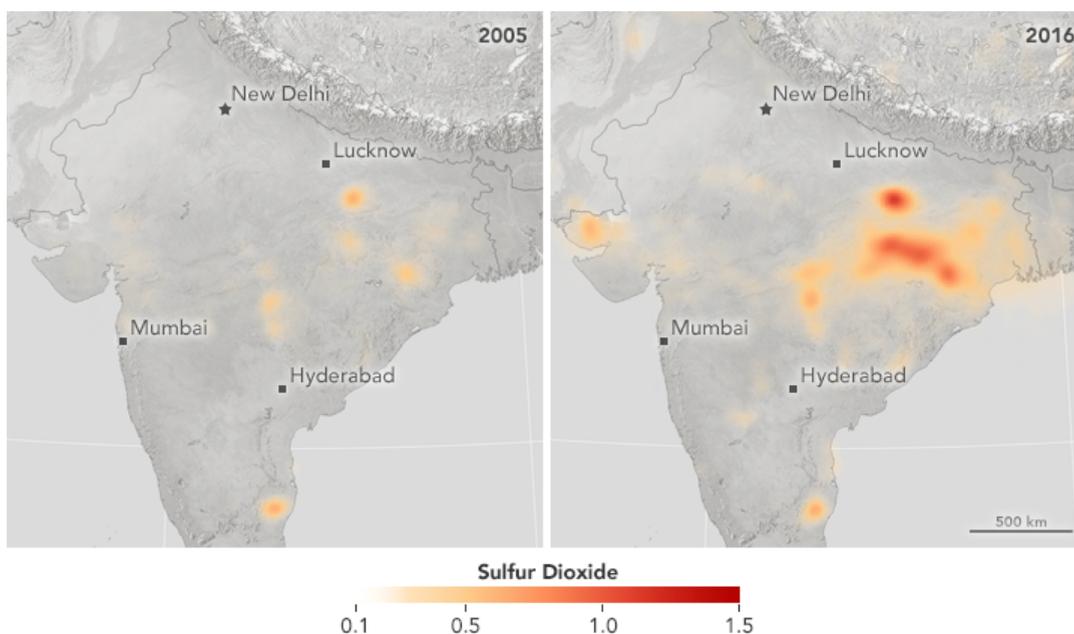
The latest ambient air quality (SO₂, NO₂, PM₁₀, PM_{2.5}) data monitored for the 745 stations located across the breadth of country has been published for the year 2018 by CPCB. It is seen from the ambient air quality data that the concentration level of PM is on the higher side in comparison to the SO₂/NO_x emission levels (Annexure I). The data is available for 24 hr. average (min./max.) and annual average for the above mentioned sub-indices. Even if, only 24 hr. average (max.) data is analysed, it can be seen that the SO₂ ground based levels across the country are mostly within a range of 0-40µg/m³ which is good as per the MoEF&CC standards (Annexure I). However, the major cause of concern is the PM₁₀, PM_{2.5} levels which are relatively very high. This suggests that high particulate matter (PM_{2.5}/PM₁₀) levels is a country wide phenomenon and the particulate matter contribution by the thermal power plants have to be controlled to the new emission standards (Dec 2015).

However, power plants located in an area, where quality of air is very good in terms of SO₂, can be exempted from installation of additional equipment to control SO₂ emission from stack. A large number of thermal power stations are located in remote locations away from towns with little habitations around. Thermal power plants located in remote locations, ambient air quality (AQI) can be made as the guiding factor for formulating emission control. This may avoid installation of additional emission control equipment without compromising the air quality. There should be a baseline air pollution level for SO₂/NO_x/PM_{2.5}/PM₁₀ which is maintained across the country. It will ensure the baseline air quality everywhere and norms will be relatively stringent in areas where air quality is critically poor and relatively relaxed where air quality is not so critical.

Thus the SO₂ norms, which is required to be implemented for critically polluted area, may not be applicable for area where quality of air is good. Implementation of same norm across the country will not ensure uniform air quality as the prevailing air quality is supposedly diverse in different geographical areas.

The satellite imagery (Fig 1) gives a bird's eye view of the regions (2016) where high concentration of SO₂ is occurring in the atmosphere. It broadly isolates the problem region which need immediate rectification. The locations can be identified as small

Figure 1 Satellite imagery of SO₂ Emissions observed over India (courtesy



NASA)

clusters in the states of Odisha, Jharkhand, Chhattisgarh, Maharashtra, Tamil Nadu and Gujarat. As the satellite image shows the concentration of SO₂ at certain height, the measurement of ground level SO₂ in the same area can play an important role.

In an attempt to explore such a feasibility, the 24hr avg.(max) SO₂ ground based measured levels (CPCB, 2018 data) were categorized into 5 distinct levels:

- i. Level I: >40 µg/m³,
- ii. Level II: 31-40 µg/m³,
- iii. Level III: 21-30 µg/m³,
- iv. Level IV: 11-20 µg/m³ and,
- v. Level V: 0-10µg/m³.

It can be seen that the gradation levels adopted as above are more or less correlating with the satellite image data (refer Annexure I, level). The gradation would be

helpful in prioritizing the installation of emission control equipment in a phased manner.

To achieve tangible results, the SO₂ emission control equipment in the thermal power plants located in **level I** regions should have to be installed on priority basis. The regions as identified under **level II** can be covered subsequently under the next phases. Presently no action is required for the plant located in region under **level III/IV/V** as the SO₂ present in ambient air of this area is very less and as per CPCB the quality of air is good in regards to SO₂ as shown in the table below:

Table 2 Various SO₂ limit values as per Air Quality Index (AQI), MOEFF&CC

| Concentration Range (µg/m ³) | Good | Satisfactory | Moderately polluted | Poor | Very poor | Severe |
|--|------|--------------|---------------------|---------|-----------|--------|
| SO ₂ | 0-40 | 41-80 | 81-380 | 381-800 | 801-1600 | 1600+ |

MoEF&CC has adopted air quality standards for the country (NAAQS) and also defined the index (AQI) for categorizing the ambient air quality (“good” to “severe”) based on the SO₂ concentration levels. The real time data from the extensive grid of ambient air quality monitoring stations located across the country and elsewhere (thermal power plants) can be indicative of the dispersion taking place over geographical areas and in different weather conditions which can be utilized for the future course correction. The reliability and availability of data from these monitoring stations is of prime importance, on the basis of which, important decision can be taken.

3. Thermal Power Plant Emissions

The thermal power plant emissions have both local and global impact. Global impact is mostly due to the production of greenhouse gases CO₂ and locally it contributes large quantity of bottom ash, fly ash (PM) and some emissions of SO₂/NO_x. The greenhouse gas emission levels are being taken care of by reducing the emission intensity of GDP 30% to 35% by year 2030 from the 2015 levels. This is planned to achieve by having 40% of the installed capacity from non-fossil fuel based plants in year 2030.

The present stack height of thermal power plant is designed to take care of the dispersion of SO₂/NO_x emissions from thermal power plants and its impact can be seen from the ambient air quality data of various thermal power plants. The ambient air quality measurements are ground based.

For ascertaining dispersion of emissions from the stack, the satellite imagery and the modelling studies are useful tools. The satellite imagery (Figure 1) indicates the changes in the vertical column density levels of atmospheric SO₂ in a decade from year 2005 to 2016. It shows that the SO₂ hot spots (2016) are concentrated in small clusters in the states of Odisha, Jharkhand, Chhattisgarh, Maharashtra, Tamil Nadu and Gujarat having large installed capacities of thermal power plant, which would need to be effectively taken care off on priority basis. The long-range transport of thermal plant emissions (SO₂/NO_x/PM) from the stacks, atmospheric drift/dispersion, and their period life shall have to be analyzed exhaustively to find their cumulative influence on the surrounding areas, which shall in turn identify the location specific thermal plants which need immediate attention. Therefore, the response to different regions for the effective control of emissions can be different.

In one of the air quality dispersion modelling study conducted recently by **IIT Kanpur** for the impact of Talwandi Sabo thermal power plant (District Mansa, Punjab) emissions to the ambient air quality has shown that SO₂ levels of about

45.9 $\mu\text{g}/\text{m}^3$ at the plant drop significantly to 1 $\mu\text{g}/\text{m}^3$ at a distance of 40 km (Copy enclosed). Thus, beyond 40 km the impact of SO_2 becomes insignificant. Similar trend is seen in the case of NO_x .

In June 2020, TPRM division, CEA had sent the request to all the thermal generating companies to furnish online ambient air quality data (PM/ SO_2 / NO_x) at least for one year collected from the AAQ monitoring stations located in their respective plants. Since then, the generating companies/stations which have responded are as mentioned in Annexure II. The data was analyzed for an installed capacity of 35,708 MW and has been tabulated as below.

Accordingly, thermal power plants are categorized in the table-3 considering the maximum value of SO_2 in the vicinity of thermal power plant and similarly in table-4 considering average value of SO_2 in the vicinity of power plant.

Table 3 SO_2 Levels (max.) in the vicinity of Thermal Power Plants

| SO_2 Level ($\mu\text{g}/\text{m}^3$) | 0-10 | 11-15 | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | >40 |
|--|---------------|---------------|--------------|--------------|---------------|-------|--------------|---------------|
| Thermal Capacity, MW (% of total) | 6,900 (19.3%) | 6,700 (18.8%) | 2,980 (8.3%) | 2,220 (6.2%) | 8,250 (23.1%) | - | 1,598 (4.5%) | 7,060 (19.8%) |

Table 4 SO_2 Levels (avg.) in the vicinity of Thermal Power Plants

| SO_2 Level ($\mu\text{g}/\text{m}^3$) | 0-10 | 11-15 | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | >40 |
|--|----------------|---------------|---------------|------------|-------|--------------|--------------|--------------|
| Thermal Capacity, MW (% of total) | 11,020 (30.9%) | 9,030 (25.3%) | 8,860 (25.8%) | 290 (0.8%) | - | 2,520 (7.1%) | 2,528 (7.1%) | 1,460 (4.1%) |

Thus, it may be stated that the immediate action has to be taken for thermal capacity of 7060 MW and next phase for 1598 MW as per Table-3. But as per Table-4 these thermal capacities are 1460 MW and 5048 MW for immediate action and next phase respectively.

4. Approach according to AAQ

The installation of the emission control equipment in large fleet of thermal plants should be carried in graded manner, starting with those located near most affected cities/areas where ambient SO₂ level is more than 40µg/m³ (level -I) and in next phase may be after 1 year of commissioning of 1st phase (observing the effectiveness of the control equipment), in plants located in areas where ambient SO₂ level is more than 30µg/m³ (level-II). Presently thermal plants located in the area where ambient SO₂ level is less than 30µg/m³ (level-III, VI & V) need not to take any corrective measures. The list of power plant according to their location (level of SO₂ in ambient air) is given at Annexure II. The ambient air quality is divided into five regions according to the presence of SO₂ level and the capacity of thermal power plants under various level (on the basis of received data only) has been identified (Table 5).

Table 5 Thermal Capacity based on Ambient Air Quality SO₂ Levels

| Region | Ambient Air SO ₂ Concentration Levels | Total Capacity (MW) |
|--------|--|---------------------|
| 1 | Level-I (>40µg/m ³) | 1,460 |
| 2 | Level-II (>30µg/m ³ & ≤40µg/m ³) | 5,048 |
| 3 | Level-III (>20µg/m ³ & ≤30µg/m ³) | 290 |
| 4 | Level-IV (>10µg/m ³ & ≤20µg/m ³) | 17,890 |
| 5 | Level-V (>0µg/m ³ & ≤10µg/m ³) | 11,020 |

The phasing will help in understanding the impact of these control equipment on their effectiveness and give a time for future course correction. There are different technologies available to control the flue gas emissions and their suitability needs to be ascertained in the Indian conditions. Installing the pollution control equipment in one go in all the thermal power stations may not be the best option to adopt. The

implementation of emission control measures in all power plants simultaneously will inevitably lead to the following which is not in the interest of the country;

- i) Lack of time for developing indigenous manufacturing facility,
- ii) Resorting to import of equipment thus creating market for mainly foreign companies,
- iii) Huge investment of over one lakh crore required. Majority of which will lead to the foreign exchange drain for outsourcing of new technology, skilled manpower and equipment as there is lack of time to develop the facility indigenously.

5. International Emission Norms

The new standards delimited SO₂, NO_x, and Mercury (Hg) emissions for the first time and the existing limits on PM emissions were made stringent (Table 1). MoEF&CC has set a deadline to comply with the new standards by the end of 2019 for national capital region, 2021 for critical areas and 2022 for all other thermal units.

Table 6 Emission limit values for Coal fired power plants, China

| Pollutants | Location | Emission Limits, mg/m ³ |
|-----------------|------------|------------------------------------|
| PM | All areas | 30 |
| | Key Region | 20 |
| SO ₂ | New | 100/200 |
| | Existing | 200/400 |
| | Key Region | 50 |
| NO _x | All areas | 100/200 |
| | Key Region | 100 |

China began to install desulfurization equipment's from 1996 and in two decades' time by 2015 its 83% of the total thermal capacity was equipped with emission control equipment's. Emission norms are location specific in some of the countries (China, Australia) which have substantial coal fired power generation. Key areas in China which includes Beijing City, Tianjin City, Hebei Province, Wuhan City and many more areas have stricter emission standards over the baseline emission levels as shown in the table. Similarly, in Australia, the emission levels for coal fired power plants varies from region to region is shown in the table below.

Table 7 Region wise Emission standards of Australia

| Region | PM | | SO ₂ | | NO _x | |
|-------------------------------|------------------------------------|-----------------------|------------------------------------|------------------------------------|--|------------------------------------|
| | Existing | New | Existing | New | Existing | New |
| Australia _{NHMRC} | 80 mg/m ³ | | 200 mg/m ³ | | 800 ¹ mg/m ³ | |
| Australia _{SOUTH} | 250 ² mg/m ³ | | 100 ³ mg/m ³ | | 700 ⁴ mg/m ³ | |
| Australia _{TASMANIA} | 100 mg/m ³ | | 100 ³ mg/m ³ | | 500 ⁵ mg/m ³ 800 ⁶ mg/m ³ | |
| Australia _{VICTORIA} | 500 mg/m ³ | 250 mg/m ³ | 200 ⁷ mg/m ³ | 200 ⁷ mg/m ³ | 1000 ⁸ mg/m ³ | 700 ⁴ mg/m ³ |

1 Power Generating Boilers >30MW

2 Plant Size >100MJ/h

3 Sulphuric acid mist and SO₂

4 Plant Size >250MWe

5 Plant Size <30MWe

6 Plant Size >30MWe

7 SO_x as SO₃

8 Plant Size >150,000MJ/h

Courtesy: Xing Zhang, Emission Standards and Control of PM_{2.5} from Coal-fired Power Plant, July 2016, IEA Clean Coal Centre UK

Based on actual ground measurements and detailed dispersion studies coal-fired power plants which are found to affect the ambient air quality of cities, towns and areas where cluster of thermal plants is located should be subjected to the stringent emission standards, similar in line to those adopted in the other countries.

6. Recommendations

There are two ways to go forward to mitigate the challenges faced by the thermal power sector by the new emission norms and both (as mentioned below) can be adopted for improving the situation.

- i. Our target should be to maintain uniform ambient air quality across the country and not the uniform emission norms for thermal power plants. By implementing uniform emission norms of TPS which may in turn result in different air quality at different location. Same norms for thermal power plants located in critically polluted area and other area where air quality is already good doesn't look to be proper as additional costs are involved. Instead we should aim to maintain same air (good) quality throughout the country and accordingly it is proposed to implement FGD for the thermal power plants region-wise as given in the table below.

Table 8 Phasing of FGD Installation based on Ambient Air Quality SO₂ Levels

| Region | Ambient Air SO ₂ Levels | Remarks |
|--------|--|---|
| 1 | Level-I ($>40\mu\text{g}/\text{m}^3$) | FGD shall be installed immediately |
| 2 | Level-II ($>30\mu\text{g}/\text{m}^3$ & $\leq 40\mu\text{g}/\text{m}^3$) | FGD shall be installed in 2 nd phase |
| 3 | Level-III ($>20\mu\text{g}/\text{m}^3$ & $\leq 30\mu\text{g}/\text{m}^3$) | FGD is not required at present |
| 4 | Level-IV ($>10\mu\text{g}/\text{m}^3$ & $\leq 20\mu\text{g}/\text{m}^3$) | FGD is not required at present |
| 5 | Level-V ($>0\mu\text{g}/\text{m}^3$ & $\leq 10\mu\text{g}/\text{m}^3$) | FGD is not required at present |

- a) In areas where the development is high, the atmospheric air quality is poor and is prone to serious atmospheric pollution problems, strict control of emissions shall be required in such key areas for TPS as categorised under Region 1.
 - b) In next phase may be after one year commissioning of 1st phase units, observing the effectiveness of installed equipment, to be implemented in the power plant which are located under Region 2
 - c) Presently no action is required for power plant those are situated under Region 3,4 & 5.
- ii. There should be graded action plan for adopting new emission norms for TPS as proposed above rather than adopting a single deadline for large base of power plants across the country. An unworkable time schedule will create market scarcity leading to import, jacked up prices unnecessary burden on power utilities. Graded action plan will help in utilizing the resources in effective manner and it will help in fine tuning the technology for local conditions. If the process of emission control is completed in 10-15 years' time frame, and consider thermal power plants located in critically polluted areas in first phase, it will help in developing indigenous manufacturing base, skilled manpower in the country which shall take care of the local operating conditions.

AMBIENT AIR QUALITY MONITORING DATA FOR THE YEAR 2018

| State / UT | City / Town / Village | Location | Maximum (24-hourly average) | | | | Level |
|------------------|---|---|--------------------------------------|--------------------------------------|---------------------------------------|--|-------|
| | | | SO ₂ µg/m ³ | NO ₂ µg/m ³ | PM ₁₀ µg/m ³ | PM _{2.5} µg/m ³ | |
| Andhra Pradesh | Anantapur | Kamala Nagar | 11 | 54 | 179 | 102 | IV |
| | | APIIC, Zonal office, Industrial Estate | 9 | 28 | 129 | | V |
| | | Cancer Unit. G.G.Hsharada Nagar, JNTU Road | 6 | 22 | 104 | | V |
| | | D.No.6/5/545, Ram Nagar Colony | 13 | 31 | 145 | | IV |
| | Chittoor | GNC Toll Gate Tirumala | 22 | 92 | 157 | 77 | III |
| | | Near Nutrine Confectionery, Palamaner Road | 12 | 69 | 200 | 62 | IV |
| | | Mining Office, Greampet | 6 | 20 | 165 | | V |
| | | Sankar Foundary | 7 | 29 | 92 | | V |
| | Eluru | Ashram Diagnostic Centre | 6 | 27 | 85 | | V |
| | | District Headquarters hospital | 6 | 30 | 76 | | V |
| | | M/s Laxmi Propylene Ltd., Plot.No. 25, Industrial Park, Satrampadu | 6 | 30 | 76 | | V |
| | | Somalingeswara nilayam D.N.7B-18-5, Thooru Veedhi, Eastern street, Paidichintaadu | 6 | 30 | 71 | | V |
| | Guntur | Near Hindu College, Market Road | 7 | 28 | 147 | | V |
| | | A.P. Pollution Control Board, D.No.4-5-4/5C,4/3, Navabharath nagar, Ring Road | 14 | 29 | 125 | | IV |
| | | Distirct Industries Center office Buiding Autonagar | 7 | 29 | 81 | | V |
| | | Government General hospital | 7 | 29 | 125 | | V |
| | Kadapa | Near ICL Industries, Yerragunta, YSR | 8 | 28 | 103 | 43 | V |
| | | Devi Diabetes & Hormone Centre, 7 Roads | 12 | 32 | 136 | | IV |
| | | DIC Office,Kadapa | 7 | 34 | 123 | | V |
| | | RIMS | 7 | 19 | 78 | | V |
| | Kakinada | Municipal Primary School | 6 | 33 | 128 | | V |
| | | Office Building Ramanayyapeta | 15 | 52 | 179 | 110 | IV |
| | | Gram Panchayathi building, Surya rao peta | 14 | 33 | 149 | | IV |
| | | MEE/MEPMA building, Salipeta | 16 | 32 | 195 | | IV |
| | Kurnool | Petrochemical Eng. Of JNTU Campus | 12 | 25 | 160 | | IV |
| | | Mourya Inn, Krishna Nagar | 9 | 22 | 129 | 65 | V |
| | | APIIC Building Industrial estate, Kallur at IDA Bobbili Growth Center | 9 | 27 | 129 | | V |
| | | Rajvihar Circle | 10 | 46 | 120 | | V |
| | Nellore | Pump House, Venkataramana Colony | 8 | 23 | 91 | | V |
| | | Venkatareddy Nagar, Vedayapalem | 6 | 40 | 88 | 38 | V |
| | | D. No.15-471, James Garden, Venkata Ramapuram, Nellore, SPSR Nellore District | 6 | 27 | 96 | | V |
| | | Chandramouli nagar | 6 | 26 | 79 | | V |
| | Ongole | Dr.P.V. Rama chandra Reddy Hospital, Brindavnam | 6 | 28 | 68 | | V |
| | | Near Court Center | 6 | 27 | 101 | | V |
| | | APIIC , Administrative Office, IGS | 6 | 25 | 71 | | V |
| | | Ongole Municipal Corporation | 7 | 29 | 91 | | V |
| | Rajahmundry/ Rajamahendravaram | Prakasam Milk Produce Compay | 8 | 26 | 73 | | V |
| | | Staff Clud Building, A.P. Paper Mill | 13 | 28 | 168 | 107 | IV |
| | | GAIL Administrative Office, A.V. Apparao Road | 12 | 26 | 175 | | IV |
| | | MCH Block ,District Hospital, Near Central Prison, Lalacheruvu Road | 10 | 24 | 149 | | V |
| | Srikakulam | SAMKRG Pistons Quarters Bulding, Near IDA, Pydibhimavaram | 16 | 30 | 344 | | IV |
| | | District coooperative office at SKLM Old Bridge | 14 | 28 | 218 | | IV |
| | | Kushalapuram | 12 | 25 | 93 | | IV |
| | | Muncipal corporation Office, Old Bustand | 15 | 36 | 249 | | IV |
| | Tirupati | Regional Science Centre, Chittoor Bypass | 7 | 40 | 146 | 14 | V |
| | | Municipal Office | 6 | 38 | 104 | | V |
| | | APPCB-Regional Office | 5 | 20 | 109 | | V |
| S.V. Guest house | | 6 | 29 | 93 | | V | |
| Vijaywada | NTR Veterinary college of sciences, Gannavaram | 5 | 21 | 86 | | V | |
| | VR Siddhartha Engineering college , Kanuru | 5 | 21 | 59 | | V | |
| | APIIC,IALA, IDA, Kondaplli | 5 | 22 | 84 | | V | |
| | Benz Circle | 6 | 66 | 105 | 48 | V | |
| Vishakhapatnam | Autonagar | 6 | 28 | 108 | 52 | V | |
| | Police Control Room | 6 | 29 | 107 | 50 | V | |
| | A.P. Pollution Control Board, plot no. 41, Sri Kanakadurga Officers colony, Gurunank Road | 6 | 27 | 105 | | V | |
| | Gram Panchayat Office, Yenamalakuduru | 7 | 29 | 106 | | V | |
| | Indian Medical Association Hall,Eluru Road, Governorpet | 7 | 31 | 109 | | V | |
| | Industrial Estate, Marrisapalem | 19 | 41 | 160 | 77 | IV | |

| | | | | | | | |
|---------------------------------|---------------------------------|--|----|-----|------|-----|-----|
| | | Panchayat Raj office, Mindi | 25 | 39 | 236 | 161 | III |
| | | Police Barracks | 20 | 73 | 230 | 159 | IV |
| | | INS-Virabahu, Naval Area | 15 | 39 | 210 | 71 | IV |
| | | Seethammadhara | 24 | 43 | 222 | 151 | III |
| | | Ganapuram Area | 29 | 43 | 299 | 201 | III |
| | | Pedagantyada (V), Gajuwada (M) | 22 | 33 | 181 | 122 | III |
| | | CWMP, RAMKY, Parawada | 23 | 33 | 145 | 93 | III |
| | | MVP Raitu Bajar | 19 | 35 | 214 | | IV |
| | Vizianagaram | APIIC Building at IDA Bobbili Growth Center | 16 | 33 | 95 | | IV |
| | | APIIC Building, VT Agraharam, Industrial area | 17 | 36 | 85 | | IV |
| | | Municipal Kaspa High School | 13 | 28 | 150 | | IV |
| Arunachal Pradesh | Itnagar | PCCF's Office Compound | 13 | 18 | 287 | | IV |
| Assam | Naharlagun | APSPCB Office compound | 9 | 7 | 211 | | V |
| | Bongaigaon | Oil India Ltd. PS-6, Chirang | 29 | 43 | 184 | | III |
| | | Barpara Office Building | 26 | 39 | 150 | | III |
| | Daranga | BATAD, Sandooop Jhankar town of Bhutan, Baska | 12 | 21 | 183 | | IV |
| | Dibrugarh | Dibrugarh Office Building | 10 | 19 | 171 | | V |
| | Golaghat | Golaghat Office Building | 9 | 19 | 136 | | V |
| | Guwahati | Head Office, Bamunimaidam | 23 | 34 | 250 | 197 | III |
| | | Boragaon, IASST, Kamrup | 16 | 25 | 252 | | IV |
| | | Guwahati University, Kamrup | 16 | 30 | 188 | | IV |
| | | ITI Building, Gopinath Nagar | 16 | 27 | 324 | | IV |
| | | Khanapara, Central Dairy, Kamrup | 20 | 28 | 222 | 98 | IV |
| | | Near Pragiyotish College, Santipur | 17 | 27 | 305 | | IV |
| | Margherita | Coal India Office | 9 | 18 | 109 | | V |
| | Nagaon | Water Resources Div., Christian Patty, Nagaon College | 16 | 24 | 222 | | IV |
| | Nalbari | PWD Rural Div Office Complex, near Gordon Boy's GS School | 15 | 29 | 180 | | IV |
| | North | Bazar Patti, North Lakhimpur Town | 16 | 27 | 163 | | IV |
| | Silchar | Govt. Boys HS School, Janiganj | 8 | 14 | 60 | | V |
| | | RLO, Ithkola Market, Ghaniwala Road | 9 | 12 | 60 | | V |
| | Sivasagar | Sibasagar Office Building | 9 | 19 | 133 | | V |
| | | Usha Lodge, near ONGCL Colony | 11 | 26 | 183 | | IV |
| | Tezpur | Tezpur Office Building | 13 | 24 | 198 | | IV |
| | Tinsukia | Digboi Carbon factory Campus, Borguri | 9 | 21 | 144 | | V |
| | | Shreepuria, Borguri | 10 | 22 | 120 | | V |
| | | Shivdham | 9 | 18 | 147 | | V |
| Bihar | Begusarai | Begusarai | 16 | 28 | 187 | 141 | IV |
| | Darbhanga | Smt Baby Kumari, Ashok Hotel, Kadirabad Chowk | 27 | 41 | 437 | | III |
| | Gaya | Godam Road, Raja Market | 16 | 28 | 261 | | IV |
| | Muzaffarpur | BSPCB Regional Office, Bela Industrial Area, Bela | 22 | 49 | 423 | 239 | III |
| | Patna | Beltron Bhawan, Shastri Nagar | 13 | 74 | 426 | | IV |
| | | Gandhi Maidan, Auto Exhaust Test Centre | 36 | 124 | 564 | | II |
| | Rajgir | Sujkund, Near Samuraji hotel | 16 | 29 | 173 | | IV |
| | Sasaram | Takia, Ward no.2, Rhotas | 16 | 30 | 215 | | IV |
| Chandigarh | Chandigarh | Modern Foods, Industrial Area | 2 | 44 | 341 | 240 | V |
| | | Sector-17 C | 2 | 48 | 292 | 190 | V |
| | | Punjab Engineering College, Sector- 12 | 2 | 41 | 399 | 275 | V |
| | | Sector-39, IMTECH | 2 | 52 | 570 | 182 | V |
| | | Kaimbwala Village | 2 | 33 | 263 | 178 | V |
| Chattisgarh | Bilaspur | Regional Office, CECB Vyapar Vihar | 9 | 19 | 72 | 38 | V |
| | Durg- Bhillainagar | Visak Hostel, Sector-4 | 11 | 21 | 95 | | IV |
| | | R.O., 5/32 Banglow Office Building | 6 | 15 | 77 | | V |
| | | M.P. Laghu Udyog Nigam | 27 | 26 | 106 | | III |
| | | CSIDC Industrial Growth Center, Borai | 12 | 25 | 100 | | IV |
| | Korba | HIG 21,22.Near Ghantaghar, MP Extension | 13 | 22 | 87 | 28 | IV |
| | | Pragati Nagar NTPC Colony, Jarnipali | 24 | 32 | 115 | 22 | III |
| | Raigarh | Regional Office, ECB, Raigarh | | | 77 | 35 | V |
| | | Jindal Industrial Area, Punjipathra, Raigarh | | | 95 | 56 | V |
| | Raipur | New HIG-9, Hirapur/Housing Board Complex Kabir Nagar | 17 | 26 | 91 | | IV |
| | | M/S Wool Worth India Pvt. Ltd. Sarora | 24 | 41 | 99 | | III |
| Dadra & Nagar Haveli | Baldevi (Dadra & Nagar Haveli)* | Baldevi Village, Athola, Dandul Faliya, Teh:Dadra & Nagar Haveli | 24 | 52 | 130 | 46 | III |
| | Silvassa | Khadoli Industrial Area, Khadoli | 45 | 51 | 178 | 59 | I |
| | | Chetan Guest House, Near Post Office, Piperia, silvassa Char Rasta | 45 | 43 | 171 | 59 | I |
| Daman & Diu | Daman | Prima Plastic, Kadaiya Industrial Area, Kadaiya | 40 | 45 | 157 | 59 | II |
| | | Mashal Chawk, Nani Daman | 41 | 42 | 158 | 57 | I |
| | Patlala (Daman)* | Makat Faliya/ Ambavadi, Patlala Village, Moti Daman Teh:Daman | 34 | 29 | 140 | 45 | II |
| Delhi | Delhi | N.Y. School, Sarojini Nagar, Delhi | 26 | 179 | 345 | | III |
| | | Janakpuri | 44 | 135 | 1076 | 988 | I |
| | | Naraina Industrial Area, Delhi | 31 | 174 | 416 | 341 | II |

| | | | | | | | |
|-------------------------|--------------|---|----|-----|-----|-----|-----|
| | | Nizamuddin | 13 | 166 | 708 | 264 | IV |
| | | Pritampura | 41 | 160 | 990 | 831 | I |
| | | Shahadra | 31 | 124 | 699 | 365 | II |
| | | Shahzada Bagh | 21 | 181 | 918 | | III |
| | | Siri Fort | 12 | 123 | 916 | 116 | IV |
| | | Town Hall, Ayurvedic Dispensary, Chandni Chowk, Delhi | 22 | 190 | 400 | | III |
| Goa | Amona | Amona, Bicholim | 10 | 18 | 98 | 31 | V |
| | Assanora | Assanora Junction, Bardez | 12 | 17 | 95 | 31 | IV |
| | Bicholim | Bicholim | 10 | 16 | 173 | 56 | V |
| | Codli | Codli Tisk, Ponda, Sanguem | 11 | 17 | 143 | 46 | IV |
| | Cuncolim | Cuncolim | 17 | 20 | 94 | 54 | IV |
| | Curcholem | Curcholem, Sanvordem, Quepem | 13 | 18 | 83 | 56 | IV |
| | Honda | Honda Junction, Sattari | 10 | 17 | 145 | 44 | V |
| | Kundaim | Kundaim Industrial Estate | 12 | 26 | 185 | 56 | IV |
| | Mapusa | Mapusa town | 20 | 23 | 206 | | IV |
| | Margao | Margao Town | 9 | 17 | 94 | 30 | V |
| | Mormugao | Fire Brigade Station, Port Trust | 18 | 27 | 300 | 64 | IV |
| | Panaji | Old GSPCB premises, Patto | 20 | 25 | 149 | 19 | IV |
| | Ponda | Ponda Town | 11 | 19 | 257 | 84 | IV |
| | Sanguem | Near Railway Station at Kalem, Sanguem | 15 | 20 | 83 | 46 | IV |
| | Tilamol | Quepem, Tilamol | 12 | 22 | 141 | 71 | IV |
| | Tuem | Tuem Industrial Estate | 11 | 17 | 87 | 27 | IV |
| | Usgao | Usgao Plae, Junction, Ponda | 11 | 17 | 102 | 32 | IV |
| | Vasco | Fuse Call Office, Mormugao | 17 | 79 | 304 | 98 | IV |
| Gujarat | Ahmedabad | Naroda, G.I.D.C., Ahmadabad | 32 | 46 | 334 | 96 | II |
| | | Cadilla Bridge Narol | 49 | 66 | 419 | 128 | I |
| | | Bhagavathi Estate, Keval Kanta Road, Rakhiyal | 38 | 78 | 408 | 134 | II |
| | | Reliable Products, 61/62 Ilabem estate, PiranaDump Site, Narol (previous Dyno Wash) | 32 | 52 | 504 | 143 | II |
| | | L.D. Engg. College | 33 | 70 | 329 | 185 | II |
| | | Shardaben Hospital, Saraspur | 32 | 59 | 378 | 106 | II |
| | | R.C. Technical High School, Mirzapur | 28 | 53 | 408 | 112 | III |
| | | AZL Behrampura, Ahmadabad | 33 | 70 | 327 | 97 | II |
| | | Sola L.T. Chanakyapuri Pumping Station | 37 | 74 | 374 | 109 | II |
| | Anklesvar | Rallis India Ltd. | 31 | 41 | 218 | 75 | II |
| | | Durga Traders, Bhavanafarm Society | 28 | 56 | 245 | 75 | III |
| | Jamnagar | Fisheries Office | 35 | 59 | 272 | 107 | II |
| | Rajkot | Nr. Sardhara Industrial Corporation | 38 | 59 | 411 | 112 | II |
| | | GPCB Regional Office | 37 | 80 | 326 | 112 | II |
| | Surat | S.V.R. Engg. College | 49 | 57 | 150 | 59 | I |
| | | B.R.C. High School, Udhna | 65 | 87 | 401 | 126 | I |
| | | Near Air India Office | 50 | 59 | 318 | 96 | I |
| | Vadodara | GPCB Office, Geri Vasahat | 35 | 46 | 249 | 84 | II |
| | | Sterling Gelatin Guest House, Vill-Karakhadi Padia | 33 | 46 | 228 | 82 | II |
| | | Dandia Bazaar | 42 | 60 | 326 | 102 | I |
| | | CETP Nandesari | 43 | 54 | 391 | 108 | I |
| | | Lubrizol | 65 | 85 | 322 | 100 | I |
| | Vapi | GEB, IIrd Phase, GIDC | 38 | 58 | 317 | 96 | II |
| | | Vapi Nagar Palika, Vapi | 29 | 38 | 296 | 98 | III |
| Haryana | Hissar | Urban Estate - II | 14 | 12 | 306 | | IV |
| Himachal Pradesh | Baddi | Industry Department Office Building | 3 | 55 | 644 | | V |
| | | AHC barotiwala | 3 | 56 | 463 | | V |
| | | Housing Board | 3 | 51 | 659 | | V |
| | Damtal | Regional Office | 2 | 16 | 589 | 148 | V |
| | | Old Road | 2 | 24 | 281 | 95 | V |
| | Dharamshala | Kotwali Bazar Dharamshala | 2 | 9 | 66 | 54 | V |
| | | Daari, Dharamshala | 2 | 19 | 192 | 79 | V |
| | Gulaba | Behind green tax barrier | 2 | 11 | 72 | | V |
| | Kala Amb | Kala Amb Industrial Area | 4 | 18 | 524 | 87 | V |
| | | Kala Amb Town/Trilokpur | 10 | 19 | 178 | 79 | V |
| | Manali | Nehru Park, Manali, Kullu | 5 | 29 | 207 | 75 | V |
| | | HPSPCB, Hadimba Road, Manali, Kullu | 3 | 18 | 121 | 48 | V |
| | Marhi | Behind Police check post | 2 | 5 | 42 | | V |
| | Nalagarh | Municipal Council | 2 | 52 | 520 | | V |
| | Paonta Sahib | Paonta Sahib | 10 | 18 | 435 | 103 | V |
| | | Gondhpur Industrial Area | 5 | 18 | 690 | 113 | V |
| | Parwanoo | Regional Office, Sector- 4 | 3 | 32 | 294 | 117 | V |
| | | Asst. Commissioner Building Sector I | 3 | 6 | 112 | 19 | V |
| | Shimla | Bus Stand, Winterfield | 8 | 40 | 168 | 65 | V |
| | Sunder Nagar | HPSPCB, BBMB Colony, Mandi | 2 | 20 | 321 | 162 | V |
| | | Municipal Council, NH-21, Mandi | 2 | 28 | 464 | 151 | V |

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|----------------------------|---------------|--|-------------------------------------|-----|-----|-----|-----|---|
| | Una | Regional Office, Una | 2 | 6 | 556 | | V | |
| | | DIC Building, Mehatpur, Una | 2 | 7 | 84 | | V | |
| | Vashisht | Behind pollution check barrier, Bhang | 3 | 13 | 90 | | V | |
| Jammu & Kashmir | Jammu | Regional Office, Jammu | 7 | 25 | 367 | 77 | V | |
| | | M.A. Stadium, Jewel Chowk | 8 | 24 | 291 | 79 | V | |
| | | Bari Brahamana Industrial Area | 7 | 24 | 283 | 63 | V | |
| | Pulwama | Khrew | | | 170 | | V | |
| | Srinagar | SPCB Office Campus, Srinagar | | | 162 | | V | |
| | | Khonmoh | | | 205 | | V | |
| | | Lasjan, Budgam | | | 820 | | V | |
| Jharkhand | Barajamda | Barajamda U.M. Office | 20 | 63 | 104 | | IV | |
| | Dhanbad | R.O. Dhanbad | 19 | 47 | 358 | | IV | |
| | | EMTI, Bastacola | 19 | 53 | 465 | | IV | |
| | | CGM Office, Kusunda | 26 | 59 | 481 | | III | |
| | Jamshedpur | Bistupur Vehical Testing Centre | 49 | 59 | 190 | | I | |
| | | Golmuri Vehicle Testing Centre | 43 | 56 | 186 | | I | |
| | Jharia | M.A.D.A. | 18 | 45 | 498 | | IV | |
| | Ranchi | Albert Ekka Chowk, Main Road | 21 | 39 | 147 | | III | |
| | Saraikela | RO Building, Adityapur | 46 | 56 | 196 | | I | |
| Sindri | BIT / PDIL | 22 | 45 | 214 | | III | | |
| Karnataka | Bagalkote | Bagalkote KSPCB Office Premises | 2 | 34 | 106 | 78 | V | |
| | Bangalore | Graphite India, White Field Road | 3 | 40 | 270 | 70 | V | |
| | | AMCO Batteries, Mysore Road | 4 | 41 | 162 | 72 | V | |
| | | KHB Industrial Area, Yelahanka | 3 | 40 | 254 | | V | |
| | | Peenya Industrial Area | 3 | 41 | 158 | 66 | V | |
| | | Victoria hospital | 5 | 37 | 129 | | V | |
| | | Yeshwanthpura police station | 4 | 40 | 243 | 91 | V | |
| | | Jnanabharathi, Bangalore University | 10 | 23 | 65 | | V | |
| | | TERI office, Vital Medi healthcare Pvt Ltd | 3 | 39 | 175 | 69 | V | |
| | Belgaum | Karnataka SPCB Office Building | 2 | 23 | 325 | 82 | V | |
| | Bidar | KSPCB Office Premises | 3 | 32 | 147 | 76 | V | |
| | Bijapur | KSPCB Office Premises | 2 | 21 | 185 | 75 | V | |
| | Chitradurga | KSPCB Office Premises | 17 | 12 | 354 | | IV | |
| | Devanagere | Regional Office building, KSPCB | 10 | 12 | 83 | 45 | V | |
| | | HPF Intakewell, Kumarapattnam | 24 | 11 | 70 | 33 | III | |
| | Gulbarga | Government Hospital | 5 | 41 | 154 | 90 | V | |
| | Hassan | KSRTC bus stand building | 5 | 23 | 47 | 39 | V | |
| | Hubli-Dharwad | Lakkamanahalli Industrial Area, Dharwad | 7 | 29 | 87 | 36 | V | |
| | | Rani Chennamma Circle, Hubli | 8 | 30 | 106 | 41 | V | |
| | Kolar | KSPCB Office Premises, Kolar | 2 | 39 | 148 | 58 | V | |
| | Mandya | KSPCB Building, Bandigowda Badarahe | 2 | 14 | 55 | | V | |
| | Mangalore | Baikampady Industrial Area | 10 | 13 | 87 | | V | |
| | Mysore | K.R.Circle, Visvesvaraya Bldg | 10 | 20 | 77 | 38 | V | |
| | Raichur | KSPCB Office Premises, Raichur | 23 | 28 | 284 | 77 | III | |
| | Shimoga | The VISL, Oxygen Plant, Shimoga | 25 | 12 | 92 | 42 | III | |
| | Timukuru | KSPCB Office Premises | 3 | 39 | 181 | | V | |
| | Kerala | Alappuzha | District Office, Alissery Road | 2 | 5 | 69 | | V |
| | | | DC Mills, Pathirappally | 2 | 5 | 76 | | V |
| | | Kochi | Eloor I, FACT, Ambalamughal | 4 | 40 | 99 | | V |
| Eloor II | | | 6 | 46 | 113 | | V | |
| Irumpanam | | | 10 | 33 | 136 | | V | |
| Ernakulum South | | | 7 | 25 | 136 | | V | |
| VYTTILA | | | 9 | 44 | 188 | | V | |
| MG Road Bank Ernakulum | | | 9 | 26 | 194 | | V | |
| KALAMASSERY / CSIR Complex | | | 10 | 32 | 161 | | V | |
| Kollam | | KSPCB, District Office, Kadappakada | 3 | 7 | 54 | | V | |
| | | KMML Chavara | 4 | 7 | 60 | | V | |
| Kottayam | | Kottayam | 4 | 14 | 57 | | V | |
| | | Vadavathoor | 5 | 15 | 85 | | V | |
| Kozhikode | | Kozhikode City | 2 | 29 | 501 | 13 | V | |
| | | Nallalam | 2 | 23 | 131 | 12 | V | |
| Malapuram | | Kakkanchery, Sijmak oils | 2 | 38 | 77 | | V | |
| Palakkad | | SEPR Refractories India Ltd. | 8 | 10 | 97 | | V | |
| Pathanamthitta | | KSPCB, Makkamkundu | 2 | 19 | 39 | | V | |
| Thiruvananthapuram | | PRS Hospital/COSMO | 8 | 30 | 59 | | V | |
| | | SMV School | 8 | 53 | 67 | | V | |
| | | VELI / HiTech Chackai | 21 | 28 | 64 | | III | |
| | | PETTAH / Sasthamangalam | 9 | 27 | 69 | | V | |
| Thissur | | KSPCB, District Office, Poonkunnam | 18 | 31 | 82 | | IV | |
| Wayanad | | Sulthan Bathery | 2 | 5 | 49 | | V | |
| Lakshwadeep | | Kavaratti | Power House Building (Second Floor) | | | 60 | | V |

| | | | | | | | | |
|-----------------------------------|-------------|---|--|-----|-----|-----|-----|-----|
| Madhya Pradesh | Amlai | HJI | 26 | 30 | 139 | 67 | III | |
| | | OPM | 24 | 27 | 151 | 70 | III | |
| | Bhopal | Hamidia Road, MP Hastshilp Vikas Nigam | 20 | 46 | 276 | 142 | IV | |
| | | CETP Govindpura | 17 | 41 | 234 | 124 | IV | |
| | | Nutan Subhash School, T.T. Nagar | 8 | 15 | 183 | 117 | V | |
| | | Kolar Thana, Kolar Road, Bhopal | 18 | 36 | 294 | 117 | IV | |
| | | AKVN Office, Industrial Area Mandideep, Raisen | 26 | 48 | 295 | 142 | III | |
| | | Barkatuallah University, Hoshgabad Road, Bhopal | 12 | 40 | 225 | 97 | IV | |
| | | Main Road, Hemu Colony, Bairagarh, Bhopal | 16 | 47 | 218 | 90 | IV | |
| | Chhindwara | HIG -33, Front of Geetanali Park Housing Board Colony, Chadagaon | 23 | 42 | 141 | 66 | III | |
| | | Hindustan Unileaver, Narsinghpur Road, | 7 | 32 | 119 | 58 | V | |
| | Dewas | EID Perry (I) Limited | 20 | 24 | 85 | 96 | IV | |
| | | Dewas Metal Section | 21 | 27 | 131 | 96 | III | |
| | | Vikas Nagar | 20 | 25 | 80 | 96 | IV | |
| | Gwalior | Dindayal Nagar | 16 | 26 | 235 | 90 | IV | |
| | | Maharaj Bada | 18 | 32 | 239 | 90 | IV | |
| | Indore | M.P. Laghu Udyog, Pologround | 13 | 24 | 134 | 89 | IV | |
| | | Kothari Market, M.G. Road | 39 | 36 | 252 | 141 | II | |
| | | Telephone Nagar, 26 A, Kanadia Road | 16 | 32 | 273 | 115 | IV | |
| | Jabalpur | Vijay Nagar | 2 | 29 | 231 | 104 | V | |
| | | Udaipur Beverage Racchai | 19 | 31 | 246 | 87 | IV | |
| | Katni | HIG-4 Housing Board Colony Jhinhri, Katni | 30 | 41 | 170 | 74 | III | |
| | | Calderys Works Refractories India Private Limited, Guest House, Katni | 27 | 37 | 152 | 80 | III | |
| | Nagda | Chem. D. Labour Club | 33 | 27 | 85 | 44 | II | |
| | | B C I Labour Club | 20 | 33 | 80 | 38 | IV | |
| | | Grasim Kalyan Kendra | 23 | 30 | 116 | 55 | III | |
| | Prithampur | Vikas Bhavan, Sector-2 | 27 | 32 | 112 | 54 | III | |
| | | RCC Over Head Tank No. 1, Sector-3 | 27 | 31 | 119 | 46 | III | |
| | Sagar | Pt.Deendayal Nagar | 11 | 30 | 197 | 89 | IV | |
| | | Katra Bazar, Sagar | 6 | 24 | 141 | 72 | V | |
| | Satna | Sub-divisional Office E/M Light Machniery | 6 | 13 | 210 | 98 | V | |
| | | MPPCB,Dharwari GaliNo.5,House No.318 | 5 | 10 | 129 | 64 | V | |
| | Singrauli | Jayant Township | 37 | 42 | 193 | 75 | II | |
| | | N.T.P.C., Vidyanagar | 32 | 70 | 198 | 74 | II | |
| | | Waidhan | 31 | 88 | 181 | 82 | II | |
| | Ujjain | District Office | 19 | 20 | 116 | 56 | IV | |
| | | Regional Office | 17 | 18 | 116 | 46 | IV | |
| | | Mahakal Temple | 38 | 50 | 370 | 273 | II | |
| | | Chamunda Mata Chouraha | 18 | 19 | 136 | 58 | IV | |
| | Maharashtra | Akola | LRT Commerce College, Civil Lines, Akola | 14 | 14 | 94 | | IV |
| | | | MIDC Water Work, Phash-II, MIDC Akola | 18 | 19 | 92 | | IV |
| | | | College Of Engineering & Tech, Akola | 15 | 16 | 91 | | IV |
| | | Ambernath | Ambernath Municipal Council Office | 41 | 107 | 350 | | I |
| | | Amravati | Apurva Oil Industries, A-23, MIDC | 27 | 29 | 152 | | III |
| | | | Elect. Dept., Govt College Engineering | 24 | 28 | 141 | | III |
| | | | Rajkamal Square, Vaneeta Samaj | 27 | 29 | 140 | | III |
| | | Aurangabad | S.B.E.S. College | 27 | 51 | 91 | | III |
| | | | Collector Office | 16 | 37 | 92 | | IV |
| | | | C.A.D.A. Office, Garkheda | 24 | 48 | 94 | | III |
| | | Badlapur | BIWA Office | 38 | 101 | 256 | | II |
| | | Bhiwandi | Prematai Hall, Near Dhamankar Naka | 41 | 47 | 83 | | I |
| | | | Fire Brigade Office, I.G.M. Hospital | 42 | 53 | 85 | | I |
| | | | Regional Office, M.P.C. Board, Kalyan | 58 | 60 | 83 | | I |
| | | Chandrapur | Grampanchat Ghughus | 6 | 46 | 630 | | V |
| M.I.D.C. Chandrapur | | | 8 | 54 | 135 | | V | |
| Nagar Parishad | | | 75 | 72 | 220 | | I | |
| Gadchandur Gram Panchayat, Rajura | | | 6 | 46 | 274 | | V | |
| MIDC, Tadali | | | 8 | 43 | 210 | | V | |
| Municipal Council, Ballarshah | | | 6 | 60 | 256 | | V | |
| Dombivali | | Dombivali MIDC Phase-II | 43 | 101 | 248 | | I | |
| Jalgaon | | B. J. Market | 21 | 44 | 138 | | III | |
| | | Girna water tank | 19 | 42 | 127 | | IV | |
| | | MIDC Jalgaon | 20 | 44 | 131 | | IV | |
| Jalna | | Bachat Bhawan, Near S P Office | 14 | 60 | 141 | | IV | |
| | | Krishidhan Seeds Ltd, MIDC Area | 14 | 61 | 110 | | IV | |
| Kolhapur | | University Campus, Shivaji University | 19 | 36 | 88 | | IV | |
| | | Ruikar Trust, S.T. Stand | 42 | 81 | 162 | | I | |
| | | Mahadwar Road, Near Mahalaxmi Temple | 34 | 66 | 133 | | II | |
| Latur | | MIDC Water Works | 8 | 40 | 213 | | V | |
| | | Kshewraj Vidyalyaya Shyam nagar | 8 | 31 | 189 | | V | |

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|------------------|---|---|-------------|-----|-----|-----|----|---|
| | Sidhsheshwar Sahakari Bank Ganjgolai | 8 | 35 | 200 | | V | | |
| Mumbai | Bank of India, Kalbadevi Branch, Kalbadevi | 4 | 52 | 256 | | V | | |
| | Parel TT, Ambedkar Road | 7 | 61 | 458 | | V | | |
| | Worli | 6 | 63 | 329 | 212 | V | | |
| | | | | | | | | |
| Nagpur | Institution of Engineers | 27 | 61 | 181 | | III | | |
| | Govt. Polytechnic College, Sadar | 28 | 59 | 177 | | III | | |
| | MIDC Office Hingana Road | 37 | 59 | 179 | | II | | |
| | MIDC Industrial Area, MIDC Office, Hingna | 17 | 84 | 283 | | IV | | |
| | Nagpur Coop Building, Maskasath, Itwari | 22 | 45 | 304 | | III | | |
| | NEERI Lab, Nehru Marg, Highway No. 7 | 18 | 56 | 232 | 111 | IV | | |
| | MPCB Office Premises, Civil Lines | 33 | 66 | 268 | | II | | |
| Nashik | R.T.O. Colony Tank | 24 | 29 | 171 | | III | | |
| | VIP Industrial Area, MIDC Satpura | 22 | 30 | 193 | | III | | |
| | Nashik Municipal Council Building | 22 | 38 | 204 | | III | | |
| | MPCB Sub R.O. Udyog Bhawan, Nashik | 24 | 34 | 220 | | III | | |
| Navi Mumbai | T.B.I.A, Rabale Airoli, TTC | 33 | 76 | 337 | | II | | |
| | Dr. D.Y. Patil College, Nerul, TTC | 27 | 66 | 228 | | III | | |
| | MPCB Lab, Mhape, TTC | 26 | 71 | 140 | | III | | |
| | CIDCO Nodal Office Kharghar | 27 | 69 | 200 | | III | | |
| | Water Pump House, Panvel, Taloja | 27 | 71 | 137 | | III | | |
| | MIDC Collom Facility Building, Taloja | 34 | 68 | 155 | | II | | |
| | | | | | | | | |
| Pimpri-Chinchwad | Bank of Baroda Builing, Near M.C Building | 76 | 198 | 330 | | I | | |
| Pune | Maratha Chamber of commerce, Bhosari | 80 | 145 | 276 | | I | | |
| | State Electricity Board BLDG Nalstop | 71 | 147 | 316 | | I | | |
| | Swargate Police Chawki | 73 | 167 | 189 | | I | | |
| Sangli | Udyog bhavan / SRO, MPCB Sangli | 33 | 90 | 204 | | II | | |
| | Sangli- Miraj Primary school Building | 44 | 149 | 185 | | I | | |
| | Krishna Valley School | 18 | 123 | 212 | | IV | | |
| Solapur | WIT Campus | 19 | 42 | 87 | | IV | | |
| | Voronoko School / Chitale Clinic | 19 | 41 | 88 | | IV | | |
| Thane | Maternity Hospital, Dhobighat, Thane East | 25 | 62 | 185 | | III | | |
| | Shahu Market, Naupada, Thane West | 26 | 64 | 205 | | III | | |
| | Kolshet and Balkum, Thane West | 22 | 61 | 282 | | III | | |
| Ulhasnagar | Smt. C. H. M. College Campus | 32 | 87 | 170 | | II | | |
| | Octroi Naka, Pawai-Chowk, Vithalwadi | 37 | 142 | 296 | | II | | |
| Manipur | Imphal | Secretariat Building | 100 | 53 | 187 | | I | |
| Meghalaya | Byrnihat | EPIP, Ri-Bhoi district | 34 | 17 | 280 | | II | |
| | Dawki | Terrace building, Jaintia Hills District | 4 | 15 | 30 | | V | |
| | Khliehriat | O/o BDO, C & R.D. Block-Khliehriat | 6 | 13 | 57 | | V | |
| | Nongstoin | Office Premises of E.E, PHED | 4 | 11 | 38 | | V | |
| | Shillong | Boards Office Permises, Lumpyngngad | 2 | 11 | 45 | 18 | V | |
| | | State Tuberculosis Hospital | 12 | 26 | 76 | | IV | |
| | | Forest Rest House, Polo Hills | 7 | 16 | 52 | | V | |
| | | 41/2 mile, Myllem Range Office | 4 | 15 | 62 | | V | |
| | Tura | PHED, Araimille, West Garo Hills District | 3 | 16 | 157 | | V | |
| Umiyam /Umsning | Umiyam Industrial Complex, Ri-Bhoi District | 6 | 15 | 127 | | V | | |
| Mizoram | Aizawl | Khatla, M.G-Road, Mizoram SPCB | 5 | 18 | 253 | | V | |
| | | Laiptuitlang | 2 | 12 | 61 | | V | |
| | | Bawngkawn | 3 | 14 | 144 | | V | |
| | | Dawrpui Y.M.A, Building, Dawrpui | 2 | 18 | 204 | | V | |
| | | Lengpui Airport, Model Veng, Lengpui | 2 | 16 | 100 | | V | |
| | Champhai | D.T.O Office Building, Kahrawt veng | 2 | 5 | 42 | | V | |
| | | Lalzidinga building, Vengthlang | 5 | 5 | 58 | | V | |
| | Kolasib | H. Lalthuama Building, Project Veng | 2 | 5 | 56 | | V | |
| | | Synod Bookroom, Building Diakkawn | 2 | 5 | 48 | | V | |
| | Lunglei | Thangkhuma Building, Salem Veng | 2 | 5 | 12 | | V | |
| | | K.Lalliantluanga, Chanmari I, Lunglei | 2 | 12 | 112 | | V | |
| | Nagaland | Dimapur | Bank Colony | 2 | 23 | 248 | | V |
| | | | Dhobinala | 2 | 20 | 273 | | V |
| Kohima | | Opposite NST Office | 2 | 6 | 217 | | V | |
| | | Opposite War Cemetery | 2 | 6 | 340 | | V | |
| Odisha | Angul | Industrial Estate | 20 | 35 | 154 | 85 | IV | |
| | | NALCO Township | 15 | 30 | 163 | 97 | IV | |
| | Balasore | Sahadevkhunta | 4 | 14 | 144 | 95 | V | |
| | | DIC office | 3 | 14 | 141 | 89 | V | |
| | | Rasalpur near Balgopalpur I/A | 10 | 14 | 117 | 78 | V | |
| | Berhampur | Regional Office Orissa SPCB | 20 | 25 | 107 | 65 | IV | |
| | Bhubneshwar | Capital Police Station | 5 | 33 | 159 | 42 | V | |
| | | IRC Village | 8 | 26 | 172 | 65 | V | |
| | | Office Premises Bhubaneswar | 5 | 34 | 258 | 100 | V | |

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|-------------------|---|----|----|-----|-----|-----|
| | Water works, Palasuni, Rasalgarh | 5 | 50 | 169 | 42 | V |
| | Patrapara, Khandagiri | 2 | 23 | 130 | 46 | V |
| | Chandrashekharpur | 15 | 28 | 290 | 84 | IV |
| Bonaigarh | Govt. Hospital Bonai At/Po/PS-Bonai Dist-Sudargarh | 18 | 23 | 230 | 182 | IV |
| Cuttack | Traffic Tower, Badambadi | 6 | 38 | 166 | 73 | V |
| | P.H.D Office Barabati | 8 | 37 | 246 | 108 | V |
| | R.O. Cuttack Office, Surya Vihar | 9 | 42 | 213 | 100 | V |
| Jharsuguda | R.O. Building Cox colony | 24 | 31 | 153 | 103 | III |
| | TRL Colony, M/s. TRL Krosaki Refractories Ltd. PO: Bhepahar, | 11 | 20 | 139 | 86 | IV |
| Kalinga Nagar | RO Office Building | 3 | 21 | 191 | 60 | V |
| | Maintenance Office of M/s NINL, Duburi | 2 | 13 | 167 | 77 | V |
| Konark | Konark Police Station | 4 | 17 | 197 | | V |
| Paradeep | On roof of PPT Staff Quarter | 35 | 21 | 317 | 161 | II |
| | On roof of PPL Guest | 33 | 17 | 286 | 119 | II |
| | On roof of STP building IFFCO | 26 | 19 | 248 | 102 | III |
| Puri | Sadar police station | 2 | 19 | 134 | | V |
| | Town Police Station | 5 | 25 | 167 | | V |
| Rajgangpur | DISIR, Rajgangpur | 50 | 36 | 295 | 131 | I |
| Rayagada | Regional Office Orissa SPCB | 19 | 31 | 161 | 118 | IV |
| | LPS High School, Jaykaypur | 14 | 27 | 149 | 96 | IV |
| Rourkela | Regional Office, ORPB | 13 | 18 | 187 | 267 | IV |
| | Kalunga Industrial Estate | 20 | 32 | 265 | 93 | IV |
| | IDL Police Out-post, Sonaprabat | 15 | 20 | 110 | 101 | IV |
| | Kuarmunda, Sundergarh | 15 | 21 | 184 | 66 | IV |
| Sambalpur | Filter Plant, PHD Office, Modipara | 39 | 43 | 287 | 220 | II |
| Talcher | Coal Field Area | 13 | 34 | 183 | 86 | IV |
| | T.T.P.S.Colony | 15 | 34 | 206 | 97 | IV |
| Puducherry | | | | | | |
| | Karaikal | | | | | |
| | B.Ed College (PKCE), Nehru Nagar | 12 | 19 | 71 | | IV |
| | Govt. Tourist Home, Kovilpathu | 19 | 24 | 98 | | IV |
| | M/s Puducherry Power Corporation Limited, Polagam, T.R. Pattinam, | 16 | 23 | 91 | | IV |
| | Puducherry | | | | | |
| | DSTC Office Upstairs, PHB 3rd Floor, AnnaNagar | 5 | 15 | 78 | | V |
| | PIPDIC Ind. Estate Mettupalayam | 5 | 16 | 71 | | V |
| | Chamber Of Commerce | 6 | 14 | 65 | | V |
| Punjab | | | | | | |
| | Aligarh (Jagraon)* | | | | | |
| | Forest Office, Vill:Aligarh, Teh:Jagraon | 9 | 30 | 442 | | V |
| | Amritsar | | | | | |
| | R.O. Focal Point (earlier Nagina soap factory) | 15 | 42 | 576 | | IV |
| | Vinod Chilling Center / Kochar Bhavan (earlier A-1,Platers) | 16 | 41 | 818 | | IV |
| | Aspal Khurd(Tapa)* | | | | | |
| | Vill:Aspal Khurd, Teh:Tapa | 8 | 25 | 205 | | V |
| | Bhatinda | | | | | |
| | Bathinda Milk Producers, Dabwali Road | 7 | 32 | 160 | | V |
| | Binjon(Garshankar)* | | | | | |
| | CHC, Vill:Binjon, Teh: Garshankar | 10 | 22 | 616 | | V |
| | Bishanpura(Payal)* | | | | | |
| | Longowalia Yarns (Unit-II), Vill-Bishanpura, Teh:Payal | 15 | 30 | 780 | | IV |
| | Changal(Sangrur)* | | | | | |
| | Mastuana Sahib, Vill:Changal, Teh:Sangrur | 7 | 23 | 218 | | V |
| | Chowkimann(Jagraon)* | | | | | |
| | Ludhiana College of Engineering,Vill:Chowkimann, Teh:Jagraon | 10 | 30 | 682 | | V |
| | Dera BabaNanak | | | | | |
| | C-PYTE Building | 8 | 15 | 566 | | V |
| | Dera Bassi | | | | | |
| | Punjab Chem and Crop Protection, Bhanakarpur Rd | 10 | 20 | 428 | | V |
| | Winsome Yarns Ltd., Barwala Road | 9 | 20 | 394 | | V |
| | Fatehpur (Samana)* | | | | | |
| | Baba Banda Singh Bahadur College, Vill:Fatehpur, Teh:Samana | 7 | 13 | 132 | | V |
| | Gobindgarh | | | | | |
| | Modi Oil and General Mills, Mandi | 9 | 47 | 142 | | V |
| | Raj Steel Rolling Mills, Mandi | 9 | 48 | 238 | | V |
| | United Rolling Mills, Mandi Gobindgarh | 9 | 45 | 229 | | V |
| | Guru Ki Dhab(Kotkapura)* | | | | | |
| | Vil:Guru Ki Dhab / Basti Himmatpura, Teh:Kotkapura | 5 | 12 | 193 | | V |
| | Jaito Sarja(Batala)* | | | | | |
| | Royal Nursing College, Vill: Jaito Sarja, Teh: Batala | 11 | 23 | 660 | | IV |
| | Jalandhar | | | | | |
| | Municipal Council Tubewell No. 27 | 15 | 25 | 794 | | IV |
| | Regional Office | 14 | 25 | 660 | | IV |
| | Punjab Maltex , Kapurthala Road | 14 | 25 | 371 | | IV |
| | Focal Point | 17 | 29 | 808 | | IV |
| | Khanna | | | | | |
| | Markfed Vanaspati, Khanna | 12 | 43 | 224 | | IV |
| | AS School, Khanna | 11 | 43 | 299 | | IV |
| | Kharaori(Sirhind)* | | | | | |
| | Vill:Kharaori, Teh:Sirhind | 6 | 19 | 435 | | V |
| | Kotladdoom(Ajnala)* | | | | | |
| | Satyam College, Ramtirath Road, Vill: Kotladdoom, Teh: Ajnala | 9 | 24 | 434 | | V |
| | Lakho ke Behram(Ferozpur)* | | | | | |
| | Vill:Lakho ke Behram, Teh:Ferozpur | 7 | 26 | 144 | | V |
| | Ludhiana | | | | | |
| | Bharat Nagar Chowk / RO Gill Road | 17 | 56 | 626 | | IV |
| | Nahar Spining Mills, Dholewal Chawk | 16 | 58 | 494 | | IV |
| | Ludhiana Coop. Milk Producer, Ferozpur Rd | 14 | 42 | 798 | | IV |
| | PPCB Office Building, Vishavkarma Chowk | 19 | 53 | 446 | | IV |
| | Mrar Kalan(Muksar)* | | | | | |
| | Vill: Mrar Kalan, Teh:Muksar | 7 | 23 | 201 | | V |
| | Mukandpur(Nawashahar)* | | | | | |
| | Govt. Senior Sec. School, Vill:Mukandpur, Teh:Nawashahar | 10 | 21 | 217 | | V |
| | Mureedke(Batala)* | | | | | |
| | Johal Farm, Vill: Mureedke, Teh: Batala | 11 | 21 | 402 | | IV |
| | Naudhrani(Malerkotla)* | | | | | |
| | Vill:Naudhrani, Teh:Malerkotla | 6 | 23 | 239 | | V |

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|------------------|----------------------------|--|---|-----|-----|-----|-----|
| | Naya Nangal | Punjab Alkalis & Chemicals Ltd | 8 | 19 | 369 | V | |
| | | M/s NFL Guest House,Naya Nangal | 9 | 18 | 215 | V | |
| | Patiala | Ceylon Industries, Factory Area, Patiala | 7 | 14 | 158 | V | |
| | | Fire Brigade Station, Bahera Road, Patiala | 7 | 15 | 169 | V | |
| | Peer Mohammad (Jalalabad)* | Vill:Peer Mohammad, Teh:Jalalabad | 7 | 28 | 198 | V | |
| | Poohli (Bhatinda)* | Vill: Poohli, Teh:Bhatinda | 8 | 20 | 600 | V | |
| | Qila Bharian (Sangrur)* | Gurdwara Gangsar Sahib, Vill:Qila Bharian, Teh:Sangrur | 7 | 22 | 209 | V | |
| | Rakhra (Patiala)* | Shree Ganesh Group of Institute, Vill:Rakhra, The:Patiala | 8 | 16 | 358 | V | |
| | Rohila (Samrala)* | Gopimal Kaur Sain Industries Pvt. Ltd, Vil:Rohila, Teh:Samrala | 8 | 29 | 874 | V | |
| | Tirathpur (Amritsar I)* | United ITI, Vill: Tirathpur, Teh:Amritsar I (earlier Sriguru Harkishan Public School,Rasulpur Kalan) | 8 | 14 | 205 | V | |
| Rajasthan | Alwar | Rajasthan State Pollution Control Board | 12 | 76 | 246 | IV | |
| | | Gaurav Solvex Ltd. MIA | 16 | 44 | 353 | IV | |
| | | RIICO Pump House, MIA | 17 | 47 | 309 | IV | |
| | Bharatpur | Khadi Gramoday Samiti | 10 | 36 | 387 | V | |
| | | RIICO office Building | 10 | 30 | 501 | V | |
| | | RO, Building | 8 | 26 | 347 | V | |
| | Bhiwadi | R.O.Building | 41 | 173 | 447 | I | |
| | | UIT Guest House | 34 | 176 | 412 | II | |
| | | Uttam Strips Ltd | 39 | 196 | 438 | II | |
| | Chittorgarh | Regional Office building, RSPCB, Near FCI Godown, Chnaderiya | 9 | 34 | 323 | V | |
| | | Veterinary Hospital, Meeranagar | 9 | 33 | 289 | V | |
| | | PHED Pump House, Segawa | 8 | 31 | 224 | V | |
| | Jaipur | Ajmeri Gate | 17 | 65 | 478 | IV | |
| | | RJPB Office,Jhalana Doongari | 11 | 39 | 295 | IV | |
| | | District Education Officer, Chandpole | 10 | 46 | 359 | V | |
| | | RIICO Office, M.I.A. | 17 | 43 | 367 | IV | |
| | | RSPCB, Vidyadhar Nagar | 19 | 52 | 531 | IV | |
| | | VKIA | 22 | 60 | 592 | III | |
| | | 22,Godam, RIICO Office | 36 | 47 | 328 | II | |
| | | Mansarovar Nagar Niigam | 32 | 41 | 440 | II | |
| | Jodhpur | RIICO Office Sitapura Industrial Area | 19 | 49 | 472 | IV | |
| | | DIC Office, Industrial Estate | 12 | 56 | 560 | IV | |
| | | Sojati Gate | 14 | 52 | 378 | IV | |
| | | Basni Industrial Area, RIICO Office | 12 | 52 | 628 | IV | |
| | | Maha Mandir Police Thane | 10 | 51 | 483 | V | |
| | | Office of Housing Board, Chopasani Road | 11 | 50 | 799 | IV | |
| | | Shastri Nagar Police Thana | 10 | 54 | 588 | V | |
| | | Kudi Mahila Thana | 10 | 46 | 612 | V | |
| | | Sangariya Police Choki | 11 | 54 | 854 | IV | |
| | | SoorsagarThana | 10 | 49 | 479 | V | |
| | Kota | Regional Office, RJPB, Anantpura | 24 | 37 | 454 | III | |
| | | Municipal Corporation Building | 12 | 42 | 335 | IV | |
| | | Samcore Glass Ltd. | 14 | 34 | 378 | IV | |
| | | FireStation Nagar Nigam Shrinathpuram | 10 | 39 | 393 | V | |
| | | RajasthanTechnical University,Rawatbhata | 9 | 38 | 573 | V | |
| | | Sewage Treatment Plant, Balita, Kota | 9 | 38 | 310 | V | |
| | Udaipur | Ambamata | 18 | 45 | 409 | IV | |
| | | Town Hall | 22 | 49 | 289 | III | |
| | | Regional Office,MIA | 26 | 46 | 398 | III | |
| | Sikkim | Chungthang | Chungthang | 9 | 6 | 53 | V |
| | | Gangtok | White Hall Complex, Tasi view point | 11 | 10 | 89 | IV |
| | | | Metro Point Hospital Complex, Forest Secretariate Deorali | 11 | 10 | 89 | IV |
| Mangan | | Mangan Police Station | 11 | 10 | 59 | IV | |
| Namchi | | Namchi | 8 | 6 | 34 | V | |
| Pelling | | The Pelling Girls Hostel | 15 | 12 | 80 | IV | |
| Rangpo | | Rangpo Fire Station | 18 | 14 | 99 | IV | |
| Ravangla | | Ravangla Range Office | 9 | 5 | 44 | V | |
| Singtam | Police Station Building | 59 | 22 | 99 | I | | |
| Tamilnadu | Chennai | Govt. High School, Manali | 17 | 22 | 99 | 58 | IV |
| | | Kathivakkam | 16 | 20 | 76 | 46 | IV |
| | | Thiruvottiyur | 16 | 19 | 91 | 49 | IV |
| | | Madras Medical College | 35 | 42 | 158 | | II |
| | | NEERI, CSIR CampusTaramani | 24 | 80 | 90 | 68 | III |
| | | Thiruvottiyur Municipal Office | 58 | 65 | 162 | | I |
| | | Adiyar | 12 | 19 | 177 | | IV |
| | | Kilpauk | 13 | 23 | 197 | 59 | IV |
| | | Thiyagaraya Nagar | 14 | 49 | 196 | 58 | IV |
| | | Nunbaggum | 19 | 28 | 342 | 55 | IV |
| | | Anna Nagar | 12 | 35 | 292 | 59 | IV |

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|---|--|-----|-----|-----|-----|-----|
| Coimbatore | Poniarajapuram, On the top of DEL | 10 | 33 | 204 | 158 | V |
| | G.D.Matric Hr.Sec.School | 11 | 63 | 141 | 102 | IV |
| | SIDCO Office, Coimbatore/ Kurichi | 9 | 38 | 121 | 94 | V |
| Cuddalore | Eeachangadu Village | 28 | 20 | 67 | 39 | III |
| | SIPCOT (Project Office) | 40 | 18 | 58 | 36 | II |
| | DEE Office, Cuddalore | 17 | 25 | 68 | 43 | IV |
| Madurai | Highway (Project -I) Building | 18 | 55 | 141 | 92 | IV |
| | Fenner (I) Ltd. Kochadai | 22 | 32 | 139 | 131 | III |
| | Kunnathur Chatram Avvai Girls HS School | 22 | 37 | 190 | 85 | III |
| Mettur | Raman Nagar | 11 | 32 | 97 | 56 | IV |
| | SIDCO | 11 | 36 | 124 | 58 | IV |
| Salem | Sowdeswari College Building | 11 | 43 | 127 | 54 | IV |
| Trichy | Gandhi Market | 25 | 30 | 215 | 117 | III |
| | Main Guard Gate | 27 | 30 | 205 | 134 | III |
| | Bishop Heber College | 22 | 26 | 208 | 74 | III |
| | Golden Rock | 19 | 29 | 211 | 82 | IV |
| | Central Bus Stand | 24 | 33 | 253 | 112 | III |
| Tuticorin | Fisheries College, Tuticorin Sipcot | 18 | 17 | 170 | 85 | IV |
| | Raja Agencies | 20 | 16 | 178 | 110 | IV |
| | AVM Jewellery Building | 18 | 24 | 148 | 61 | IV |
| Telangana | | | | | | |
| Adilabad | Building of SCCL Manadamarri Club Mandamarri, Mancheril | 9 | 32 | 90 | 50 | V |
| Hyderabad | Balanagar | 7 | 90 | 195 | 87 | V |
| | Tarnaka, NEERI Lab. IICT Campus | 13 | 27 | 162 | 134 | IV |
| | Nacharam, Industrial Estate | 15 | 24 | 172 | | IV |
| | ABIDS Circle General Post Office | 15 | 34 | 178 | | IV |
| | Uppal, Modern Foods & Industries IDA | 6 | 79 | 187 | 81 | V |
| | Jublee Hills | 6 | 57 | 170 | 113 | V |
| | Paradise | 6 | 77 | 175 | 70 | V |
| | Charminar | 7 | 93 | 177 | 79 | V |
| | Zoo Park | 12 | 107 | 220 | 126 | IV |
| Jeedimetla Industrial Estate, Rangareddy Distt. | 8 | 103 | 200 | 137 | V | |
| Karimnagar | On the terrace of the DIC building, Karimnagar | 11 | 55 | 139 | 79 | IV |
| Khammam | Station Name: CER Club Khamam | 14 | 89 | 156 | 44 | IV |
| | Jalassoudha building | 12 | 80 | 116 | | IV |
| Kothur | Mehaboobnagar | 13 | 81 | 153 | | IV |
| Nalgonda | AP PCB Nalgonda | 11 | 30 | 100 | 50 | IV |
| | M/s. Srinu Pharmaceuticals pvt. Ltd.Choutuppal (V & M) | 11 | 36 | 98 | 62 | IV |
| Nizamabad | subashnagar,nizamabad dist | 9 | 37 | 74 | 65 | V |
| Patencheru | Police Station, Medak, Ramachadrapuram | 11 | 35 | 114 | 61 | IV |
| Ramagundam | Godavarikhani, Ramagundam, Karimnagar | 39 | 57 | 177 | 82 | II |
| Sangareddy | Pashamylaram/Municipal Office | 78 | 106 | 267 | 250 | I |
| | Regional office Building of SANGAREDDY | 7 | 32 | 100 | 52 | V |
| | M/s. Mylan Industries, Gaddapothara | 11 | 31 | 106 | 54 | IV |
| Warangal | KUDA Office, Hanumakonda | 43 | 81 | 170 | | I |
| | Mee-Seva Building ,Municipal Complex | 11 | 86 | 142 | 71 | IV |
| Tripura | | | | | | |
| Agartala | SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban | 23 | 26 | 57 | 33 | III |
| | Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala | 37 | 31 | 159 | 72 | II |
| Uttar Pradesh | | | | | | |
| Agra | Regional Office, Bodla | 7 | 31 | 450 | | V |
| | Nunhai | 9 | 34 | 574 | | V |
| | Taj Mahal | 26 | 58 | 605 | 403 | III |
| | DIC Nunhai | 16 | 65 | 675 | 398 | IV |
| | Etmad-uddaulah | 13 | 64 | 644 | 292 | IV |
| Rambagh | | 21 | 64 | 424 | 279 | III |
| Allahabad | Square crossing circle of Laxmi Talkies | 15 | 63 | 485 | | IV |
| | Bharat Yantra Nigam Ltd | 15 | 51 | 437 | | IV |
| | Alopibagh/Sewage Pumping Stations | 12 | 96 | 448 | | IV |
| | Jhonstonganj/co-operative Bank | 12 | 111 | 464 | | IV |
| | Rambagh/Parag Dairy | 9 | 79 | 364 | | V |
| Anpara | Anpara Colony, Sonabhadra | 23 | 35 | 320 | | III |
| | Renusagar Colony, Sonabhadra | 24 | 34 | 313 | | III |
| Bareilly | IVRI Izatnaga | 45 | 38 | 315 | | I |
| | Indian oetrol pump, Civil Line | 44 | 40 | 679 | | I |
| Firozabad | Center for Development of Glass Industry | 12 | 44 | 371 | | IV |
| | Tilak Nagar | 12 | 40 | 324 | | IV |
| | Raza ka Tal | 11 | 37 | 330 | | IV |
| Gajraula | Raunaq Auto Ltd, J.P. Nagar | 37 | 51 | 356 | | II |
| | Indira Chowk, J.P. Nagar | 43 | 61 | 487 | | I |
| Ghaziabad | Atlas Cycles Industries, Sahibabad Ind. area | 51 | 76 | 602 | 266 | I |
| | Bulandshaar Road Industrial Area | 46 | 73 | 625 | 296 | I |
| Gorakhpur | M. M.M. Engineering College, Gorakhpur | 25 | 43 | 321 | | III |

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|--------------------|--|-----|-----|------|-----|-----|
| | India Glycol Ltd. Gida, Gorakhpur | 58 | 75 | 442 | | I |
| | Jalkal, Muncpal Corporation, Golghar | 52 | 76 | 425 | | I |
| Jhansi | Manik Chawk / Jal chauraha | 8 | 28 | 140 | | V |
| | Veeranga Nagar | 16 | 27 | 169 | | IV |
| Kanpur | Forest & Training Centre, Kidwai Nagar | 9 | 65 | 286 | | V |
| | Chamber Of Commerce Darshanpurwa / Deputy ka Parao | 9 | 65 | 329 | | V |
| | Associated Chem Pvt Ltd, Fazalganj, Panki, Site- 5 | 9 | 64 | 285 | | V |
| | Head Post Office, Govind Nagar / Dabauli / Shastri NGR | 9 | 61 | 269 | | V |
| | Jajmau / Awas Vikas | 9 | 64 | 273 | | V |
| | I.I.T. Campus, Kanpur | 2 | 26 | 316 | | V |
| | Indian Institute of Technology | 2 | 23 | 337 | 277 | V |
| | Dada Nagar, Kanpur | 106 | 133 | 776 | | I |
| | Ramadevi, Kanpur | 11 | 80 | 639 | | IV |
| Khurja | Central Glass & Ceramic Research Institute | 25 | 24 | 413 | | III |
| | Ahirpara | 22 | 65 | 255 | | III |
| Lucknow | Mahanagar | 15 | 40 | 357 | | IV |
| | Chandganj Garden, Aliganj | 12 | 40 | 435 | | IV |
| | Kapoor Hotel, Hazratganj | 13 | 59 | 685 | | IV |
| | Talkatora | 12 | 67 | 547 | | IV |
| | Aminabad / S.M.K Chowk | 25 | 62 | 534 | | III |
| | Nagar Nigam | 16 | 43 | 406 | | IV |
| | Ansal Technical Institute Campus, Ansal API | 13 | 45 | 438 | | IV |
| | Vikas Khand | 6 | 77 | 730 | 668 | V |
| Mathura | RO. UPPCB, 65 Baldevpuri, Maholi Road | 13 | 28 | 179 | | IV |
| | CETP, Industrial Area, Mathura | 16 | 33 | 196 | | IV |
| Meerut | Begum Bridge | 12 | 78 | 230 | | IV |
| | Thana Railway Road / Kesarganj | 8 | 46 | 196 | | V |
| Moradabad | Hindu College, Station Road | 50 | 74 | 424 | | I |
| | Central Police Hospital, Civil Lines | 39 | 51 | 369 | | II |
| Noida | UP PPCB, E-12/1, Sector - 1 | 53 | 97 | 801 | 311 | I |
| | Gee-Pee Electroplating and Eng. Work | 53 | 103 | 1158 | | I |
| Raebareli | Town Hall Colony, Ahmad Nagar, Gulab Road | 10 | 17 | 158 | | V |
| | Khoya mandi Tiraha Lucknow Road Raebareli | 16 | 21 | 173 | | IV |
| | Amawan Road Ind. Area Raebareli | 12 | 18 | 171 | | IV |
| Saharanpur | SRE-A, IIT Roorkee, Saharanpur Campus | 25 | 35 | 352 | | III |
| | UPCL S.E. Office, Near Clock Tower | 28 | 35 | 377 | | III |
| Unnao | H. No. 5, Krishna Nagar | 13 | 32 | 161 | | IV |
| | IIA Building, Industrial Area, Site 10 | 12 | 32 | 181 | | IV |
| Varanasi | Regional Office, Jawahar Nagar | 16 | 95 | 427 | | IV |
| | Sigra | 32 | 103 | 464 | | II |
| | Saket Nagar | 12 | 39 | 236 | | IV |
| | Banaras Hindu University | 11 | 33 | 216 | | IV |
| | Chandpur | 13 | 49 | 275 | | IV |
| Uttarakhand | | | | | | |
| Dehradun | Raipur Road, Near parag Diary | 27 | 29 | 275 | | III |
| | Clock Tower, PWD Guest House | 26 | 29 | 608 | | III |
| | Himalaya Drug Co. Near ISBT | 27 | 30 | 433 | | III |
| Haldwani | Govt. Women Hospital | 32 | 25 | 138 | | II |
| Haridwar | SIDCUL, Haridwar | 22 | 26 | 190 | | III |
| Kashipur | BSNL Office, Kashipur | 24 | 30 | 229 | | III |
| Rishikesh | Nagar Palika Parishad | 23 | 28 | 207 | | III |
| Rudrapur | SIDCUL Office | 24 | 29 | 241 | | III |
| West Bengal | | | | | | |
| Alipurduar | Rabikanta High School | 6 | 21 | 106 | | V |
| Amtala | P Roy Industrial Training Institute, Amtala | 7 | 48 | 226 | | V |
| Asansol | Asansol Municipal Corporation | 77 | 49 | 267 | 145 | I |
| | Kangsabati Spinning Mill, Barjora | 20 | 46 | 259 | | IV |
| | Burnpur Town Department, Burnpur | 19 | 48 | 255 | | IV |
| Baharampur | Md. Mozzammal Hossain's House | 14 | 65 | 258 | | IV |
| Balurghat | Balurghat College | 7 | 23 | 109 | | V |
| Bankura | Bankura Municipality | 8 | 29 | 139 | | V |
| Barasat | Barasat Municipality, 73 Rishi Bankim Chandra Road | 21 | 73 | 253 | | III |
| Bardhaman | Bardhaman Town, Rajbati | 11 | 37 | 154 | | IV |
| Barrackpore | Barrackpore Municipality | 25 | 73 | 365 | 110 | III |
| | Dum Dum Telephone Exchange | 26 | 73 | 468 | | III |
| | Khurdah Municipality | 27 | 80 | 441 | | III |
| Baruipur | Baruipur Police Station, Baruipur | 10 | 51 | 257 | | V |
| Bolpur | Bolpur Municipality | 8 | 33 | 134 | | V |
| Chinsura | Chinsura Municipality, Pipulpati Auto Stand | 11 | 64 | 295 | | IV |
| Coochbehar | ABM Seal College | 6 | 22 | 112 | | V |
| | Uttarbanga Krishi Visvavidyalaya, Pundibari | 6 | 20 | 105 | | V |
| Dankuni | Krishnanagar Municipality, Dankuni | 12 | 62 | 307 | | IV |
| Darjeeling | Bose Institute Campus | 5 | 19 | 75 | 44 | V |

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|--------------|---|--|-----|-----|-----|-----|----|
| Durgapur | DMC Water Works, Angadpur | 21 | 46 | 261 | | III | |
| | Kwality Hotel, Bhiringi More, Benachiti | 21 | 49 | 273 | | III | |
| | Bidhannagar, PCBL Club, Muchipara | 24 | 51 | 256 | 136 | III | |
| | Dew India Limited, PCBL More, Durgapur | 21 | 48 | 240 | | III | |
| Ghatal | Annapurna Hotel, Ghatal-Panskura Bus Stand | 16 | 42 | 136 | | IV | |
| Haldia | Debhog Milan Viyapith, Bhabanipur | 16 | 43 | 133 | | IV | |
| | Bhunia Raichak, Driver's Hut, Bhunia | 21 | 50 | 150 | | III | |
| | Supermarket Building, Durgachak | 20 | 47 | 119 | 46 | IV | |
| | WBII DC Ruchi Soya Ind. Durgachak | 21 | 48 | 155 | | III | |
| Howrah | Howrah Municipal Corporation | 21 | 160 | 514 | 290 | III | |
| | Naskarpara Pump House, Ghuseri | 20 | 94 | 441 | | IV | |
| | CDS & Health Centre, Bator | 15 | 119 | 437 | 267 | IV | |
| | Howrah Municipality School, Bandhaghat | 23 | 134 | 462 | | III | |
| Jalpaiguri | Raninagar Jalpaiguri | 5 | 19 | 102 | | V | |
| Jhargram | Jhargram | 14 | 39 | 117 | | IV | |
| Kalimpong | Kalimpong Municipality | 5 | 19 | 79 | | V | |
| Kalyani | College of Medicine & JNM Hospital, Kalyani Industrial Area | 16 | 63 | 229 | 97 | IV | |
| Kharagpur | AMD Building, TATA Bearing | 20 | 47 | 197 | | IV | |
| Kolkata | Salt Lake, Rooftop of CK Market | 10 | 62 | 300 | | V | |
| | KMC office Building, Moulali | 19 | 91 | 428 | 292 | IV | |
| | Minto Park, Inside Park AJC Bose Road | 13 | 72 | 352 | 192 | IV | |
| | Dunlop Bridge, National Sample Survey | 20 | 93 | 409 | | IV | |
| | Behala Chowrasta, Traffic Guard Building | 17 | 78 | 385 | 261 | IV | |
| | Upanagari Sporting Club, Baishnabghata | 2 | 24 | 309 | | V | |
| | Cossipore Police Station, B.T. Road | 69 | 69 | 389 | | I | |
| | Dalhouse Square, Lal Bazaar Police Headqtr. | 86 | 86 | 361 | | I | |
| | Kasba | 41 | 41 | 358 | 335 | I | |
| | RD Kasba | 37 | 105 | 289 | | II | |
| | Infectious Diseases & BG Hospital, Beliaghata | 10 | 70 | 323 | | V | |
| | CESC Building, Mandeville Gardens, Gariahat | 15 | 71 | 342 | | IV | |
| | Administrative Building, Hyde Road | 18 | 86 | 419 | | IV | |
| | KMC Drainage, Pumping Station, 9 Mominpur Road, Mominpur | 10 | 65 | 306 | | V | |
| | Paribesh Bhawan | 12 | 70 | 319 | | IV | |
| | Milan Tirtha Club, Picnic Garden | 8 | 62 | 277 | | V | |
| | Public Health Engineering Office Building, Rajarhar | 7 | 52 | 234 | | V | |
| | Tennis Club Building, 45-46 Canal West Road, | 16 | 83 | 383 | 285 | IV | |
| | | Elite India Rubber Products Pvt.Ltd., Topsia | 19 | 84 | 398 | | IV |
| | | Maniktala Fire Station Building, 17, Bagmari Lane, Ultadanga | 15 | 80 | 393 | | IV |
| | Tollygunge | 10 | 62 | 318 | | V | |
| Krishnanagar | Krishnanagar Municipality, TN Thakur Road | 20 | 71 | 408 | | IV | |
| Malda | WBPCB Office, Paribesh Bhaban, Vill.Abhirampur | 5 | 21 | 111 | | V | |
| Medinipur | Vidyasagar University | 15 | 41 | 116 | | IV | |
| Purulia | Purulia Municipality | 10 | 27 | 135 | | V | |
| Raigunj | Raigunj College | 6 | 20 | 108 | | V | |
| Rampurhat | Rampurhat Municipality | 7 | 28 | 136 | | V | |
| Ranaghat | Ranaghat Municipality, 11 school lane | 20 | 72 | 361 | | IV | |
| Raniganj | Raniganj Municipality | 20 | 45 | 257 | | IV | |
| | Mangalpur, SKS School Mangalpur | 19 | 47 | 254 | | IV | |
| | Jamuria Municipality | 20 | 47 | 256 | | IV | |
| Rishra | Rishra Municipality | 14 | 71 | 308 | | IV | |
| Sankrail | Bharat Co-op Housing Society | 13 | 61 | 311 | | IV | |
| | Bagan Police Station, Bagan | 10 | 50 | 265 | | V | |
| | Dhulagar Gram Pachayat | 12 | 56 | 257 | | IV | |
| | P Mukherjee's House, Near SBI Amta | 13 | 44 | 266 | | IV | |
| Siliguri | Siliguri | 8 | 25 | 124 | 71 | V | |
| Suri | Suri Municipality | 8 | 29 | 136 | | V | |
| Tamluk | HP Gas Service Station, Maniktala | 19 | 47 | 165 | | IV | |
| Tribeni | Tribeni Health Center | 10 | 54 | 256 | | V | |
| Uluberia | ESI hospital nursing building, 3rd floor, Near Sahib Mandir | 11 | 52 | 244 | | IV | |


GOOD

SATISFACTORY

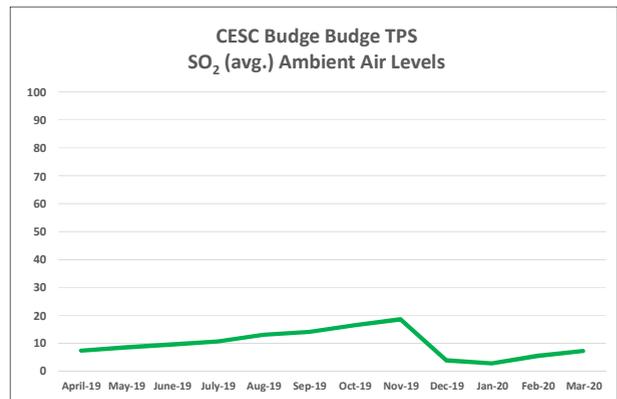
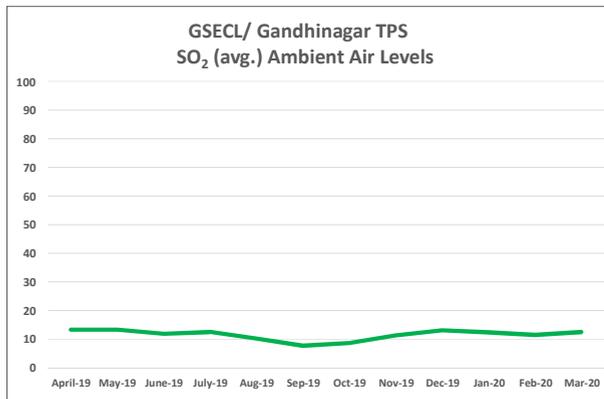
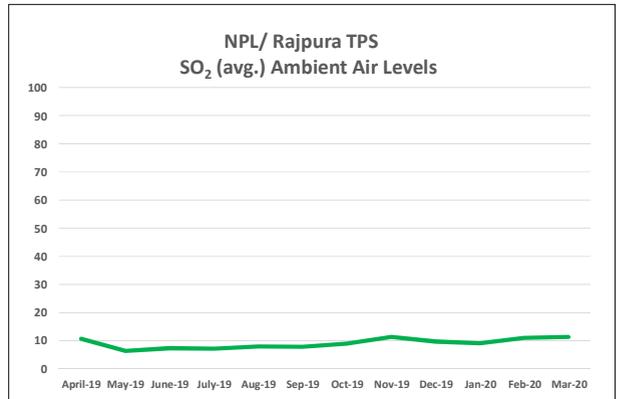
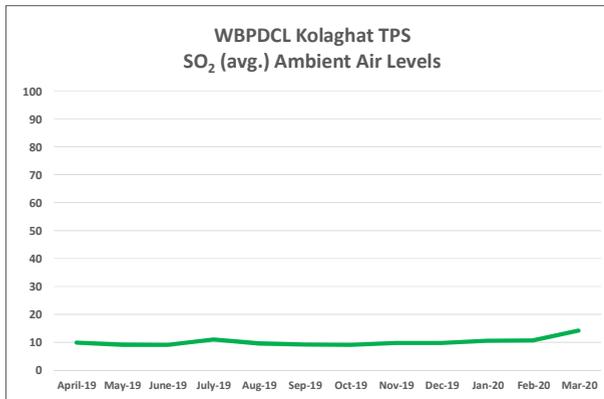
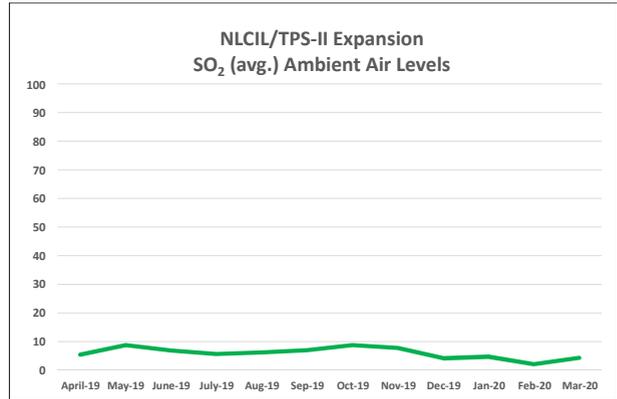
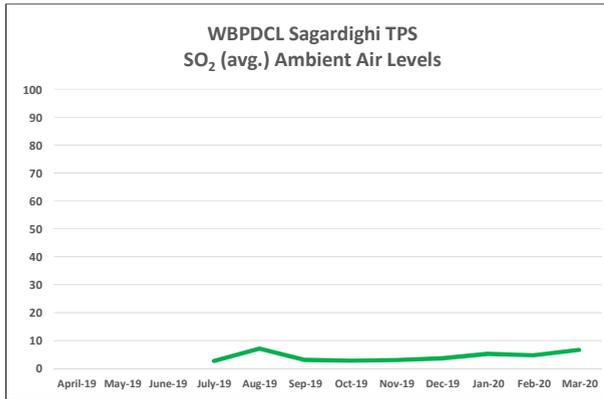
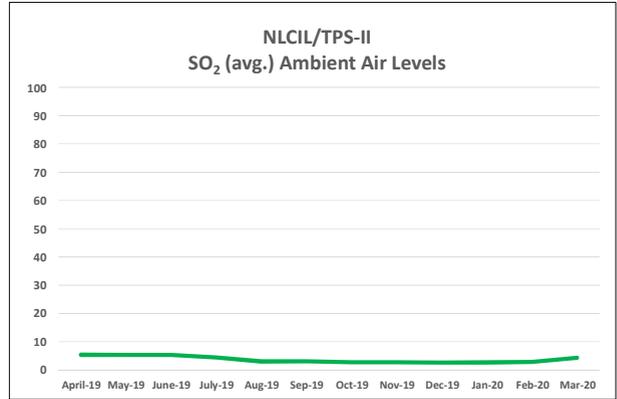
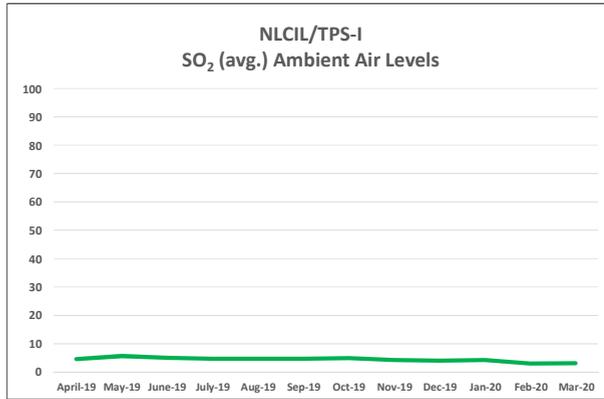
MODERATELY POLLUTED

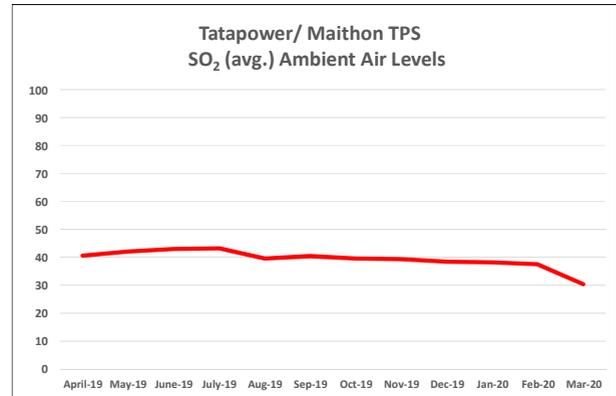
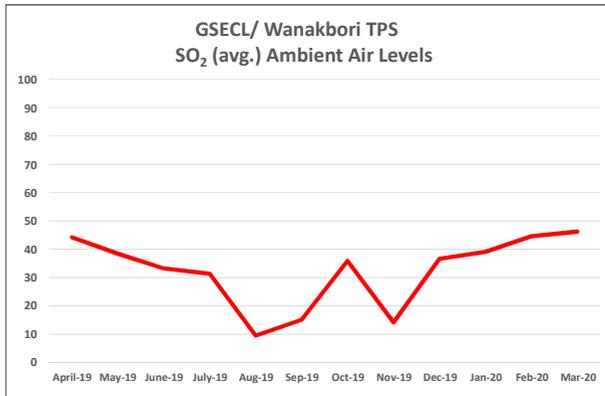
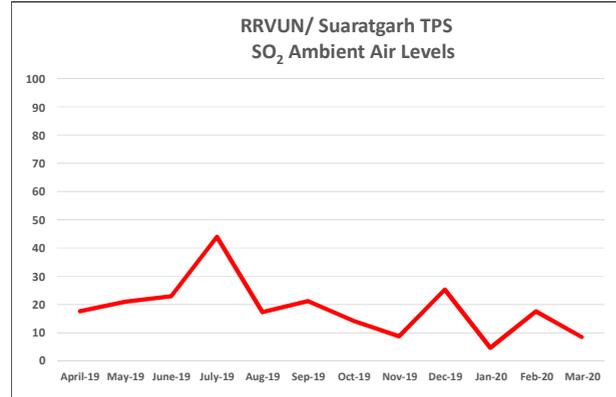
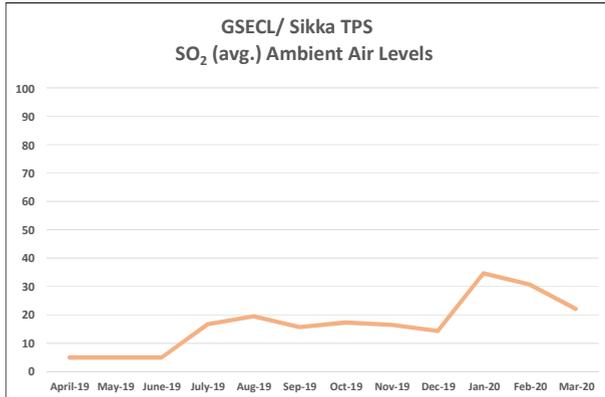
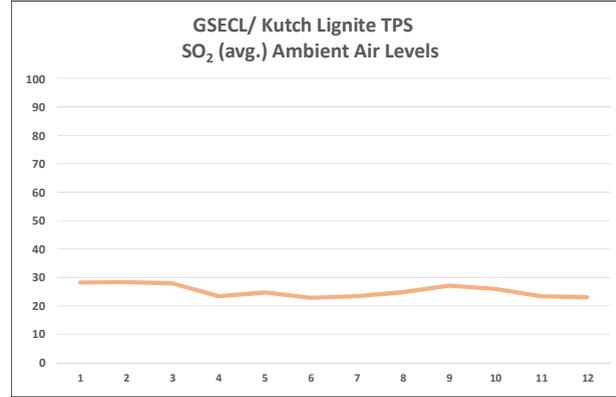
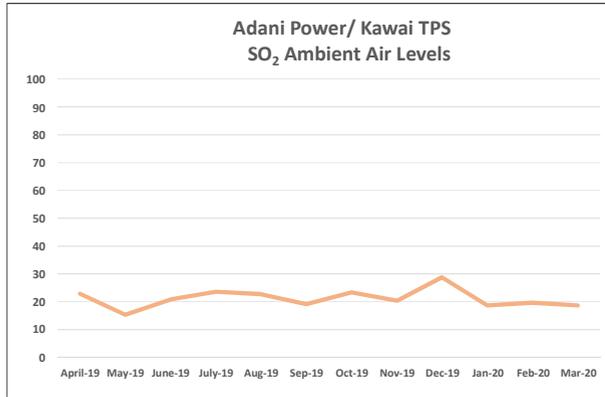
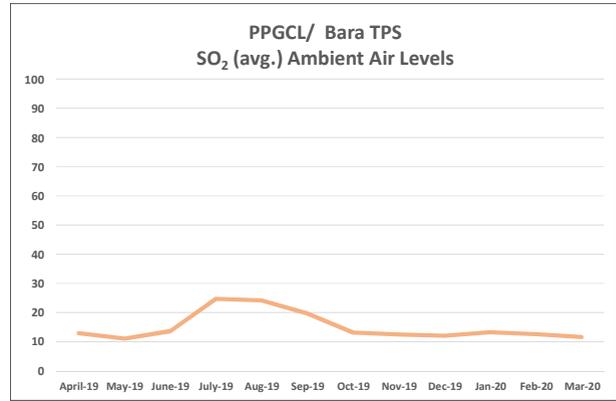
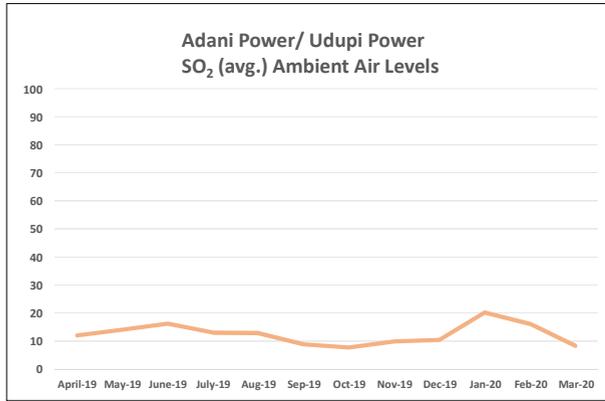
POOR

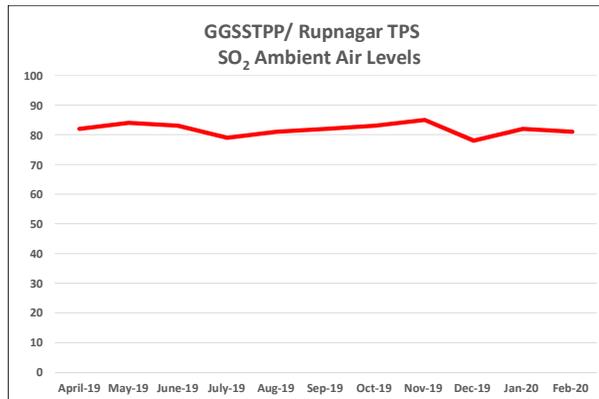
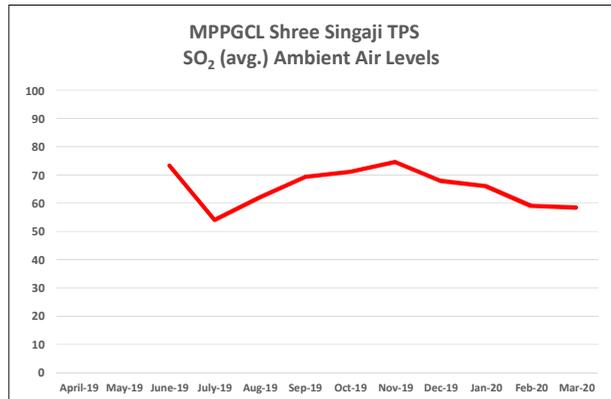
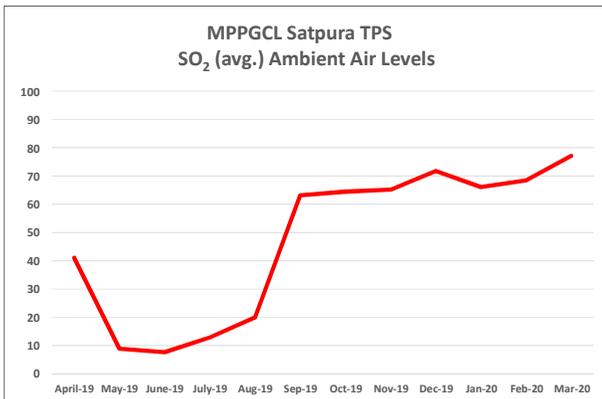
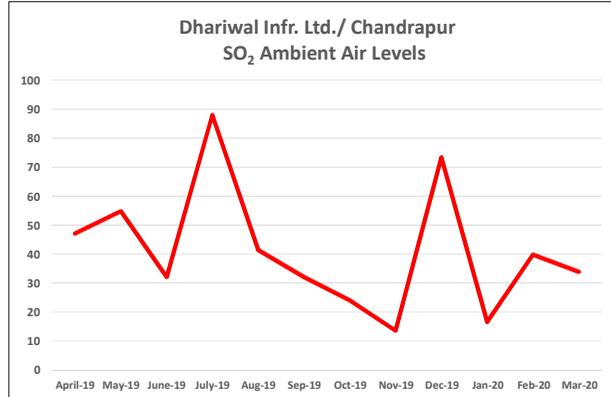
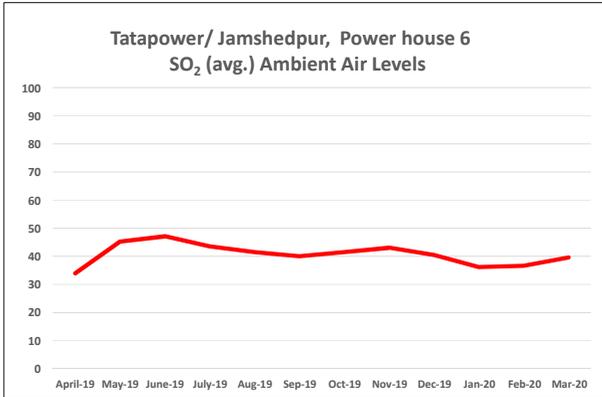
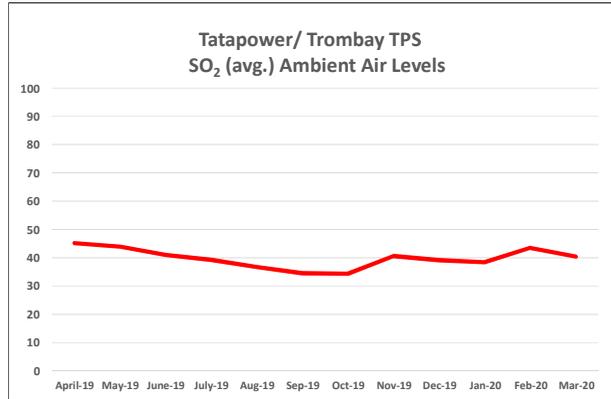
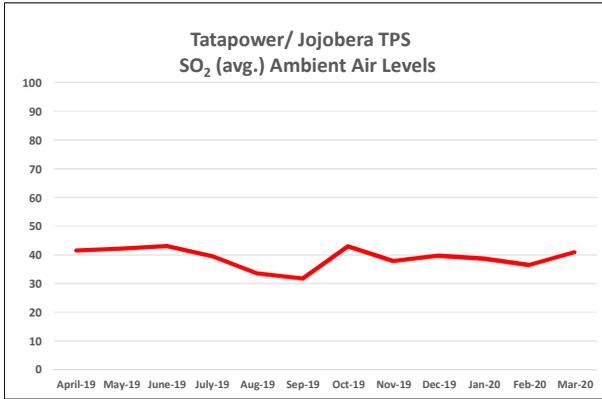
VERY POOR

SEVERE

List of Power Plants according to SO₂ Levels in the Ambient Air and their Location







Air Quality Dispersion Modeling Study of Talwandi Sabo Power Ltd

(Final report)

**Submitted to
Talwandi Sabo Power Ltd**



**Mukesh Sharma; PhD
Professor, Department of Civil Engineering
Indian Institute of Technology Kanpur, Kanpur- 208016
January 2020**

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1. Background

The important emissions from coal combustion include carbon dioxide (CO₂), nitrogen oxides (NO_x), sulfur dioxide (SO₂), air-borne inorganic particles such as flyash, and other trace elements, especially mercury. Estimated emissions of major pollutants from coal-based power plants in the country are: 1.6 million tonnes of particulate matter, 1.5 million tonnes of NO_x and 3.0 million tonnes of SO₂ every year and whopping over 160 million tonnes of flyash generation. These are large quantities. If we do not recognize this enormous environmental issue and not invest in technology, we pay through increased human morbidity and mortality. Science tells that sulfur and nitrogen oxides convert into fine particles of sulfates and nitrates posing greater health problem than the precursor gases sulfur and nitrogen oxides. To estimate the extent impact of SO₂ emission and its formation into sulfate particles, both short and long-distance modelling needs to be undertaken.

Talwandi Sabo Power Ltd has decided to conduct a modeling study related to SO₂ emission at their plant location Mansa, Punjab. In this context, Talwandi Sabo Power Ltd has desired that Indian Institute of Technology, Kanpur to undertake a study on air quality modeling through the state-of-the-art dispersion model AERMOD for dispersion and impact of SO₂ emission.

This report consists of the modeling exercise conducted from state-of-the-art dispersion model AERMOD.

2. The objectives of the Study

The study has the following objectives:

- Modeling of SO₂ and NO_x emission from Talwandi Power plant at a short distance as well as long-distance up to 250 km.
- Modeling of SO₄ and NO₃ formation precursor gaseous emission of SO₂ and NO_x from Talwandi Power plant at a short distance as well as long-distance up to 250 km.

3. The Scope of the Work

The study has the following scope of work:

1. Modeling Study on the dispersion of Pollutants, mainly Sulphur dioxide emission from the plant.

2. Estimating an increase in Sulphur dioxide and sulfate at GLC (ground level concentration) using both Short distance and long-distance dispersion model.

4. Data Availability

All the data related to plant emission is provided by Talwandi Sabo Power Ltd.

| S.No | Description | Details |
|------|--|---|
| 1 | Geographical coordinates of all the stacks. (latitude and longitude) | 29°55'18"N, 75°14'10"E |
| 2 | Stack Height from GL | 275 M |
| 3 | Stack diameter at top | Chimney is constructed with RCC shell. RCC shell has the top diameter of 10.45M and each flue can have the diameter of 7.2M. Chimney drawings enclosed for reference. |
| 4 | Exit Gas velocity | 25 m/s at full load (660 Mw), 17 to 19m/s at 350 Mw |
| 5 | Stack Temperature | 125 to 130 Deg.C |
| 6 | Stack pressure | not available |
| 7 | Stack Monitoring Reports of each stack | CEMS stack monitoring report enclosed |
| 8 | The emission rate of pollutants (measured) | SO ₂ - 0.975 Kg/Sec (not measured at plant and calculation sheet with last FY average Fuel characteristics have been enclosed) |
| 9 | Fuel Characteristics (sulphur and nitrogen content) | FY18-19 yearly average fuel charecteristics : i. Carbon-41.55% ii. Hydrogen- 2.57% iii. Nitrogen- 0.77% iv. Oxygen- 4.90% v. Sulphur- 0.41% vi. Ash- 33.30% Moisture- 16.49% |
| 10 | Fuel usage (per day or per year) including oil | FY18-19 yearly coal consumption- 68,73,215 MT FY18-19 yearly Oil consumption: LDO- 1810 KL, HSD- 232 KL, HFO- 1841 MT |
| 11 | Observed Meteorological Data | TSPL weather data Enclosed |
| 13 | Capacity/power of ID and FD fans | 1. ID fan (2x60% capacity at worst coal) :- 2523600m ³ /hr / power 5.4 MW 2. FD fan(2x60% capacity at worst coal) :- 993600 m ³ /hr / Power 2.1 MW |
| 14 | Type of firing in boiler | Pulverised coal CUF (circular Ultra Firing) wall tangential staged firing |
| 15 | Plant load factor | 61.34 % (for FY 2018-19) |
| 16 | Last years energy generation and coal consumption | Energy generation :- 10639.91 Mu for 2018-19 Coal consumption :- 6873215 MT for 2018-19 |
| 17 | Gas flow rate in the stack | 23,77,880 Nm ³ /hr on dry basis |

The SO₂ emission rate has been taken as 2.77 kg/s which refers to full load generation (1980 MW) for modelling exercise for SO₄. For the purpose of estimation of SO₂ model concentration, to facilitate the comparison with actual measured data, it was taken as per the coal consumption in the FY 2018-19 at 1.70 kg/s. For NO_x, the emission is taken as 0.55 kg/s as per the ratio of NO_x to SO₂ emission (20%).

5. Dispersion Modeling Methodology

The current state-of-the-science, comprehensive meteorological and regulatory air dispersion modeling systems including WRF-CHEM (Grell, et al., 2005) modeling has been used to assess the short- and long-range transport of pollutants (Figure 1).

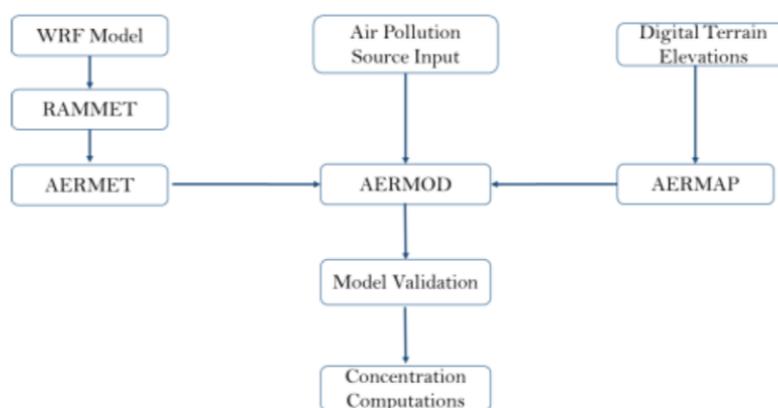


Figure 1: Methodology adopted for the Study

American Meteorological Society/ Environmental Protection Agency's Regulatory Model (AERMOD) having the ability to characterize the planetary boundary layer (PBL) through both surface and mixed layer scaling has been used. This model is called AMS/USEPA regulatory model or AERMOD which is a complete and powerful air dispersion modeling package which seamlessly incorporates the following popular US EPA air dispersion models into one integrated interface:

- AERMOD
- ISCST3
- ISC-PRIME

The AERMOD modeling system consists of one main program (AERMOD) and two pre-processors (AERMET and AERMAP). AERMOD uses terrain, boundary layer and source data to model pollutant transport and dispersion for calculating temporally averaged air pollution concentrations.

Onsite hourly meteorological data were generated by WRF (weather research and forecasting) model. The model domain area up to 250 km (domain area 400 x 400 km²) towards prevailing downwind direction was considered. NCEP FNL (Final) Operational Global Analysis data with the temporal resolution was used as an input to WRF. The output of WRF model (i.e. meteorological data) was used as the input to AERMOD in pre-processor RAMMET and AERMET of the model. These meteorological parameters (wind speed, wind direction, rainfall, temperature, humidity, pressure, ceiling height, global horizontal radiation, and cloud cover) were obtained from WRF model. The terrain data at 90 m resolution of Shuttle Radar Topography Mission (SRTM) were used in AERMAP which is also the pre-processor of AERMOD. This provided a physical relationship between terrain features and the behaviour of air pollution plumes and generates location and height data for each receptor location.

5.1 WRF - Meteorological Modeling

The next-generation, non-hydrostatic, mesoscale Advanced Research Weather Research and Forecasting (WRF-ARW) model version 3.6 was used as the meteorological model for providing dynamic meteorological parameters as inputs to WRF-Chem models. The modeling domain for the meteorological modeling system was set up for the entire study area with a spatial grid resolution of 4.0 km at a regional level. The model was optimized for various parameters by achieving the best possible meteorological validation. Simulations were done for the winter and summer months. The initial and lateral boundary conditions for the WRF model was obtained from National Centers for Environmental Prediction (NCEP), USA in the form of FNL (Final Analysis) data, available at every 6-hour interval and at a spatial resolution of 0.1⁰ x 0.1⁰ containing geo-potential height, pressure, horizontal and vertical wind components, temperature, specific humidity and cloud cover at various vertical levels up to the top of the troposphere along with the soil temperature and soil moisture. The WRF output files were post-processed for visualization and application in the air quality models.

5.2 WRF-Chem Modeling

WRF-Chem has been used to investigate the impact of sulfate and nitrate with combinations of RADM2 (Second Generation Regional Acid Deposition Model) chemical mechanism and MADE/SORGAM (Modal Aerosol Dynamics Model for Europe/Secondary Organic Aerosol Model) aerosols including some aqueous reactions for secondary inorganic (SIA). Gas-phase chemistry, aerosol chemistry, wet scavenging and cloud chemistry option were turned on in the simulations. The emission inventory for the plant is prepared and make it compatible with the WRF-Chem.

6. Study Area Description

Talwandi Sabo Power Limited (TSPL) was incorporated as an SPV by Punjab State Electricity Board (PSEB) with the purpose of constructing a 1980 (3×660) MW thermal power plant at Village Banawala, Mansa-Talwandi Sabo Road, District Mansa, Punjab, India (Figure 2). Sterlite Energy Limited (a Vedanta group company) was selected as the developer of the project based on the Tariff Based Competitive Bidding Process (Case-2) on BOO basis for supply of 100% power to Punjab State Electricity Board (PSEB) for 25 years as per the guidelines of Government of India. Power Purchase Agreement and other related agreements were signed between TSPL and PSEB on September 1, 2008, and the ownership of Talwandi Sabo Power Limited was transferred to Sterlite Energy Limited (Now Vedanta Limited) on that date.



Figure 2: Plant Location

Talwandi Sabo Power Limited (TSPL), an ISO 9001:2015; ISO 14001:2015, ISO 45001:2018, ISO 39001:2018 and ISO 50001:2018 certified company & wholly owned subsidiary of Vedanta Limited implemented the largest 1980 (3×660) MW Greenfield Power Project in Punjab, India, with all consents and approvals in place.

TSPL is one of the first few Supercritical plants being constructed in the country. The Supercritical technologies are environment friendly and energy efficient technologies.

7. Meteorological Data

In evaluating the emission dispersion from the Talwandi Sabo power plant, the meteorological dataset was generated using the weather research and forecasting model for the period of January 01, 2018 – December 31, 2018. The frequency distribution and a frequency count data are obtained by processing the hourly surface file. The wind rose diagrams are shown in Figure 3.

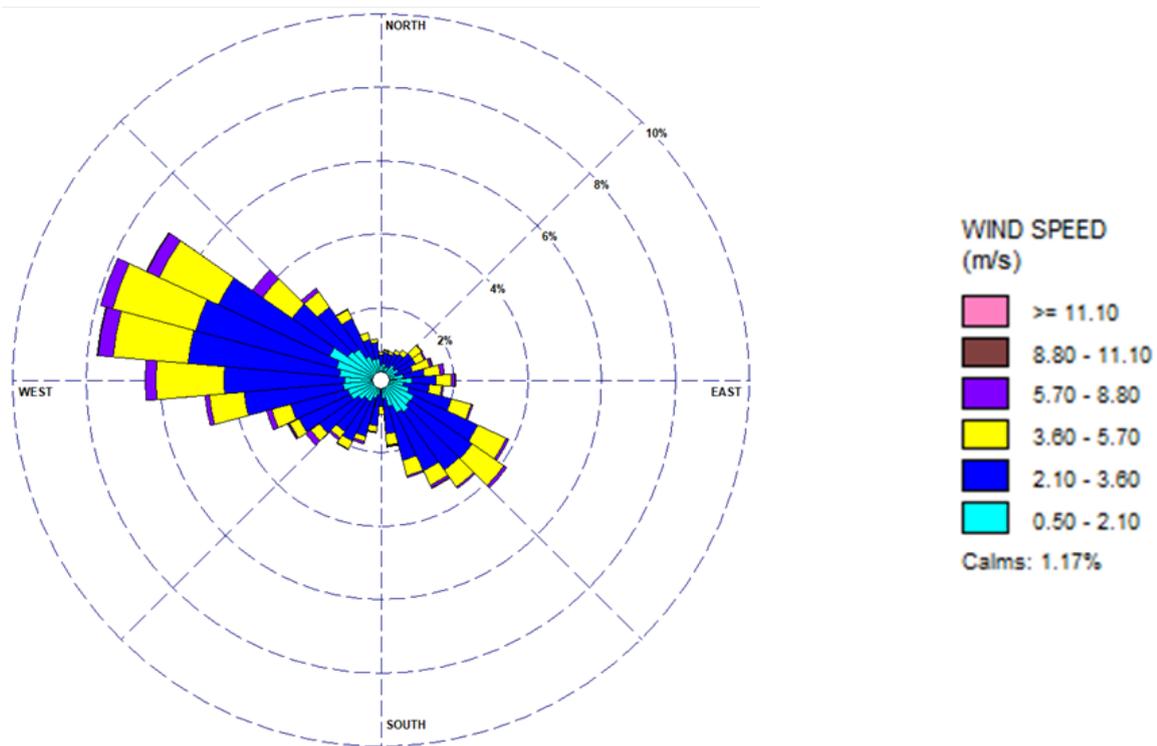


Figure 3 Wind Rose Plot for the year 2018

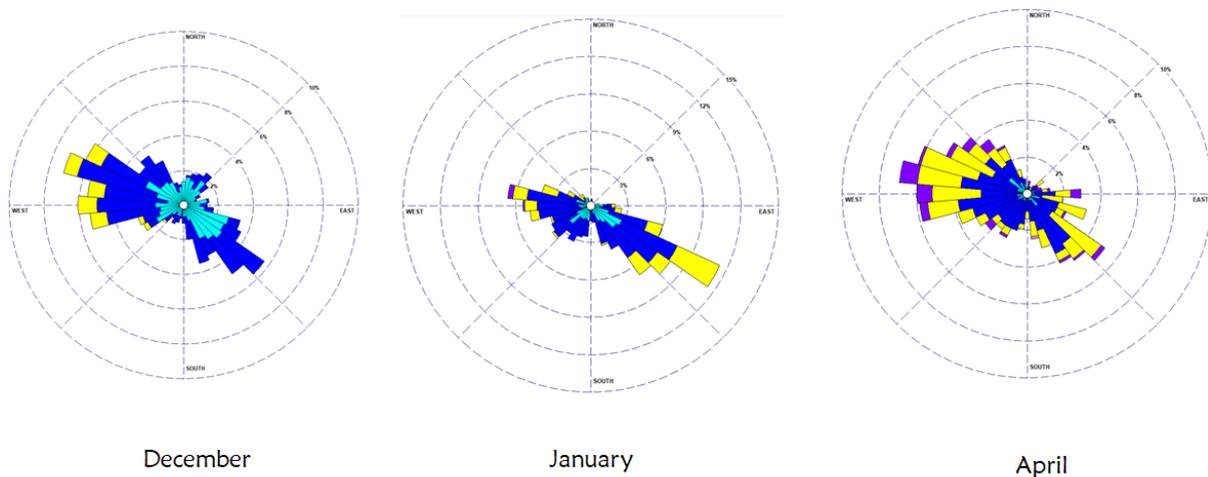


Figure 4 Wind rose plot the main month in different season

The AERMET program is a meteorological pre-processor that prepares hourly surface data and upper air data for use in the USEPA air quality dispersion model AERMOD.

8. Digital Terrain Elevation Model

The DEM is the most critical information required for complex terrain. The terrain affects the dispersion significantly. The advantages of DEM are:

- DEM is required to predict wind flow patterns and dispersion.
- Receptor elevations will be required for air quality analysis. The DEM is necessary for determining receptor elevations.
- AERMOD processes Digital Elevation Model (DEM) data and creates an elevation and height scale (the terrain height and location that has the greatest influence on dispersion) for each receptor in the domain.
- In complex terrain, AERMOD simulates a plume according to the concepts of the critical dividing streamline that defines which plumes flow over the hill and which flow around it. USEPA recommends the use of AERMOD while modeling in complex terrain.
- Special attention to DEM is given to obtain the results with better accuracy and precision.

The terrain is the vertical dimension of the land surface. Gridded terrain elevations for the proposed modeling domain were derived from 3 arc-second digital elevation models (DEMs) produced by the United States Geological Survey (USGS). Data are provided in files covering 1 degree by 1-degree blocks of latitude and longitude. The processed terrain elevation data is shown in Figure 5.

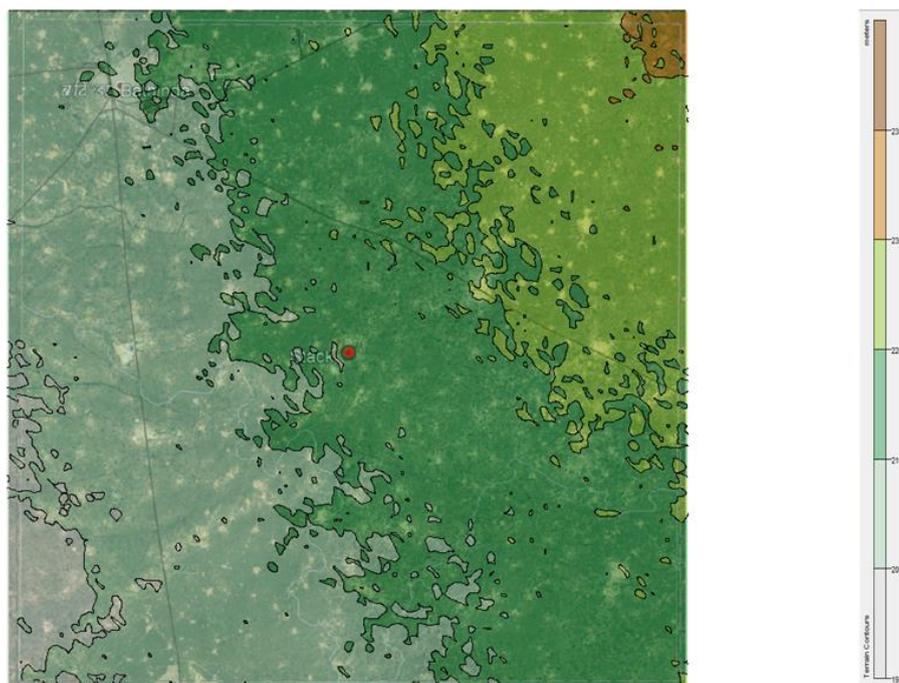


Figure 5 DEM of the study area

9. Receptor Elevation

Receptor elevations were obtained from National elevation dataset (NED) distributed by the USGS. The NED data was processed with AERMAP, a pre-processor program which was developed to process terrain data (base elevation and hill height scale data) in conjunction with a layout of receptors and sources to be used in AERMOD. For this study, the model was run with elevations and without elevation to understand the effect of hills.

10. Evaluation of Dispersion Modelling Results

The air dispersion modeling was done with complex terrain (using the elevation heights in the project area). By this approach, all the elevations of terrain are accounted, and the air dispersion will reflect more accurate results as compared to flat terrain.

The air quality modeling results for SO₂ from Talwandi Sabo Power Plant is presented in Table 1. The peak concentration varies from 25.47 to 45.9 µg/m³.

Table 1 SO₂ Air Quality Modeling results of Talwandi Sabo Power Plant

| Month | Peak Concentration (µg/m ³) | Average Concentration (µg/m ³) |
|----------|---|--|
| December | 25.47 | 8.75 |
| January | 29.8 | 13.7 |
| April | 45.9 | 12.1 |

The peak and average concentration at different locations (distance) are presented in Table 2:

Table 2 SO₂ results at distances towards direction of Delhi of Talwandi Sabo Power Plant

| Month | SO ₂ (µg/m ³) | 10km | 20km | 30km | 40km | Beyond 40km | Date |
|----------|--------------------------------------|------|------|------|------|-------------|------------|
| December | Peak Concentration | 14 | 8 | 6 | 4 | <4 | 12-12-2018 |
| | Average Concentration | 4.5 | 2.5 | 1.7 | 1.5 | <1 | - |
| January | Peak Concentration | 13 | 7 | 5 | 4 | <4 | 31-01-2018 |
| | Average Concentration | 2.5 | 1.4 | 1 | 0.7 | <0.7 | - |
| April | Peak Concentration | 7 | 3 | 1 | 0 | 0 | 22-04-2018 |
| | Average Concentration | 2.5 | 1.2 | 1 | 0 | 0 | - |

The wind rose & Iso-concentration graph of SO₂ and central line GLC and terrain contour is shown in Figure 6 to 32.

SO₂ 1st Highest Conc. for December Month

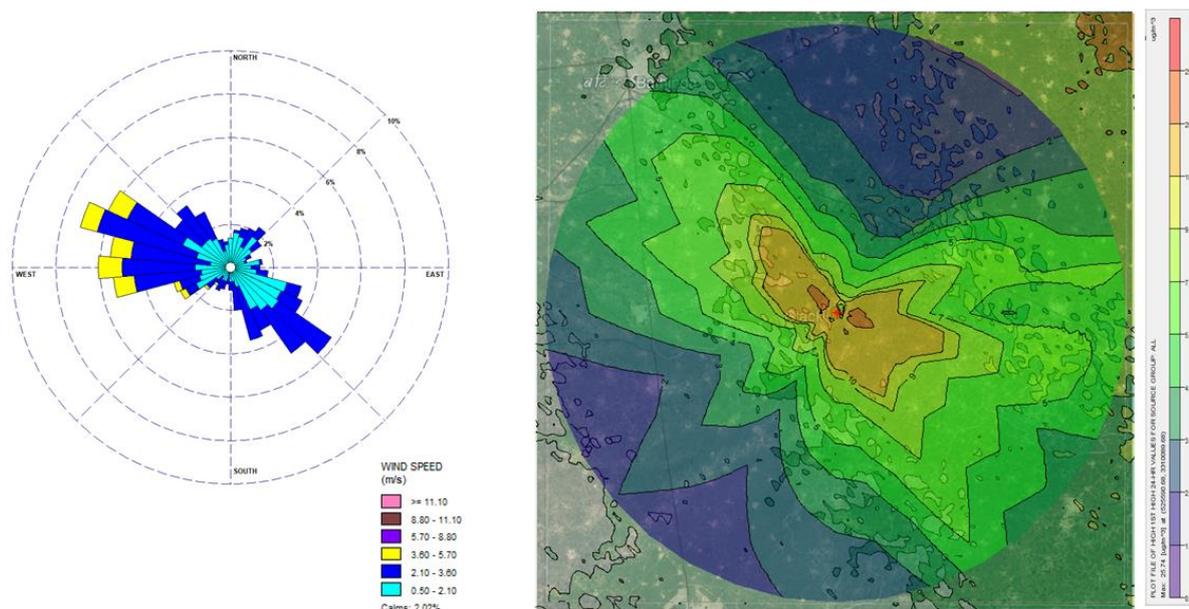


Figure 6 SO₂ 1st Highest Conc. for December Month

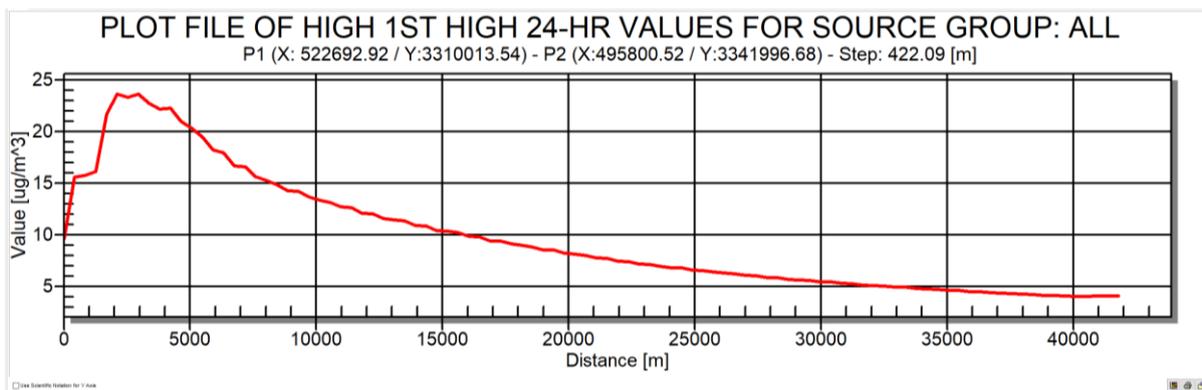


Figure 7 SO₂ 1st Highest Conc. Cross Section towards Bhatinda

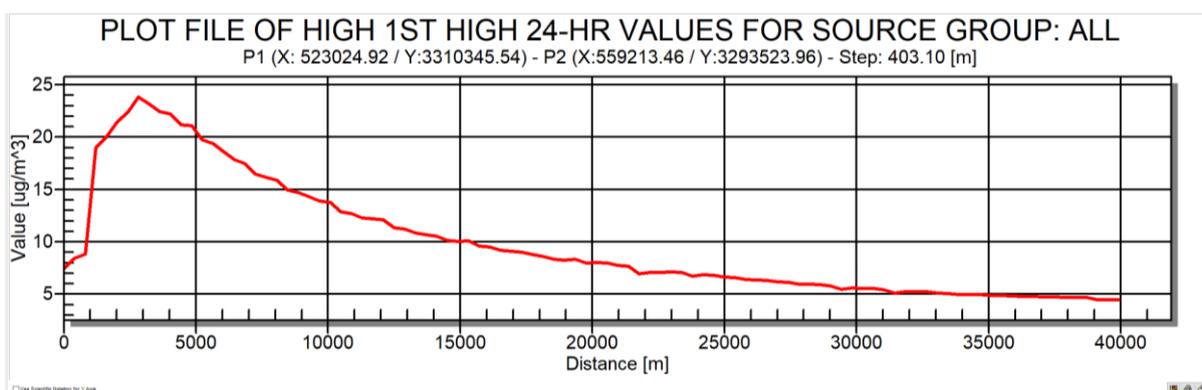


Figure 8 SO₂ 1st Highest Conc. Cross Section towards Delhi

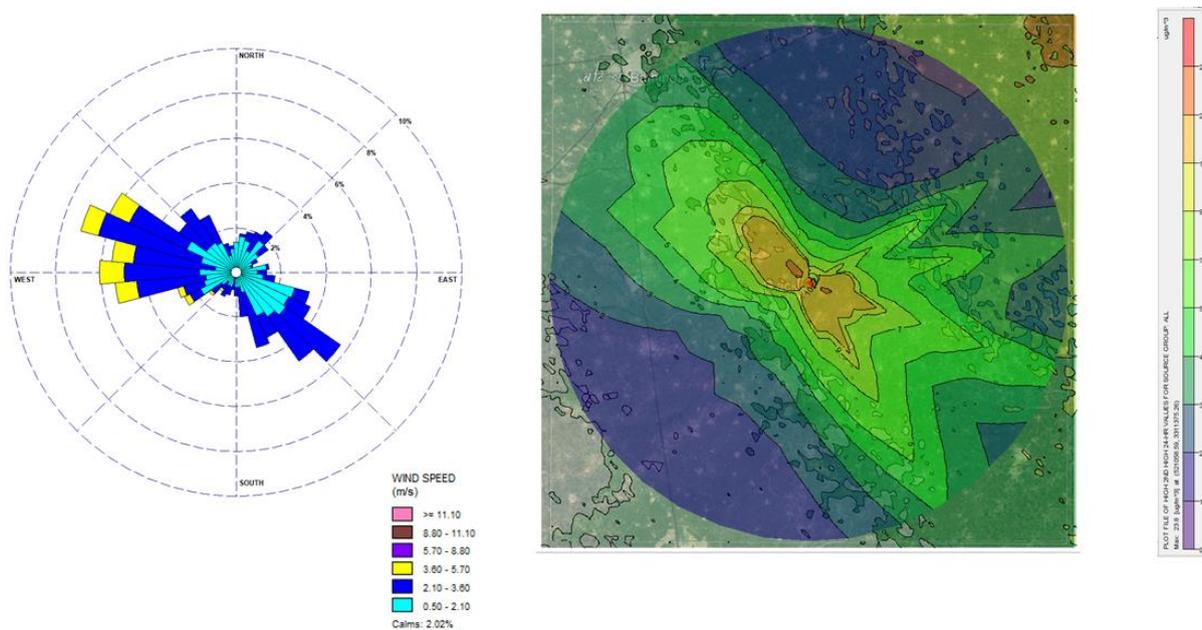


Figure 9 SO₂ 2nd Highest Conc. for December Month

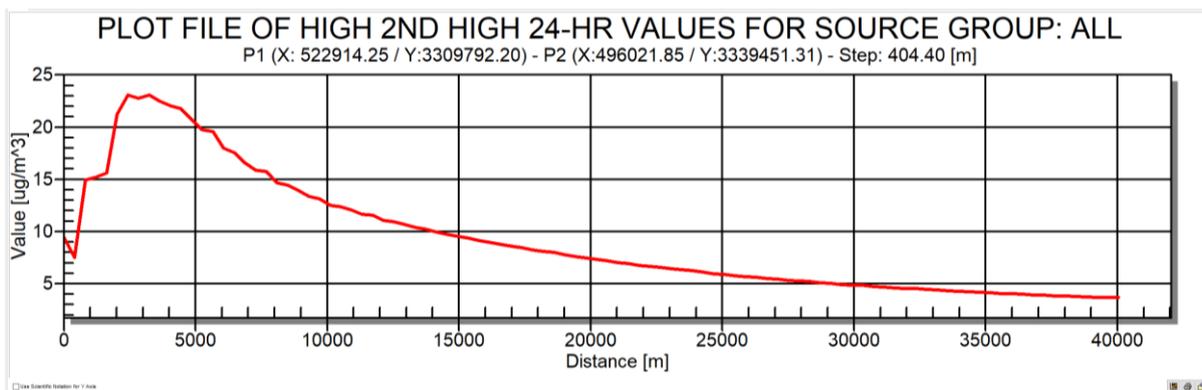


Figure 10 SO₂ 2nd Highest Conc. Cross Section towards Bhatinda

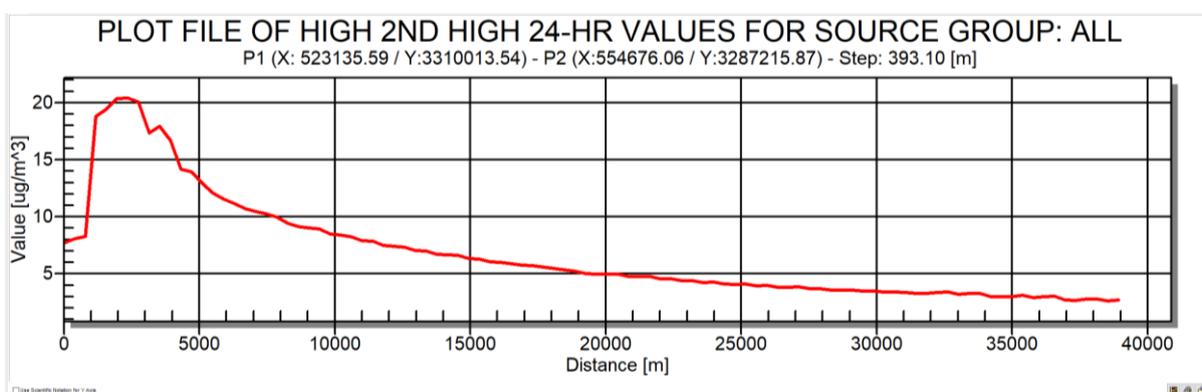


Figure 11 SO₂ 2nd Highest Conc. Cross Section towards Delhi

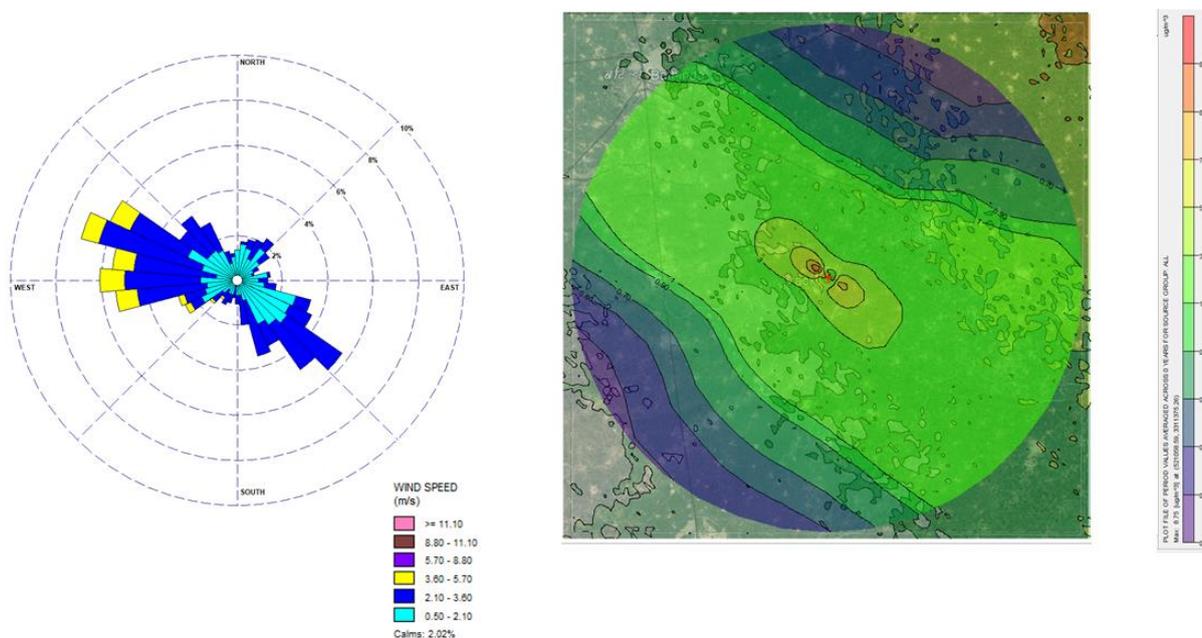


Figure 12 SO₂ Average Conc. for December Month

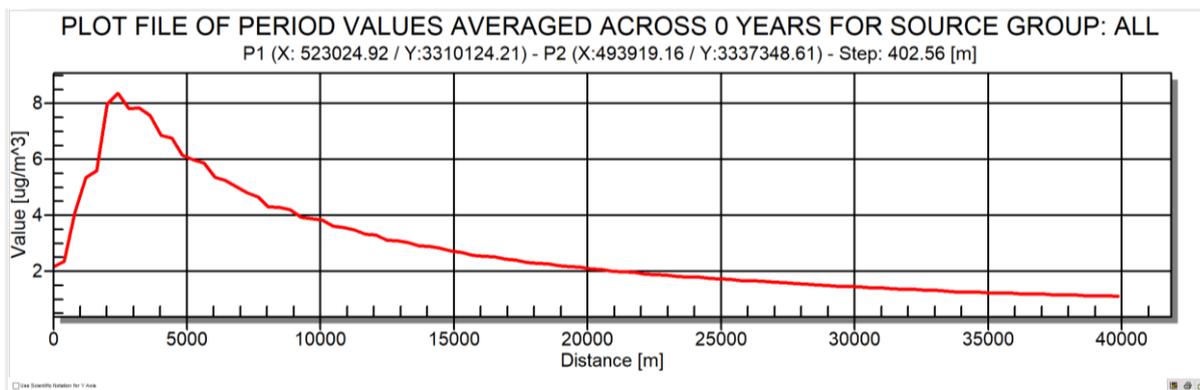


Figure 13 SO₂ Average Conc. Cross Section towards Bhatinda

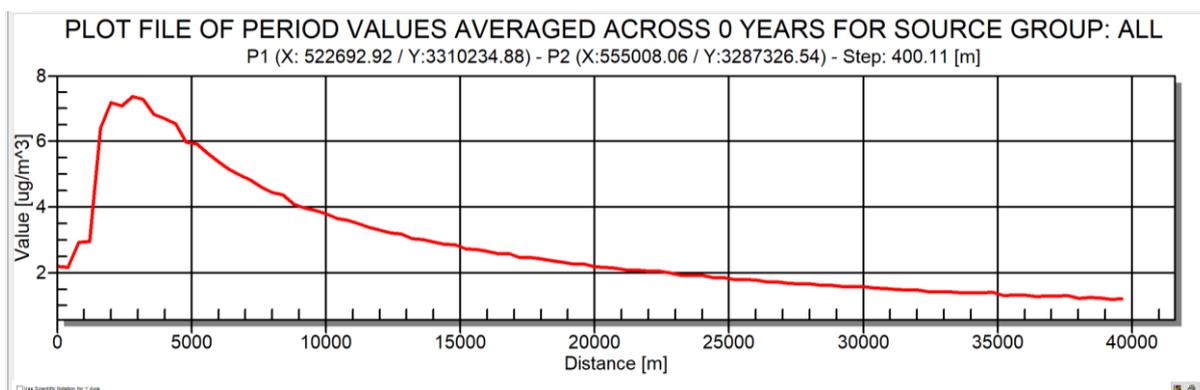


Figure 14 SO₂ Average Conc. Cross Section towards Delhi

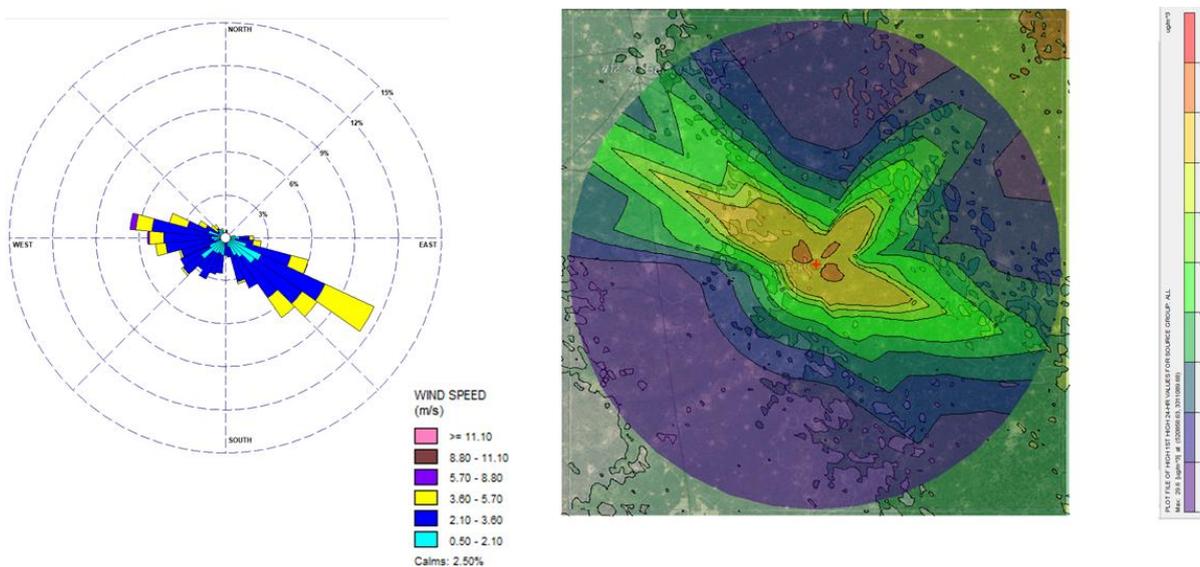


Figure 15 SO₂ 1st Highest Conc. for January Month

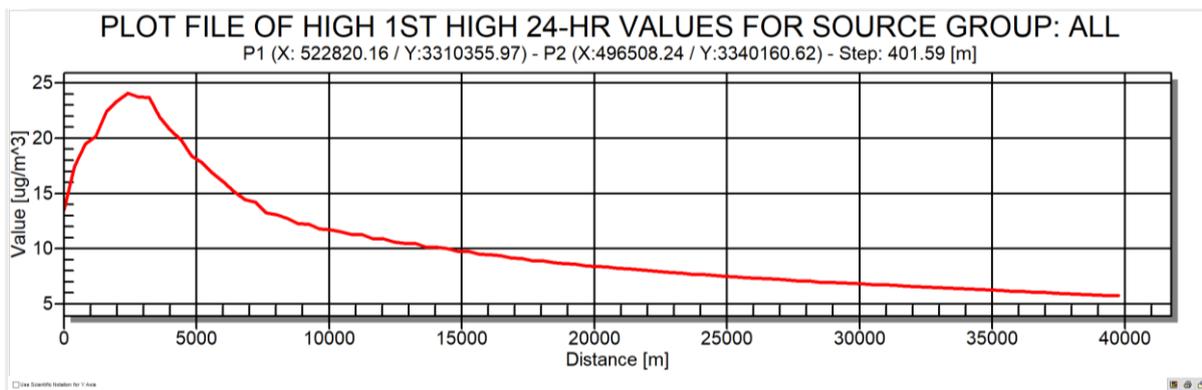


Figure 16 SO₂ 1st Highest Conc. Cross Section towards Bhatinda

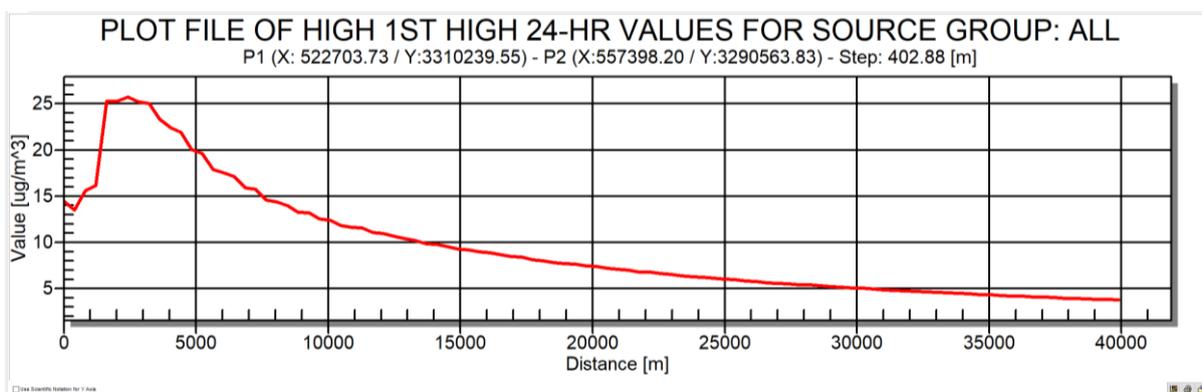


Figure 17 SO₂ 1st Highest Conc. Cross Section towards Delhi

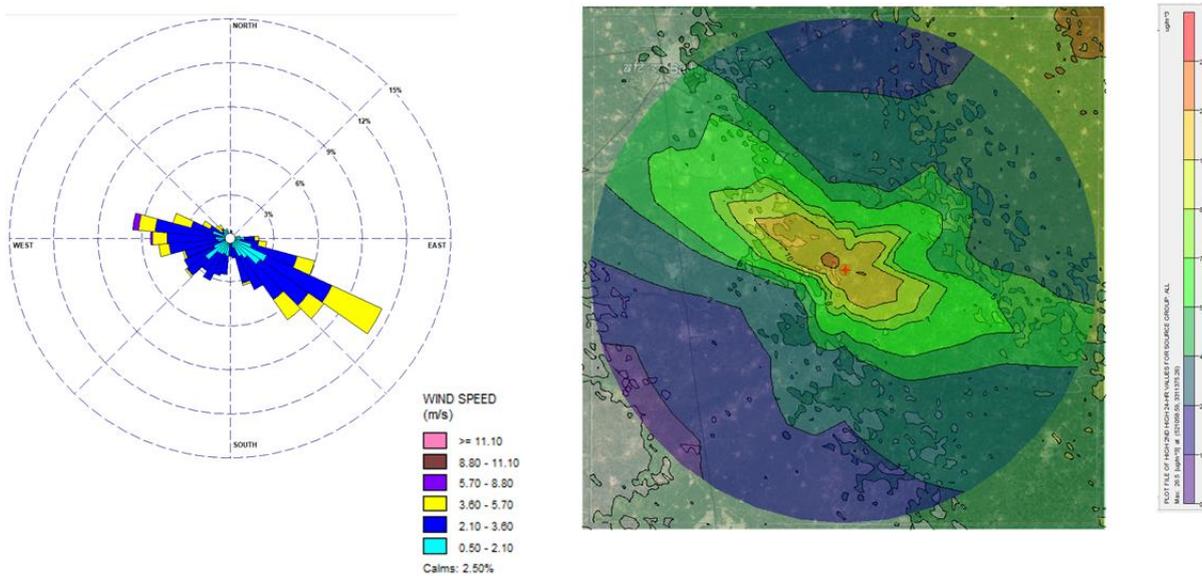


Figure 18 SO₂ 2nd Highest Conc. for January Month

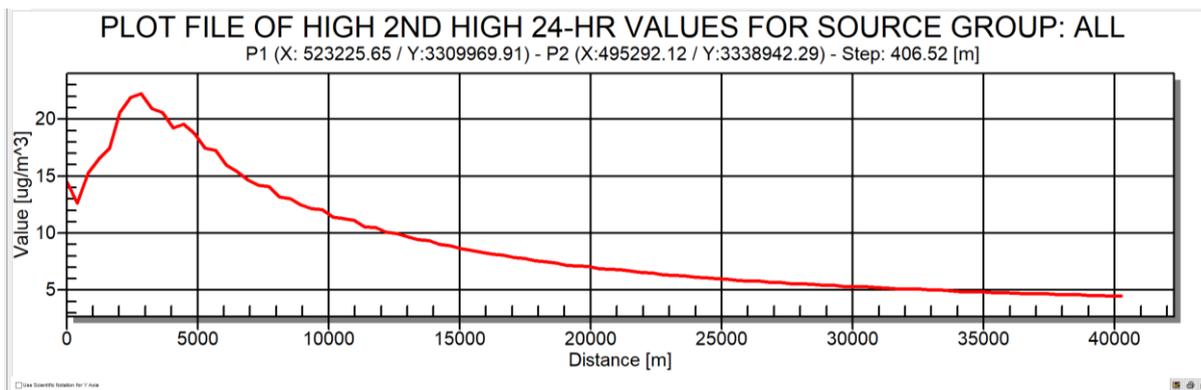


Figure 19 SO₂ 2nd Highest Conc. Cross Section towards Bhatinda

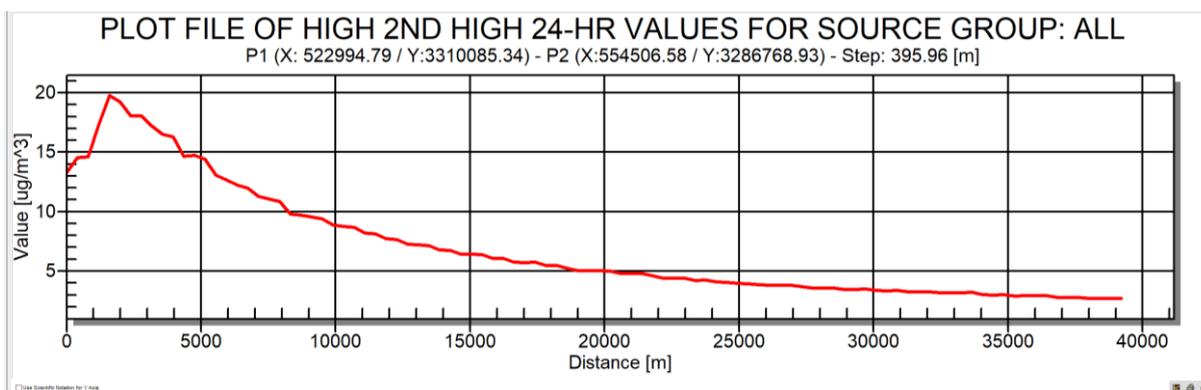


Figure 20 SO₂ 2nd Highest Conc. Cross Section towards Delhi

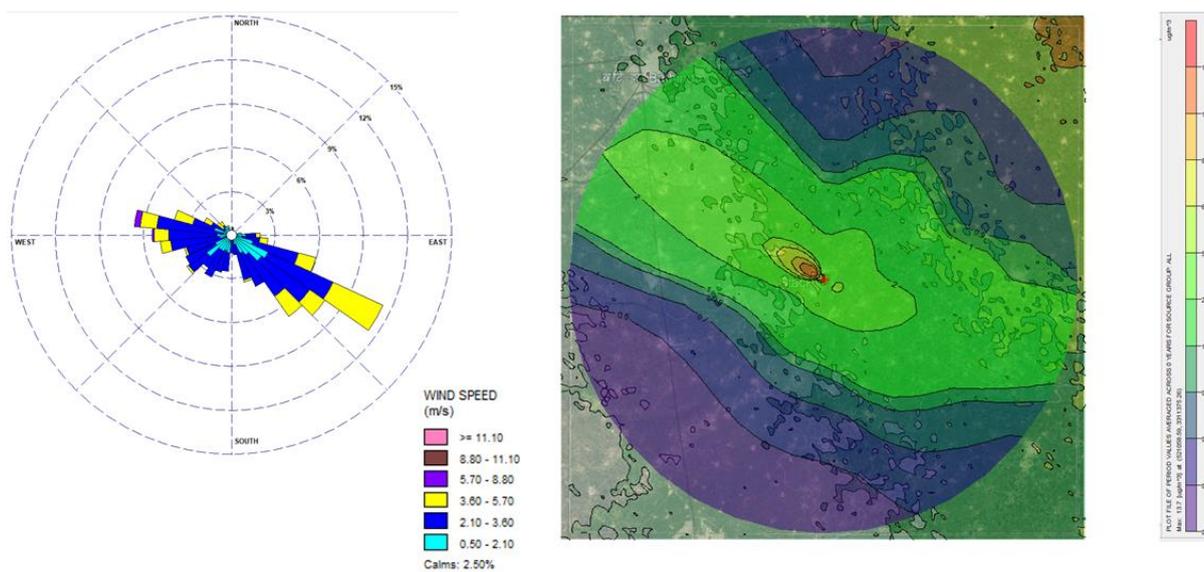


Figure 21 SO₂ Average Conc. for April Month

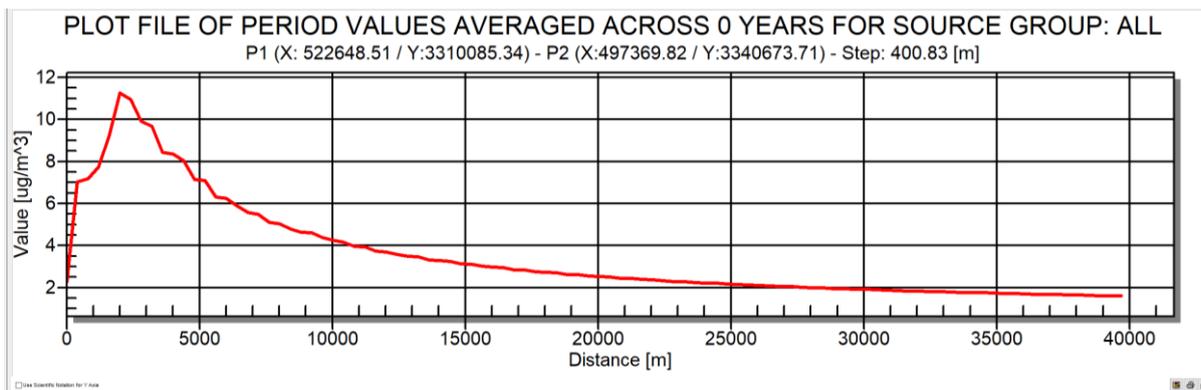


Figure 22 SO₂ Average Conc. Cross Section towards Bhatinda

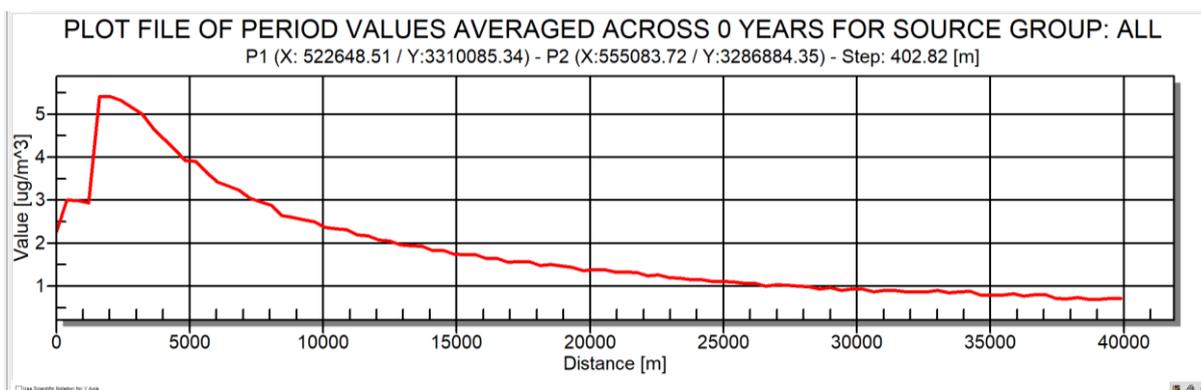


Figure 23 SO₂ Average Conc. Cross Section towards Delhi

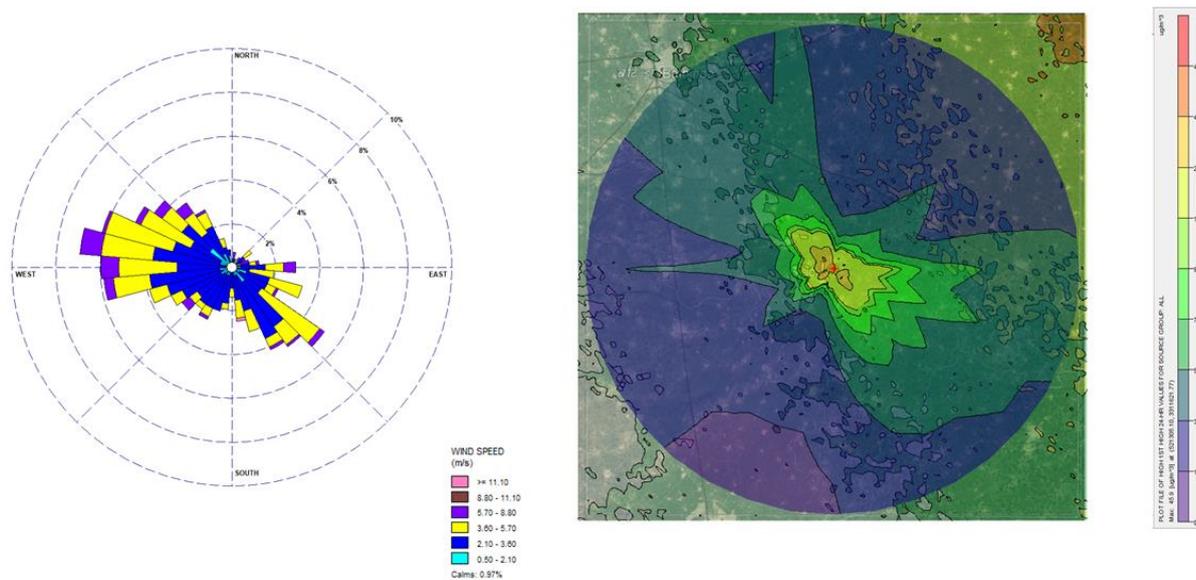


Figure 24 SO₂ 1st Highest Conc. for April Month

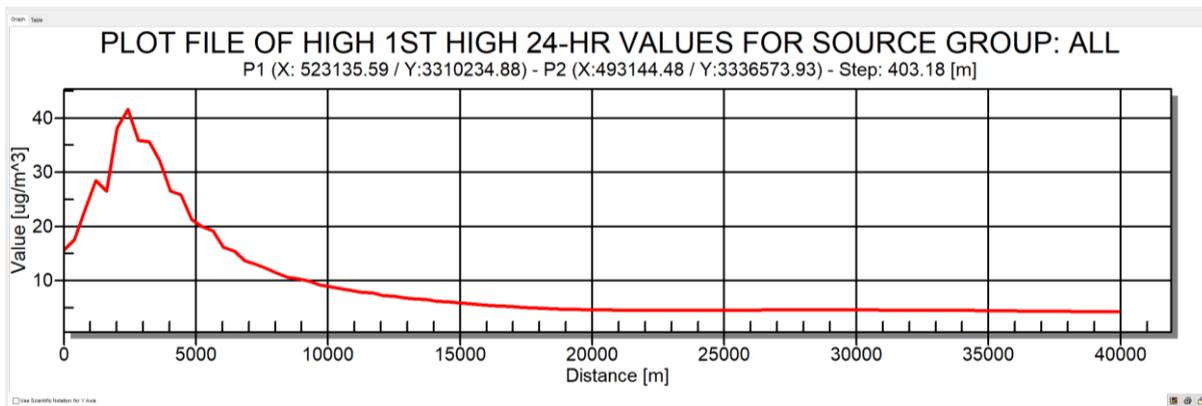


Figure 25 SO₂ 1st Highest Conc. Cross Section towards Bhatinda

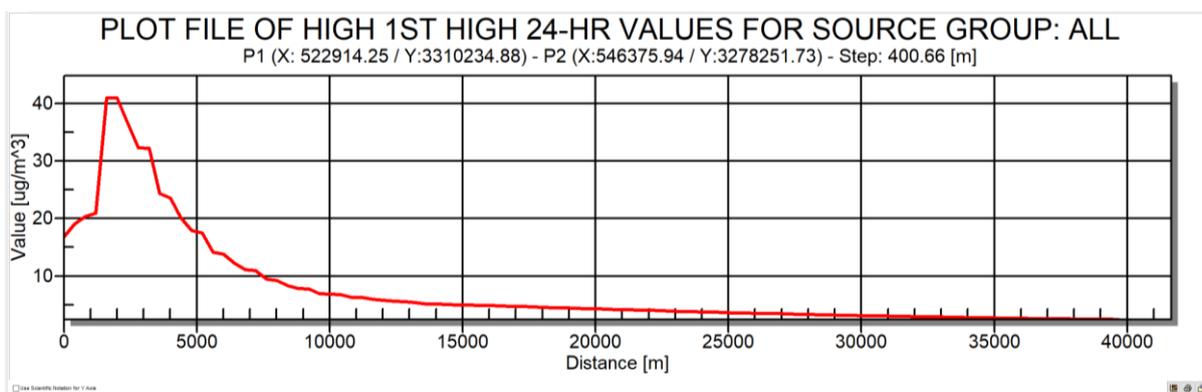


Figure 26 SO₂ 1st Highest Conc. Cross Section towards Delhi

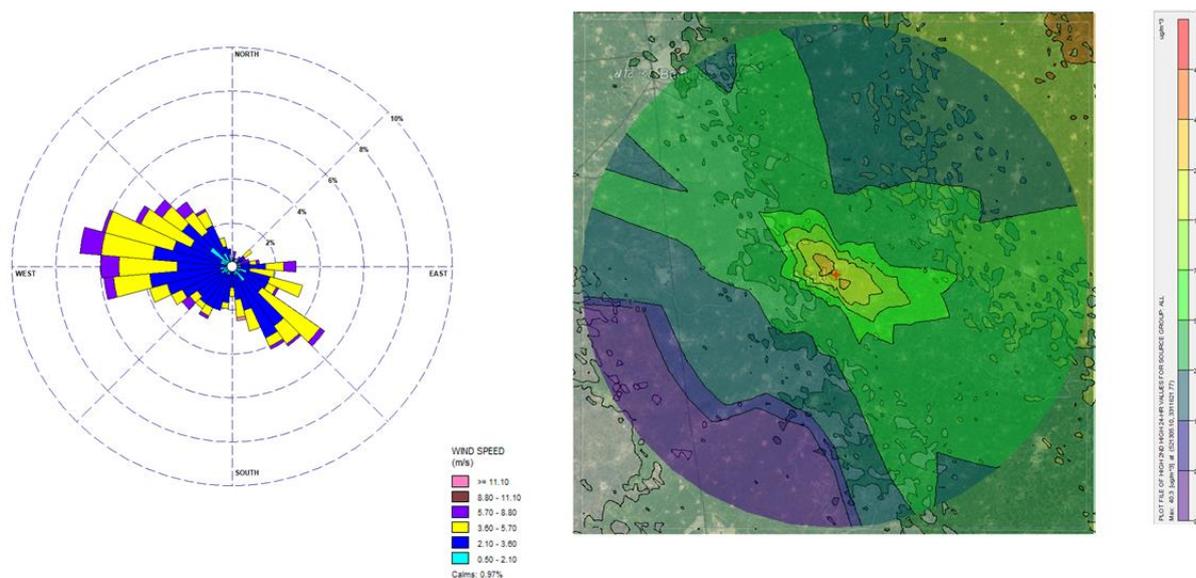


Figure 27 SO₂ 2nd Highest Conc. for April Month

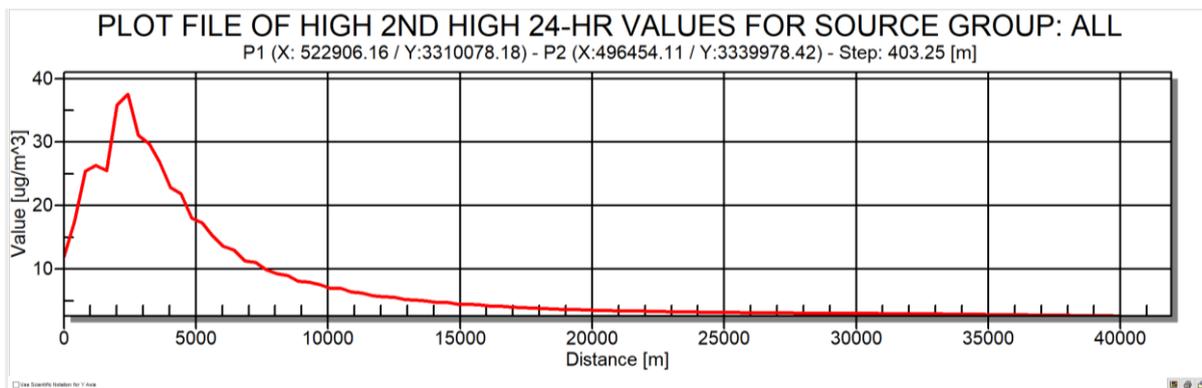


Figure 28 SO₂ 2nd Highest Conc. Cross Section towards Bhatinda

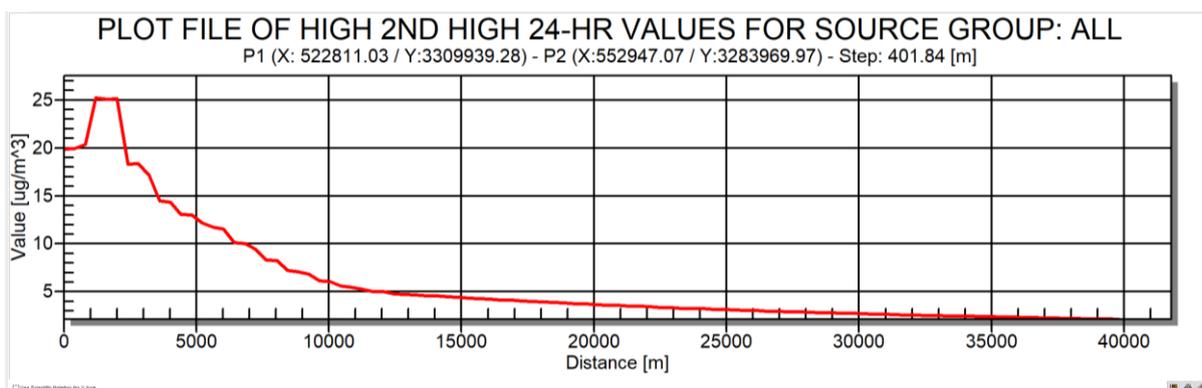


Figure 29 SO₂ 2nd Highest Conc. Cross Section towards Delhi

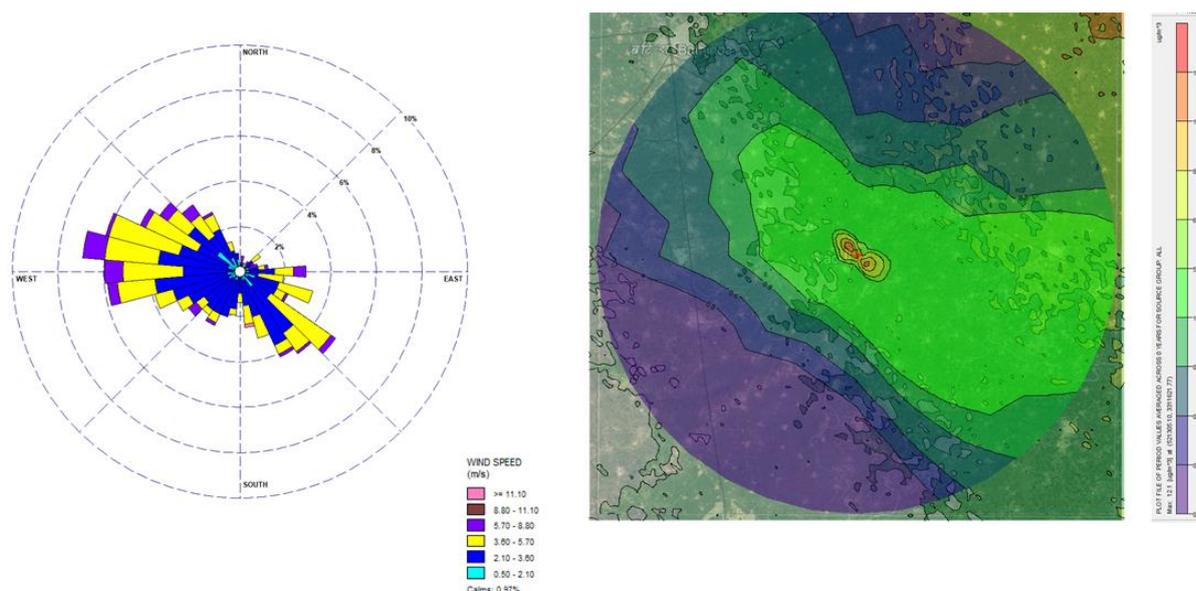


Figure 30 SO₂ Average Conc. for April Month

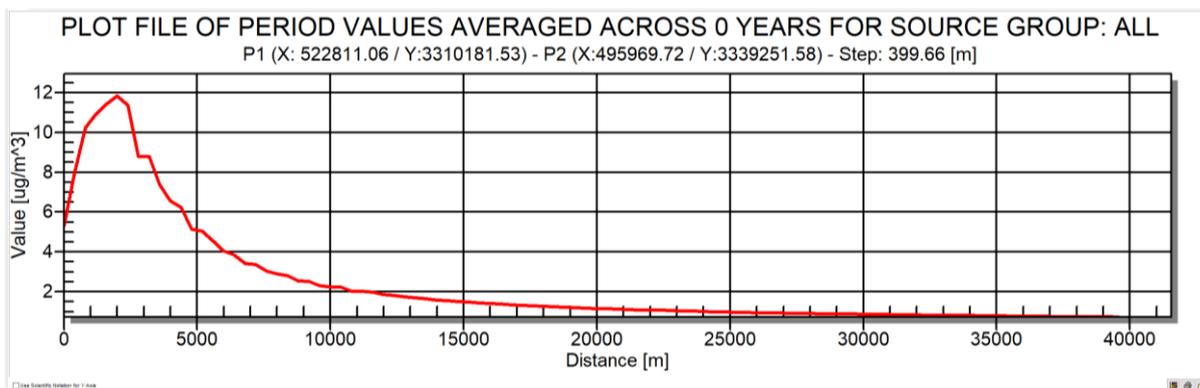


Figure 31 SO₂ Average Conc. Cross Section towards Bhatinda

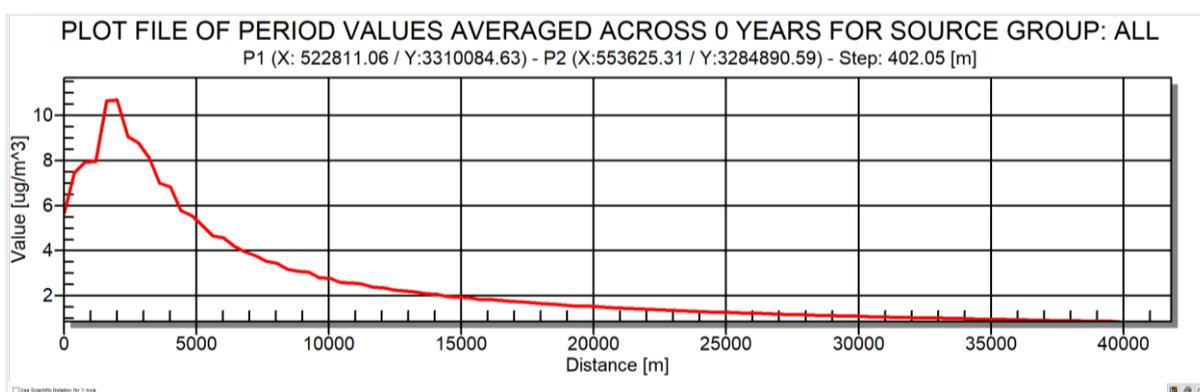


Figure 32 SO₂ Average Conc. Cross Section towards Delhi

The air quality modeling results for NO₂ from Talwandi Sabo Power Plant is presented in Table 3. The peak concentration varies from 29.2 to 52.1 µg/m³.

Table 3 NO₂ Air Quality Modeling results of Talwandi Sabo Power Plant

| Month | Peak Concentration (µg/m ³) | Average Concentration (µg/m ³) |
|----------|---|--|
| December | 29.2 | 9.31 |
| January | 33.6 | 14.6 |
| April | 52.1 | 12.9 |

The peak and average concentration at different locations (distance) are presented in Table 4:

Table 4 NO₂ results at distances towards direction of Delhi of Talwandi Sabo Power Plant

| Month | SO ₂ (µg/m ³) | 10km | 20km | 30km | 40km | Beyond 40km | Date |
|----------|--------------------------------------|------|------|------|------|-------------|------------|
| December | Peak Concentration | 12 | 8 | 6 | 4 | <4 | 12-12-2018 |
| | Average Concentration | 4 | 3 | 1.5 | 1 | <1 | - |
| January | Peak Concentration | 14 | 9 | 6 | 4 | <4 | 31-01-2018 |
| | Average Concentration | 2.5 | 1.5 | 1 | 0.8 | <0.8 | - |
| April | Peak Concentration | 10 | 5 | 2 | 0 | 0 | 22-04-2018 |
| | Average Concentration | 3 | 1.5 | 0.5 | 0 | 0 | - |

The wind rose & Iso-concentration graph of NO₂ and central line GLC and terrain contour is shown in Figure 33 to 59.

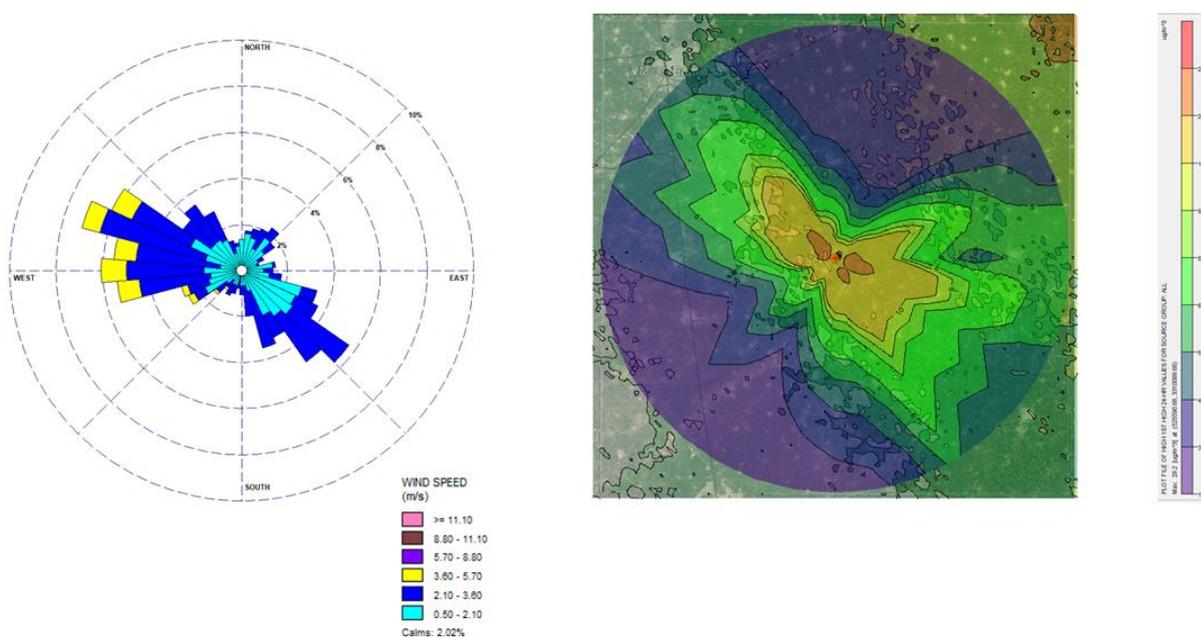


Figure 33 NO₂ 1st Highest Conc. for December Month

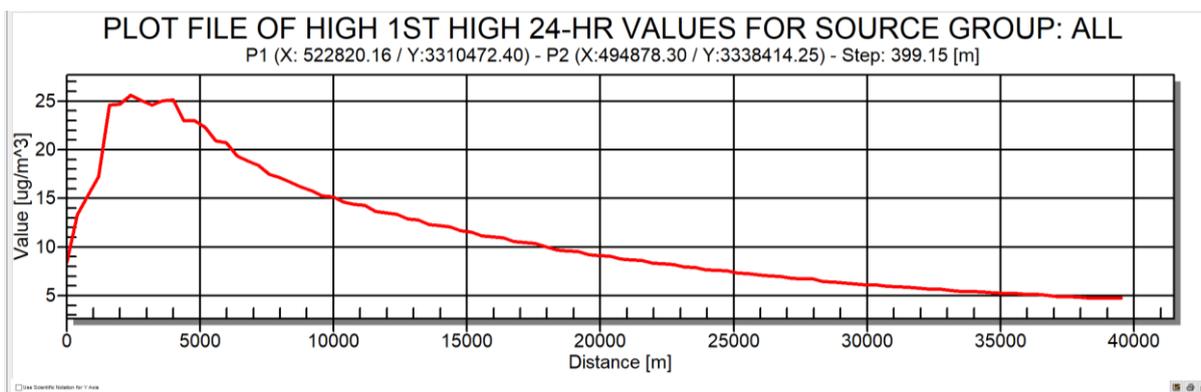


Figure 34 NO₂ 1st Highest Conc. Cross Section towards Bhatinda

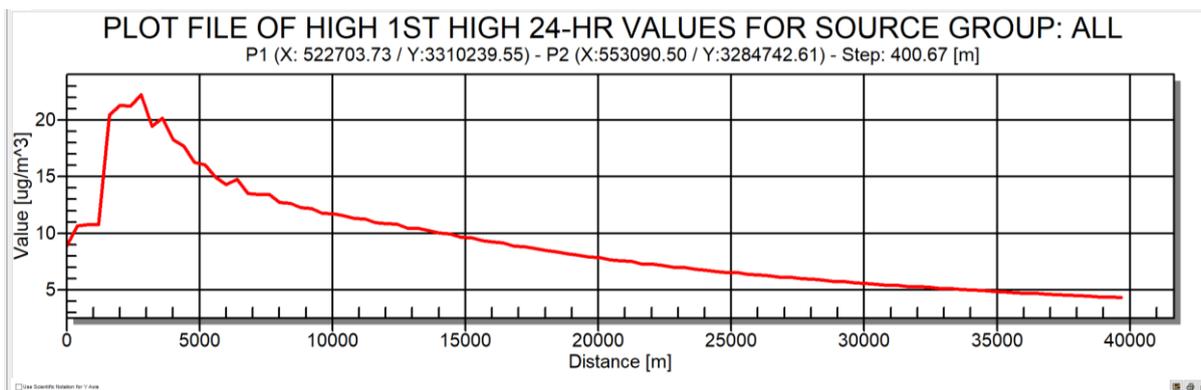


Figure 35 NO₂ 1st Highest Conc. Cross Section towards Delhi

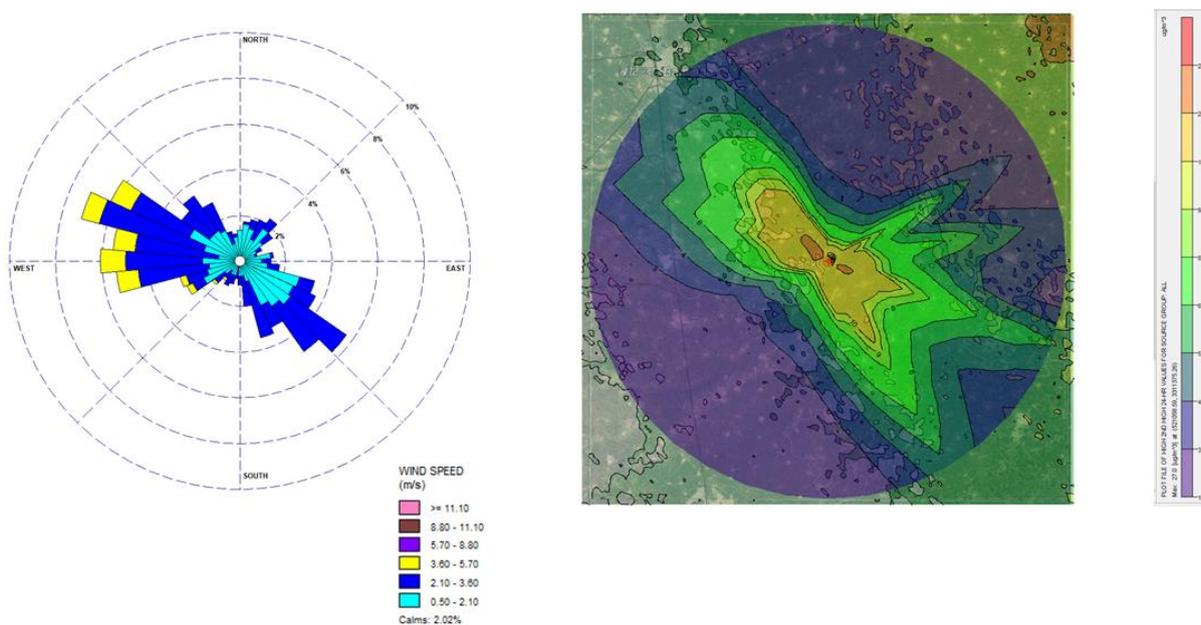


Figure 36 NO₂ 2nd Highest Conc. for December Month

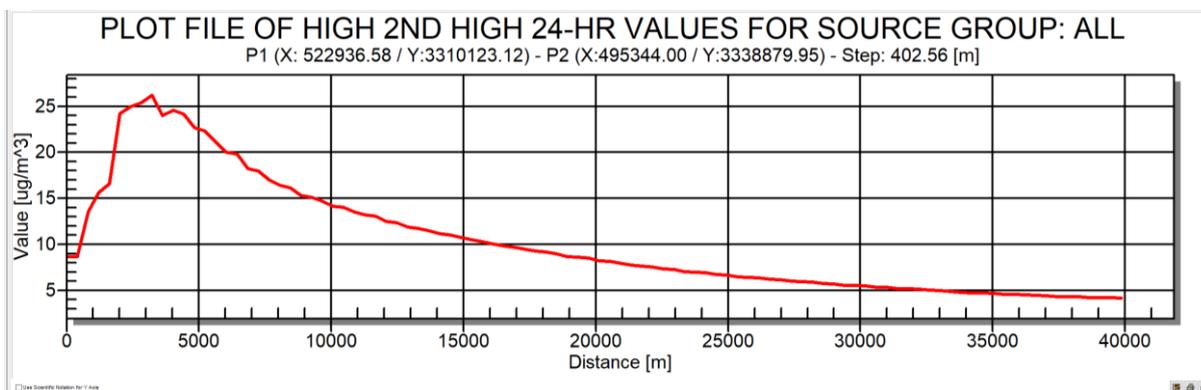


Figure 37 NO₂ 2nd Highest Conc. Cross Section towards Bhatinda

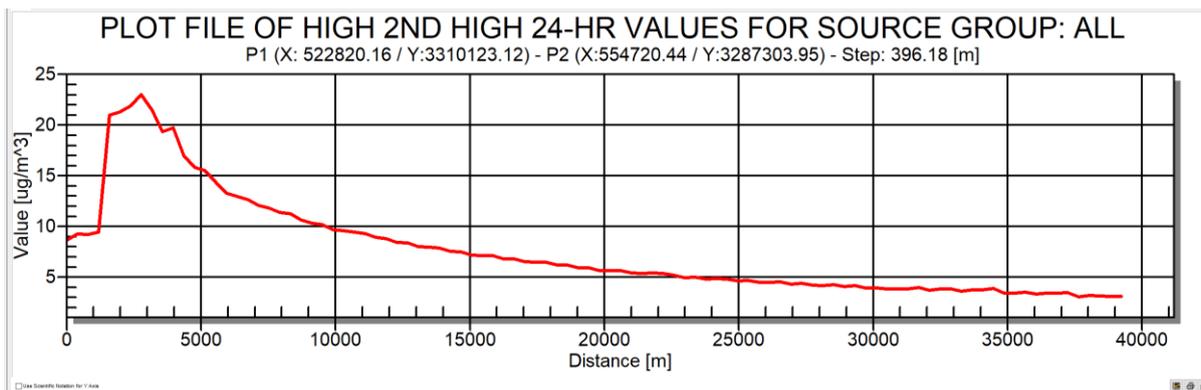


Figure 38 NO₂ 2nd Highest Conc. Cross Section towards Delhi

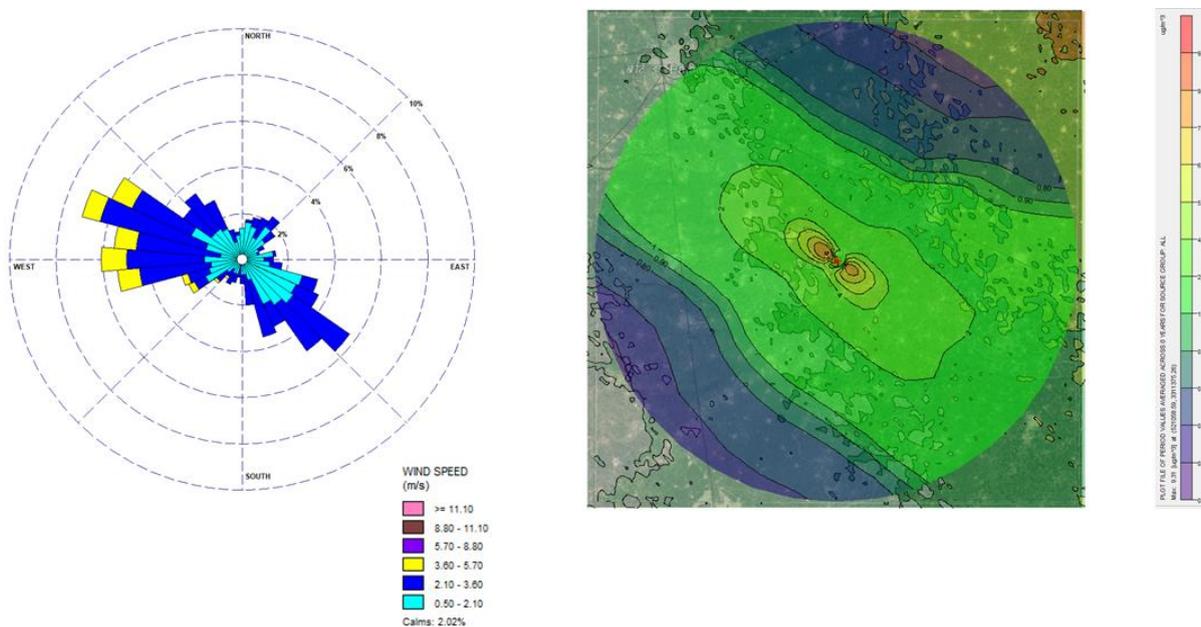


Figure 39 NO₂ Average Conc. for December Month

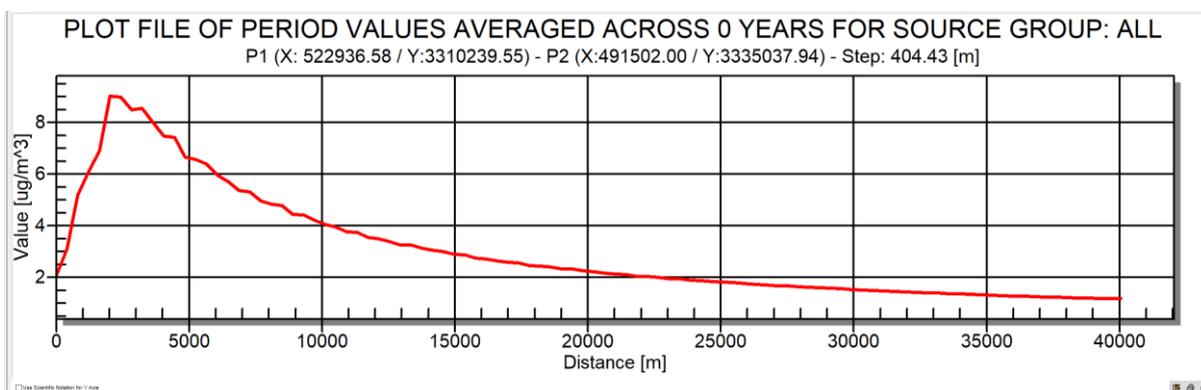


Figure 40 NO₂ Average Conc. Cross Section towards Bhatinda

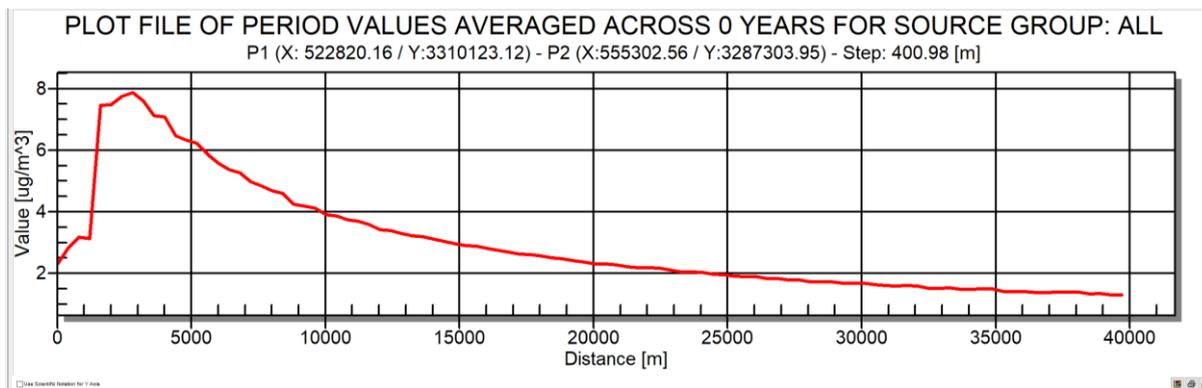


Figure 41 NO₂ Average Conc. Cross Section towards Delhi

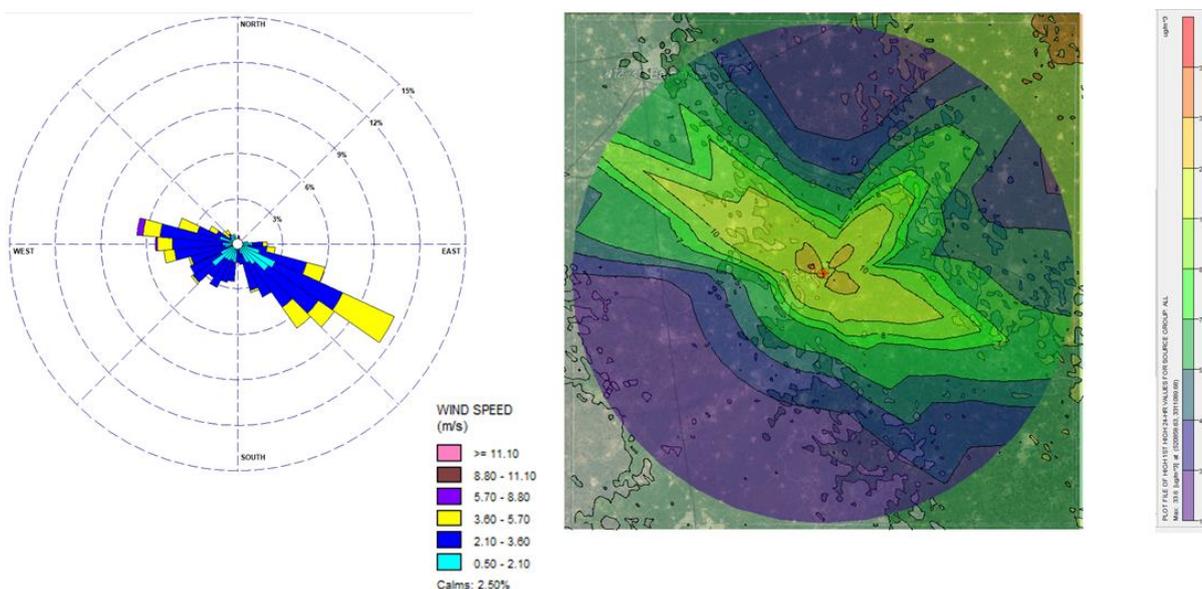


Figure 42 NO₂ 1st Highest Conc. for January Month

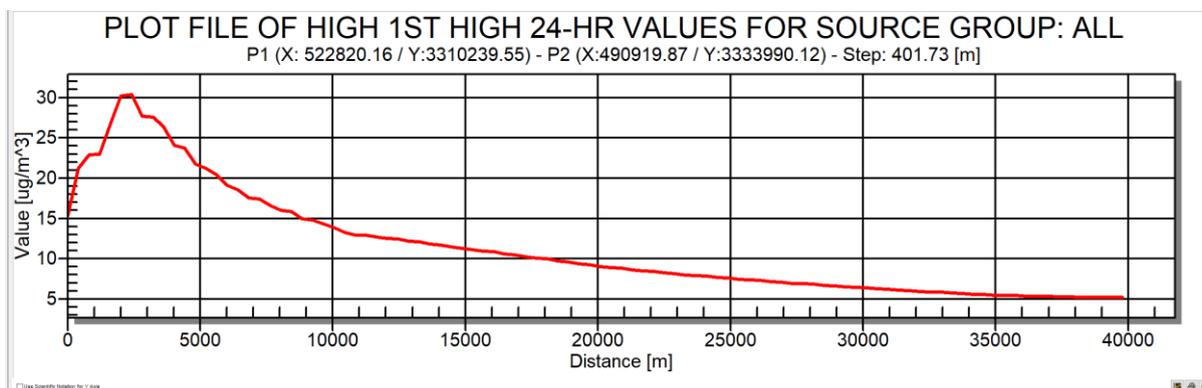


Figure 43 NO₂ 1st Highest Conc. Cross Section towards Bhatinda

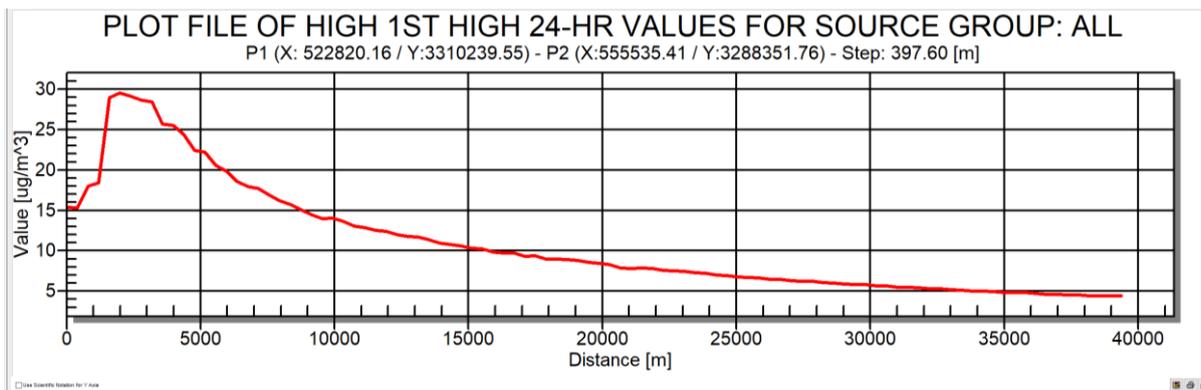


Figure 44 NO₂ 1st Highest Conc. Cross Section towards Delhi

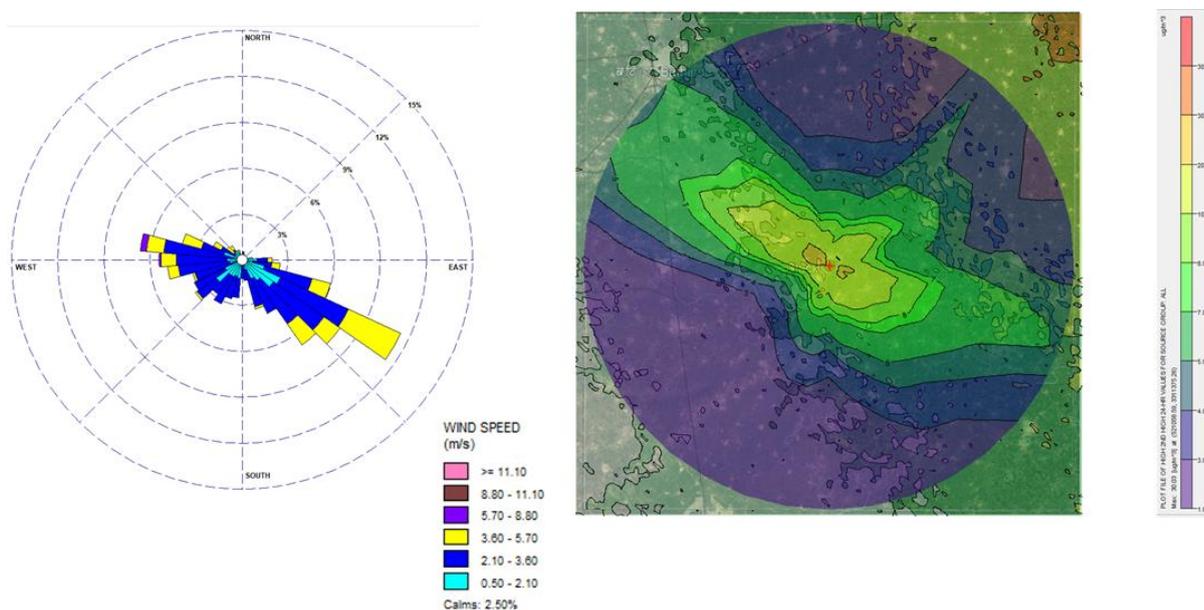


Figure 45 NO₂ 2nd Highest Conc. for January Month

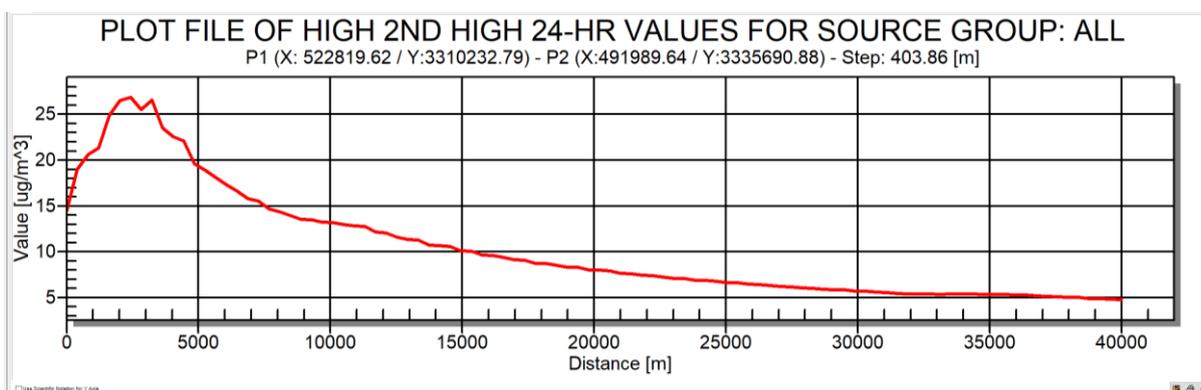


Figure 46 NO₂ 2nd Highest Conc. Cross Section towards Bhatinda

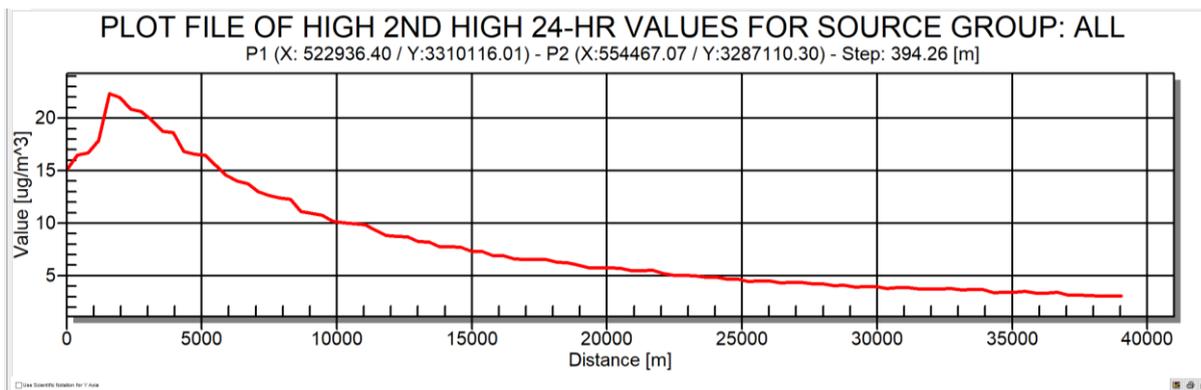


Figure 47 NO₂ 2nd Highest Conc. Cross Section towards Delhi

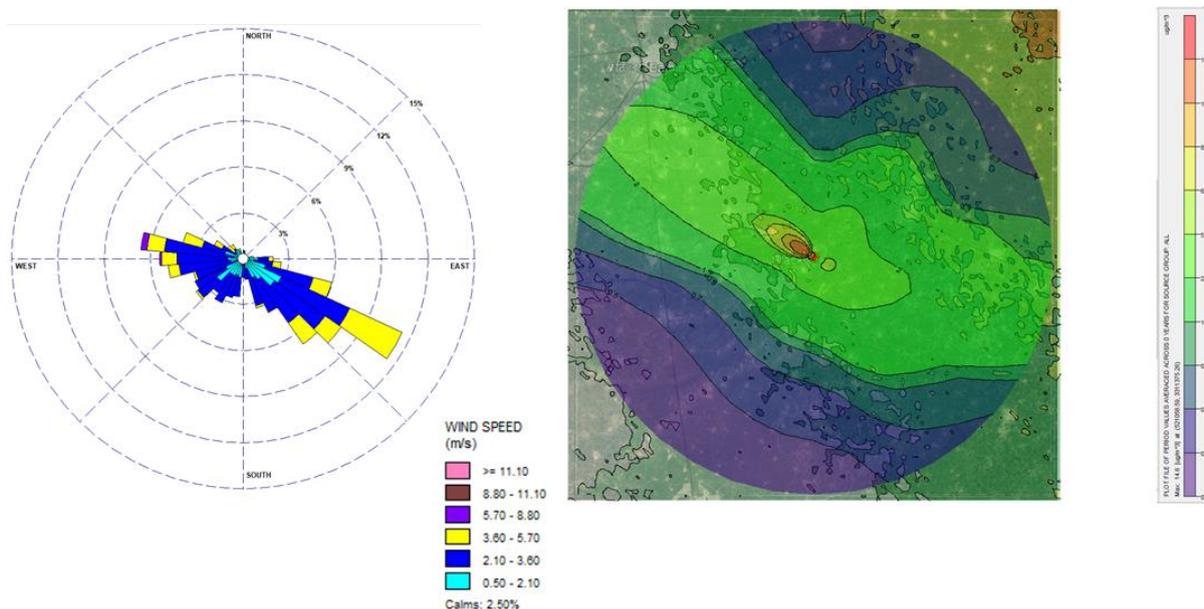


Figure 48 NO₂ Average Conc. for April Month

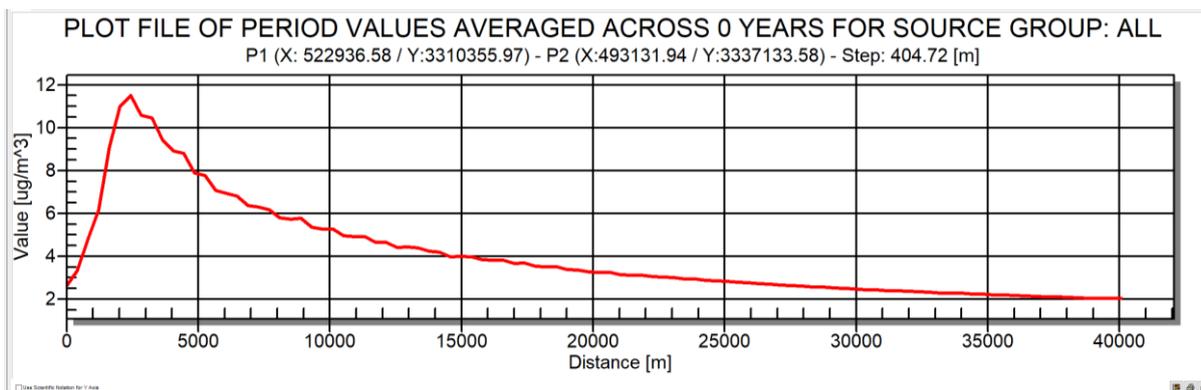


Figure 49 NO₂ Average Conc. Cross Section towards Bhatinda

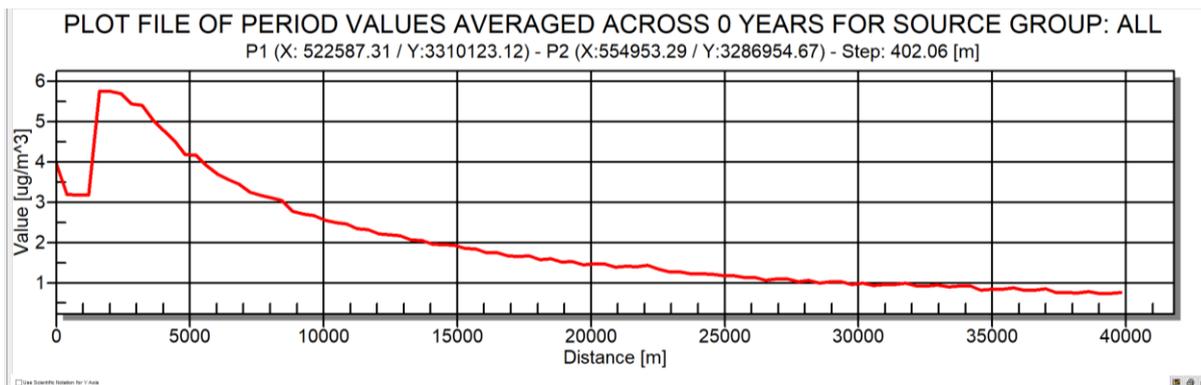


Figure 50 NO₂ Average Conc. Cross Section towards Delhi

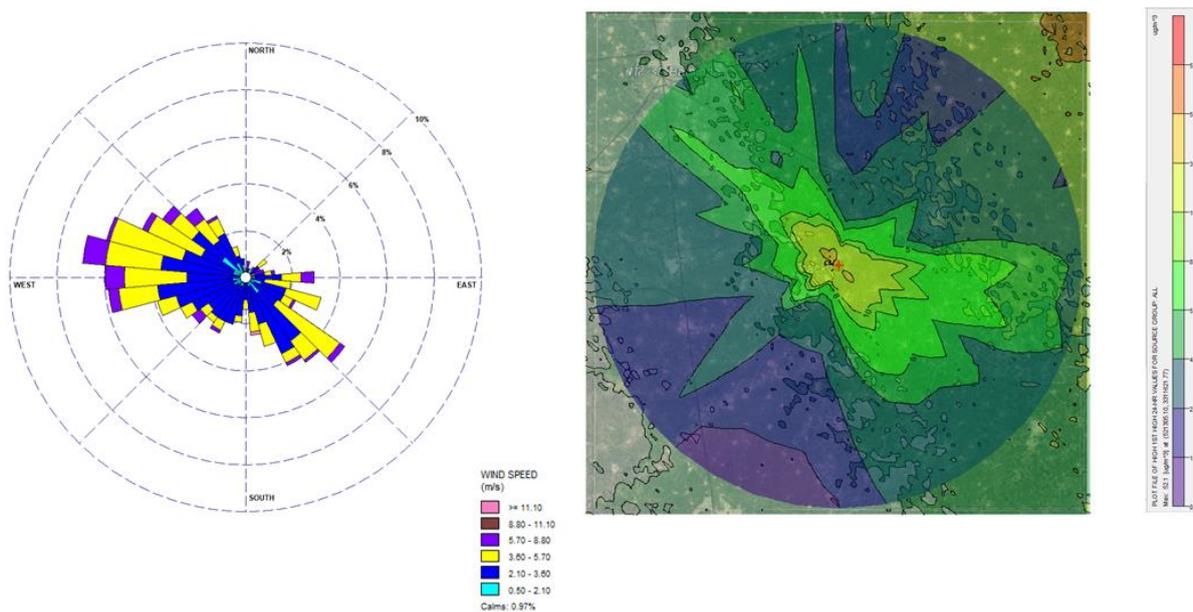


Figure 51 NO₂ 1st Highest Conc. for April Month

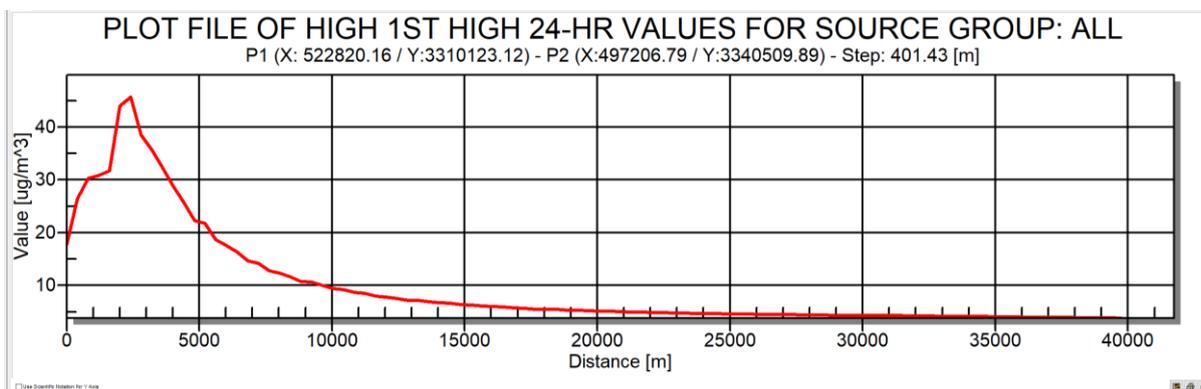


Figure 52 NO₂ 1st Highest Conc. Cross Section towards Bhatinda

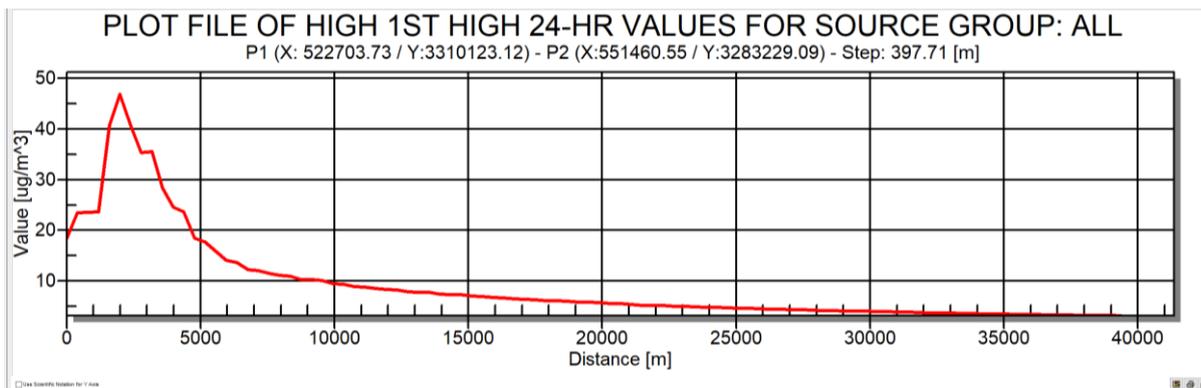


Figure 53 NO₂ 1st Highest Conc. Cross Section towards Delhi

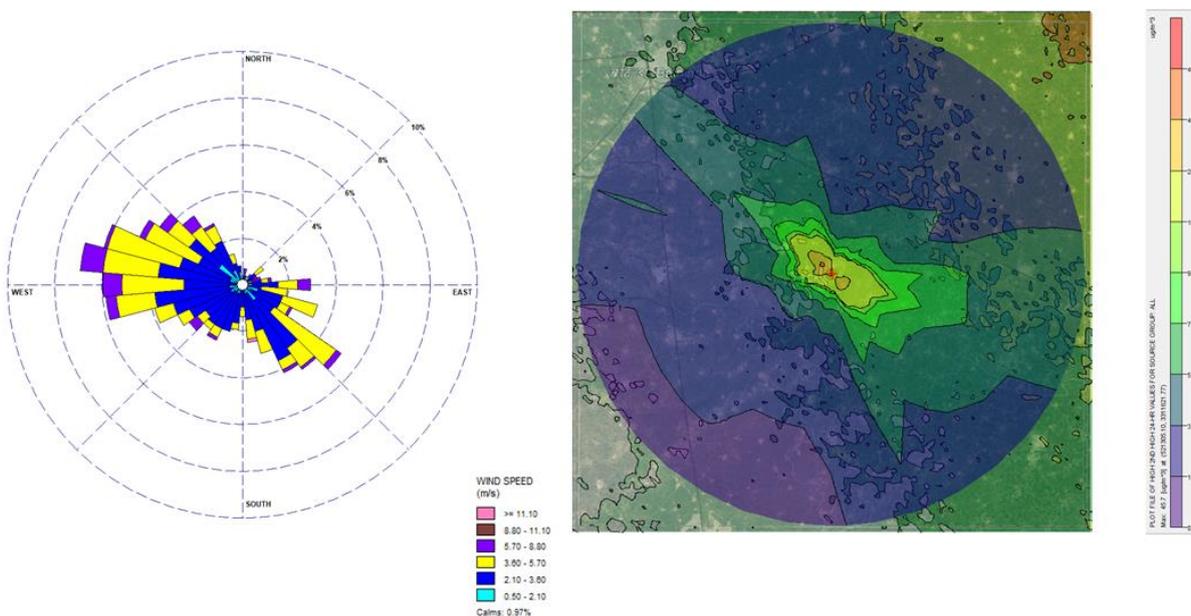


Figure 54 NO₂ 2nd Highest Conc. for April Month

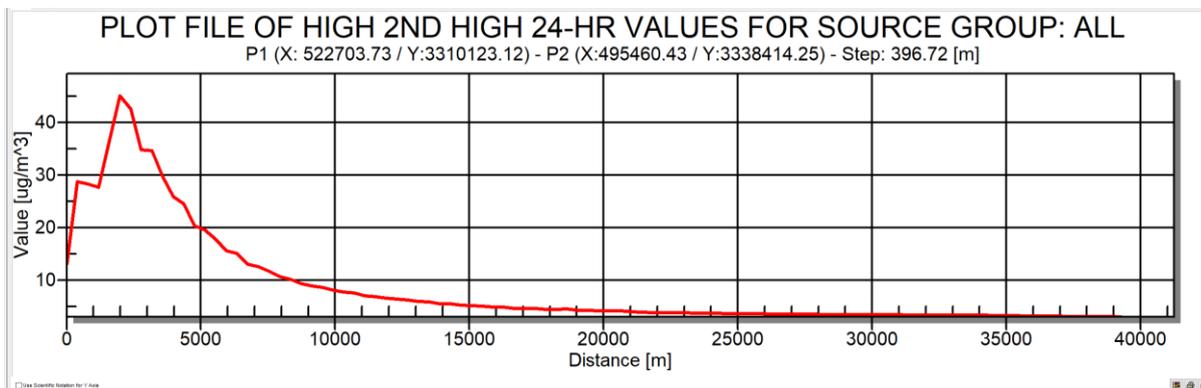


Figure 55 NO₂ 2nd Highest Conc. Cross Section towards Bhatinda

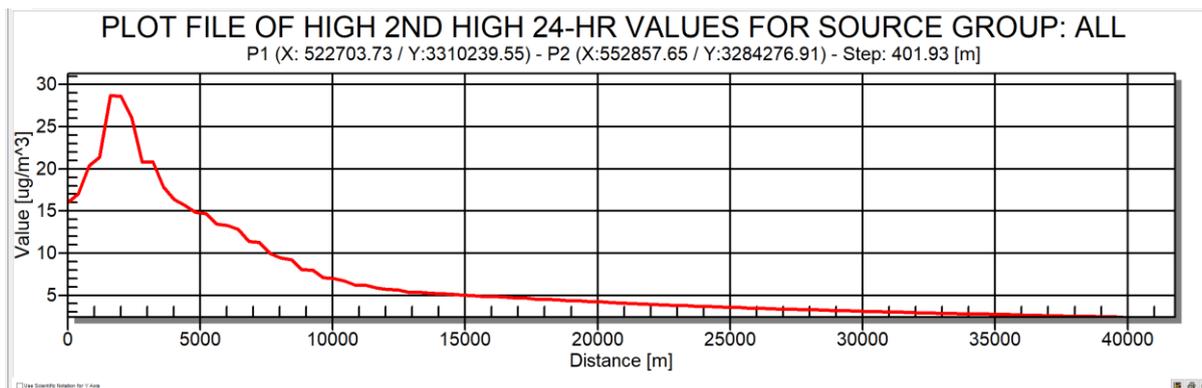


Figure 56 NO₂ 2nd Highest Conc. Cross Section towards Delhi

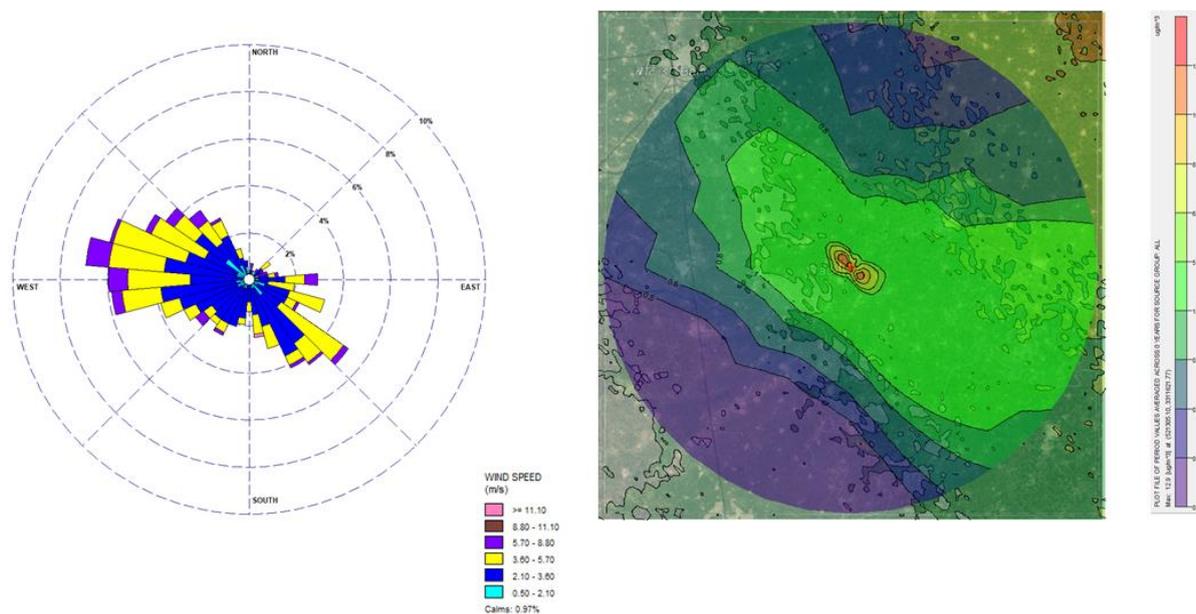


Figure 57 NO₂ Average Conc. for April Month

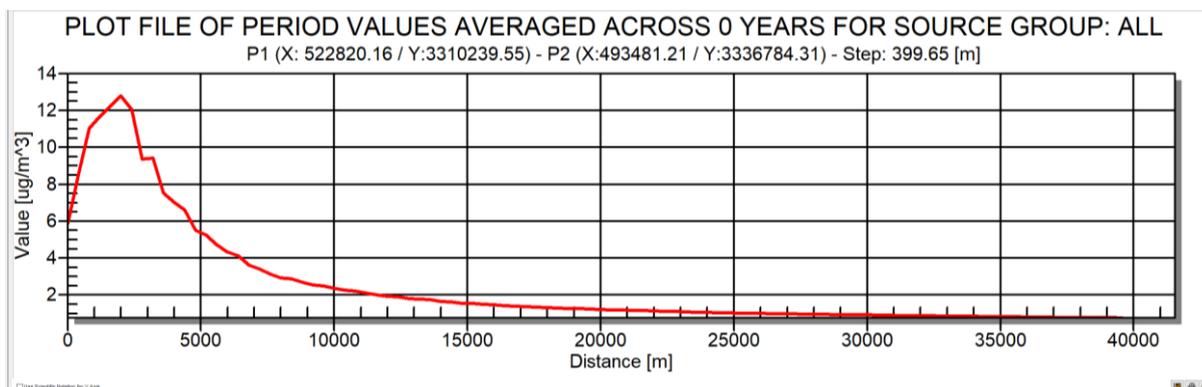


Figure 58 NO₂ Average Conc. Cross Section towards Bhatinda

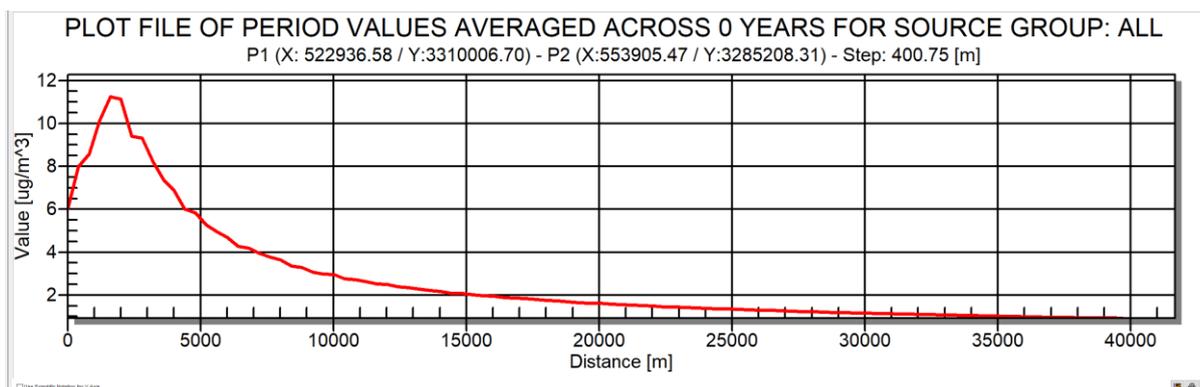


Figure 59 NO₂ Average Conc. Cross Section towards Delhi

11. Methodology for WRF-Chem modeling

In this study, emissions from Talwandi power plant and their resultant effects at a distant place like New Delhi were analyzed using Weather Research Forecasting (WRF)-Chem model. The total area to be analyzed was encapsulated into a gridded format enclosing both, the site of the power plant and Delhi as well. For the purpose, the central point coordinate of domain is lat: 29.0588 N, lon: 76.0856 E. The grid size was taken as 4km×4km (domain size is 400 km×400km).

To analyse the formation of SO₄ (sulfates), and NO₃ (Nitrates), anthropogenic emissions from the plant were considered. The plant emissions for SO₂ and NO₂ were edited in base file of EDGAR-HTAP emission inventory (global) in the respective grid and all other emissions were considered zero. The modelling also requires emission of ammonia; the default emission from EDGAR-HTAP was taken.

ARWpost was used to extract graphical and numerical data. Data was formulated into a tabular format along with their graphical outputs showing weekly and monthly mean and maximum concentrations each for SO₄ (sulfates) and NO₃ (Nitrates). Also, a time series analysis for concentrations of each parameter was also extracted out both at the plant site as well as at Delhi. The visualization tool used here for displaying the graphical outputs was GrADS.

12. Results and Discussion on WRF-Chem Modeling

For WRF-Chem modelling of sulfate and nitrate, the critical month of November (2018) has been selected. The results and interpretation of model output are presented below.

Although in the FY 2018-19, the plant load factor is 61.34%, however, to obtain maximum impact, which may occur during full load operation, all modelling results pertain to full load of the plant.

SO₄ and NO₃ Concentration in November 2018 (Weekly)

Weekly mean concentrations were extracted from the model outputs using GrADS visualization tool for the plant site and were found to be reported in the following figures respectively for four consecutive weeks in the month of November with SO₄ and NO₃ concentrations (Figures 60–67).

Sulfate levels increase as one moves from the plant site up to 100 km towards S-E direction showing peak levels of 0.40 - 0.90 µg/m³. It may be noted that S-E is the prevailing downwind direction from the plant and impact is seen for a long distance. However, at a distance of about 250 km (in S-E) the levels are dropped nearly by 60% to 0.18 – 0.30 µg/m³. It may be noted that S-E is the prevailing downwind direction from the plant and sulfate impact is seen for a long distance.

Weekly nitrate levels have shown increased levels in S-E direction (0.06- 0.10 µg/m³) at about 50-55 km compared to the levels very close to the plant site. However, at a distance of about 250 km (in S-E), the levels are at 0.01 µg/m³. The levels are insignificant at 250 km.

SO₄ and NO₃ Concentration in the month of November (2018)

Like weekly sulfates levels above, the levels are high in S-E direction at about 40 km with mean monthly peak concentrations of 0.45 - 0.48 µg/m³ (somewhat lower than peak weekly concentration). Nitrates show monthly peak concentration is 0.06 µg/m³ towards S-E to as low as 0.01 µg/m³ in the S-E direction (Figures 68 – 69).

Tables 5 and 6 summarize the concentrations of sulfate and nitrate as a function of distance in S-E direction for monthly.

The 24-hourly mean peak concentration of SO_4 was $2.18 \mu\text{g}/\text{m}^3$ in the S-E direction at 12 km which drops to $0.73 \mu\text{g}/\text{m}^3$ in S-E direction at a distance of about 250 km (Table 5). The 24-hourly mean peak concentration of NO_3 was $0.41 \mu\text{g}/\text{m}^3$ in S-E direction at a distance of about 12 km and it drops to less than $0.002 \mu\text{g}/\text{m}^3$ at a distance of about 250 km.

The peak air quality Index (AQI) in Delhi was about 500 during November 2018 which corresponds to $380 \mu\text{g}/\text{m}^3$ of $\text{PM}_{2.5}$. Considering that 24-hr sulfate concentration contributed by plant at a distance of about 250 km (i.e. near Delhi) is $0.73 \mu\text{g}/\text{m}^3$, that is about 0.2%.

Table 5: Sulfate concentration with distance towards S-E

| Averaging time | Sulfate concentration ($\mu\text{g}/\text{m}^3$) in a 4 km \times 4 km Grid | | | | | |
|-----------------|---|-------|--------|--------|--------|--------|
| | 12 km | 50 Km | 100 Km | 150 Km | 200 Km | 250 Km |
| Mean (monthly) | 0.51 | 0.38 | 0.31 | 0.32 | 0.29 | 0.28 |
| Max (24-hourly) | 2.18 | 1.77 | 0.69 | 1.35 | 0.98 | 0.73 |
| Minimum | 0.15 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |

Table 6: Nitrate concentration with distance towards S-E

| Averaging time | Nitrate concentration ($\mu\text{g}/\text{m}^3$) in a 4 km \times 4 km Grid | | | | | |
|-----------------|---|-------|--------|--------|--------|--------|
| | 12 km | 50 Km | 100 Km | 150 Km | 200 Km | 250 Km |
| Mean (monthly) | 0.069 | 0.038 | 0.015 | 0.011 | 0.012 | 0.000 |
| Max (24-hourly) | 0.413 | 0.349 | 0.251 | 0.121 | 0.091 | 0.002 |
| Minimum | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

1) Weekly Mean SO₄ Concentration:-

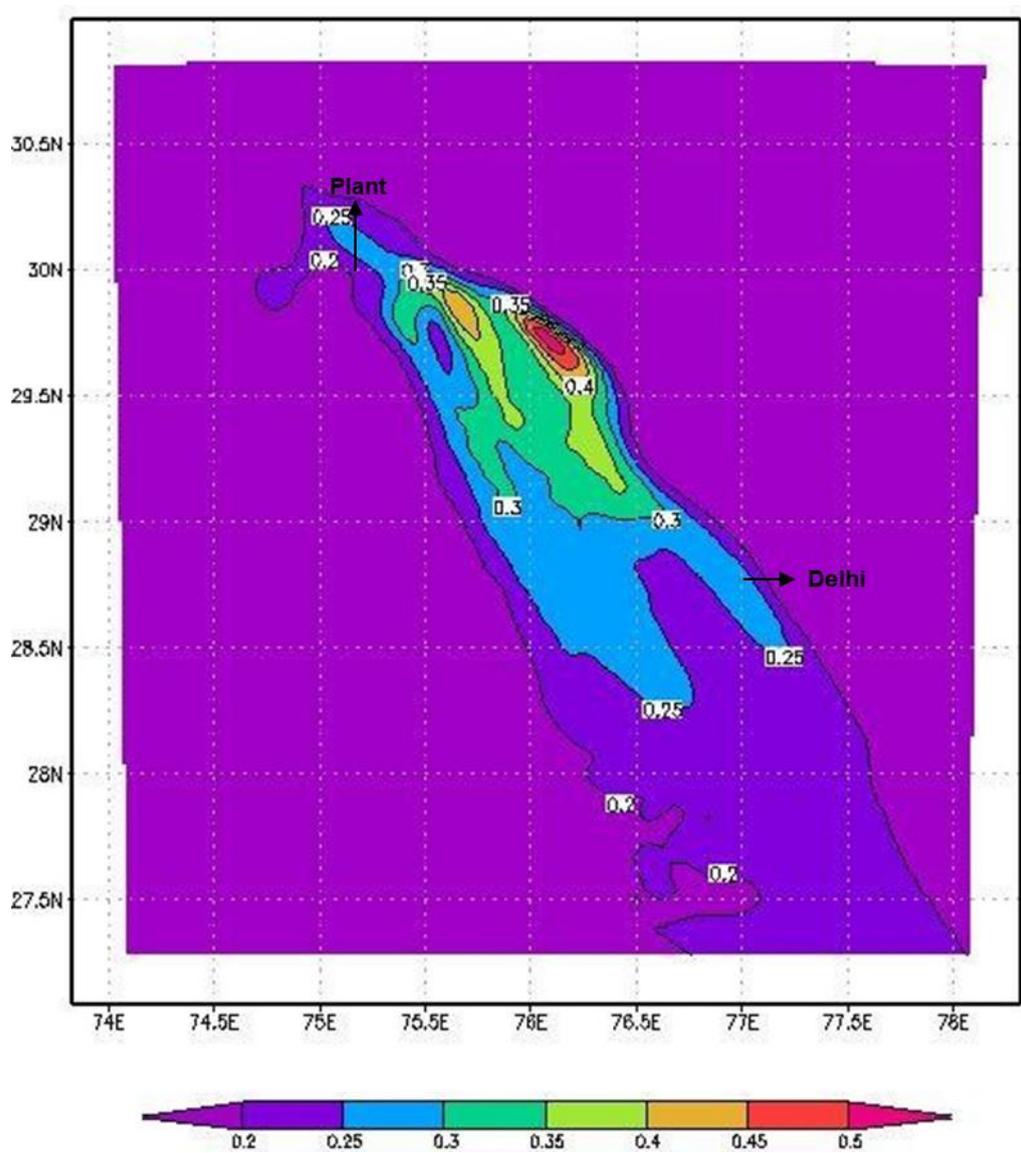


Figure 60: Weekly Mean SO₄ Concentration ($\mu\text{g}/\text{m}^3$) [1-7 Nov2018]

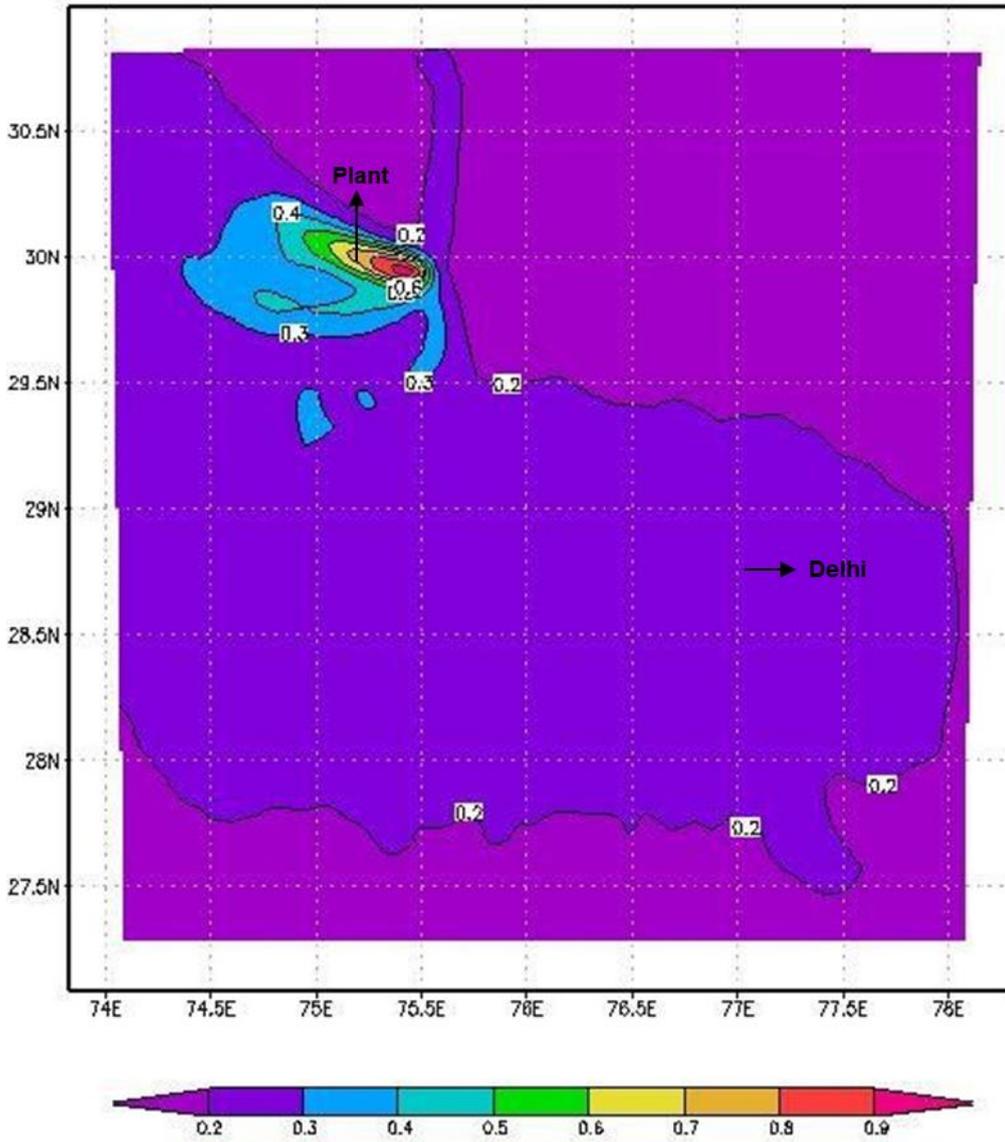


Figure 61: Weekly Mean SO₄ Concentration (µg/m³) [8-15Nov2018]

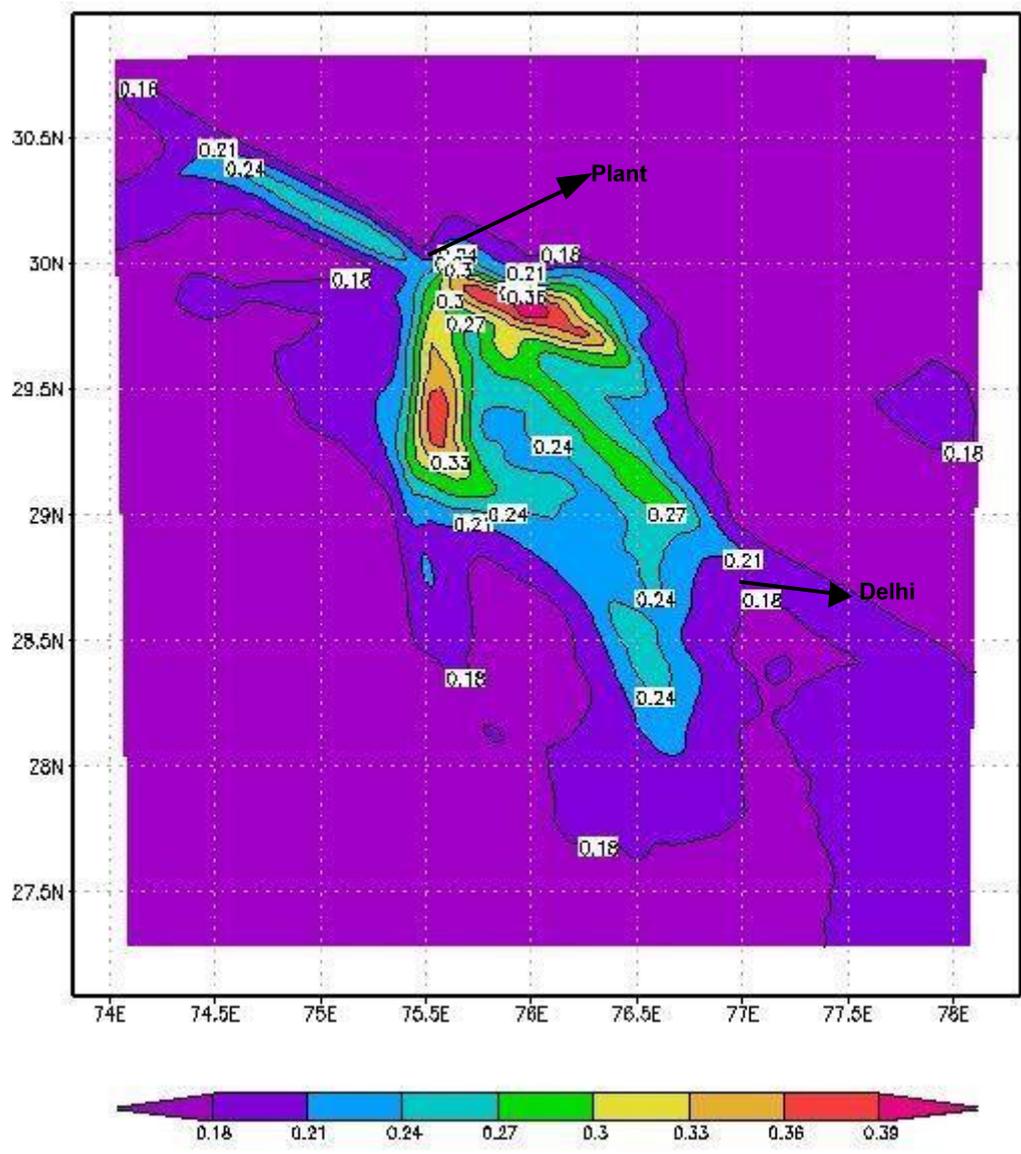


Figure 62: Weekly Mean SO₄ Concentration (µg/m³) [16-23Nov2018]

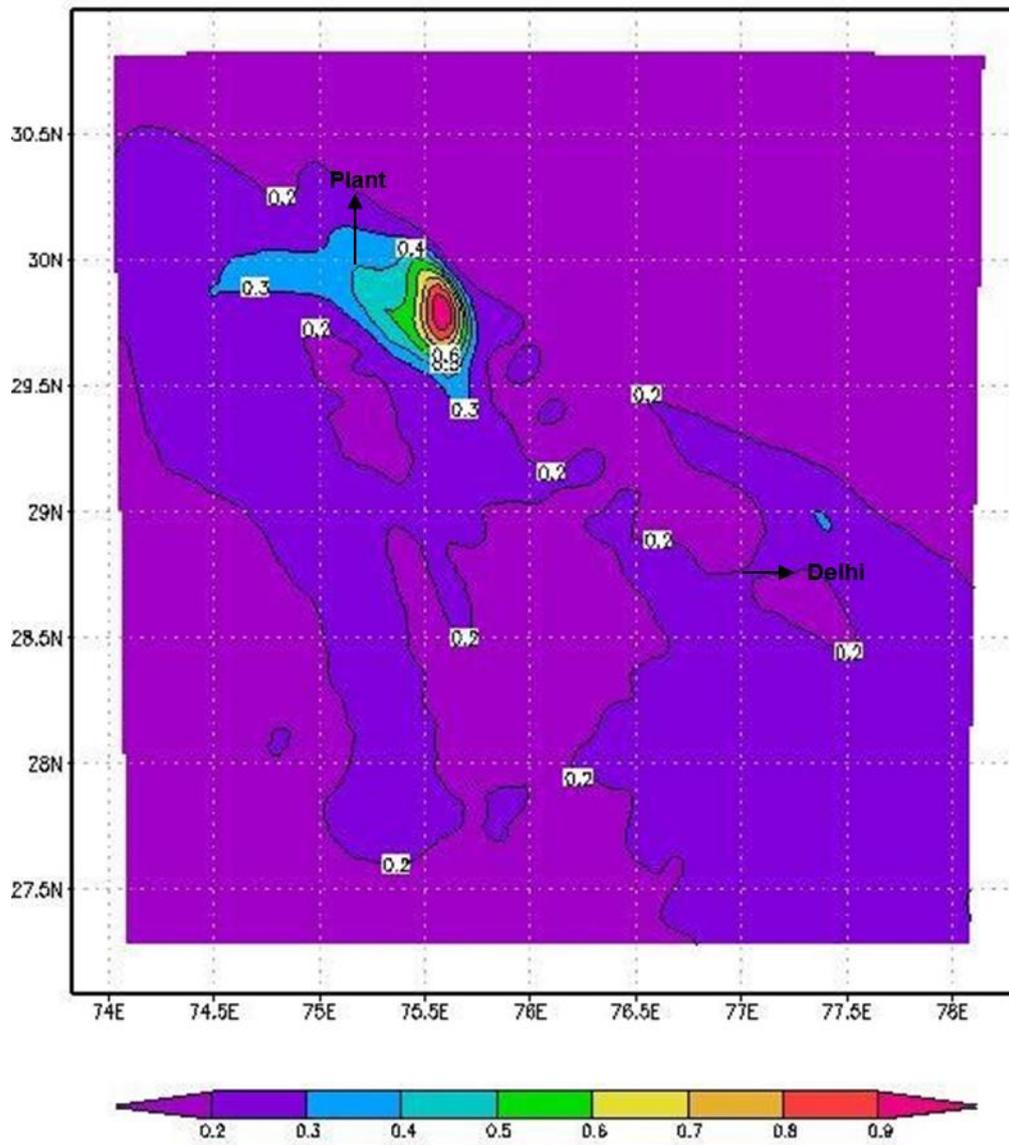


Figure 63: Weekly Mean SO_4 Concentration ($\mu\text{g}/\text{m}^3$) [24-30Nov2018]

2) Weekly Mean NO₃ Concentration:-

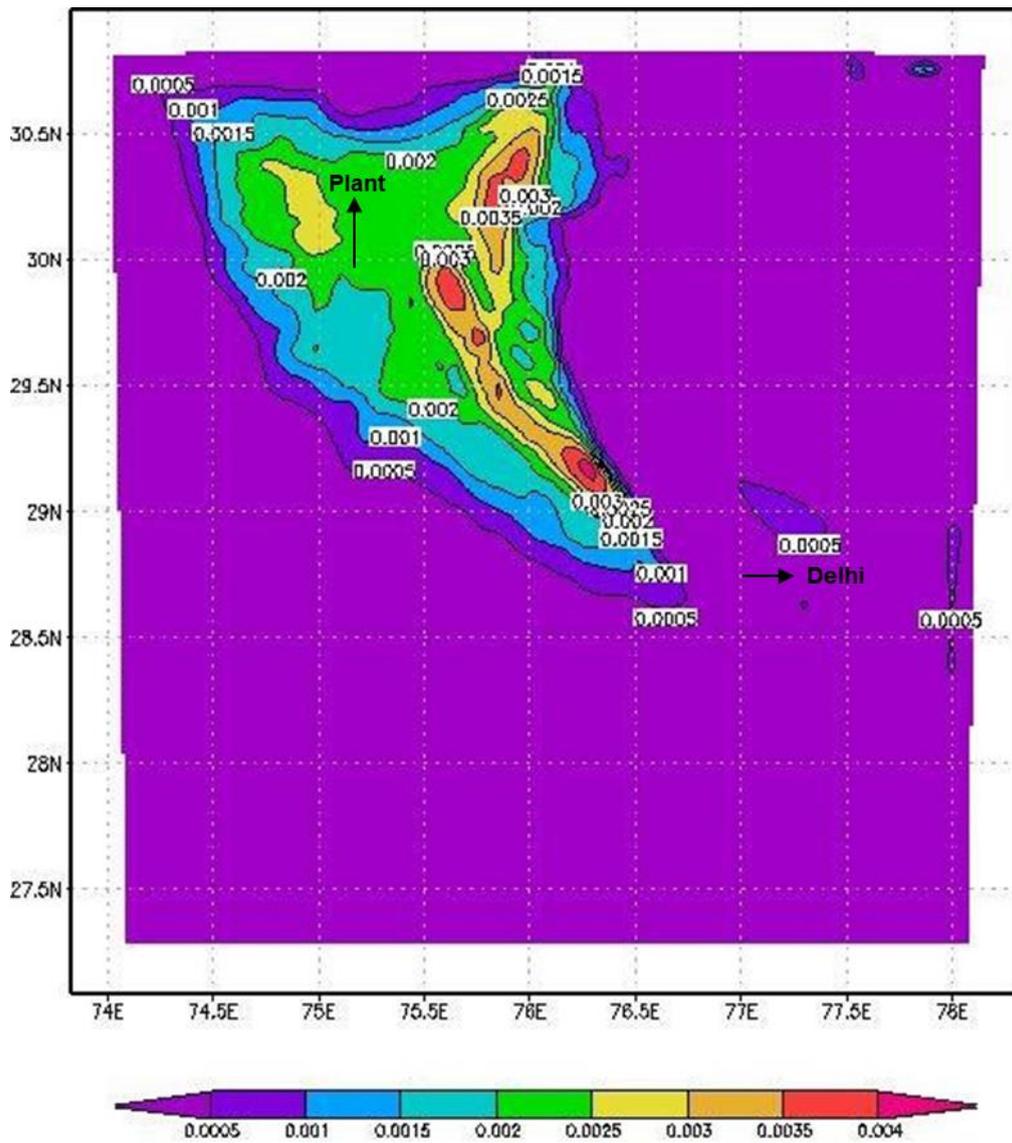


Figure 64: Weekly Mean NO₃ Concentration (µg/m³) [1-7Nov2018]; use a multiplying factor of 16 for corrected concentrations

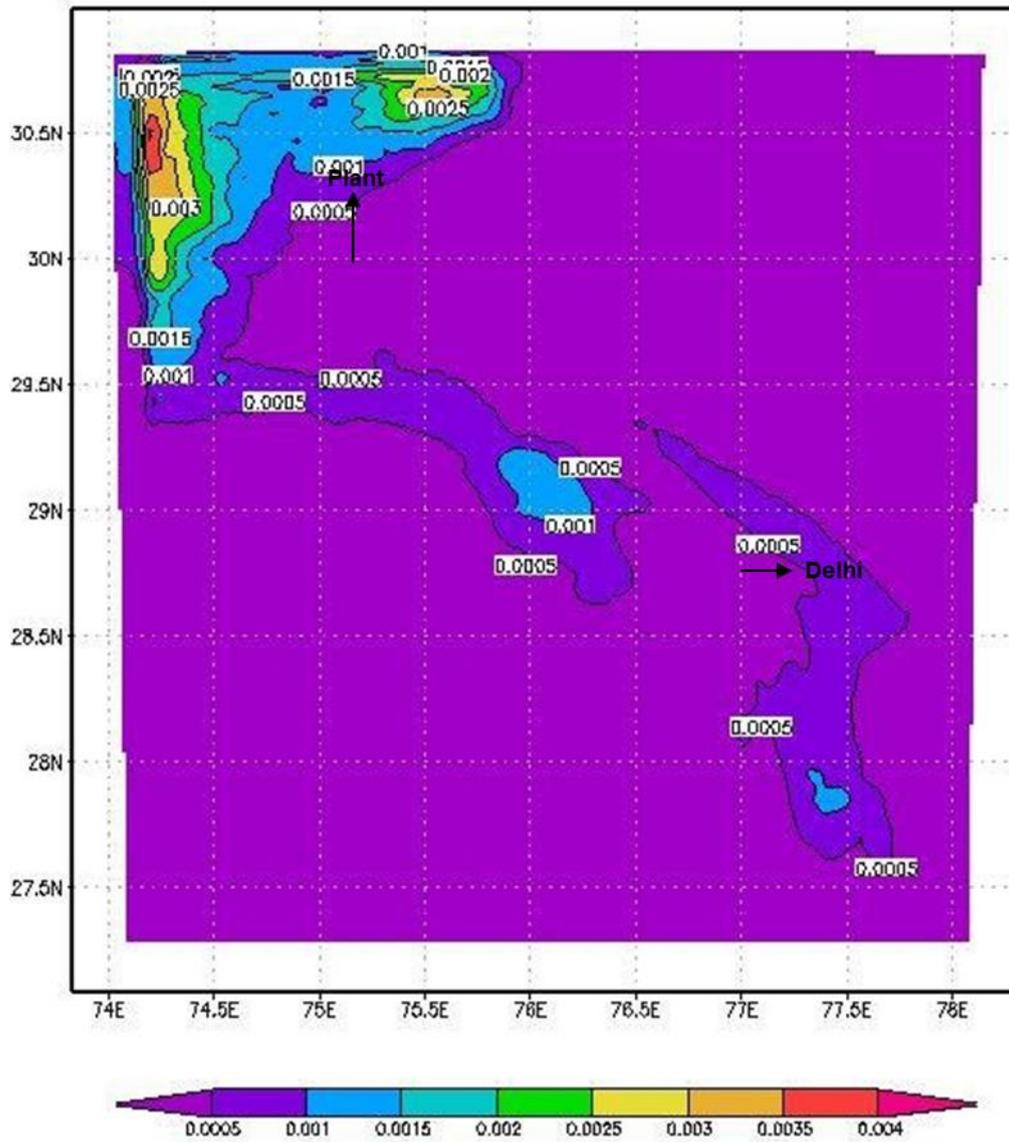


Figure 65: Weekly Mean NO₃ Concentration (µg/m³) [8-15Nov2018]; use a multiplying factor of 16 for corrected concentrations

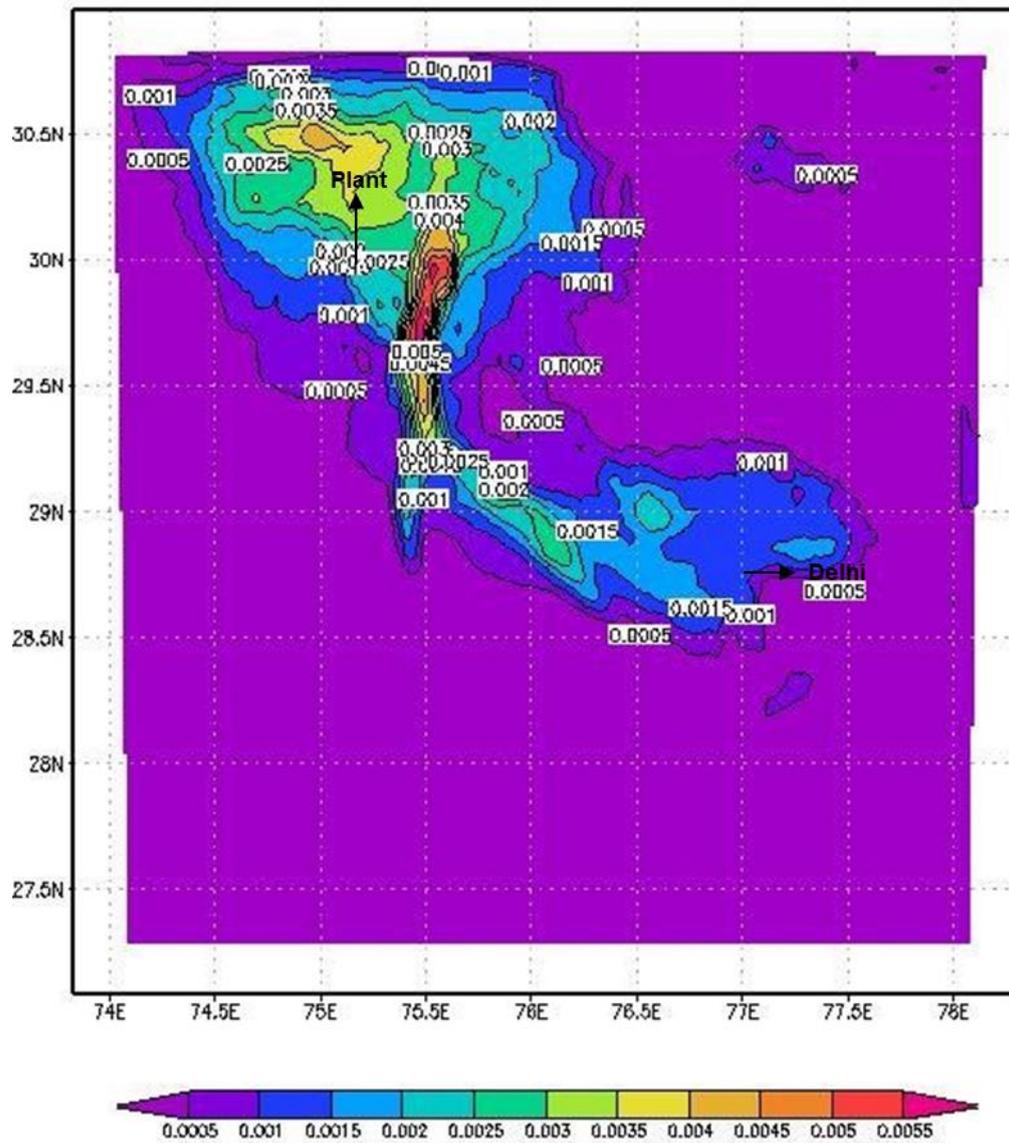


Figure 66: Weekly Mean NO₃ Concentration (µg/m³) [16-23Nov2018]; use a multiplying factor of 16 for corrected concentrations

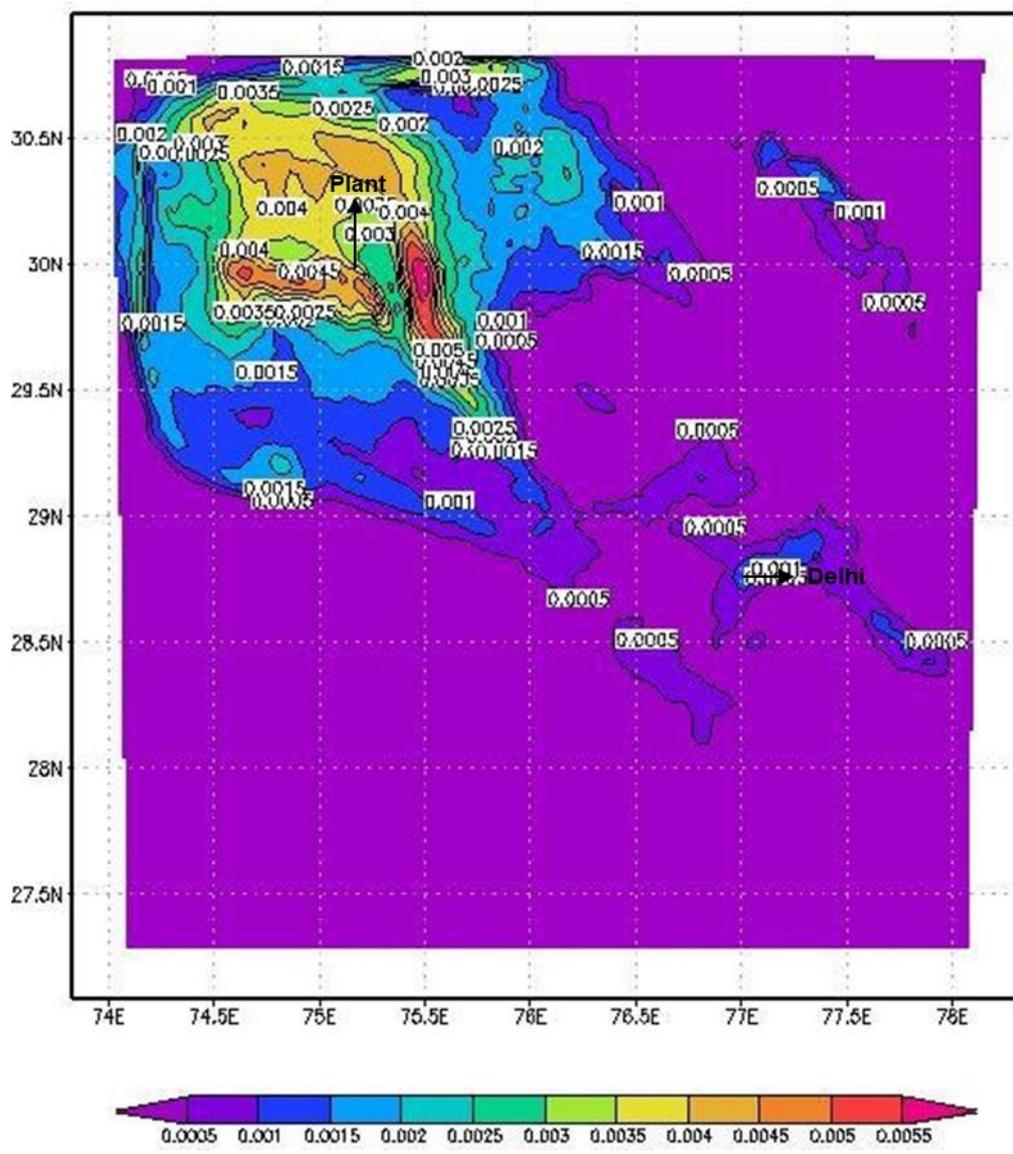


Figure 67: Weekly Mean NO₃ Concentration (µg/m³) [24-30Nov2018]; use a multiplying factor of 16 for corrected concentrations

3) Monthly Mean Concentration :-

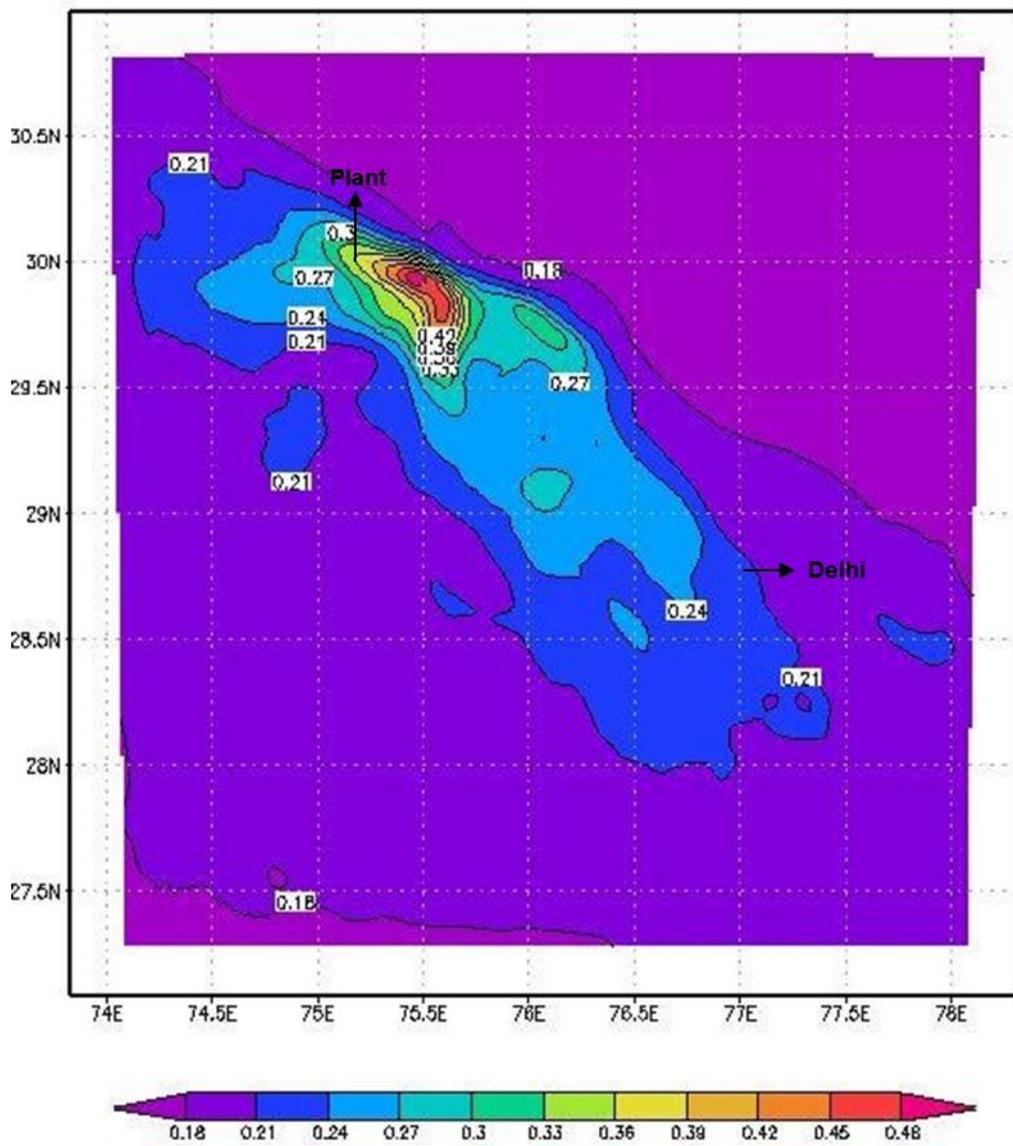


Figure 68: Monthly Mean SO₄ Concentration(µg/m³)

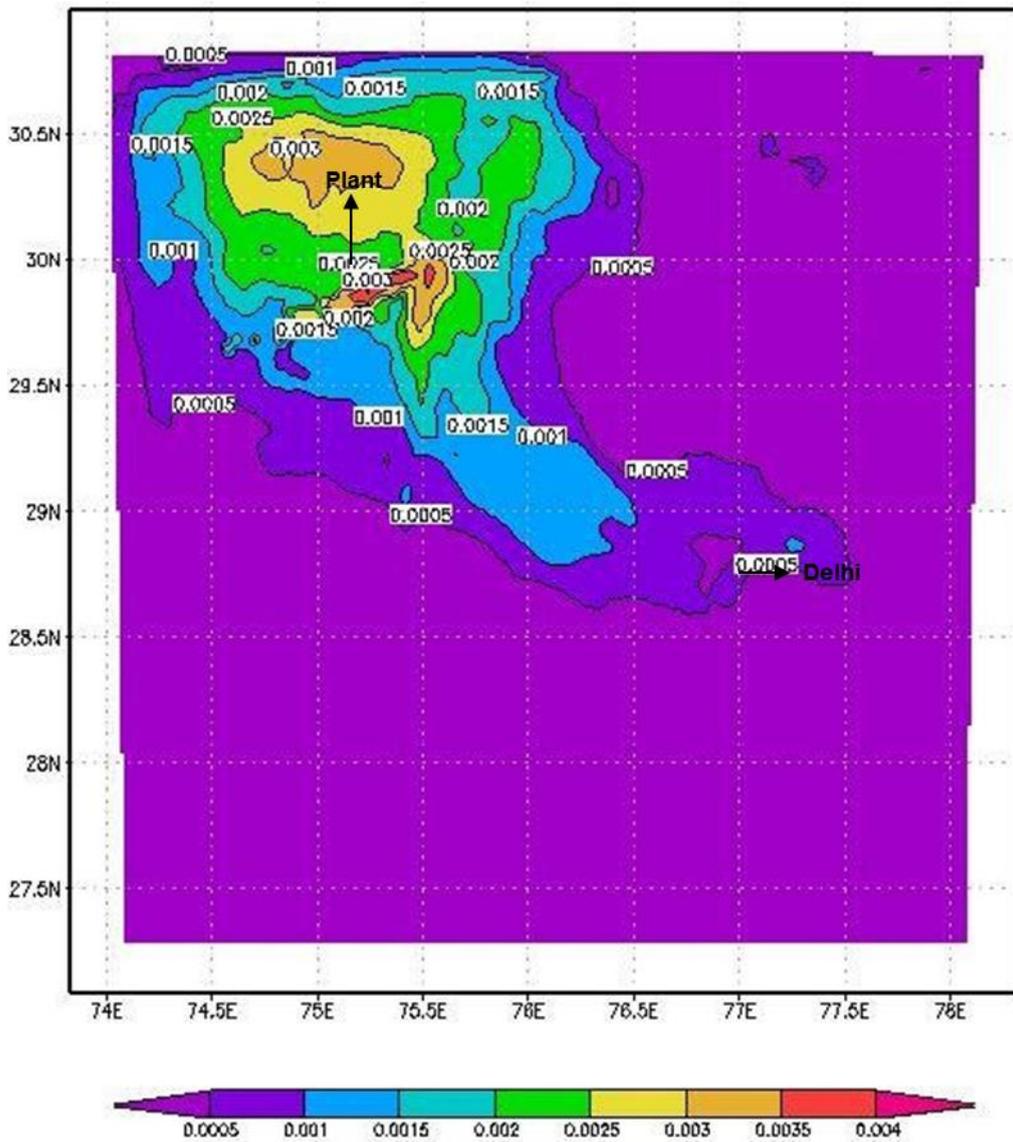


Figure 69: Monthly Mean NO₃ Concentration(μg/m³); use a multiplying factor of 16 for corrected concentrations

13. Conclusions

Although in the FY 2018-19, the plant load factor is 61.34%, however, to obtain maximum impact, which may occur during full load operation, all modelling results pertain to full load of the plant. The conclusions are as following.

1. The yearly wind rose analysis shows the prominent wind direction of the North-west.
2. The model-computed SO₂ peak concentration is in the month of April 45.9 µg/m³. It may be noted that the peak contribution towards S-E direction (towards Delhi) was 40 µg/m³ (in April) at a distance of about 2.0 km and drops sharply to less than 1 µg/m³ at a distance of 40 km from the plant. Thus, beyond 40 km the impact of SO₂ becomes insignificant.
3. The peak concentration of SO₂ in other months (December and January) ranges from 25.5 to 29.8 µg/m³ at about 3.0 km. The peak concentration beyond 40 km drops to less than 5 µg/m³ in December and January towards S-E direction.
4. The NO₂ modelled-peak concentration was in April at 52 µg/m³. It may be noted that the peak contribution towards S-E direction was 45 µg/m³ at a distance of 2.5 km and drops sharply to less than 1 µg/m³ at a 40 km distance from the plant. Thus, beyond 40 km the impact of NO₂ becomes insignificant.
5. The peak concentration of NO₂ in the month of December and January was 29 – 34 µg/m³ at a distance of 2-3 km. The peak concentration beyond 40 km drops to less than 5 µg/m³ in December and January towards S-E direction
6. It may be concluded that the peak concentration of SO₂ and NO₂ lies within 5 km and dropped quickly after that and the impact beyond 40 km is insignificant.
7. Sulfate levels increase as one moves away from the plant site in the S-E direction, and up to a distance of about 100 km, the peak weekly concentration is in the range of 0.40 - 0.90 µg/m³. However, at a distance of about 250 km (in S-E) the levels are dropped by nearly 60% to 0.18 – 0.30 µg/m³. It may be noted that S-E is the prevailing downwind direction from the plant and sulfate impact is seen for a long distance.

8. Weekly nitrate levels have shown increased levels in S-E direction ($0.06- 0.10 \mu\text{g}/\text{m}^3$) at about 50-55 km compared to the levels very close to the plant site. However, at a distance of about 250 km (in S-E), the levels are at $0.01 \mu\text{g}/\text{m}^3$.
9. The mean monthly peak concentration of sulfate, $0.48 \mu\text{g}/\text{m}^3$ (somewhat lower than peak weekly concentration) was estimated in the S-E direction at about 40 km. Nitrate levels show monthly peak concentration is $0.06 \mu\text{g}/\text{m}^3$ towards S-E to as low as $0.01 \mu\text{g}/\text{m}^3$ in the S-E.
10. The 24-hourly mean peak concentration of SO_4 was $2.18 \mu\text{g}/\text{m}^3$ in the S-E direction at 12 km which drops to $0.73 \mu\text{g}/\text{m}^3$ in S-E direction at a distance of about 250 km (Table 1). The 24-hourly mean peak concentration of NO_3 was $0.41 \mu\text{g}/\text{m}^3$ in S-E direction at a distance of about 12 km and it drops to less than $0.002 \mu\text{g}/\text{m}^3$ at a distance of about 250 km.

In summary, the peak contribution of SO_2 and NO_2 is insignificant beyond 40 km from the plant. It may be noted that for higher averaging time (e.g. 24-hr, monthly) the levels will reduce quite rapidly and become insignificant beyond 10 km from the plant.

The impact of sulfate, although relatively small (the peak weekly concentration: $0.40 - 0.90 \mu\text{g}/\text{m}^3$), it extends well beyond 50 km and up to 250 km with smaller concentrations in the range $0.18- 0.30 \mu\text{g}/\text{m}^3$.

The impact of nitrate (the peak weekly concentration: $0.06- 0.10 \mu\text{g}/\text{m}^3$) at about 50 km. However, the impact extends well beyond 50 km and up to 250 km with smaller concentrations of $0.01 \mu\text{g}/\text{m}^3$.

The peak air quality Index (AQI) in Delhi was about 500 during November 2018 which corresponds to $380 \mu\text{g}/\text{m}^3$ of $\text{PM}_{2.5}$. Considering that 24-hr sulfate concentration contributed by plant at a distance of about 250 km (i.e. near Delhi) is $0.73 \mu\text{g}/\text{m}^3$, that is about 0.2%.

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<https://doi.org/DOI: 10.1016/j.atmosenv.2005.04.027>

T.C.



Ax. R5

List of Industries with in 30 kms from CSTPS

741

| Sr. | Category | Name of Industry | Address |
|-----|-------------|---|--------------------------------|
| 1 | Coal | Bhatia Coal Washeries Ltd. | Vill. Belsani, P.O. Ghugus |
| 2 | Metal | Chaman Metallic Pvt.Ltd. | MIDC Growth Center Tadali |
| 3 | Cement | Chawhan Tiles Pipe Industries | Industrial Estate |
| 4 | Power | Gopani & Power (I) Pvt.Ltd. | MIDC Growth Center Tadali |
| 5 | Sponge Iron | Grace Industries Ltd. | MIDC Growth Center Tadali |
| 6 | Sponge Iron | Dhariwal Infracture Ltd. | MIDC Growth Center Tadali |
| 7 | Cement | Kothari Potteries & Tiles Works | Babupeth |
| 8 | Sponge Iron | Lloyds Metal & Engineers Ltd. | MIDC Area Ghuggus |
| 9 | Sponge Iron | Omti Rolling Mill6 | MIDC Growth Center Tadali |
| 10 | Steel | Steel Authority of India Ltd., Chandrapur | Mul Road |
| 11 | Cement | Ujjwal tiles | MIDC |
| 12 | Cement | Vidarbha Cement Products | Near Railway Station Tadali |
| 13 | Coal | Bhartia Non-Conventional Products | MIDC |
| 14 | Coal | Bhartiya Alloys | MIDC |
| 15 | Sponge Iron | Rajuri Steel and alloys Private Limited | MIDC Growth Center Mul |
| 16 | Power | Avantha Power & Infrastructure Ltd. | P.O. Ballarpur Paper Mill |
| 17 | Cement | Gima Manufacturing Pvt. Ltd., Unit I | Allapalli Road |
| 18 | Cement | Priti & Prashant Industries | MIDC |
| 19 | Cement | Swastik Pipe Industries | MIDC |
| 20 | Coal | ACB (India)Ltd. | P. O. Pandarpauni |
| 21 | Coal | Bhartai Coal washeries ltd | Sasti |
| 22 | Coal | Gupta Coalfieldl & Washiries | Near Gauri Collony, P.O. Gouri |
| 23 | Cement | ACC Ltd., Chanda Cement Works | MIDC Industrial Area Ghughus |
| 24 | Power | Gupta Energy Pvt.Ltd. | Usegaon road T.C. |



Study Report by NEERI

मा.पर्यावरण मंत्री यांच्या अध्यक्षतेखाली जिल्हाधिकारी कार्यालय, चंद्रपूर येथे दि.१७/१०/२०१३ रोजी झालेल्या चंद्रपूर क्षेत्रातील पर्यावरणीय स्थितीबाबत आढावा बैठकीचे इतिवृत्त.

मा.पर्यावरण मंत्री यांच्या अध्यक्षतेखाली चंद्रपूर क्षेत्रातील पर्यावरणीय स्थितीबाबत व चंद्रपूर कृती आराखड्याची आढावा बैठक दि.१७/१०/२०१३ रोजी जिल्हाधिकारी कार्यालय, चंद्रपूर येथे सकाळी ११.०० वाजता घेण्यात आली. सदर बैठकीस मा.खासदार, विधानसभा सदस्य, मा.प्रधान सचिव (पर्यावरण), मा. सदस्य सचिव, म. प्र. नि. मंडळ, मुंबई, मा. विभागीय आयुक्त, नागपूर, जिल्हाधिकारी, चंद्रपूर सह-संचालक, म. प्र. नि. मंडळ, मुंबई, अशासकीय संस्था व इतर शासकिय अधिकारी उपस्थित होते.

सर्वप्रथम सह-संचालक (ह.प्र.नि.), म. प्र. नि. मंडळ, मुंबई यांनी सर्व उपस्थितांचे स्वागत केले.

सदस्य सचिव, म.प्र.नि.मंडळ, मुंबई यांनी चंद्रपूर क्षेत्रातील पर्यावरणीय सद्यस्थिती व CEPI अंतर्गत म.प्र.नि.मंडळातर्फे करण्यात आलेल्या कार्यवाहीबाबत माहिती दिली. चंद्रपूर क्षेत्राकरीता म. प्र. नि. मंडळातर्फे तयार करण्यात आलेल्या कृती आराखड्यामध्ये कारखानदार, इतर शासकिय विभाग तसेच अशासकिय संस्था यांचा समावेश असल्याचे सांगून या सर्वांनी त्यांच्याशी संबंधीत मुद्यांवर कार्यवाही करणे अपेक्षीत होते असे त्यांनी सांगितले. कारखानदारांद्वारे करण्यात आलेल्या कार्यवाहीबाबतची सद्यस्थिती म. प्र. नि. मंडळाच्या सादरीकरणामध्ये दाखविण्यात आलेली असून चंद्रपूर व वणी क्षेत्रातील पर्यावरणीय सद्यस्थिती बाबतचा अभ्यास करण्याचे काम आय. आय. टी. मुंबई व निरी या संस्थाना देण्यात आलेले असून या कामाच्या सद्यस्थितीबाबत माहिती निरीच्या सादरीकरणामध्ये दाखविण्यात आलेली आहे असे त्यांनी सांगितले. प्रदूषणाचे स्रोत माहिती होणे आवश्यक असून स्रोत माहिती झाल्यानंतरच त्यावर प्रतिबंधात्मक कार्यवाही केली जाऊ शकते. आय. आय. टी. मुंबई व निरी या संस्थांद्वारे करण्यात आलेल्या पाहणीमध्ये कारखान्याद्वारे होणाऱ्या प्रदूषणासोबतच इतर स्रोतसुद्धा प्रदूषणास जबाबदार असल्याचे आढळून आले आहे. या अभ्यासाबाबत मा. लोकप्रतिनिधी व इतर उपस्थितांची मते, सुचना जाणून घेऊन त्याचा समावेश करण्यात येईल असे त्यांनी सांगितले.

डॉ. राजेश बिन्यावाले (शास्त्रज्ञ, निरी) यांनी चंद्रपूर क्षेत्रामधील पर्यावरणीय सद्यस्थितीबाबत आय. आय. टी., मुंबई व निरी या संस्थांद्वारे करण्यात येत असलेल्या पाहणी व अभ्यासाच्या सद्यस्थितीबाबतचे सादरीकरण केले. सादरीकरणादरम्यान त्यांनी विषद केले की, अभ्यास अद्याप पूर्ण व्हावयाचा असून जेवढा अभ्यास झाला आहे त्यावर प्राथमिक अहवाल सादर करण्यात येत असून तुलनात्मक अभ्यासावरून लक्षात येते की, उद्योगामुळे प्रदूषणापेक्षा इतर स्रोतांचा हातभार जास्त आहे.

मा.खासदार श्री. हंसराज अहीर यांनी, लोकप्रतिनिधींनी मांडलेल्या सुचनांवर झालेल्या कार्यवाहीची माहिती मिळत नसल्याचे सांगितले. त्यांनी, चंद्रपूर महाऔष्णिक विद्युत केंद्राचे संच अतिशय जुने झालेले असल्यामुळे सदरील सर्व संचामधून जास्त प्रमाणात धुळीकण उत्सर्जित होत असल्याचे सांगितले. सदरील विद्युत केंद्रामधील संच क्र. १ व २ सर्वात जुने असून ते बंद करण्याची तसेच कालांतराने संच क्र. ३ व ४ सुद्धा बंद करण्याची त्यांनी मागणी केली. कोळसा वाहतुकीमुळे सर्वाधिक प्रदूषण होत असून कोळशाचे वहन कन्व्हेअर बेल्टद्वारे किंवा रेल्वेद्वारे करण्याची त्यांनी मागणी केली. चंद्रपूर औष्णिक विद्युत केंद्रामध्ये निकृष्ट दर्जाचा कोळसा वापरण्यात येत असल्यामुळे जास्त प्रदूषण होत असल्याचे त्यांनी सांगितले. कोळसा हा वॉशरी मध्ये धुऊन वापरण्याची त्यांनी मागणी केली व बंद असलेल्या कोळसा वॉशरीज विज प्रकल्पाद्वारे भाडे तत्वावर घेतल्या जाऊ शकतात असे सांगितले. विज प्रकल्पामध्ये पूर्ण क्षमतेएवढी विज निर्माती होत नसल्याचे त्यांनी सांगितले. त्यांनी, निरी या संस्थेच्या शास्त्रज्ञांनी केलेल्या सादरीकरणामध्ये चंद्रपूर क्षेत्रात हवेचा वेग कमी असतो व त्यामुळे प्रदूषणाची परिणामता जास्त असल्याची बाबीची अतिरीक्त माहिती झाली असे सांगितले.

मा.आमदार, श्री.नानाजी शामकुळे यांनी बैठकीमध्ये चर्चितल्या जाणाऱ्या मुद्द्यांबाबतची टिप्पणी/माहिती लोकप्रतिनिधींना काही दिवस आधी देण्यात यावी जेणे करून सदरील विषयाचा अभ्यास करणे शक्य होईल असे सांगितले. त्यांनी चंद्रपूर महाऔष्णिक विद्युत केंद्राशी संबंधीत मुद्यांबाबत स्वतंत्र बैठक घेण्याची मागणी केली. कारखान्यांनी प्रदूषण नियंत्रणाबाबत, कोळसा वाहतुकीबाबत तसेच खाणींमुळे तयार होणाऱ्या अधिभार ढिगाऱ्यांबाबत केलेल्या उपाययोजनांबाबत नियमितपणे आढावा घेतला जावा असे सांगितले. प्रदूषणास जबाबदार असलेल्या प्रत्येक मुद्याला स्वतंत्रपणे हाताळण्याची

1/7

Free English Translation

The English transcript of the relevant para of the Marathi minutes of meeting dated 17.10.2013 is as below:-

"A survey conducted by IIT Mumbai and NEERI found that in addition to the pollution caused by the factory, other sources were also responsible for the pollution. Dr. Rajesh Biniwale (Scientist, NEERI) made a presentation on the current state of environmental studies in the Chandrapur area being conducted by IIT Mumbai and NEERI. During the presentation, he explained that the study is yet to be completed and a preliminary report is being submitted on how much has been studied. A comparative study shows that other sources contribute more to pollution than industries."

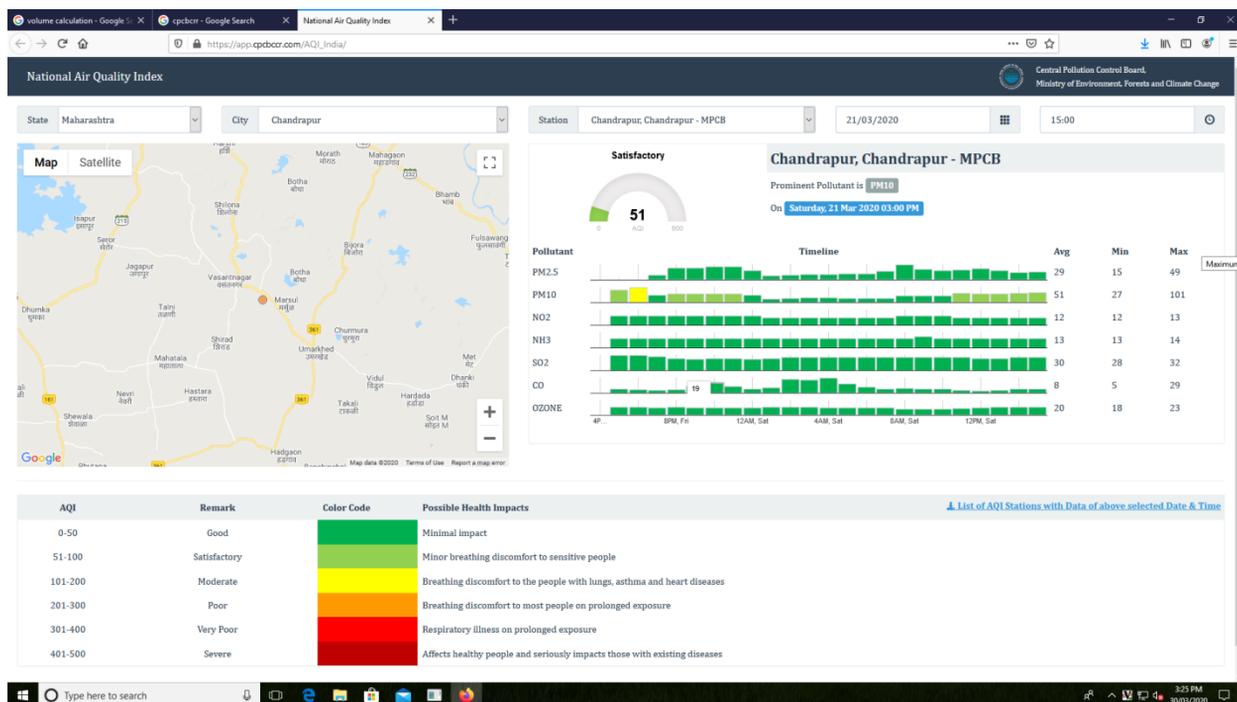
T.C.

[Handwritten Signature]

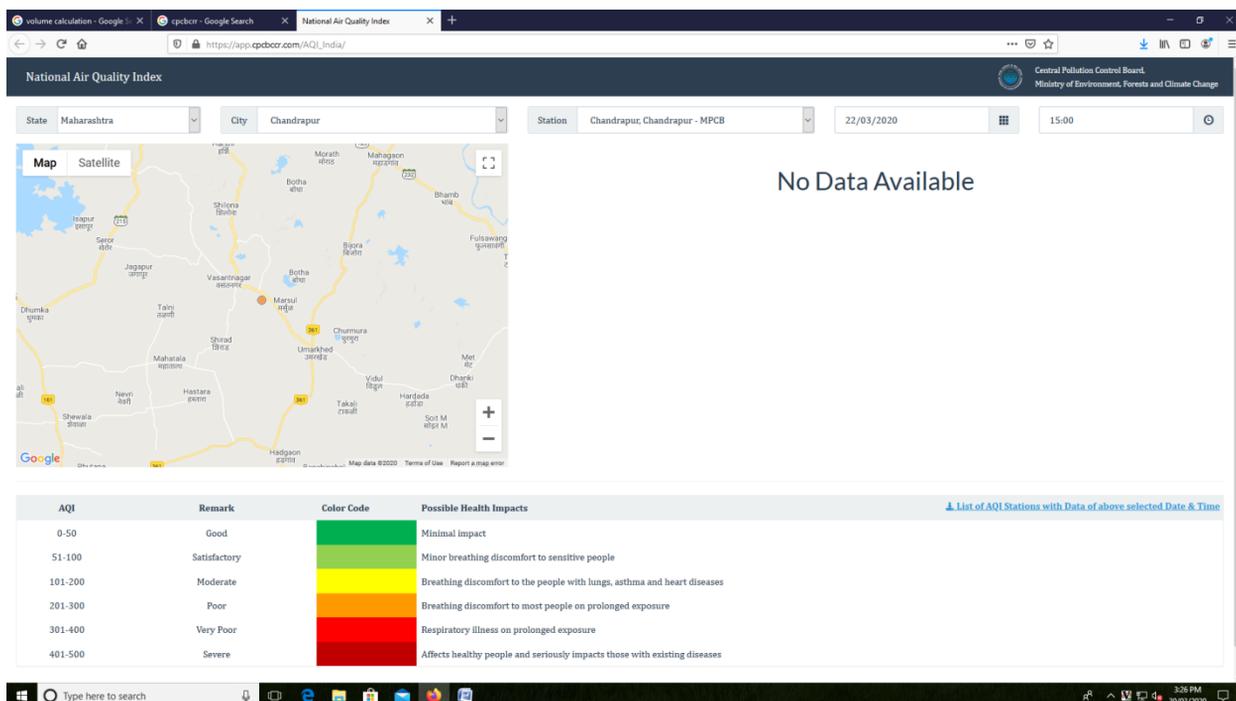
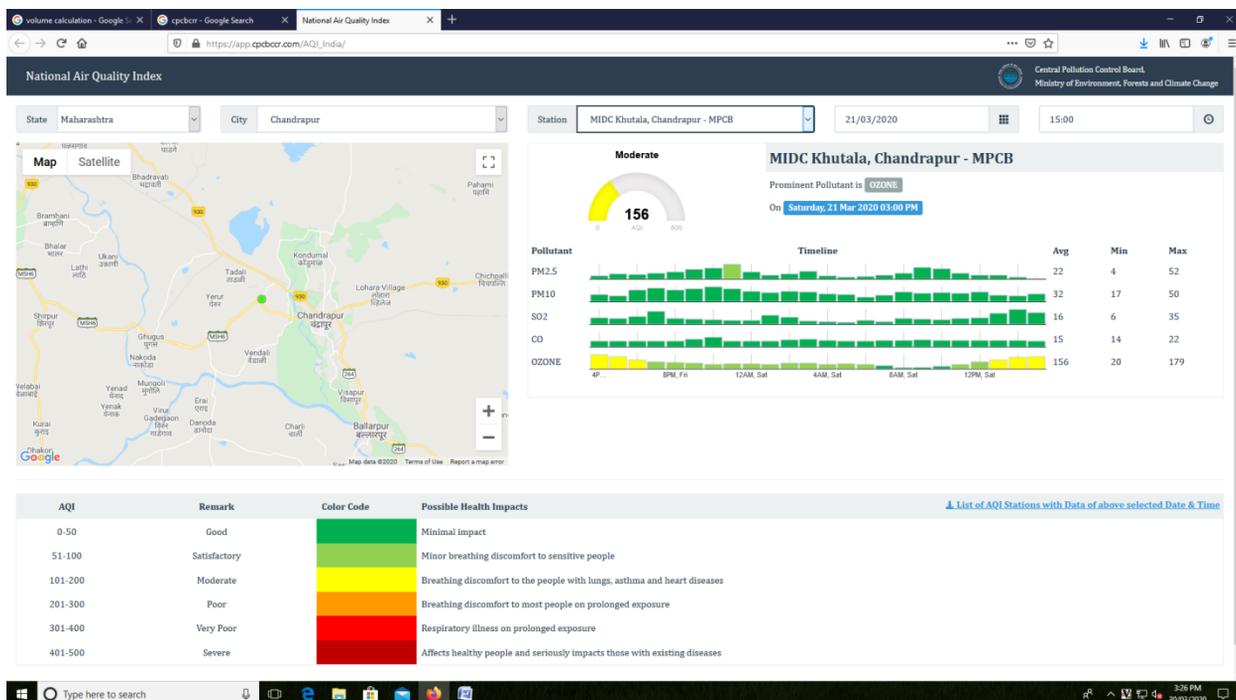
Ambient Air Quality Data from CPCB website for the period March to April 2020

During lockdown period all the activities of Chandrapur are restricted, while the power generation from CSTPS was continuously carried out on full swing. During the period the parameters PM10, PM2.5, SO2, NOx of the Chandrapur area is well within statutory limits prescribed by the MoEF&CC. Same is evidenced from the online monitoring data produced by CPCB & displayed its online portal https://app.cpcbcr.com/AQI_India

Some of the results are shown below:-

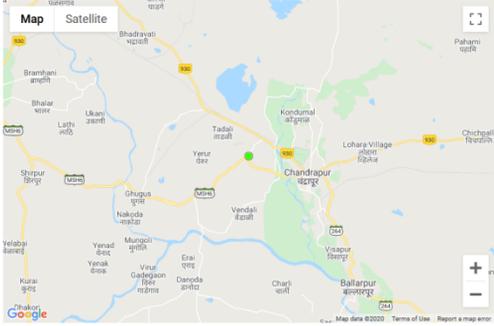


T.C.



National Air Quality Index

State: Maharashtra | City: Chandrapur | Station: MIDC Khutala, Chandrapur - MPCB | Date: 22/03/2020 | Time: 15:00



Moderate

MIDC Khutala, Chandrapur - MPCB

Prominent Pollutant is **OZONE**

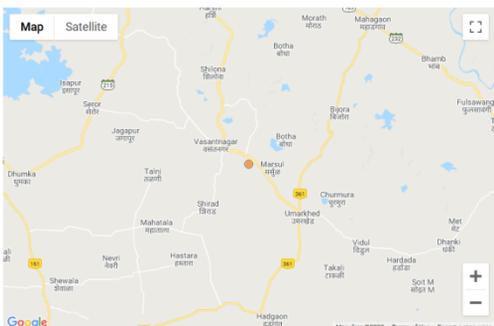
On **Sunday, 22 Mar 2020 03:00 PM**

| Pollutant | Avg | Min | Max |
|-----------|-----|-----|-----|
| PM2.5 | 56 | 6 | 83 |
| PM10 | 64 | 38 | 81 |
| SO2 | 27 | 1 | 67 |
| CO | 15 | 13 | 18 |
| OZONE | 169 | 2 | 169 |

| AQI | Remark | Color Code | Possible Health Impacts |
|---------|--------------|-------------|---|
| 0-50 | Good | Green | Minimal impact |
| 51-100 | Satisfactory | Light Green | Minor breathing discomfort to sensitive people |
| 101-200 | Moderate | Yellow | Breathing discomfort to the people with lungs, asthma and heart diseases |
| 201-300 | Poor | Orange | Breathing discomfort to most people on prolonged exposure |
| 301-400 | Very Poor | Red | Respiratory illness on prolonged exposure |
| 401-500 | Severe | Dark Red | Affects healthy people and seriously impacts those with existing diseases |

National Air Quality Index

State: Maharashtra | City: Chandrapur | Station: Chandrapur, Chandrapur - MPCB | Date: 23/03/2020 | Time: 15:00



Insufficient data for computing AQI

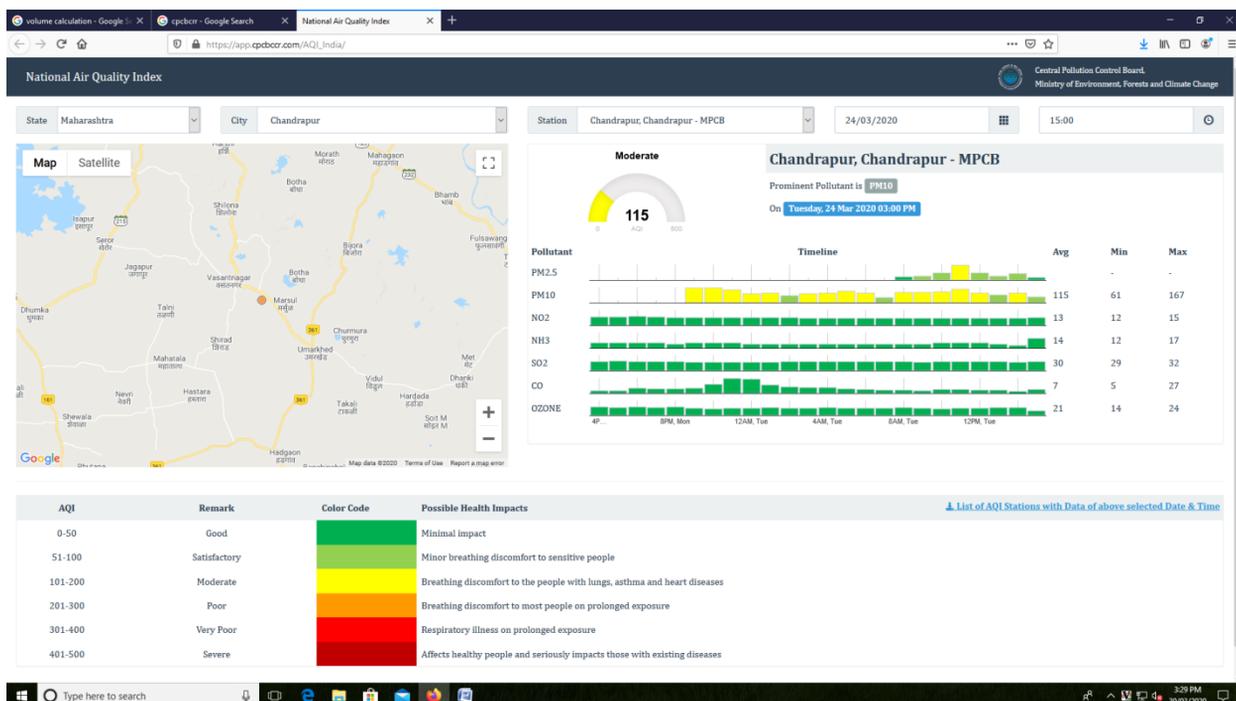
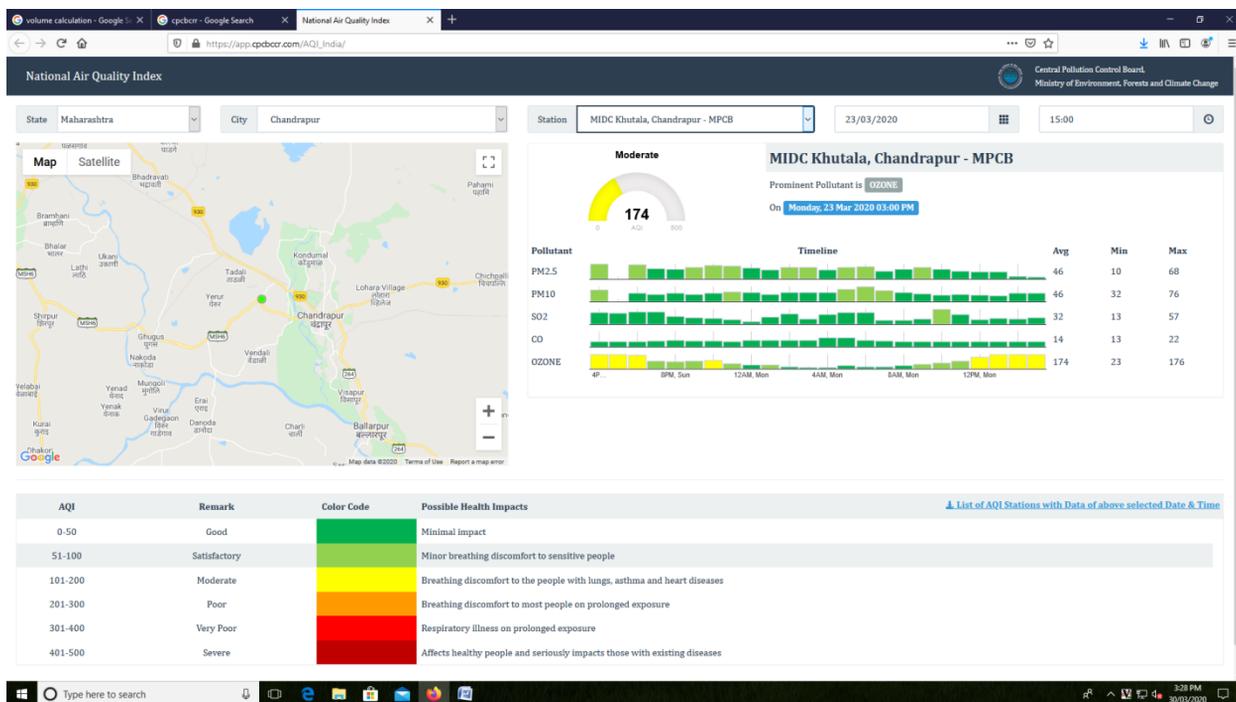
Chandrapur, Chandrapur - MPCB

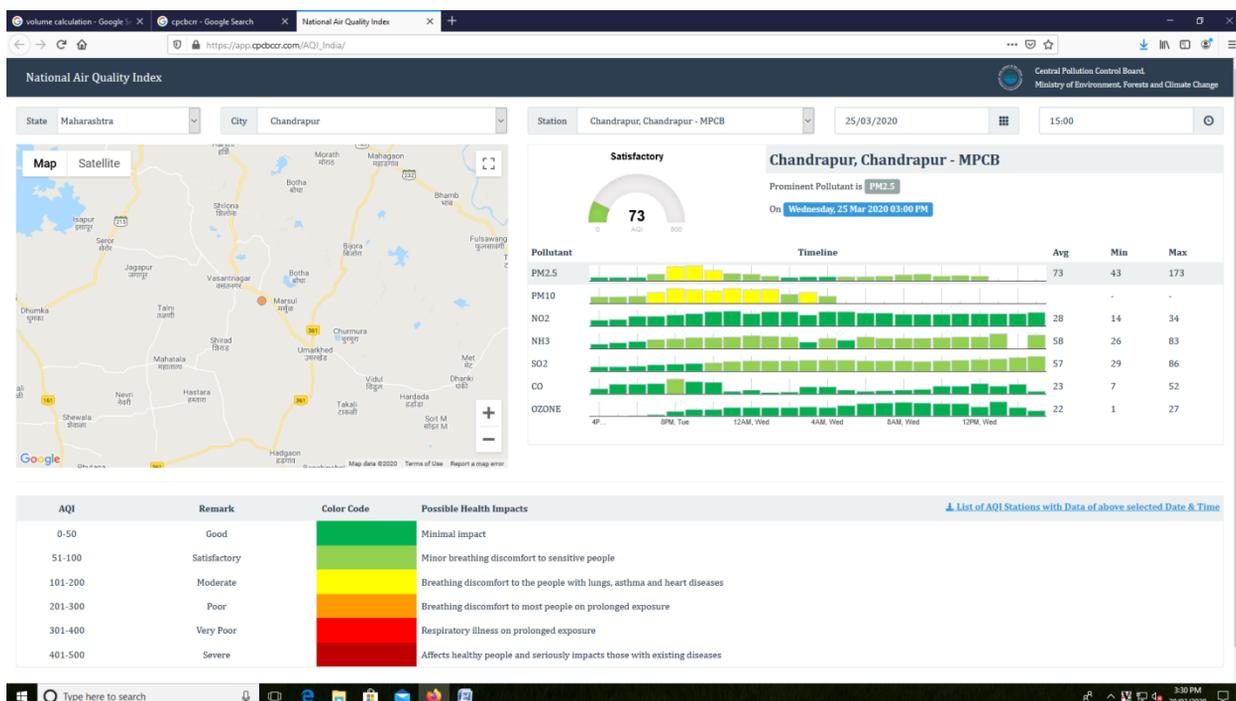
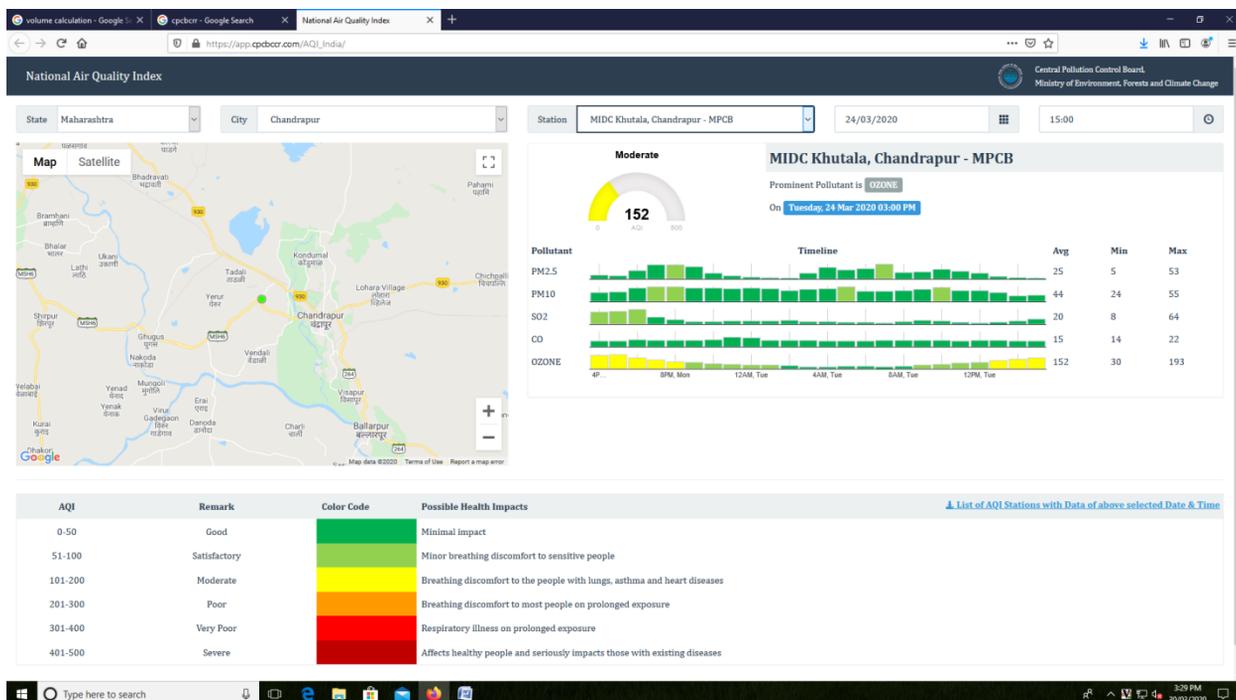
Prominent Pollutant is **OZONE**

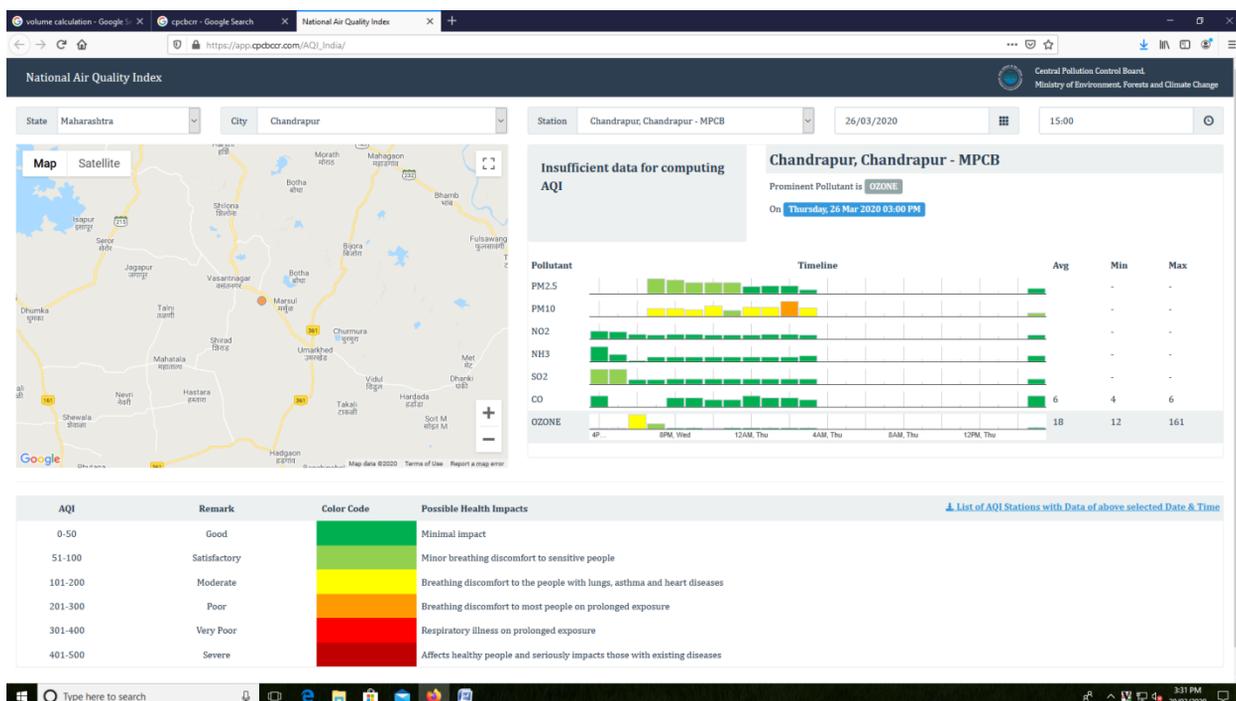
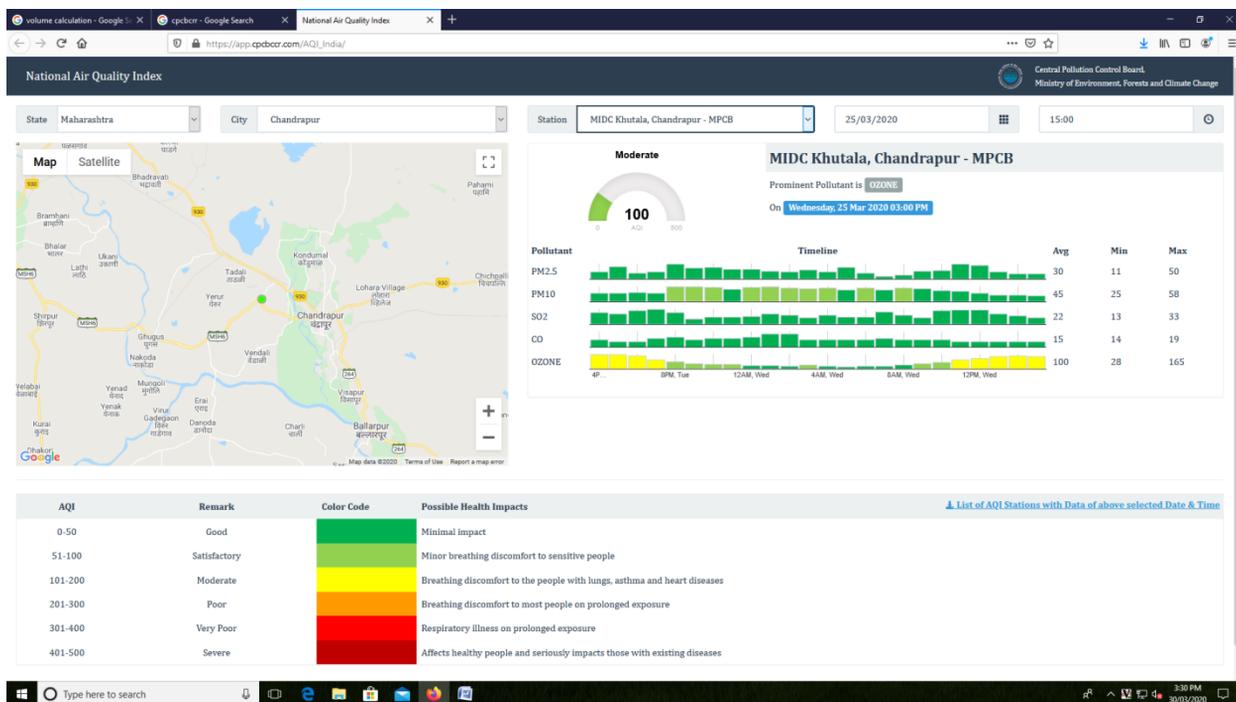
On **Monday, 23 Mar 2020 03:00 PM**

| Pollutant | Avg | Min | Max |
|-----------|-----|-----|-----|
| NO2 | - | - | - |
| NH3 | - | - | - |
| SO2 | - | - | - |
| CO | 9 | 6 | 12 |
| OZONE | 24 | 22 | 25 |

| AQI | Remark | Color Code | Possible Health Impacts |
|---------|--------------|-------------|---|
| 0-50 | Good | Green | Minimal impact |
| 51-100 | Satisfactory | Light Green | Minor breathing discomfort to sensitive people |
| 101-200 | Moderate | Yellow | Breathing discomfort to the people with lungs, asthma and heart diseases |
| 201-300 | Poor | Orange | Breathing discomfort to most people on prolonged exposure |
| 301-400 | Very Poor | Red | Respiratory illness on prolonged exposure |
| 401-500 | Severe | Dark Red | Affects healthy people and seriously impacts those with existing diseases |







National Air Quality Index

State: Maharashtra | City: Chandrapur | Station: MIDC Khutala, Chandrapur - MPCB | Date: 26/03/2020 | Time: 15:00

Moderate
MIDC Khutala, Chandrapur - MPCB
Prominent Pollutant is **OZONE**
On **Thursday, 26 Mar 2020 03:00 PM**

| Pollutant | Timeline | Avg | Min | Max |
|-----------|----------|-----|-----|-----|
| PM2.5 | | 18 | 4 | 31 |
| PM10 | | 42 | 24 | 67 |
| SO2 | | 25 | 6 | 79 |
| CO | | 14 | 14 | 16 |
| OZONE | | 116 | 46 | 133 |

| AQI | Remark | Color Code | Possible Health Impacts |
|---------|--------------|------------|---|
| 0-50 | Good | | Minimal impact |
| 51-100 | Satisfactory | | Minor breathing discomfort to sensitive people |
| 101-200 | Moderate | | Breathing discomfort to the people with lungs, asthma and heart diseases |
| 201-300 | Poor | | Breathing discomfort to most people on prolonged exposure |
| 301-400 | Very Poor | | Respiratory illness on prolonged exposure |
| 401-500 | Severe | | Affects healthy people and seriously impacts those with existing diseases |

MPD-DHE11 Logged In

National Air Quality Index

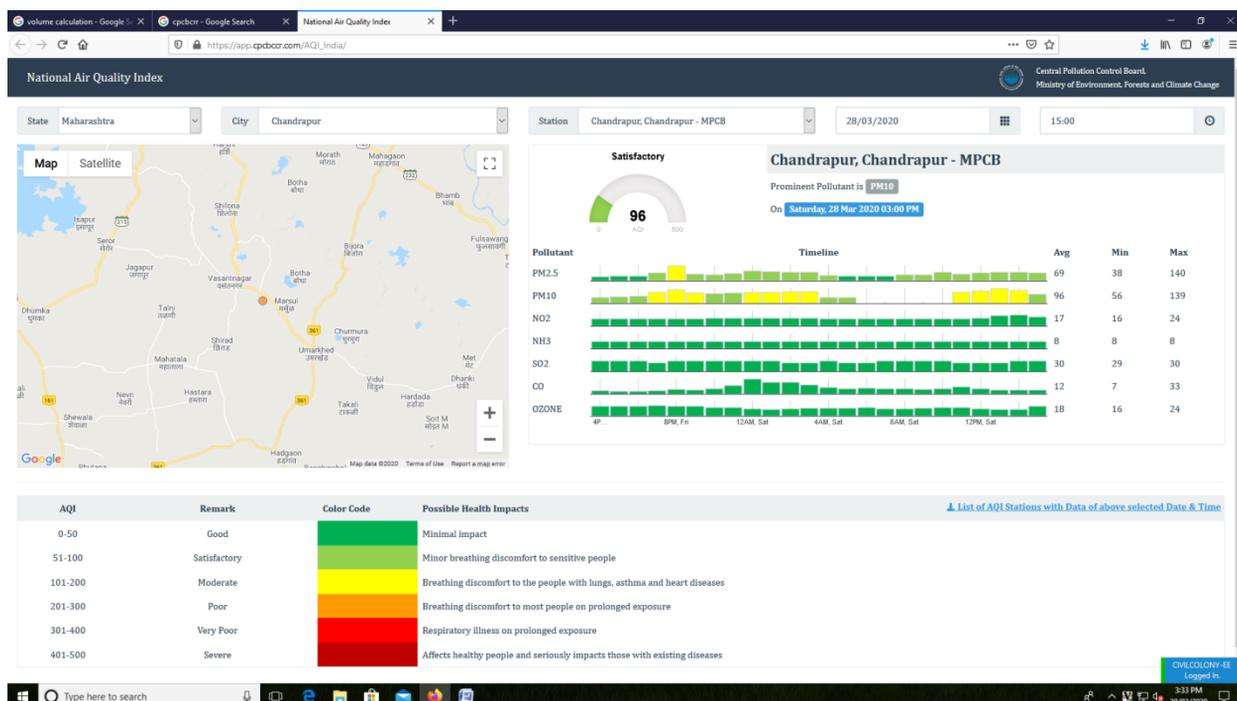
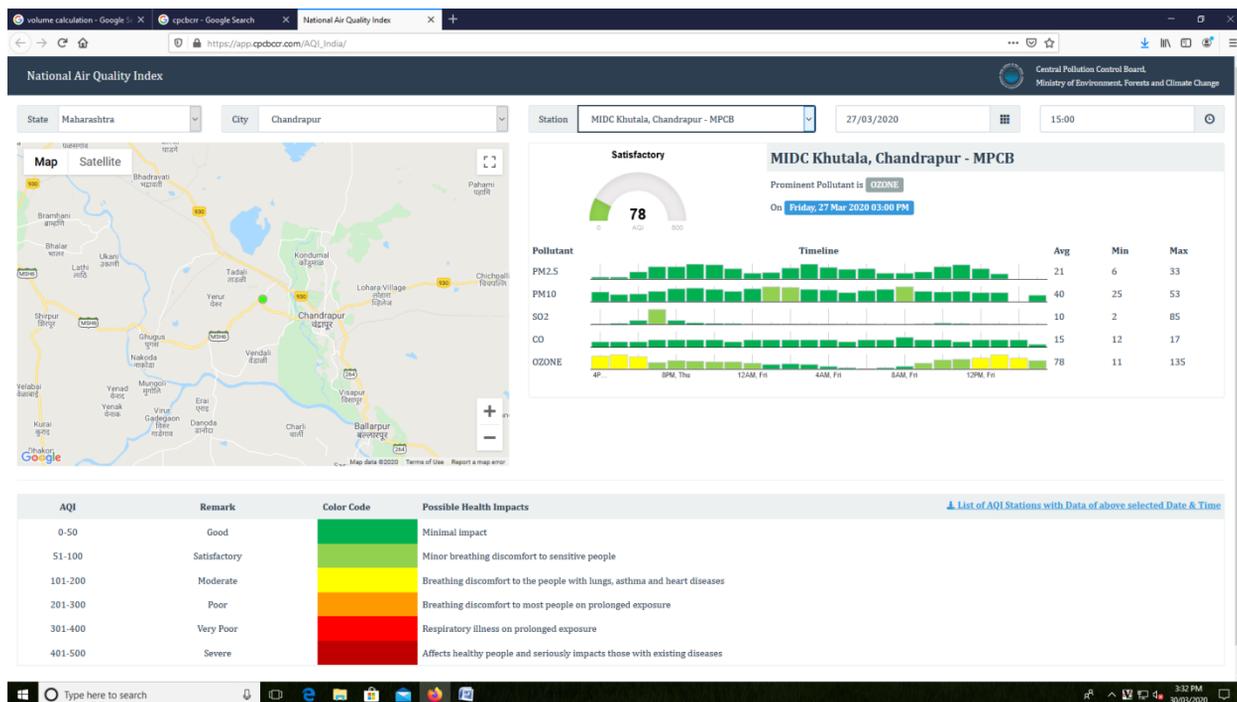
State: Maharashtra | City: Chandrapur | Station: Chandrapur, Chandrapur - MPCB | Date: 27/03/2020 | Time: 15:00

Insufficient data for computing AQI
Chandrapur, Chandrapur - MPCB
Prominent Pollutant is **OZONE**
On **Friday, 27 Mar 2020 03:00 PM**

| Pollutant | Timeline | Avg | Min | Max |
|-----------|----------|-----|-----|-----|
| PM2.5 | | - | - | - |
| PM10 | | - | - | - |
| NO2 | | - | - | - |
| SO2 | | - | - | - |
| CO | | 10 | 1 | 21 |
| OZONE | | 20 | 16 | 23 |

| AQI | Remark | Color Code | Possible Health Impacts |
|---------|--------------|------------|---|
| 0-50 | Good | | Minimal impact |
| 51-100 | Satisfactory | | Minor breathing discomfort to sensitive people |
| 101-200 | Moderate | | Breathing discomfort to the people with lungs, asthma and heart diseases |
| 201-300 | Poor | | Breathing discomfort to most people on prolonged exposure |
| 301-400 | Very Poor | | Respiratory illness on prolonged exposure |
| 401-500 | Severe | | Affects healthy people and seriously impacts those with existing diseases |

Over the last 8 hours



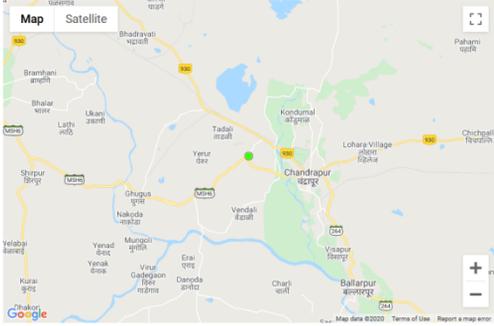
volume calculation - Google... cpbcrr - Google Search National Air Quality Index

https://app.cpcbcr.com/AQI_india/

National Air Quality Index

Central Pollution Control Board, Ministry of Environment, Forests and Climate Change

State: Maharashtra City: Chandrapur Station: MIDC Khutala, Chandrapur - MPCB Date: 28/03/2020 Time: 15:00



Moderate

MIDC Khutala, Chandrapur - MPCB

Prominent Pollutant is **OZONE**

On **Saturday, 28 Mar 2020 03:00 PM**

172

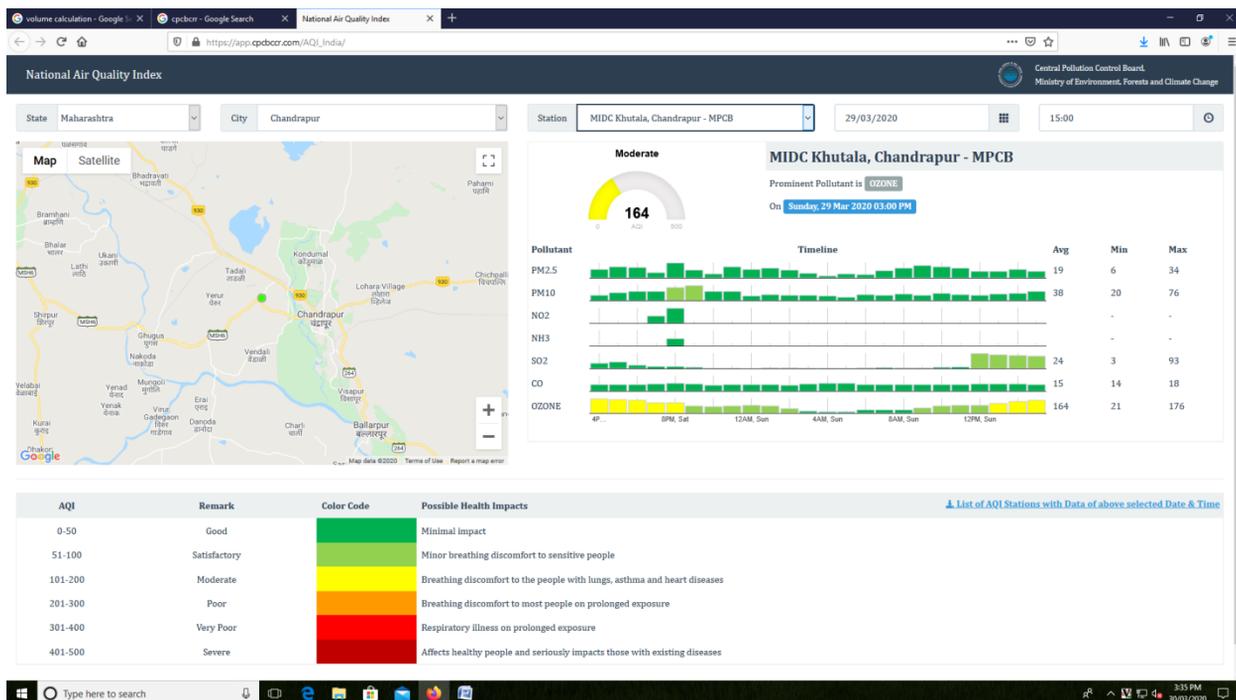
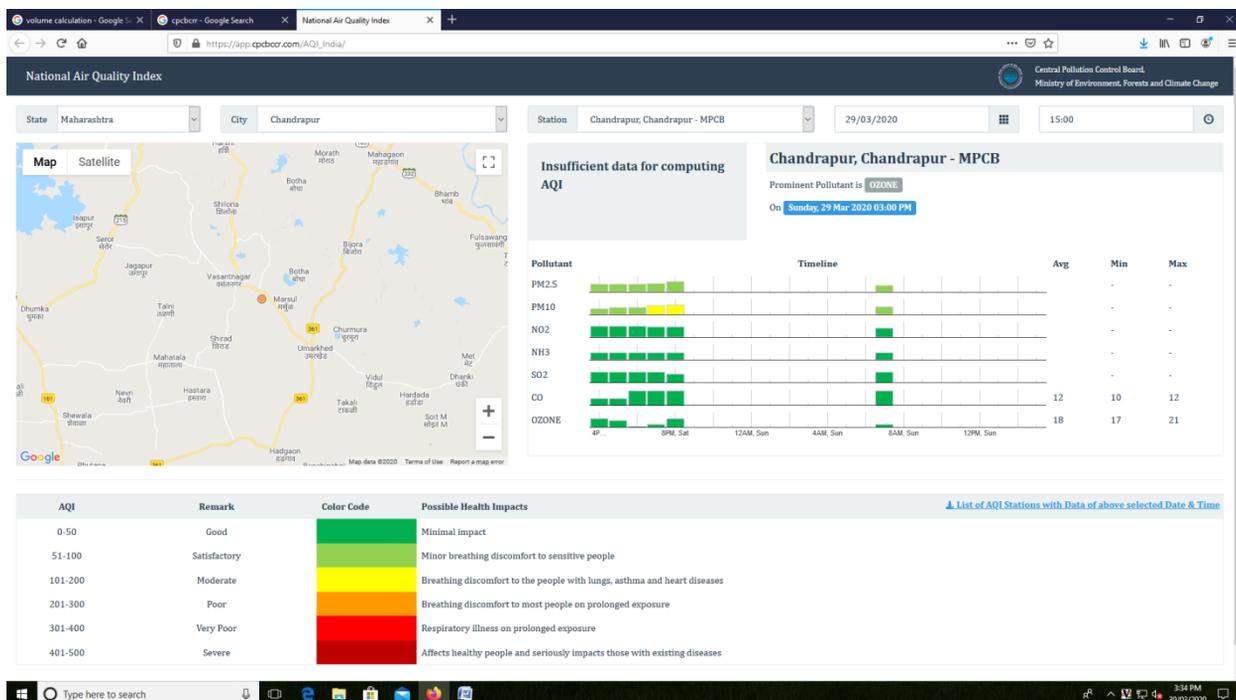
| Pollutant | Avg | Min | Max |
|-----------|-----|-----|-----|
| PM2.5 | 23 | 6 | 72 |
| PM10 | 51 | 27 | 118 |
| SO2 | 24 | 2 | 75 |
| CO | 15 | 14 | 16 |
| OZONE | 172 | 25 | 172 |

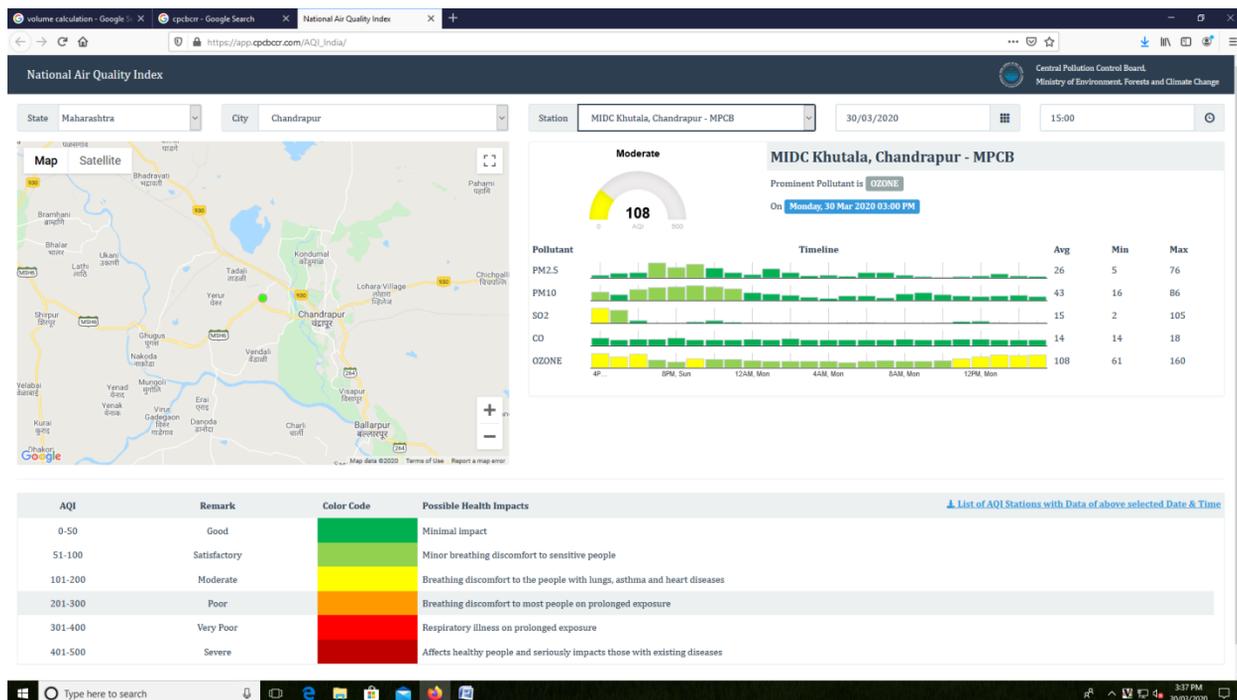
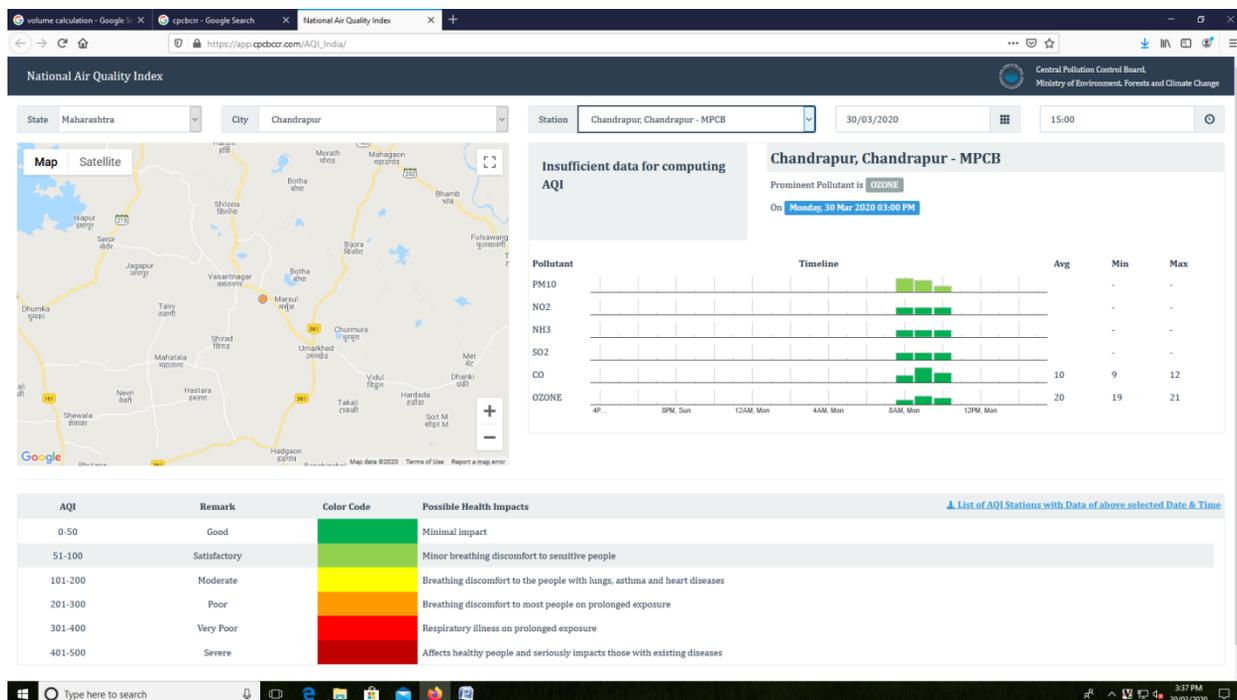
| AQI | Remark | Color Code | Possible Health Impacts |
|---------|--------------|-------------|---|
| 0-50 | Good | Green | Minimal impact |
| 51-100 | Satisfactory | Light Green | Minor breathing discomfort to sensitive people |
| 101-200 | Moderate | Yellow | Breathing discomfort to the people with lungs, asthma and heart diseases |
| 201-300 | Poor | Orange | Breathing discomfort to most people on prolonged exposure |
| 301-400 | Very Poor | Red | Respiratory illness on prolonged exposure |
| 401-500 | Severe | Dark Red | Affects healthy people and seriously impacts those with existing diseases |

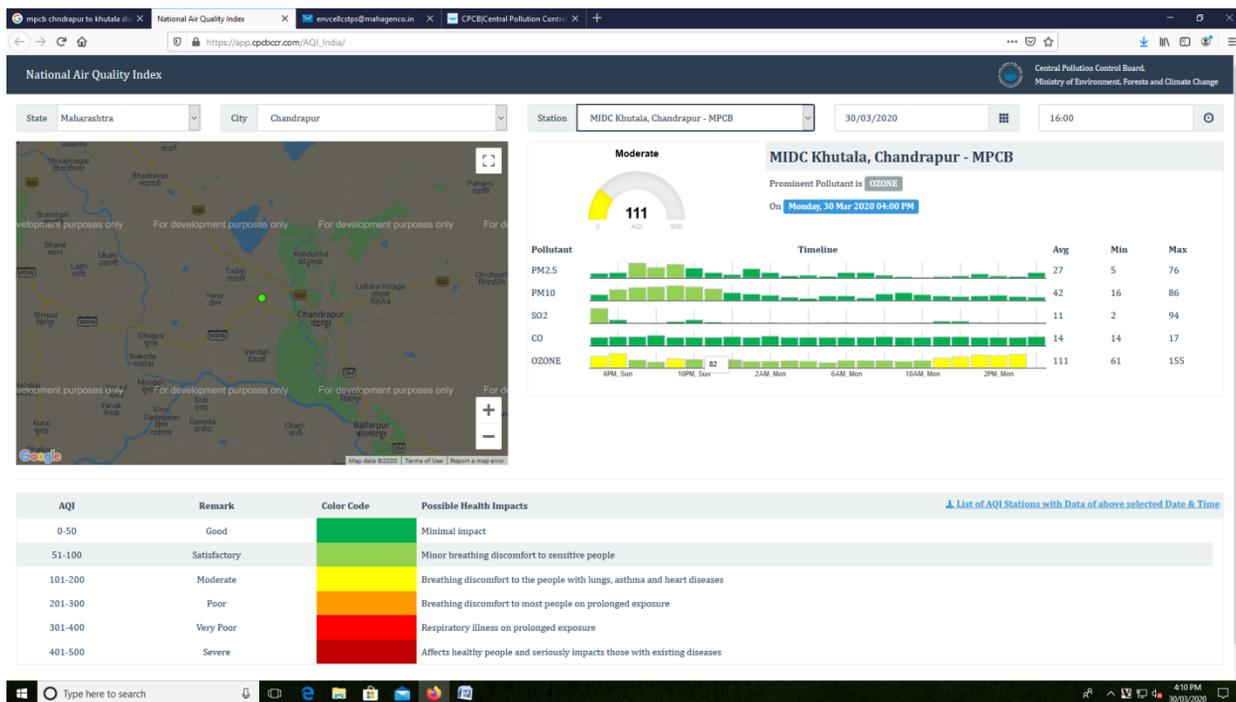
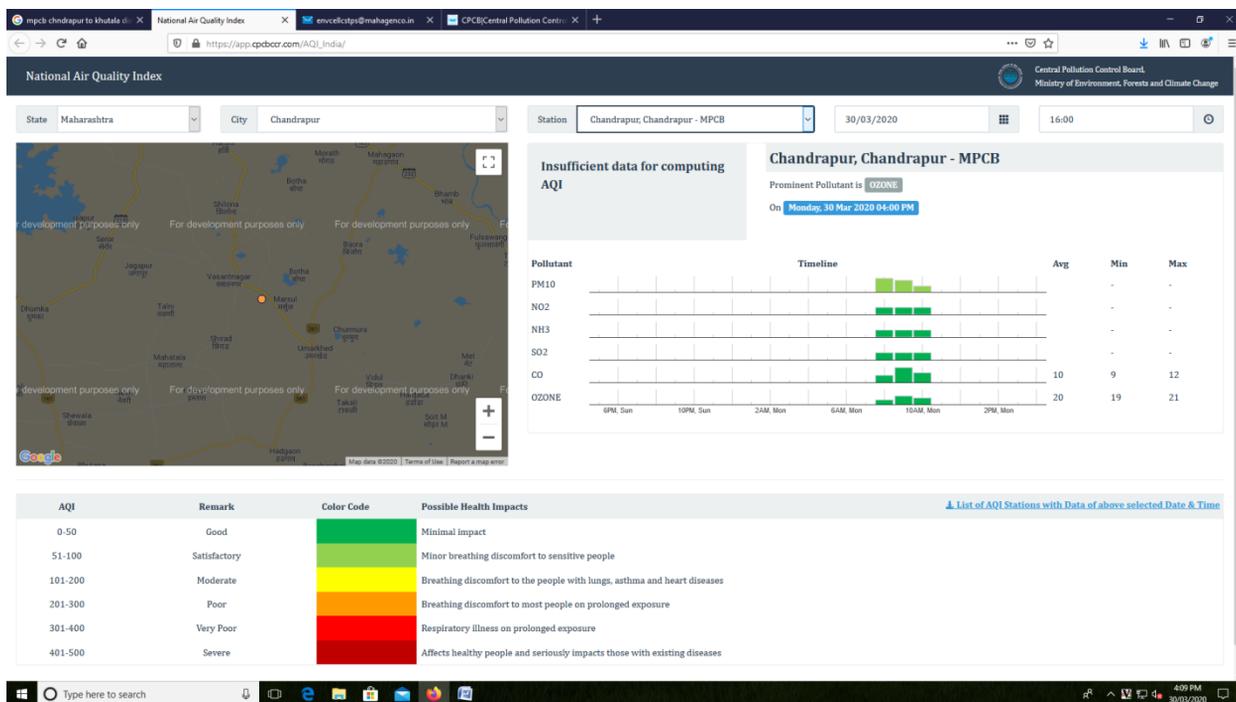
[List of AQI Stations with Data of Above selected Date & Time](#)

Type here to search

3:34 PM 30/03/2020







T.C.

Shrinika

CSTPS Letter to CPCB regarding website Data

000931

Date: 01 MAY 2020

To,
The Scientist-D,
Information Technology Division
CPCB, Parivesh Bhawan, East Arjun Nagar
Delhi - 110 032.

Email- aditya.cpcb@nic.in

Subject: Regarding Air Quality Index (Chandrapur) published on CPCB website-**thereof**

- Ref:** 1) Air Quality Index (Chandrapur) published on CPCB website dated 01.04.2020-30.04.2020
2) MPCB CAAQMS results for the date 01.04.2020 to 30.04.2020
3) This office letter to CPCB No. 000738 dated 31.03.2020

Dear Sir,

With reference to subject matter, it is to submit that, the Air Quality Index (Chandrapur) published on CPCB website dated 01.04.2020 to 30.04.2020.

The mentioned period is fall under the nationwide lockdown due to prevailing situation because of outbreak of ongoing pandemic of Corona Virus Disease 2019 (COVID-19). Also, there was rainfall & thunderstorm observed at Chandrapur intermittently during the period.

The AQI for Chandrapur published by CPCB as below:-

| SN | Date | CPCB AQI for Chandrapur | Prominent Pollutant |
|----|------------|-------------------------|------------------------------------|
| 1 | 01.04.2020 | 75 | O ₃ , PM _{2.5} |
| 2 | 02.04.2020 | 83 | O ₃ |
| 3 | 03.04.2020 | 86 | O ₃ , PM ₁₀ |
| 4 | 04.04.2020 | 71 | O ₃ , PM _{2.5} |
| 5 | 05.04.2020 | 79 | O ₃ , PM ₁₀ |
| 6 | 06.04.2020 | 82 | PM _{2.5} |
| 7 | 07.04.2020 | 92 | O ₃ |
| 8 | 08.04.2020 | 84 | O ₃ , PM ₁₀ |
| 9 | 09.04.2020 | 112 | PM _{2.5} |
| 10 | 10.04.2020 | 115 | O ₃ |
| 11 | 11.04.2020 | 67 | PM _{2.5} |
| 12 | 12.04.2020 | 175 | PM _{2.5} |
| 13 | 13.04.2020 | 106 | O ₃ |
| 14 | 14.04.2020 | 179 | O ₃ |
| 15 | 15.04.2020 | 88 | O ₃ , PM ₁₀ |
| 16 | 16.04.2020 | 87 | O ₃ , PM ₁₀ |
| 17 | 17.04.2020 | 92 | O ₃ |
| 18 | 18.04.2020 | 65 | O ₃ , PM _{2.5} |
| 19 | 19.04.2020 | 78 | O ₃ |
| 20 | 20.04.2020 | 81 | O ₃ |
| 21 | 21.04.2020 | 75 | O ₃ , PM ₁₀ |
| 22 | 22.04.2020 | 66 | O ₃ , PM ₁₀ |
| 23 | 23.04.2020 | 68 | O ₃ , PM ₁₀ |
| 24 | 24.04.2020 | 69 | O ₃ , PM ₁₀ |
| 25 | 25.04.2020 | 65 | O ₃ , PM ₁₀ |
| 26 | 26.04.2020 | 63 | O ₃ , PM ₁₀ |
| 27 | 27.04.2020 | 68 | O ₃ , PM ₁₀ |
| 28 | 28.04.2020 | 67 | O ₃ , PM ₁₀ |
| 29 | 29.04.2020 | 72 | O ₃ , PM ₁₀ |
| 30 | 30.04.2020 | 60 | O ₃ , PM _{2.5} |

Behanra
4/5/2020
Central Pollution Control Board
Regional office
Parivesh Bhawan 1st Floor Station Road,
Chandrapur-442401.

T.C.

Behanra

Further, while observing the MPCB CAAQMS data & CSTPS CAAQMS data, it is observed that **the average concentration of PM₁₀, PM_{2.5}, SO₂, & NO₂ are well within the statutory limit.** (The MPCB results downloaded from CPCB website are attached herewith for your perusal)

However, Ozone concentration is lower at MPCB office CAAQM station & higher at Khutala CAAQM station and due to that the AQI of Chandrapur is reported as high as mentioned above. This shows the analyzer of Ozone might show abrupt results which seems to be absurd because there is lockdown in the city and any anthropogenic ozone generation activity might not be taken place.

In view of above, it is requested to look into the matter for the correctness of data and further rectification thereof, if any.

Thanking you.

Yours faithfully,


Chief Engineer
CSTPS, Chandrapur

Encl.: - As above

Copy s. w. rs. to CPCB: -

- 1) The Member Secretary, CPCB, Delhi
- 2) The Divisional Head IPC-II, CPCB, Delhi

Copy s. w. rs. to MPCB: -

- 1) The Member Secretary, MPCB, Mumbai.
- 2) The Joint Director (APC), MPCB, Mumbai.
- 3) The Regional Officer, MPCB, Chandrapur

Copy s. w. rs. to MSPGCL: -

- 1) The Director (Op), MSPGCL, Mumbai
- 2) The Exe. Director (OM-II), MSPGCL, Mumbai

Copy f. w. cs to: -

The Chief Gen. Manager (E & S), MSPGCL Mumbai.

CHN/WTP-I/Env/

000738

Date: 31 MAR 2020

To,
The Scientist-D,
Information Technology Division
CPCB, Parivesh Bhawan, East Arjun Nagar
Delhi - 110 032.

Email- aditya.cpcb@nic.in

Subject: Regarding Air Quality Index (Chandrapur) published on CPCB website-**thereof**

Ref: 1) Air Quality Index (Chandrapur) published on CPCB website dated 21.03.2020-30.03.2020
2) MPCB CAAQMS results for the date 21.03.2020 to 30.03.2020

Dear Sir,

With reference to subject matter, it is to submit that, the Air Quality Index (Chandrapur) published on CPCB website dated 21.03.2020-30.03.2020.

The mentioned period is fall under the Janta Curfew on dated 22.03.2020 & subsequent nationwide lockdown due to prevailing situation because of outbreak of ongoing pandemic of Corona Virus Disease 2019 (COVID-19).

Also, there is rainfall & thunderstorm observed at Chandrapur during the period of 25.03.2020 to 30.03.2020.

The AQI for Chandrapur published by CPCB as below:-

| SN | Date | CPCB AQI for Chandrapur | Prominent Pollutant |
|----|------------|-------------------------|---------------------|
| 1 | 21.03.2020 | 104 | 03 , PM10 |
| 2 | 22.03.2020 | 175 | 03 |
| 3 | 23.03.2020 | 185 | 03 |
| 4 | 24.03.2020 | 138 | 03 , PM10 |
| 5 | 25.03.2020 | 90 | 03 , PM2.5 |
| 6 | 26.03.2020 | 117 | 03 |
| 7 | 27.03.2020 | 90 | 03 |
| 8 | 28.03.2020 | 136 | 03 , PM10 |
| 9 | 29.03.2020 | 160 | 03 |
| 10 | 30.03.2020 | 111 | 03 |

Further, while observing the MPCB CAAQMS data, it is observed that **the concentration of PM10, PM2.5, SO2, & NO2 are well within the statutory limit. (The MPCB results downloaded from CPCB website are attached herewith for your perusal)**

However, **Ozone concentration is lower at MPCB office CAAQM station & higher at Khutala CAAQM station and due to that the AQI of Chandrapur**

is reported as high as mentioned above. This shows the analyzer of Ozone might show abrupt results which seems to be absurd because there is lockdown in the city and any anthropogenic ozone generation activity might not be taken place.

In view of above, it is requested to look into the matter for the correctness of data and further rectification thereof, if any.

Thanking you.

Yours faithfully,


Chief Engineer
CSTPS, Chandrapur

Encl.: - As above

Copy s. w. r. to CPCB: -

Divisional Head IPC-II, CPCB, New Delhi

Copy s. w. r. to MPCB: -

- 1) The Member Secretary, MPCB, Mumbai.
- 2) The Joint Director (APC), MPCB, Mumbai.
- 3) The Regional Officer, MPCB, Chandrapur

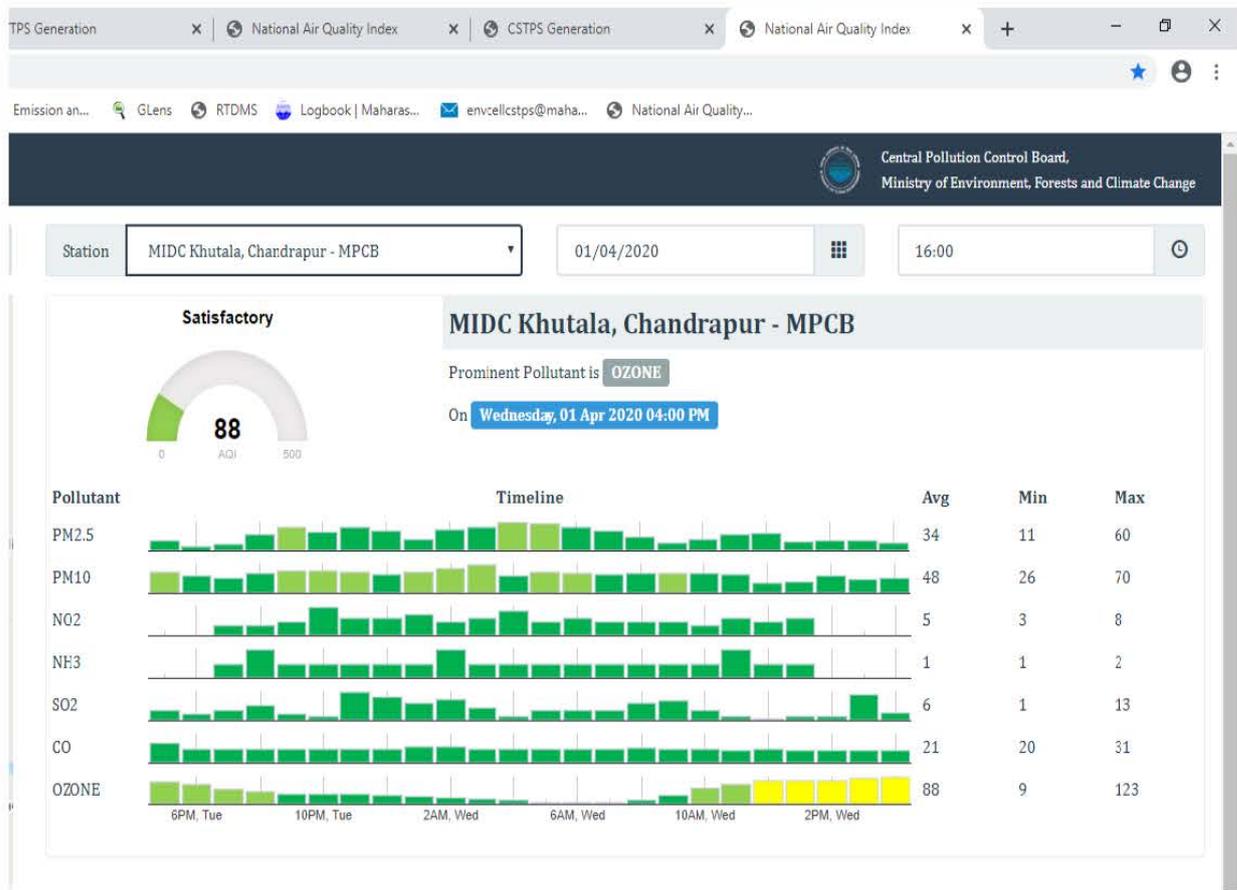
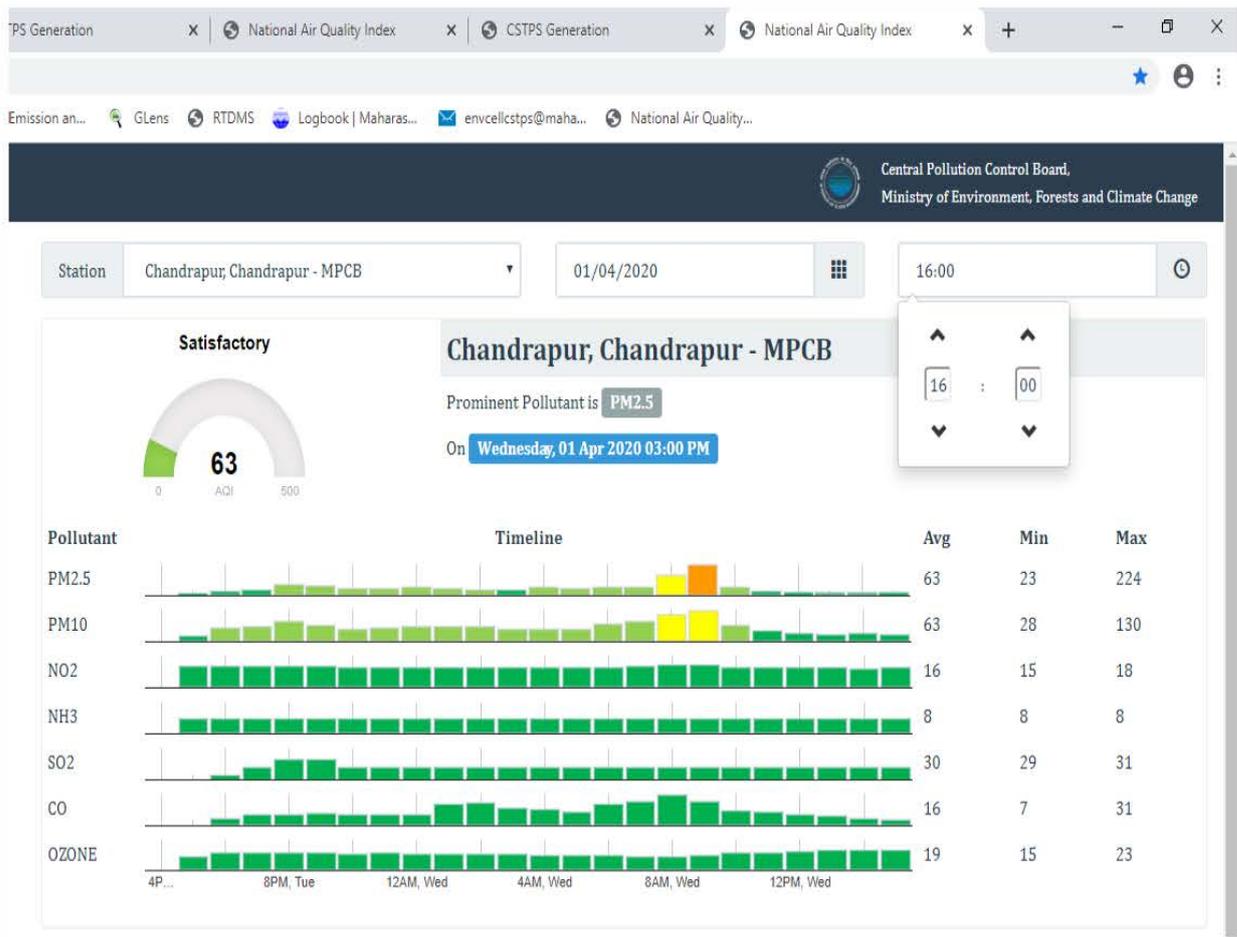
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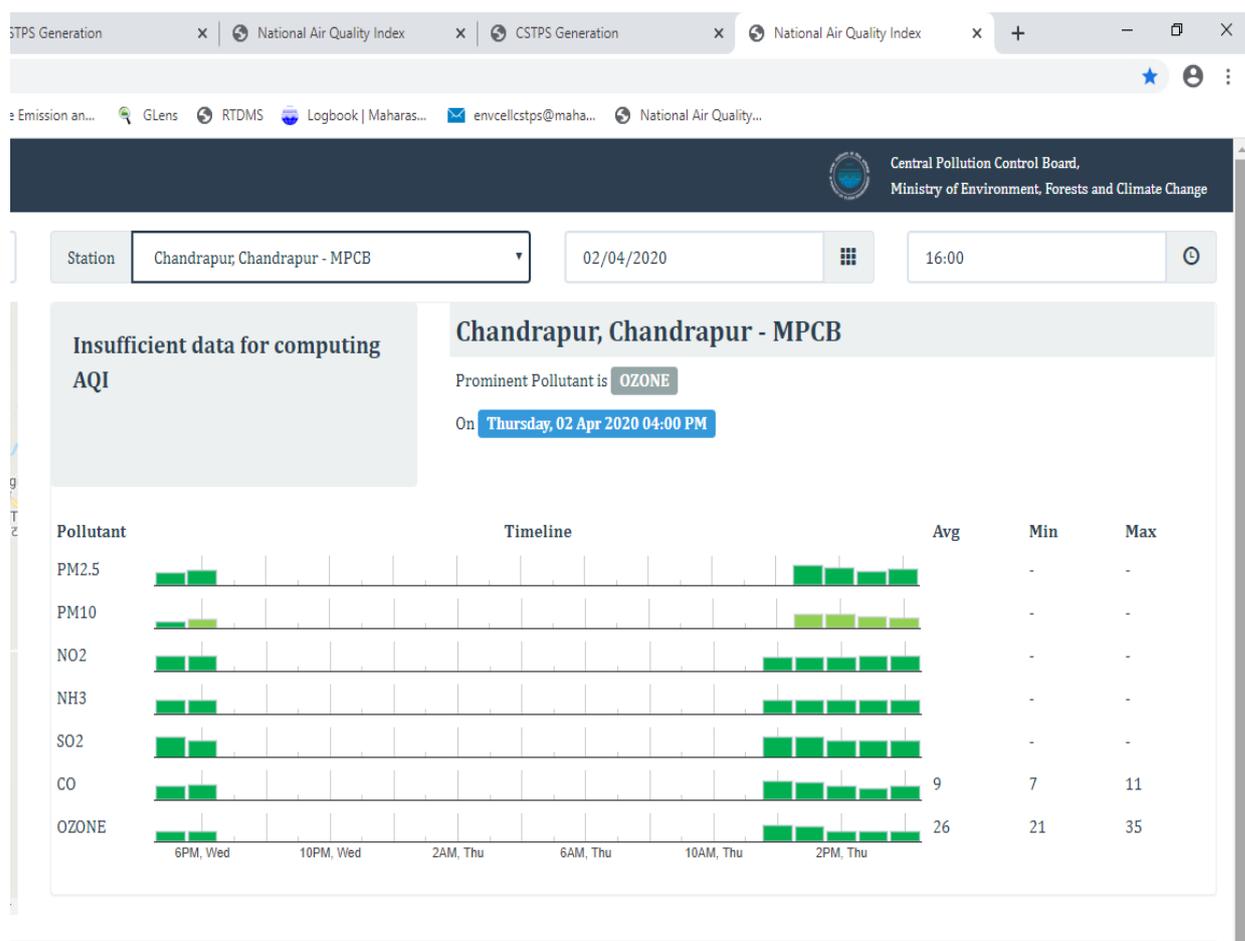
- 1) The Director (Op), MSPGCL, Mumbai
- 2) The Exe. Director (OM-II), MSPGCL, Mumbai

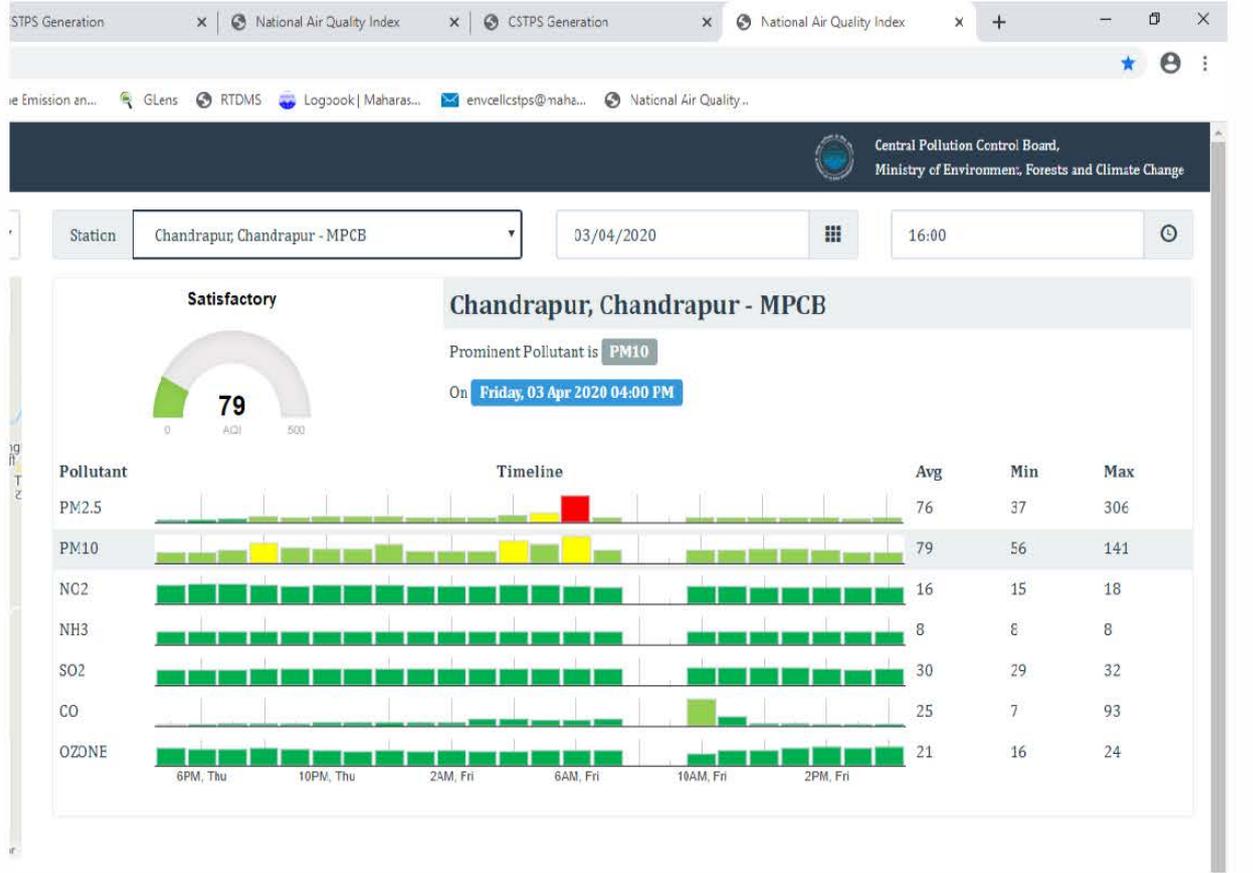
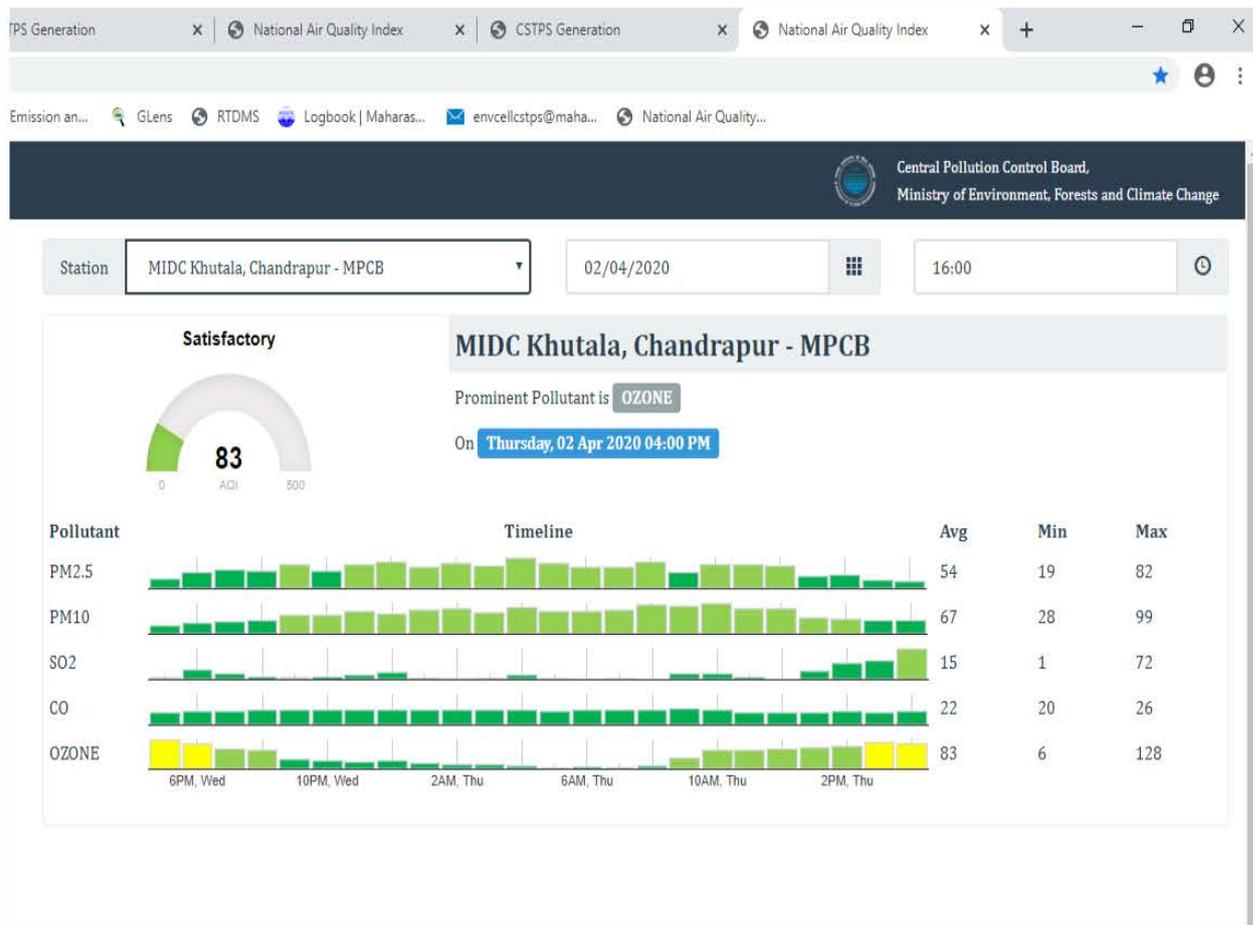
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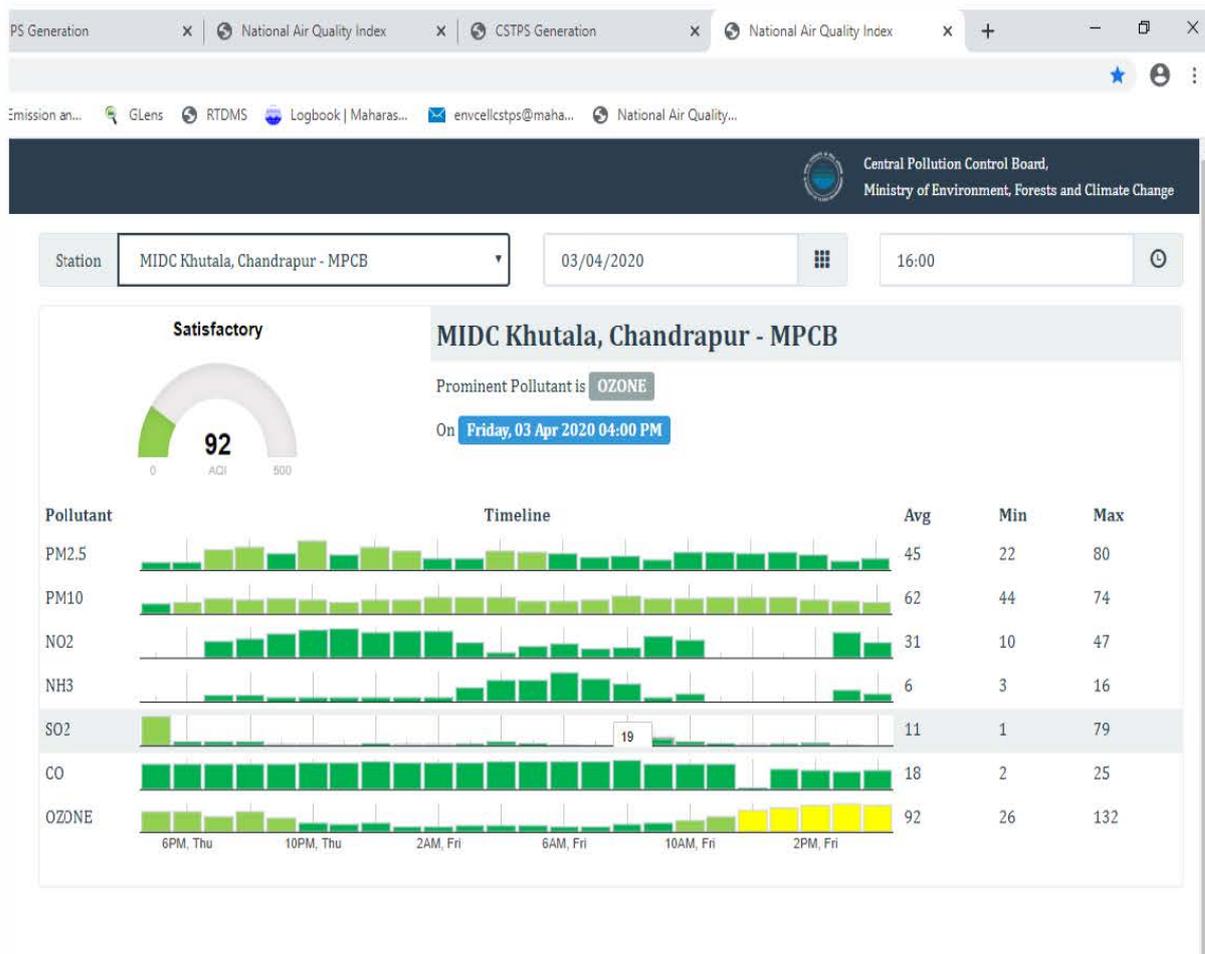
The Chief Gen. Manager (E & S), MSPGCL Mumbai.

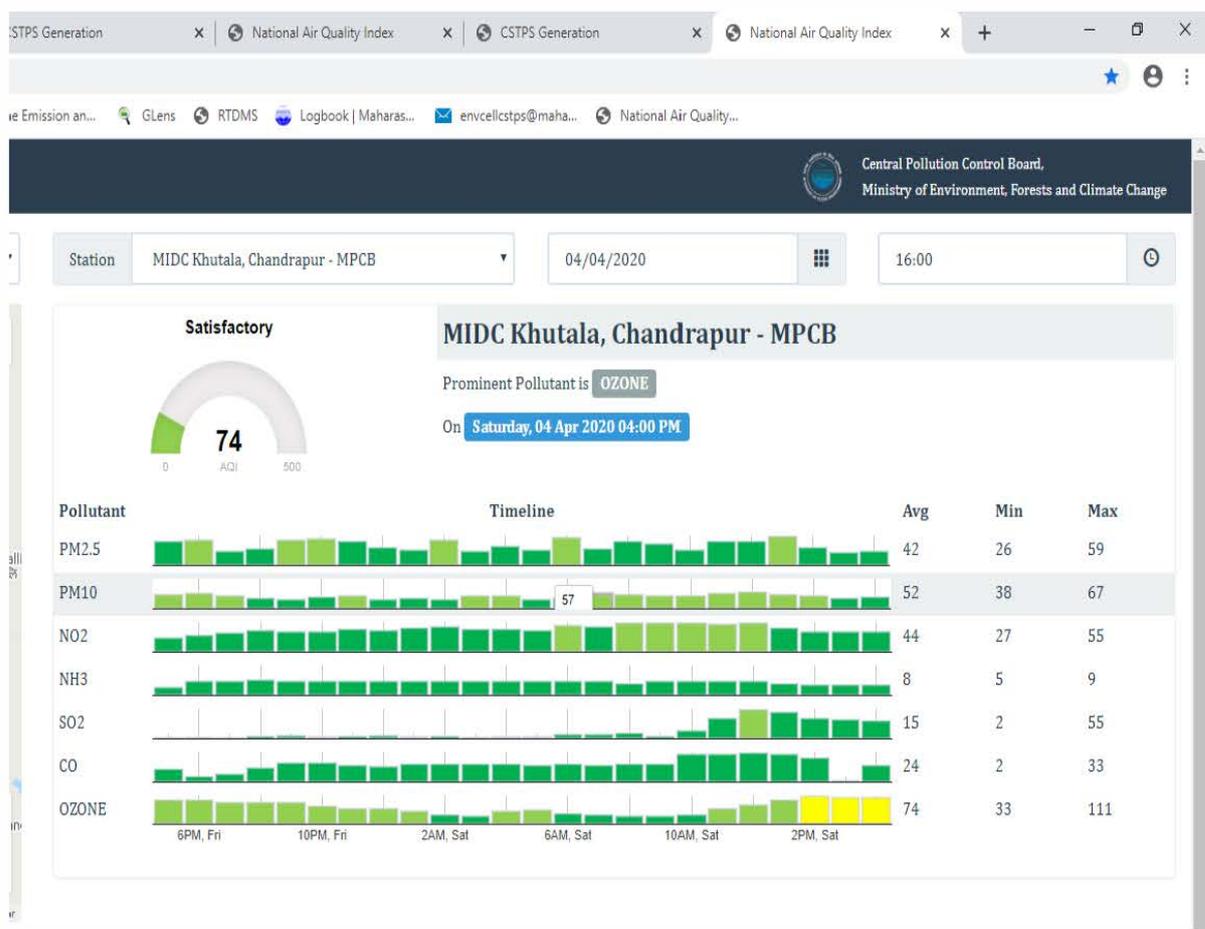
| Date | CSTPS AAQ average of 04 CAAQMS | | | |
|------------|--------------------------------|------|-----|-----|
| | PM2.5 | PM10 | NOx | SOx |
| 01.04.2020 | 50 | 77 | 19 | 13 |
| 02.04.2020 | 60 | 71 | 25 | 20 |
| 03.04.2020 | 46 | 69 | 19 | 13 |
| 04.04.2020 | 50 | 71 | 16 | 16 |
| 05.04.2020 | 43 | 64 | 14 | 17 |
| 06.04.2020 | 41 | 66 | 16 | 14 |
| 07.04.2020 | 44 | 70 | 16 | 12 |
| 08.04.2020 | 41 | 66 | 16 | 11 |
| 09.04.2020 | 45 | 75 | 18 | 27 |
| 10.04.2020 | 37 | 63 | 20 | 21 |
| 11.04.2020 | 42 | 66 | 18 | 23 |
| 12.04.2020 | 47 | 69 | 19 | 18 |
| 13.04.2020 | 42 | 62 | 21 | 22 |
| 14.04.2020 | 35 | 61 | 20 | 17 |
| 15.04.2020 | 37 | 64 | 19 | 36 |
| 16.04.2020 | 36 | 59 | 18 | 12 |
| 17.04.2020 | 35 | 60 | 19 | 10 |
| 18.04.2020 | 16 | 46 | 20 | 9 |
| 19.04.2020 | 31 | 39 | 20 | 12 |
| 20.04.2020 | 29 | 50 | 22 | 10 |
| 21.04.2020 | 33 | 45 | 67 | 19 |
| 22.04.2020 | 17 | 41 | 26 | 14 |
| 23.04.2020 | 21 | 41 | 29 | 23 |
| 24.04.2020 | 27 | 41 | 26 | 21 |
| 25.04.2020 | 34 | 44 | 30 | 22 |
| 26.04.2020 | 22 | 43 | 39 | 32 |
| 27.04.2020 | 19 | 39 | 25 | 17 |
| 28.04.2020 | 16 | 37 | 24 | 14 |
| 29.04.2020 | 28 | 60 | 27 | 17 |
| 30.04.2020 | 19 | 49 | 20 | 16 |

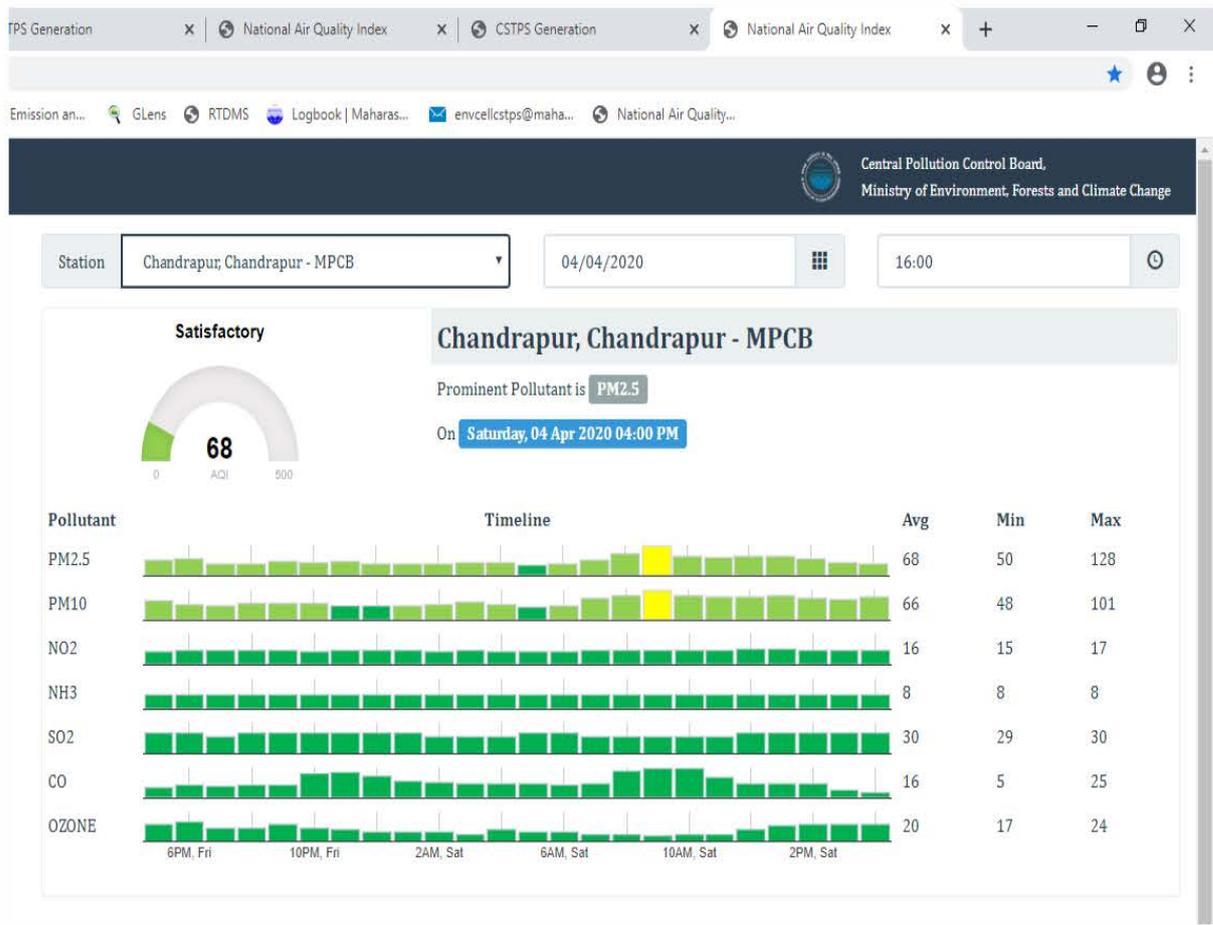


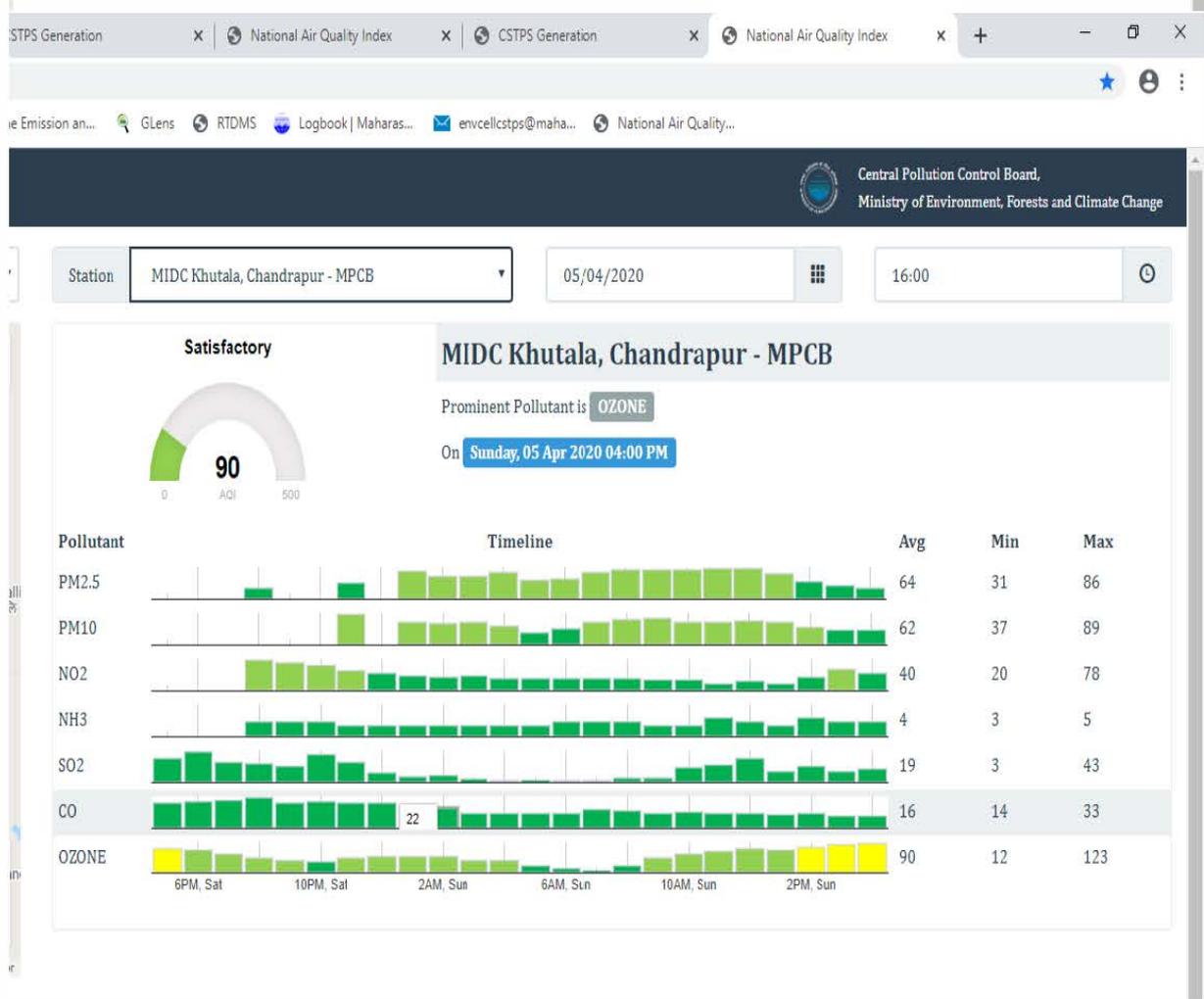
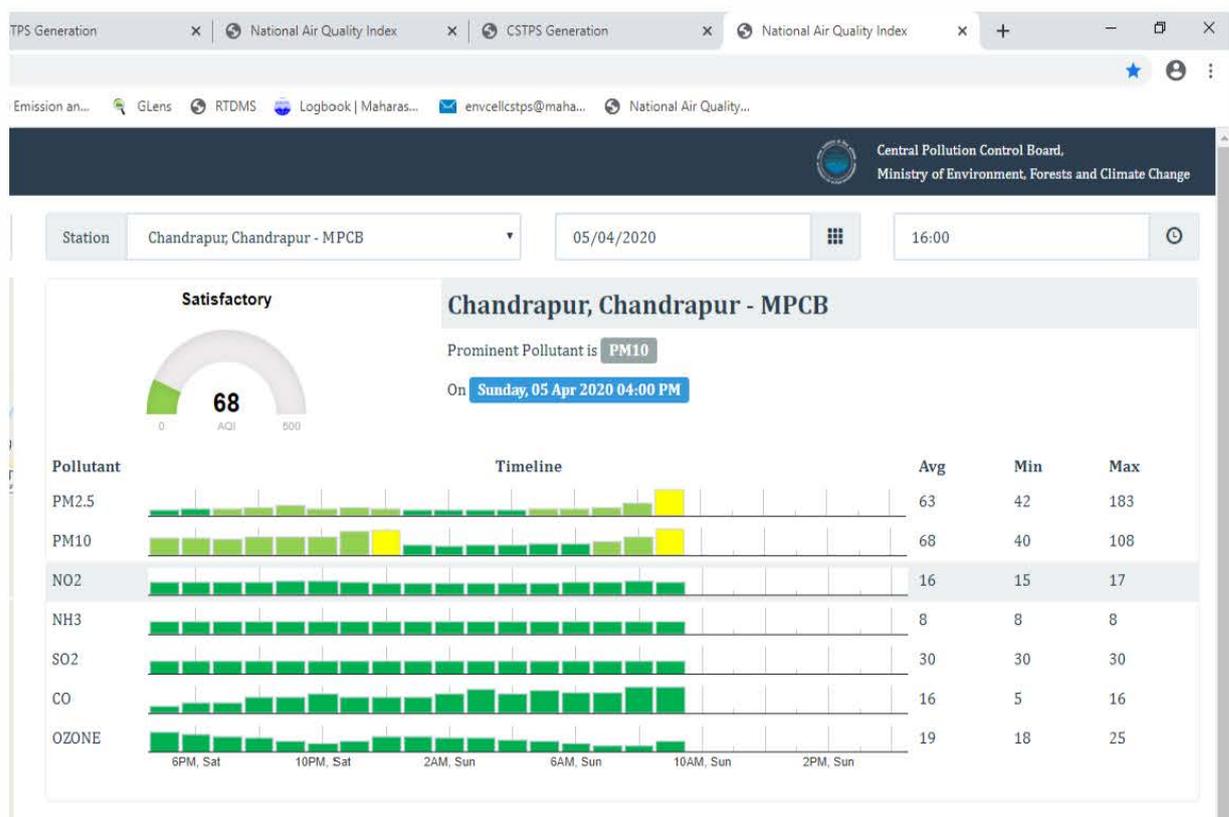


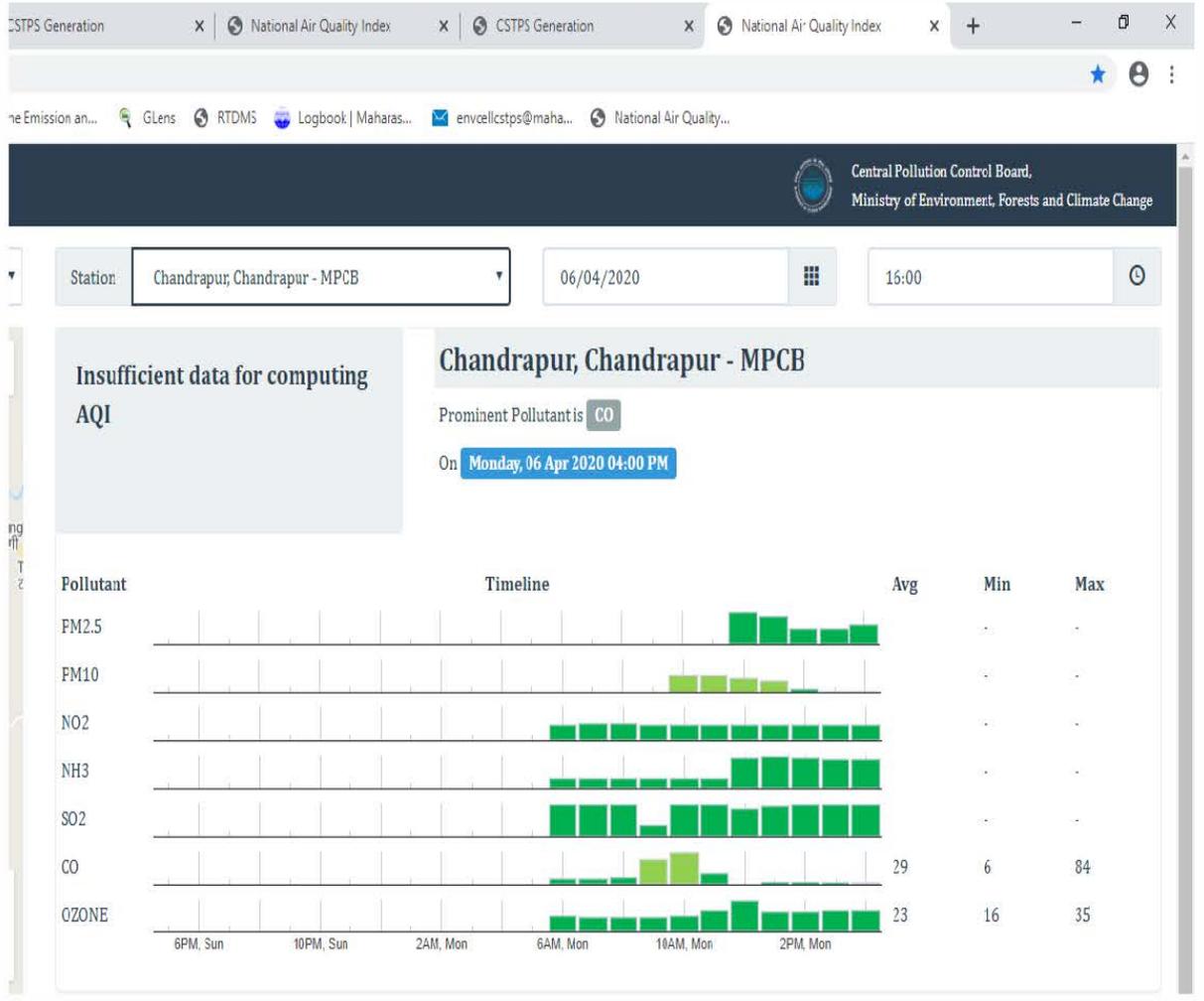
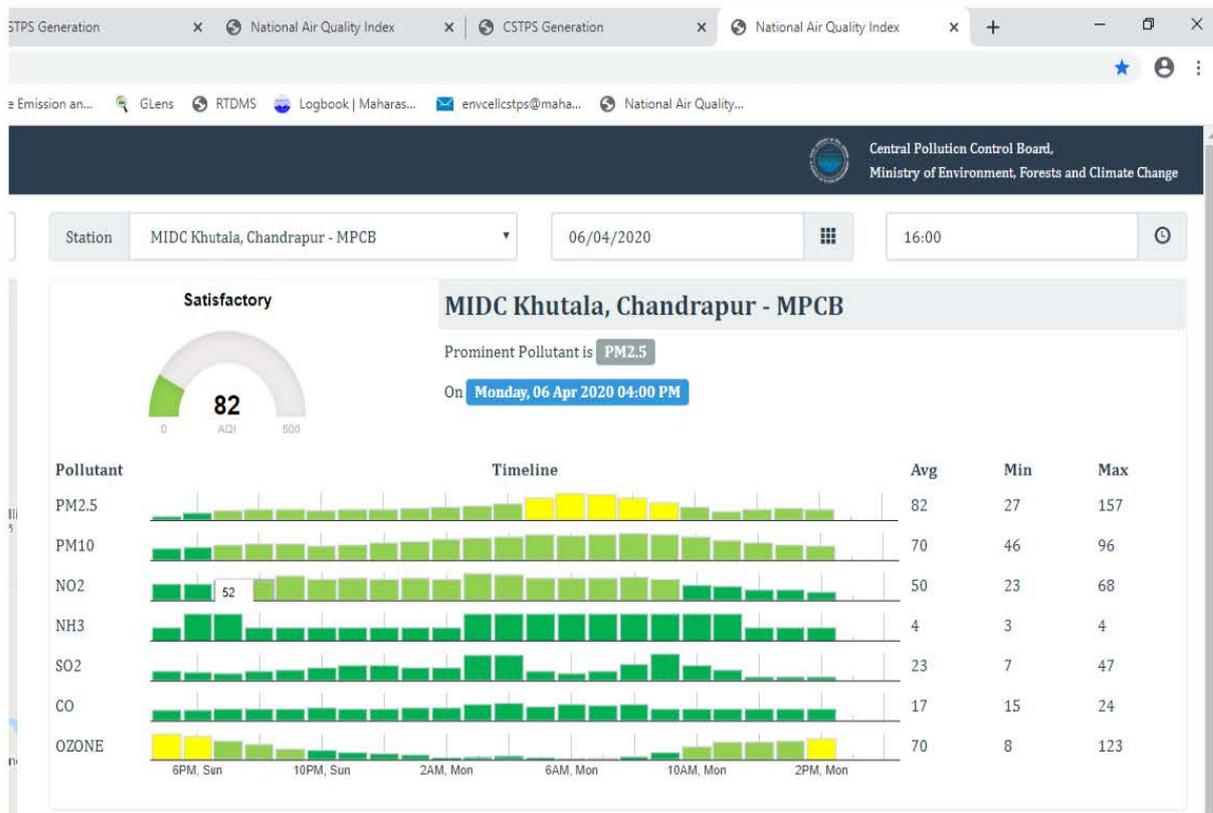


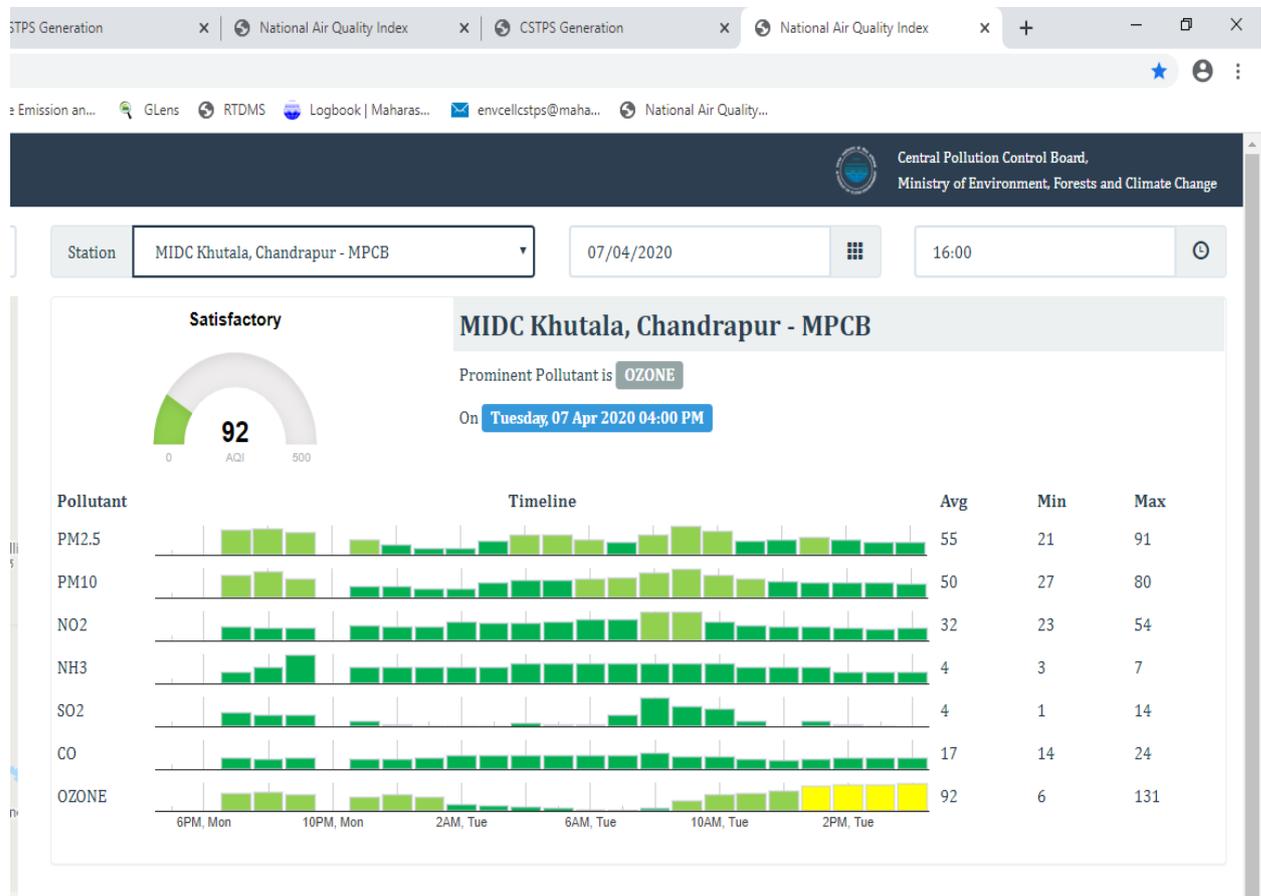
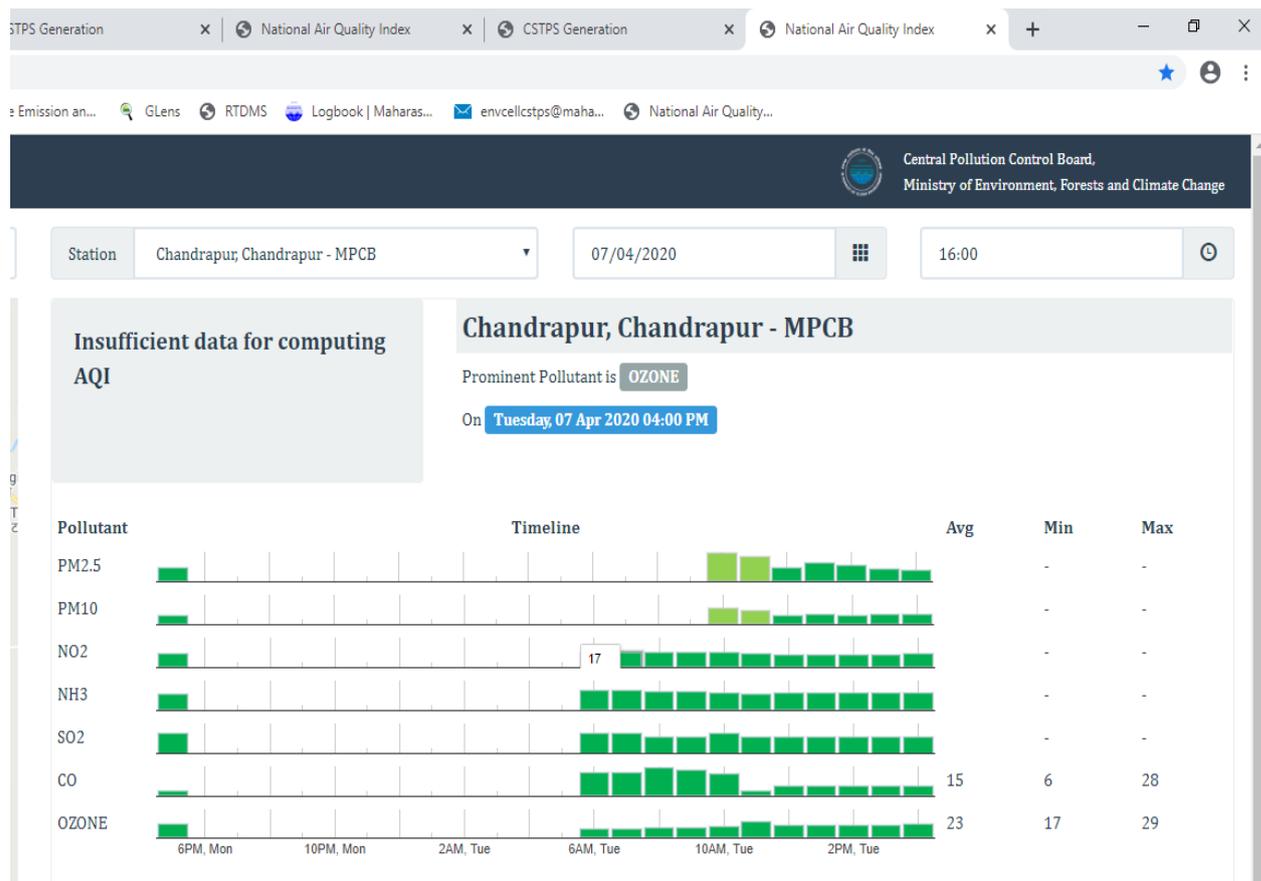


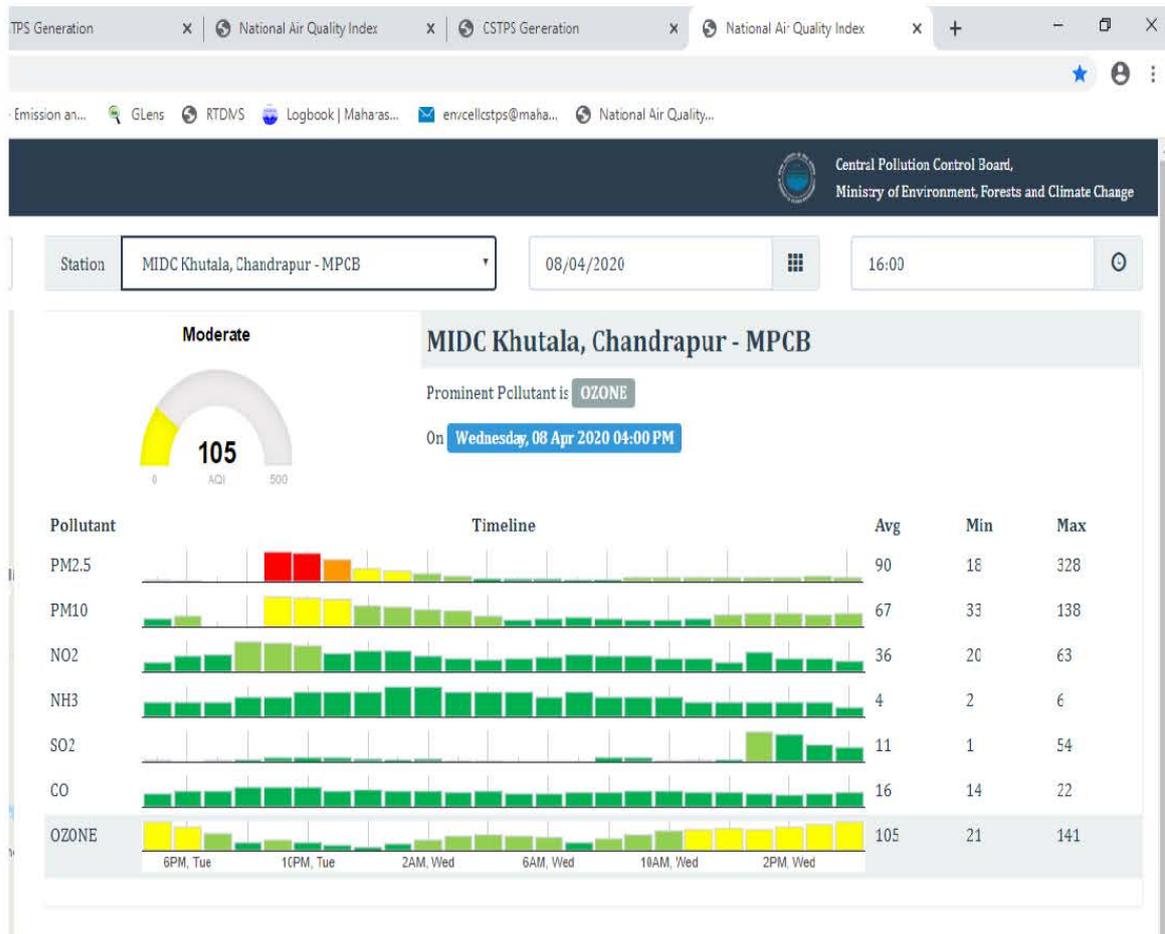
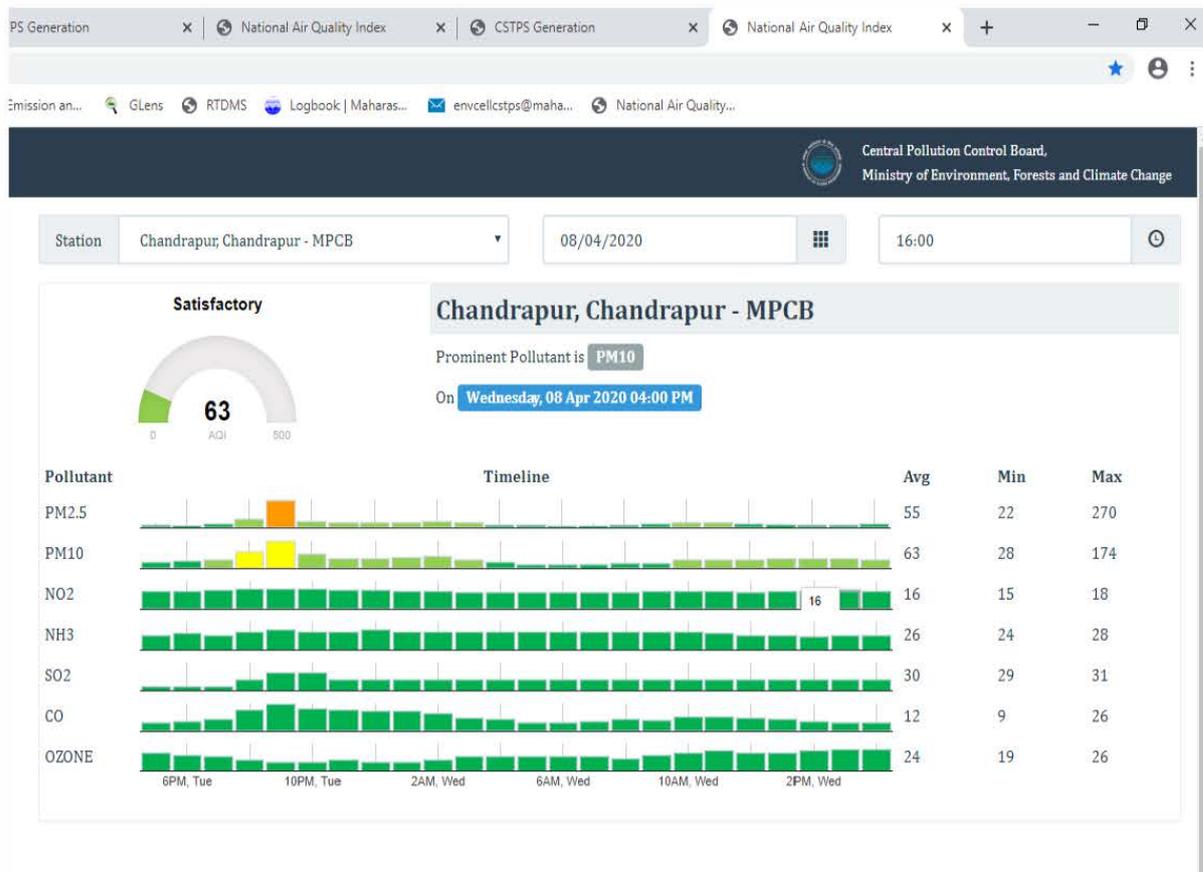


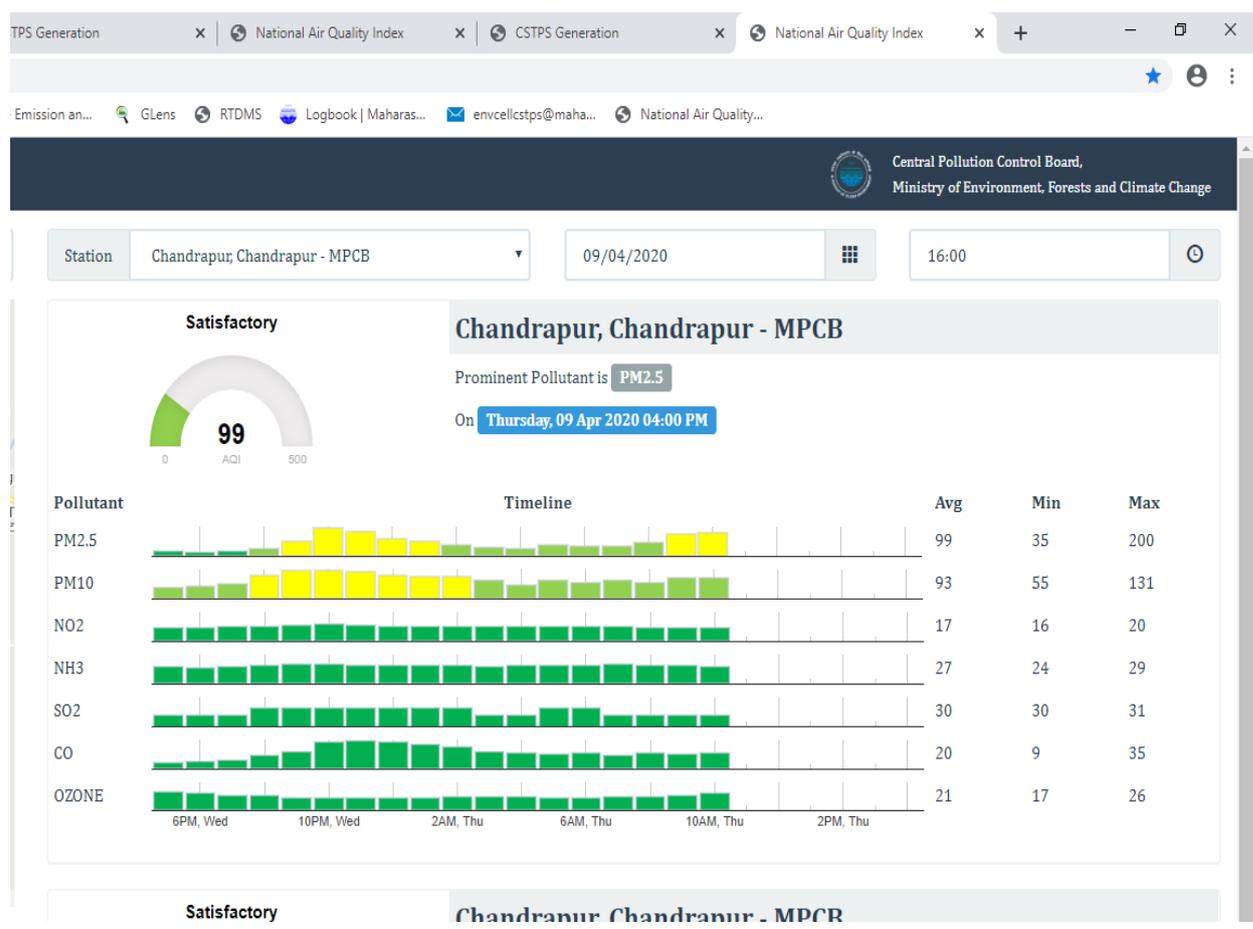












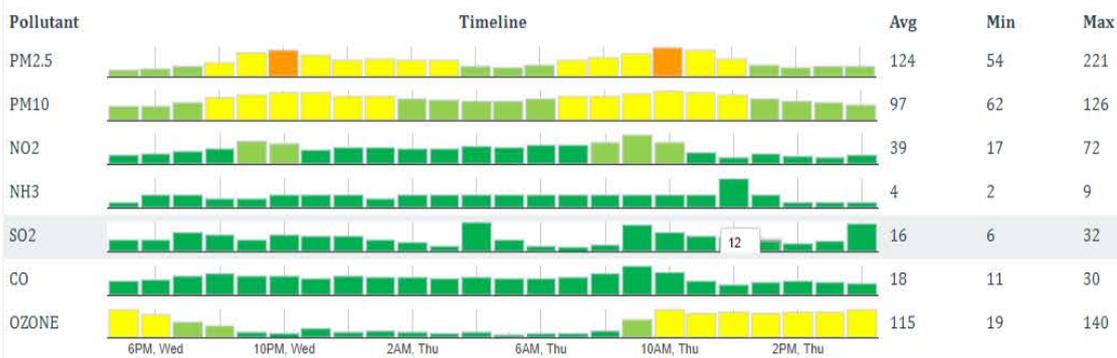
Station: MIDC Khutala, Chandrapur - MPCB | Date: 09/04/2020 | Time: 16:00

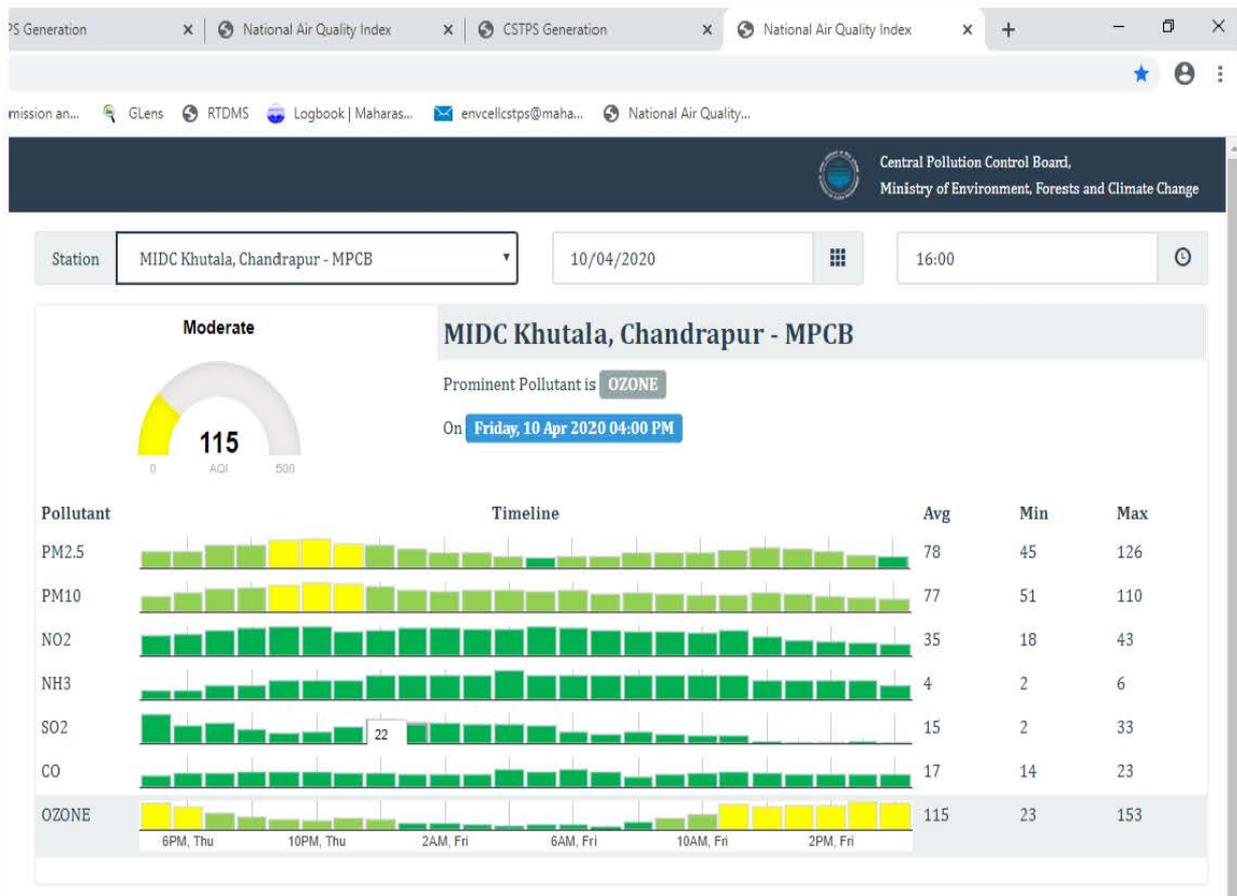
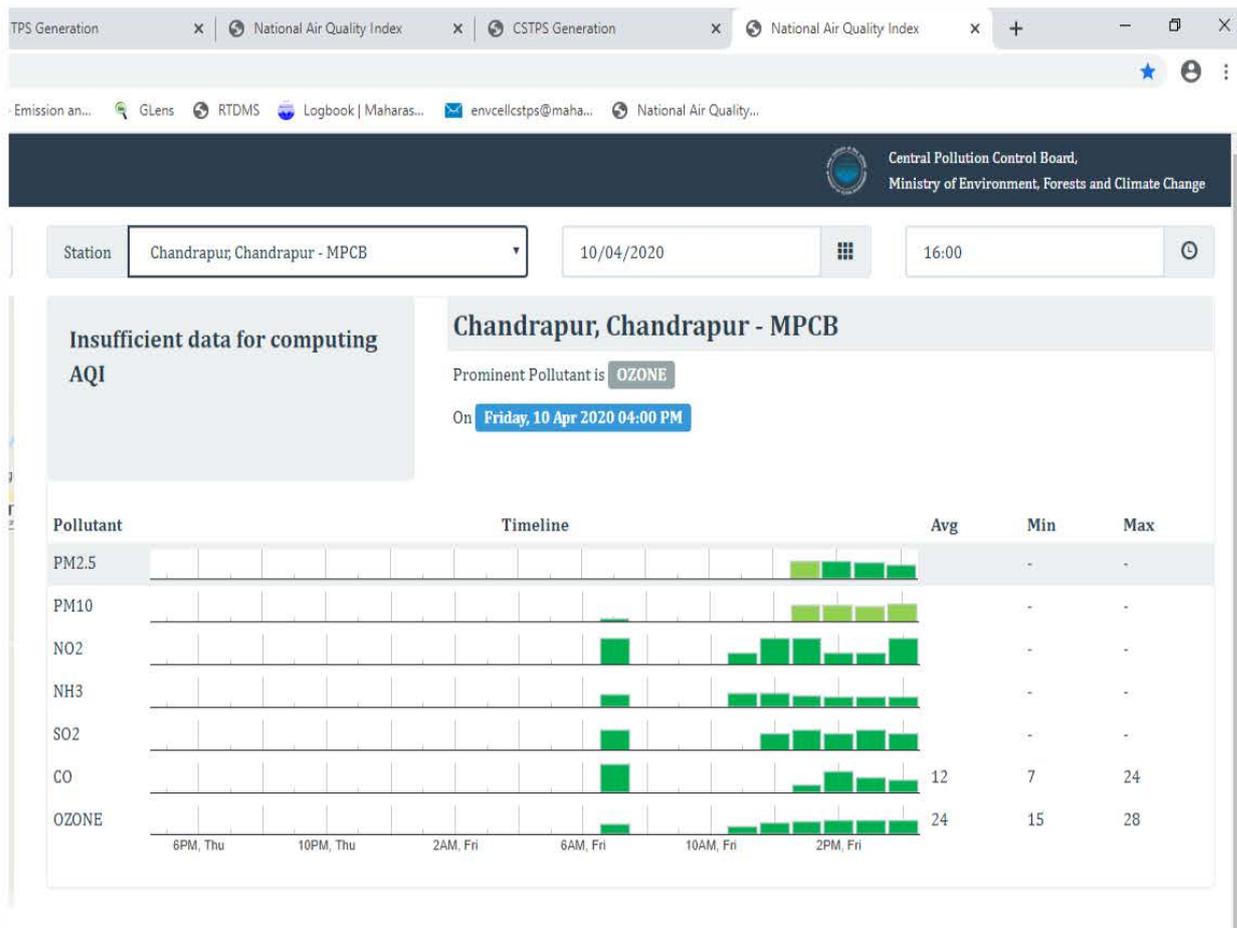


MIDC Khutala, Chandrapur - MPCB

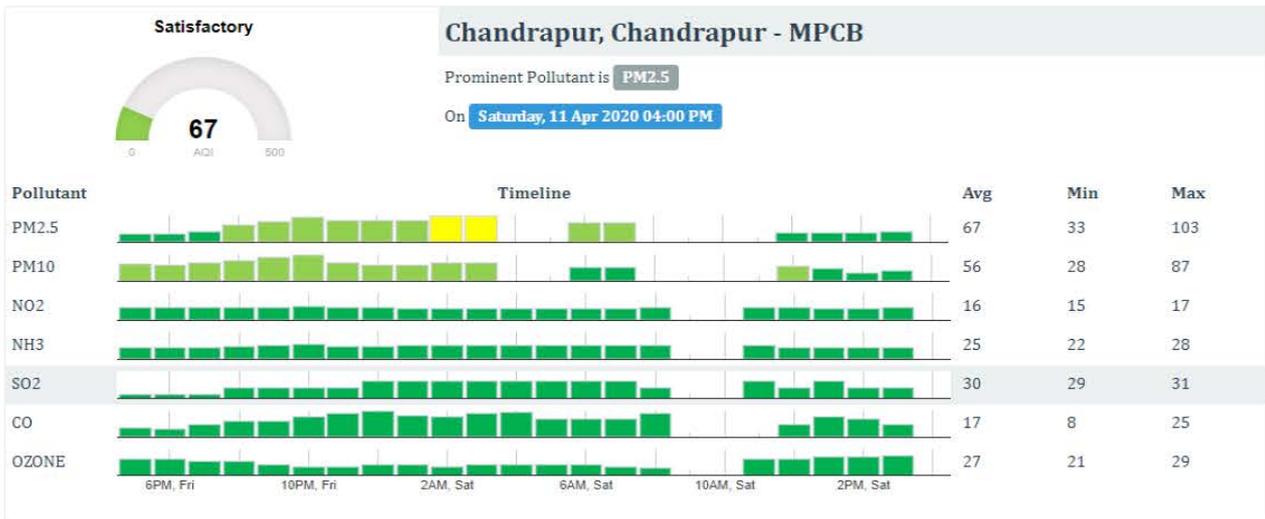
Prominent Pollutant is **PM2.5**

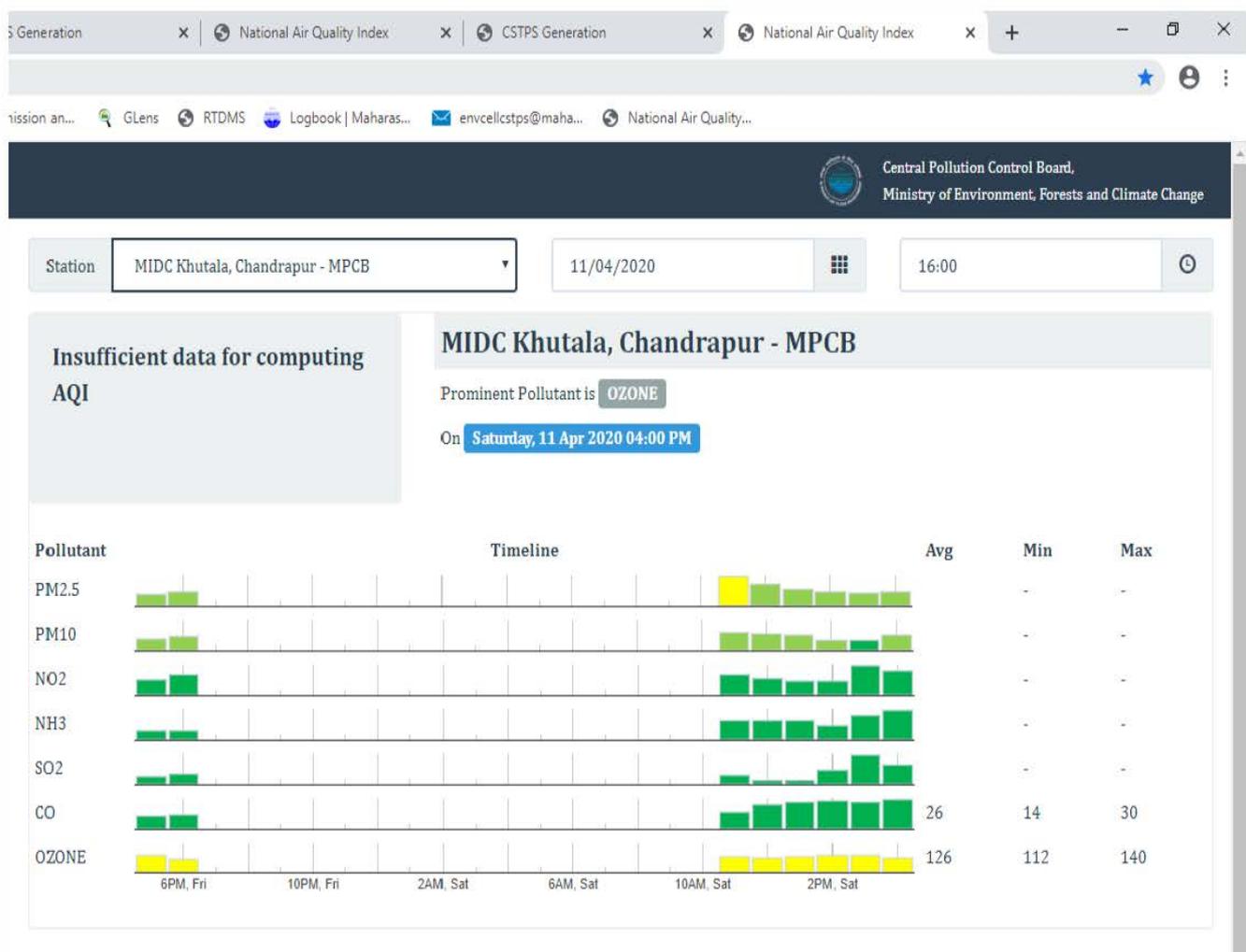
On **Thursday, 09 Apr 2020 04:00 PM**



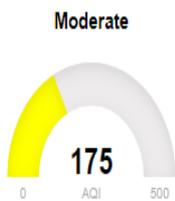


Station: Chandrapur; Chandrapur - MPCB | Date: 11/04/2020 | Time: 16:00





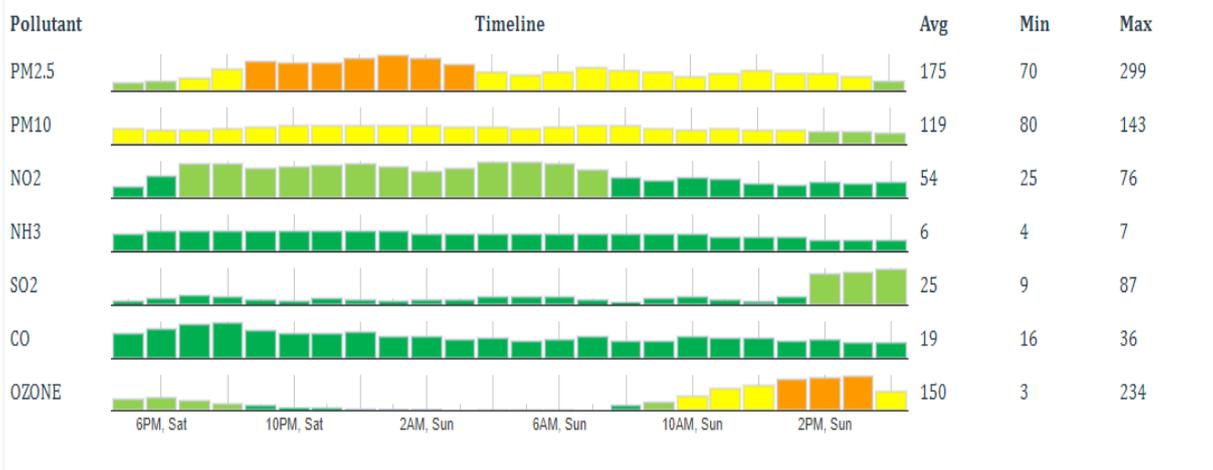
Station: MIDC Khutala, Chandrapur - MPCB | Date: 12/04/2020 | Time: 16:00



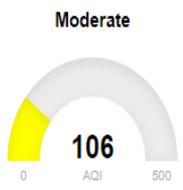
MIDC Khutala, Chandrapur - MPCB

Prominent Pollutant is **PM2.5**

On **Sunday, 12 Apr 2020 04:00 PM**

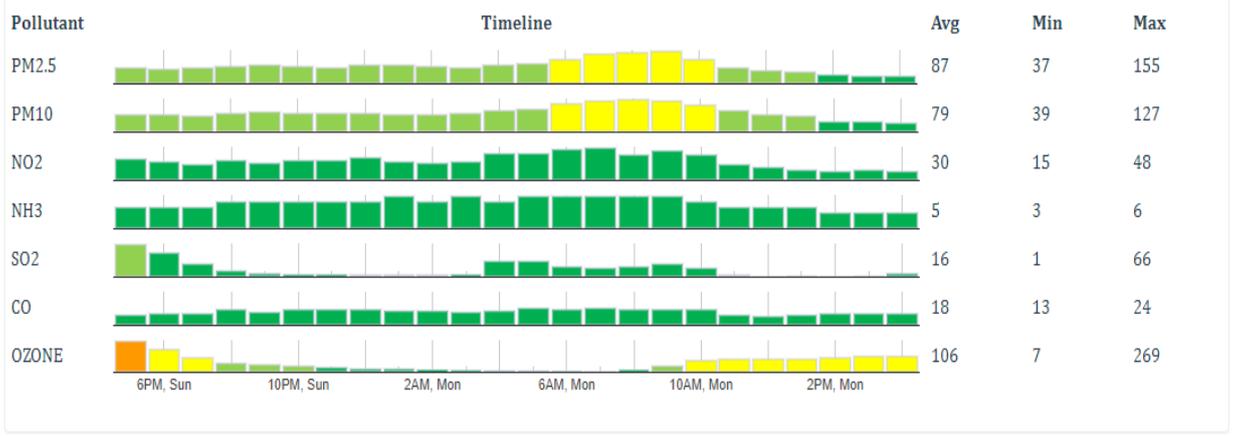


Station: MIDC Khutala, Chandrapur - MPCB | Date: 13/04/2020 | Time: 16:00

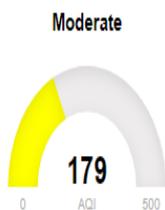


MIDC Khutala, Chandrapur - MPCB

Prominent Pollutant is **OZONE**
On **Monday, 13 Apr 2020 04:00 PM**



Station: MIDC Khutala, Chandrapur - MPCB | Date: 14/04/2020 | Time: 16:00

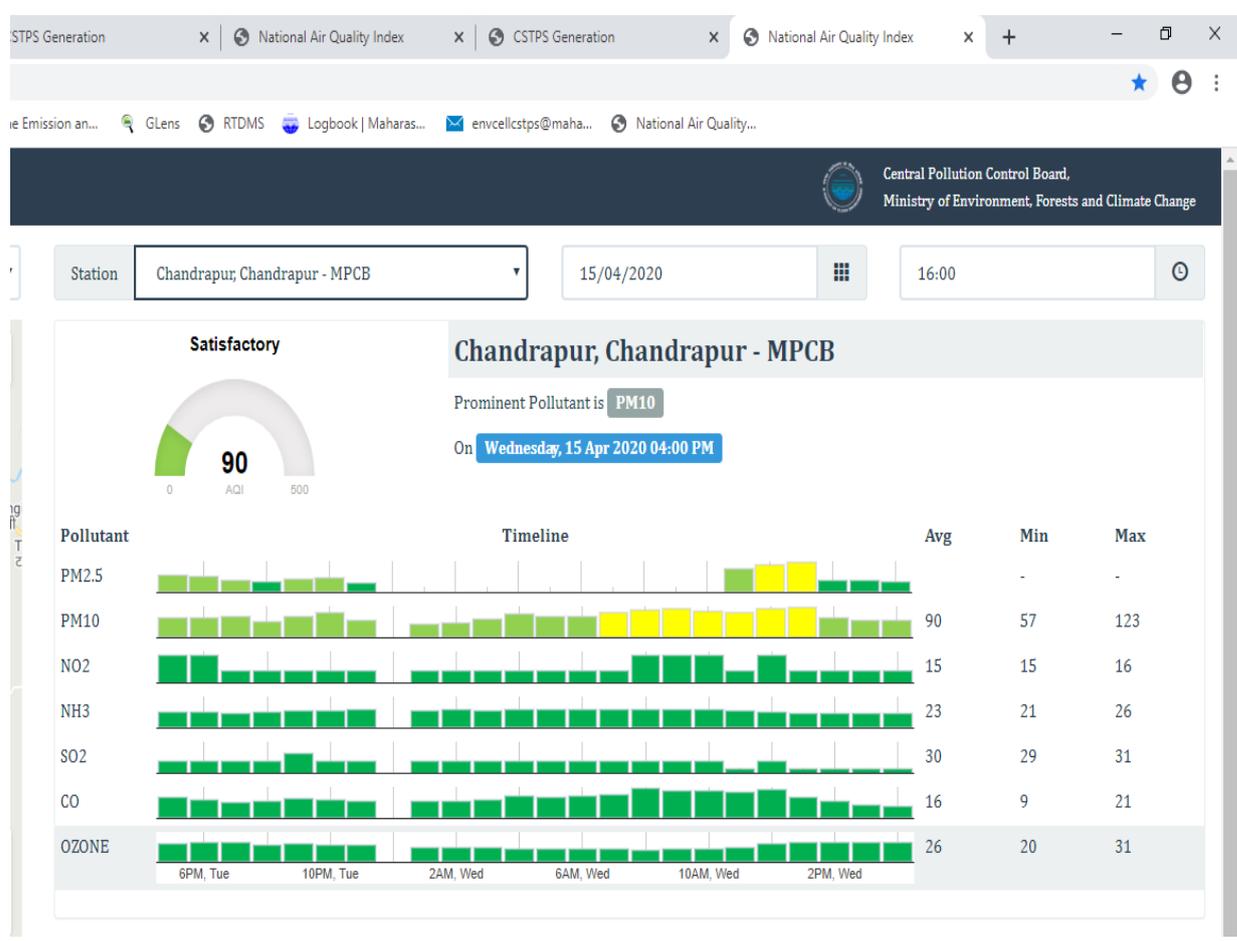


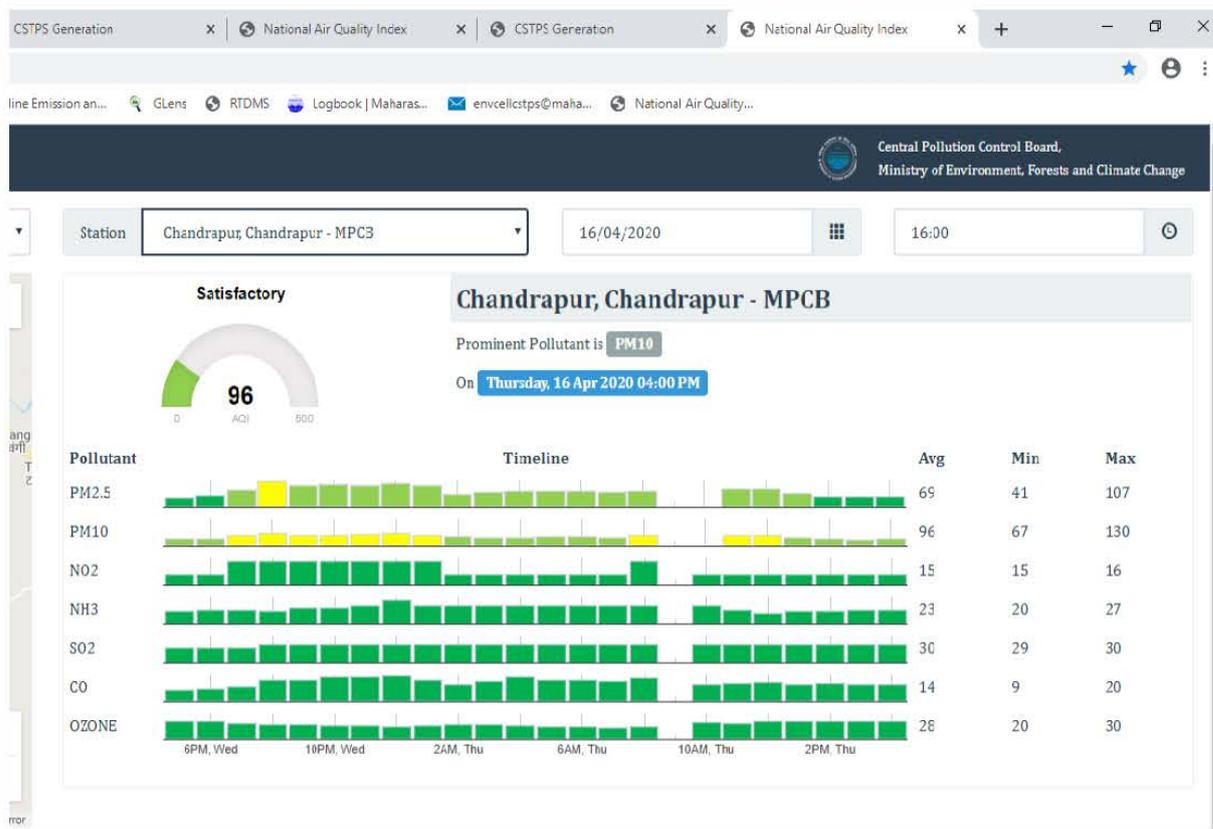
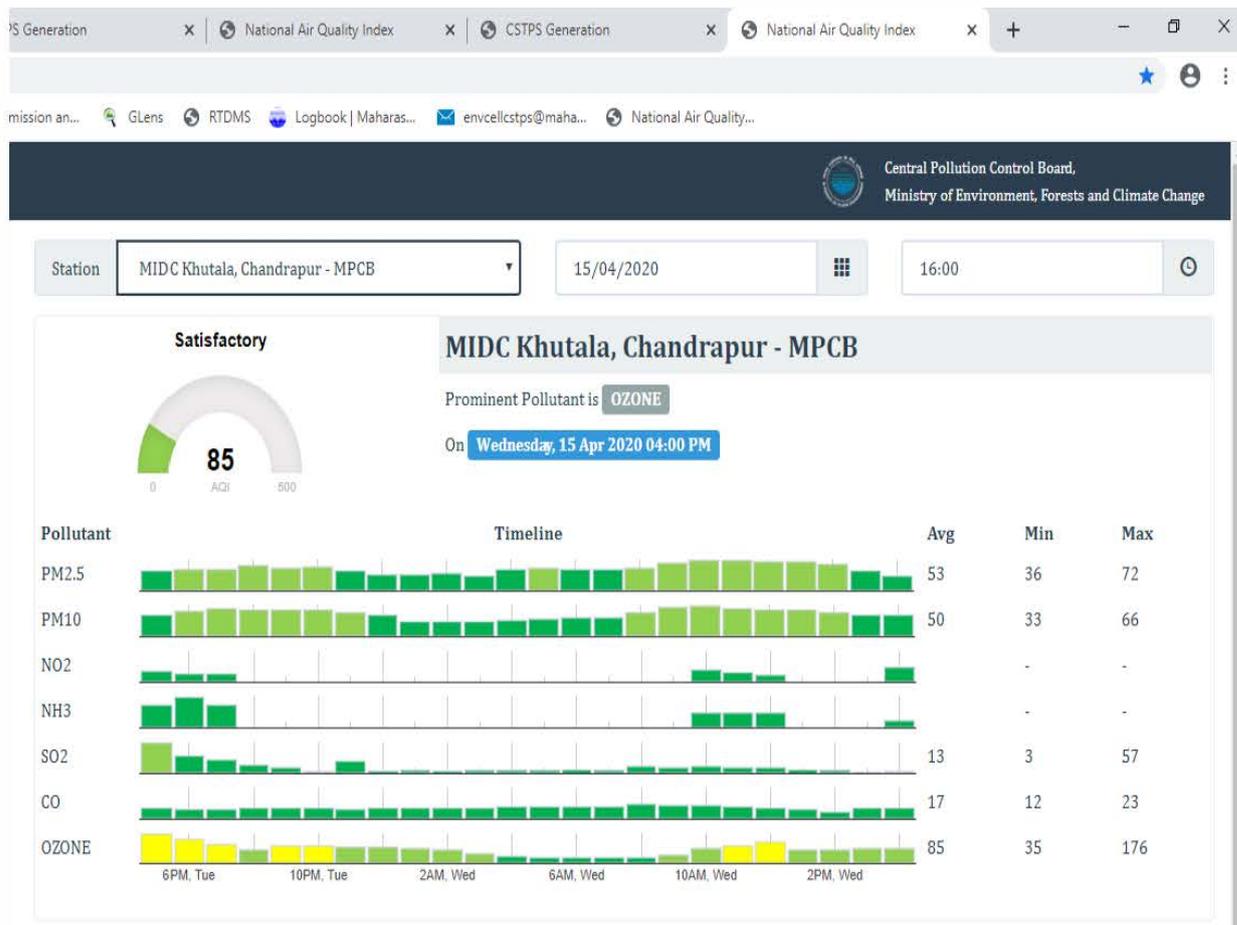
MIDC Khutala, Chandrapur - MPCB

Prominent Pollutant is **OZONE**

On **Tuesday 14 Apr 2020 04:00 PM**

| Pollutant | Timeline | Avg | Min | Max |
|-----------|----------|-----|-----|-----|
| PM2.5 | | 58 | 28 | 75 |
| PM10 | | 54 | 36 | 62 |
| NO2 | | 26 | 16 | 33 |
| NH3 | | 4 | 3 | 6 |
| SO2 | | 17 | 7 | 57 |
| CO | | 18 | 15 | 23 |
| OZONE | | 179 | 20 | 195 |





STPS/Generation x National Air Quality Index x CSTPS/Generation x National Air Quality Index x + - [] X

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Central Pollution Control Board,
Ministry of Environment, Forests and Climate Change

Station: MIDC Khutala, Chandrapur - MPCB | Date: 16/04/2020 | Time: 16:00

Satisfactory | MIDC Khutala, Chandrapur - MPCB

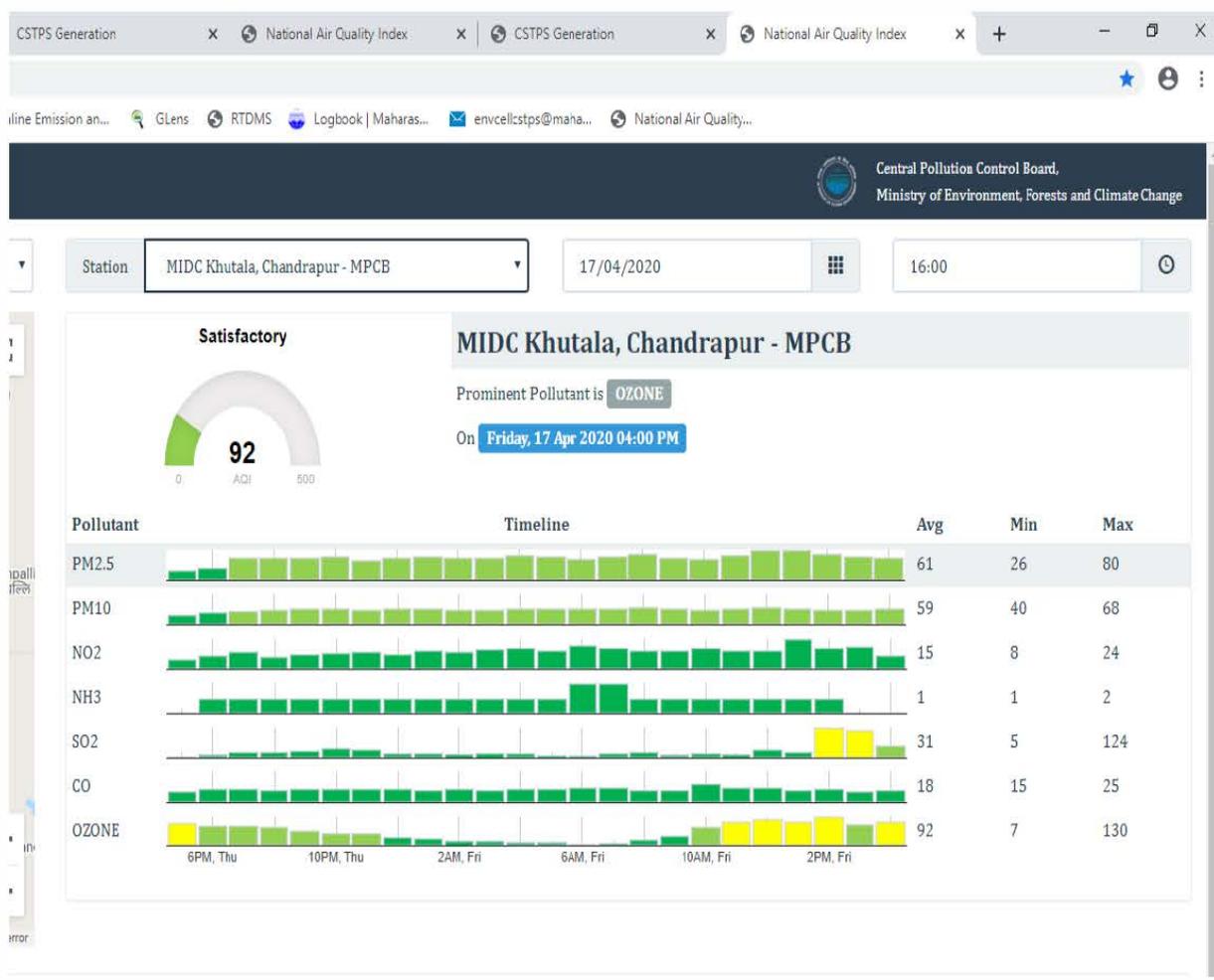
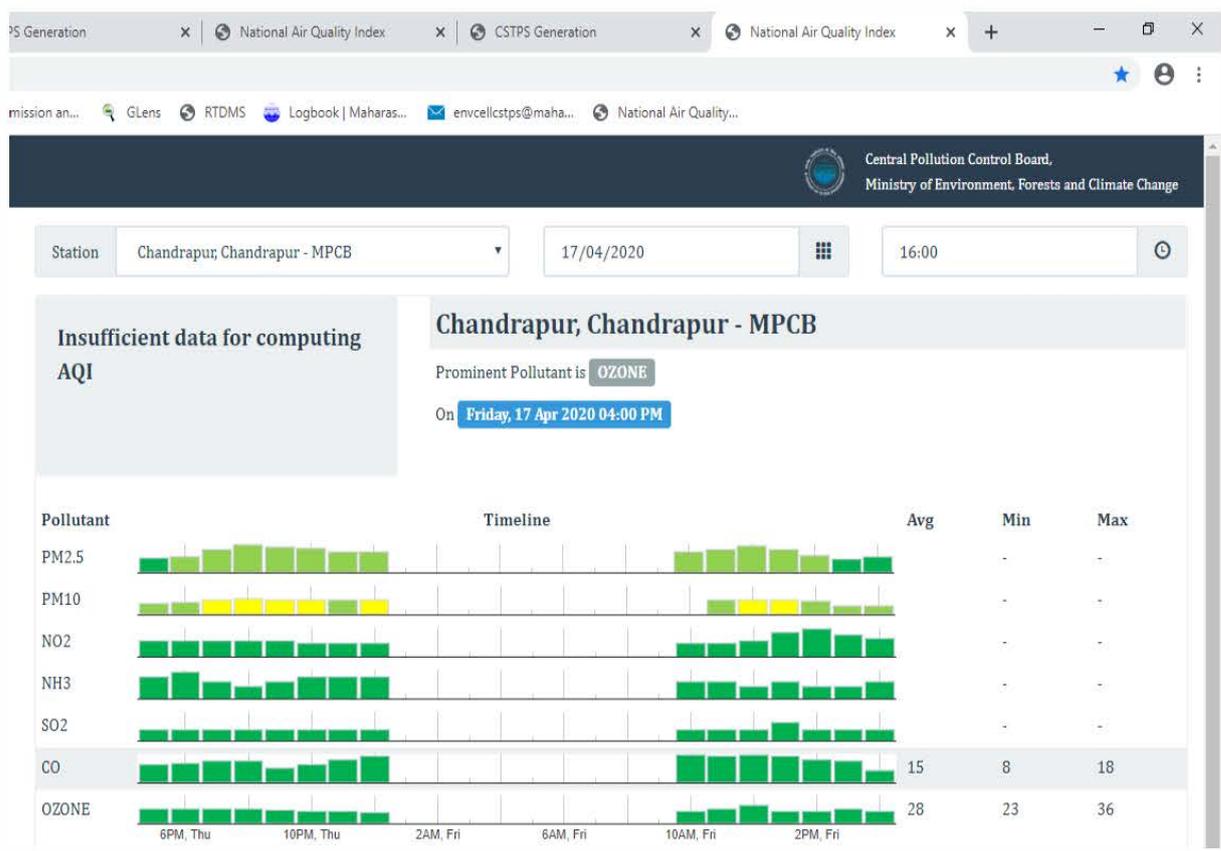
Prominent Pollutant is **OZONE**

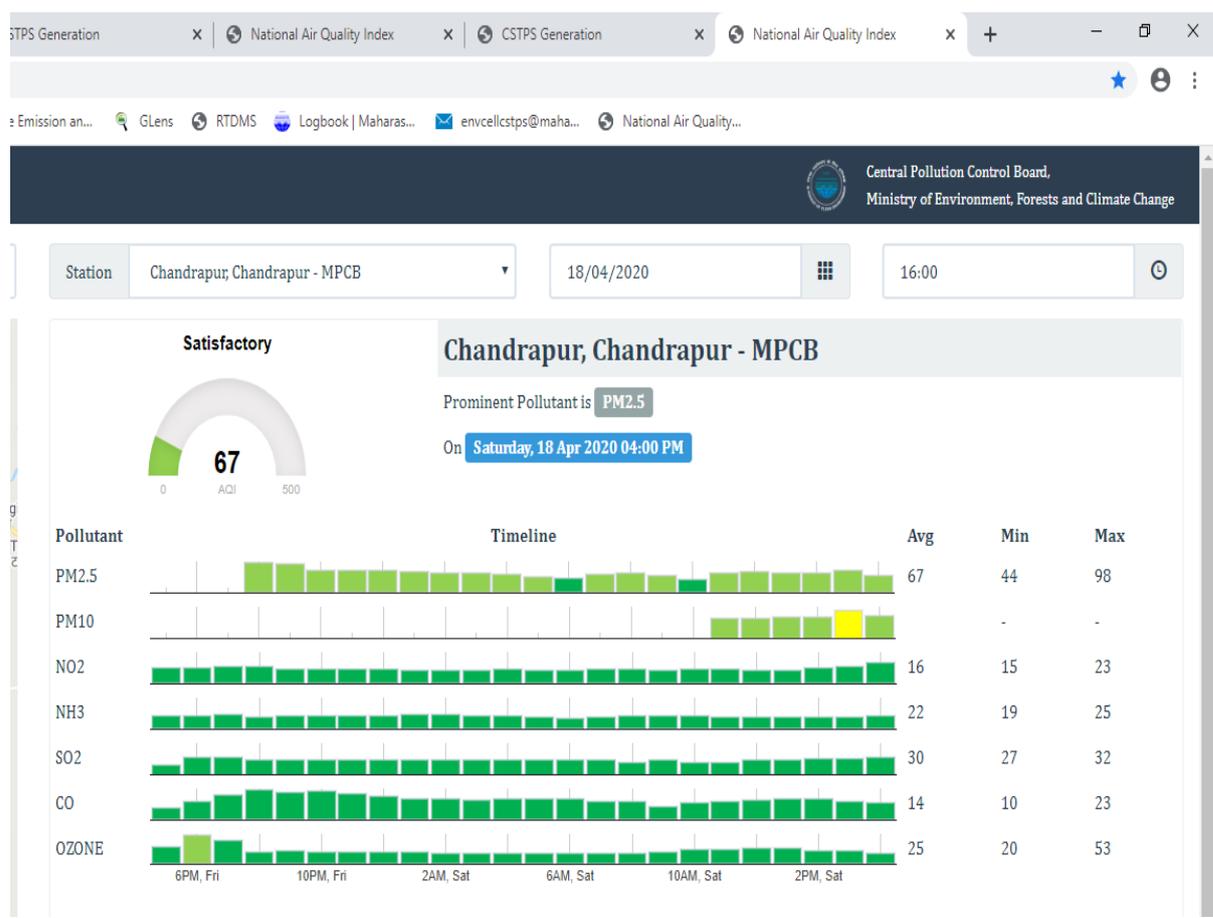
On **Thursday, 16 Apr 2020 04:00 PM**

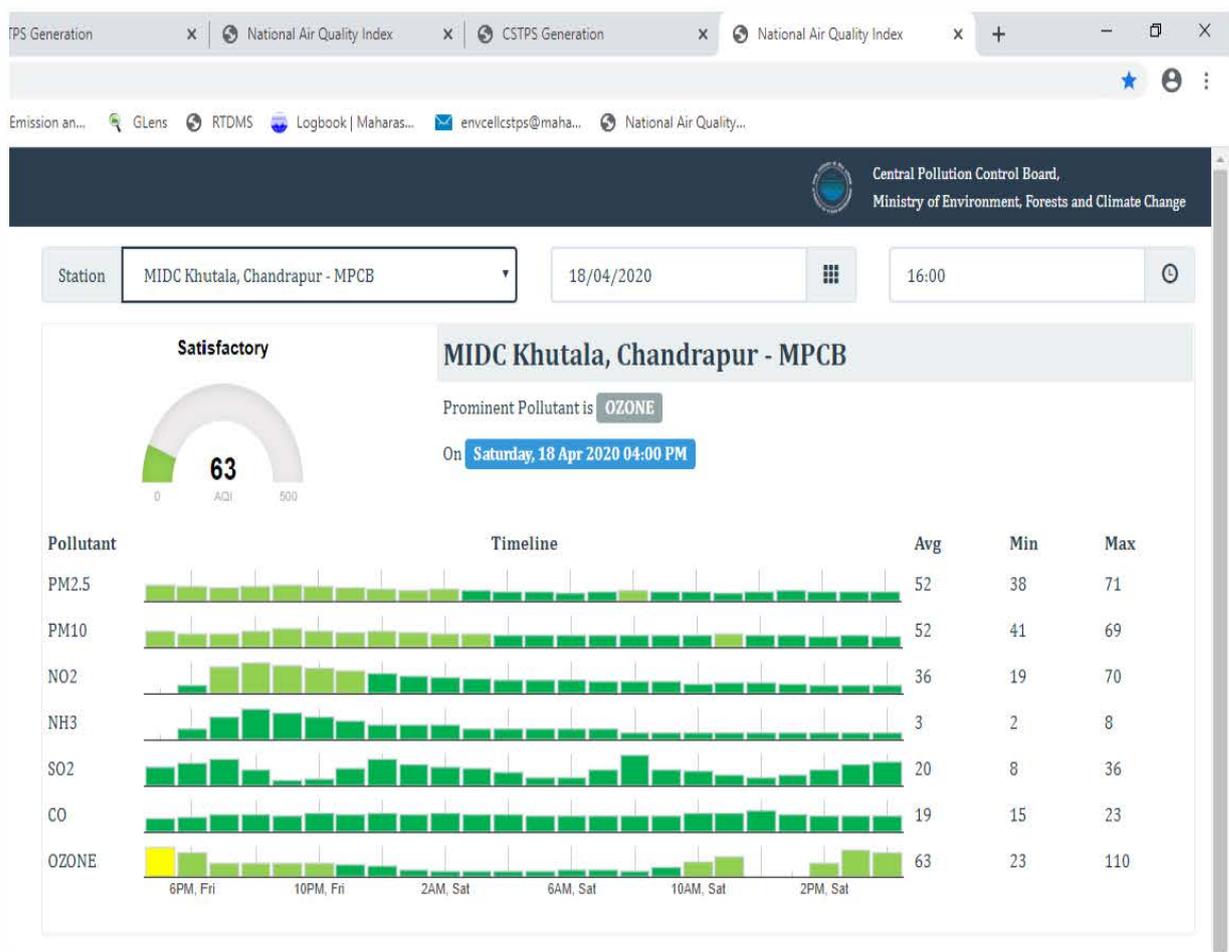
78 AQI (0 to 500)

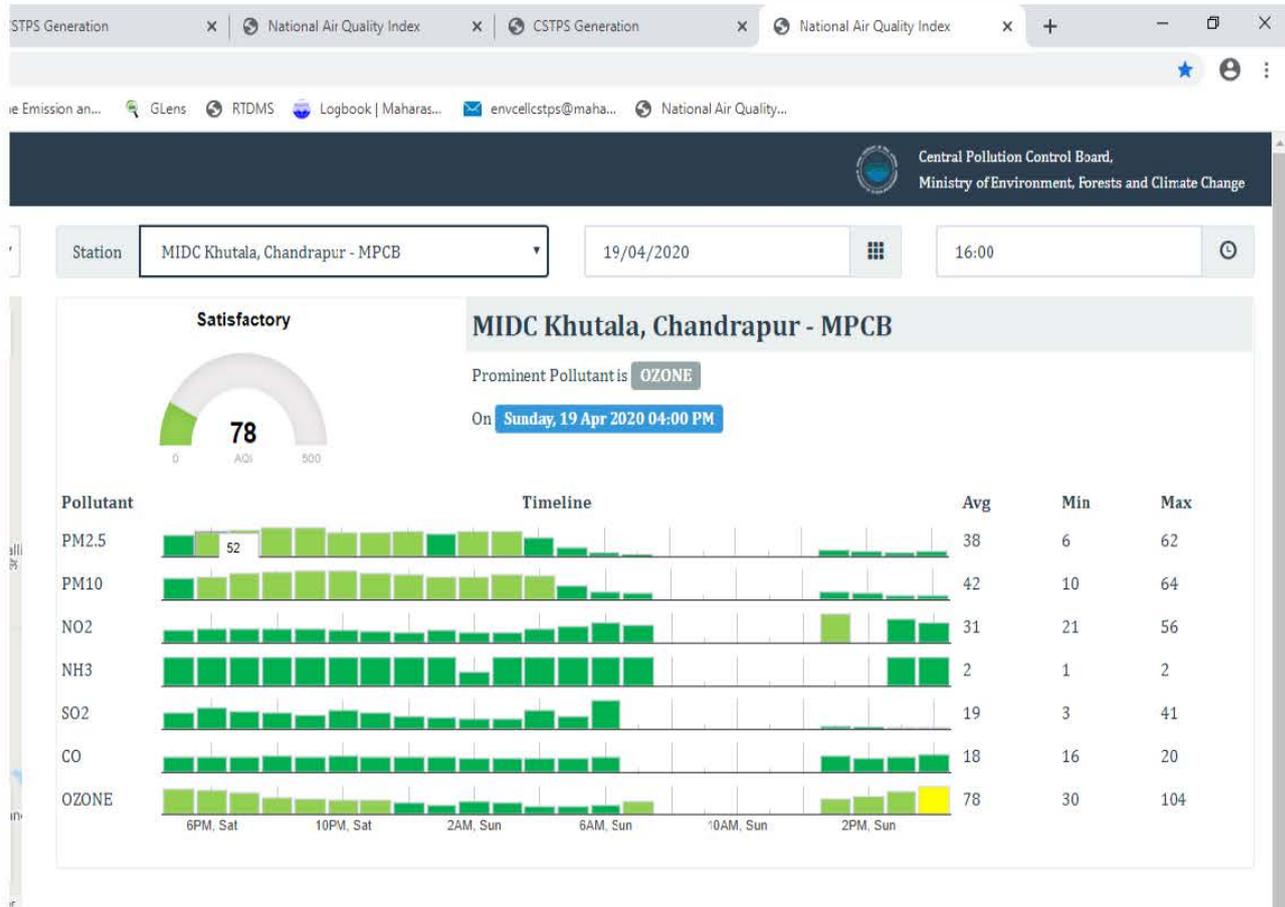
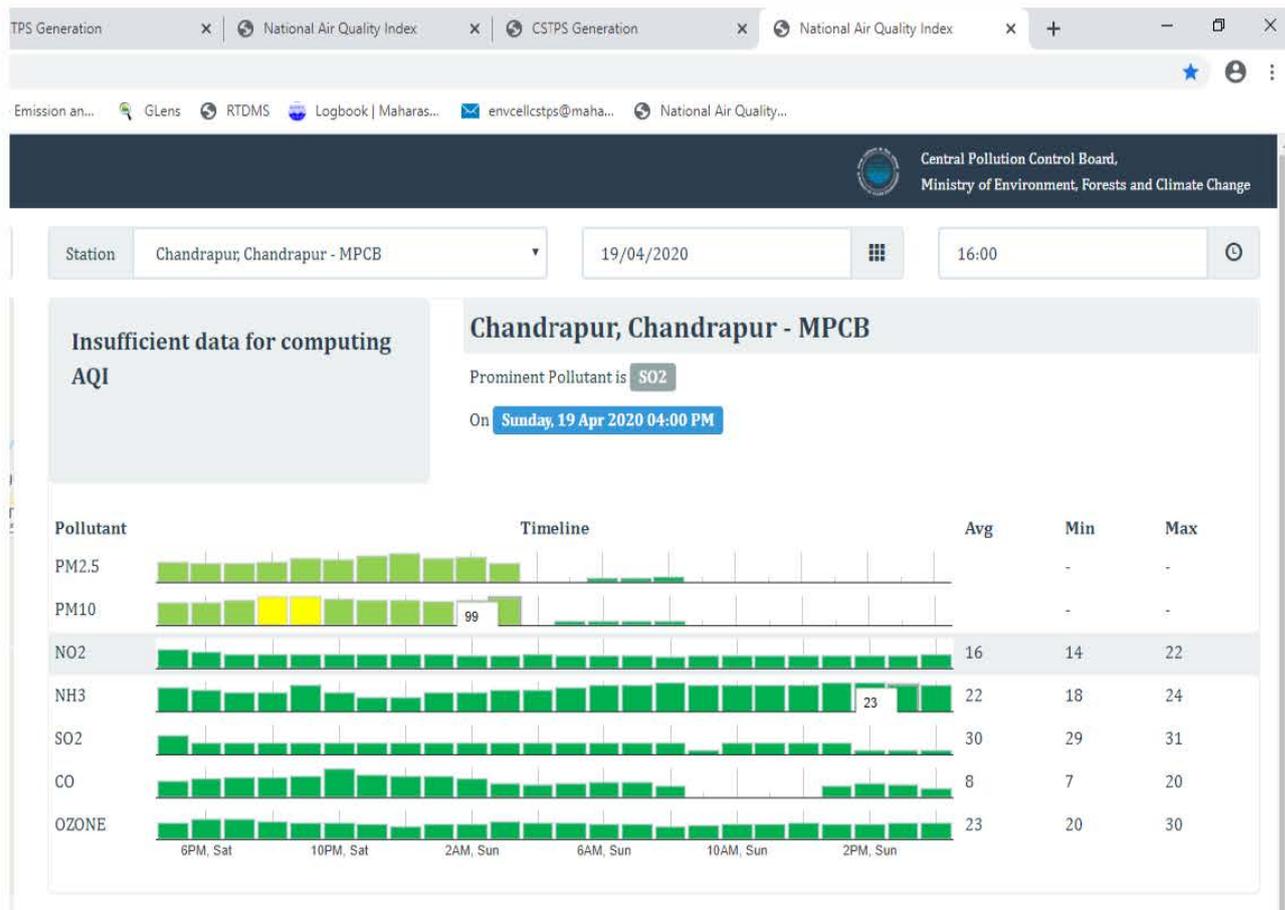
| Pollutant | Avg | Min | Max |
|-----------|-----|-----|-----|
| PM2.5 | 56 | 33 | 79 |
| PM10 | 53 | 38 | 69 |
| NO2 | 17 | 5 | 24 |
| NH3 | 1 | 1 | 2 |
| SO2 | 13 | 4 | 23 |
| CO | 18 | 14 | 23 |
| OZONE | 78 | 28 | 102 |

Timeline: 6PM, Wed | 10PM, Wed | 2AM, Thu | 6AM, Thu | 10AM, Thu | 2PM, Thu









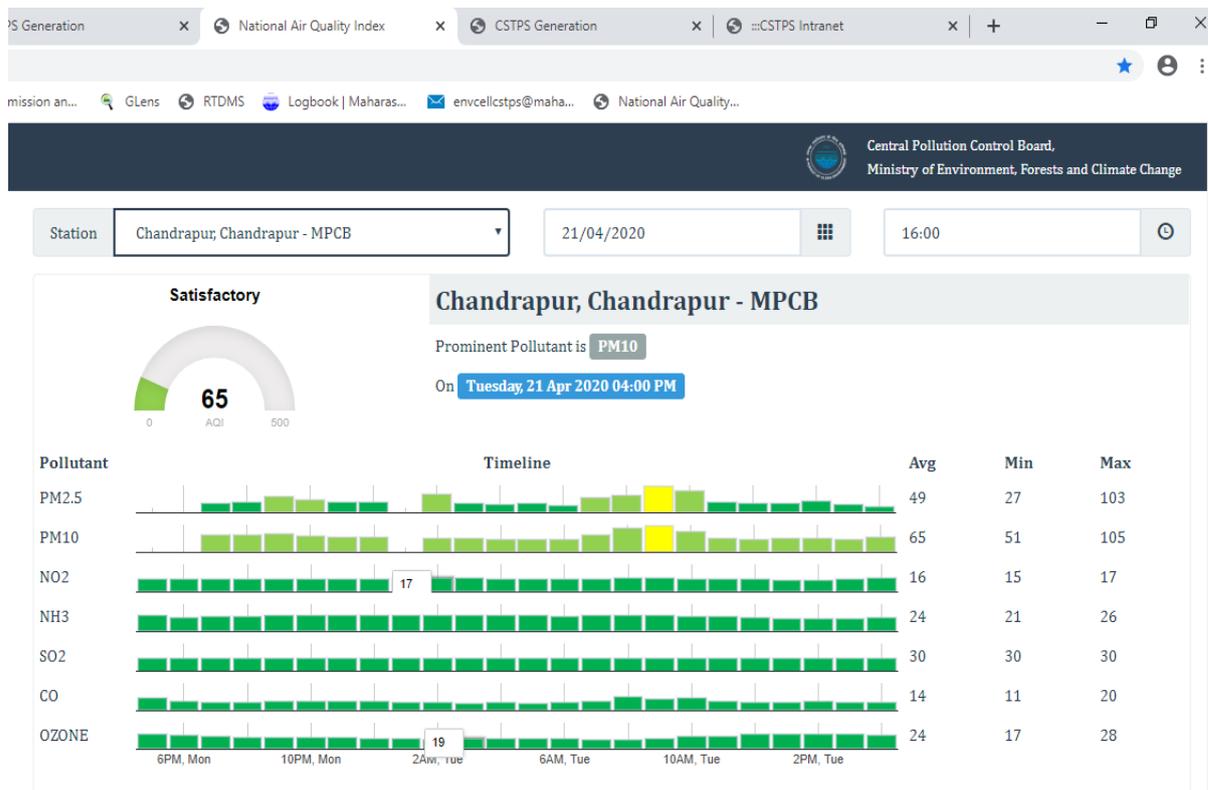
Station: MIDC Khutala, Chandrapur - MPCB | Date: 20/04/2020 | Time: 16:00

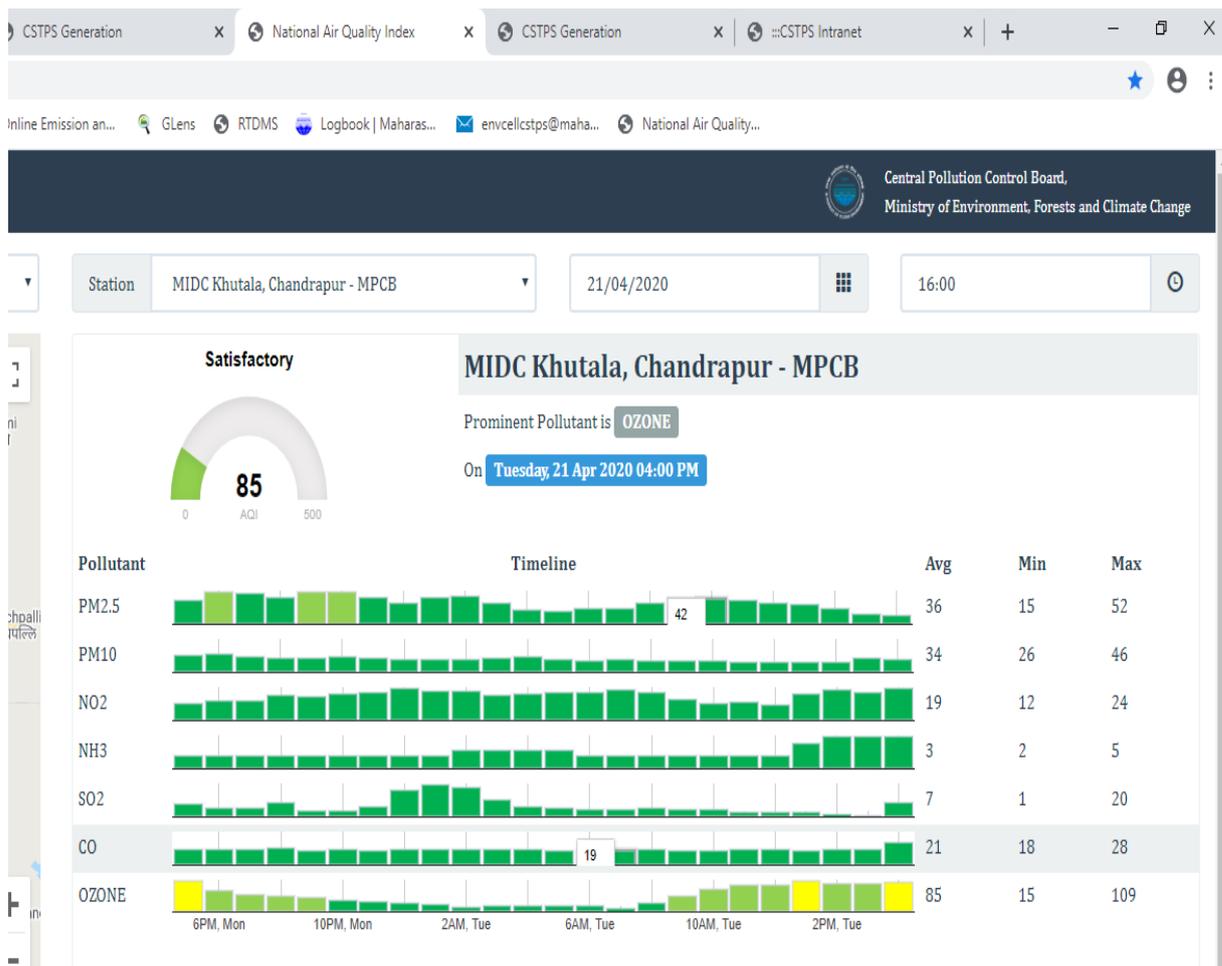


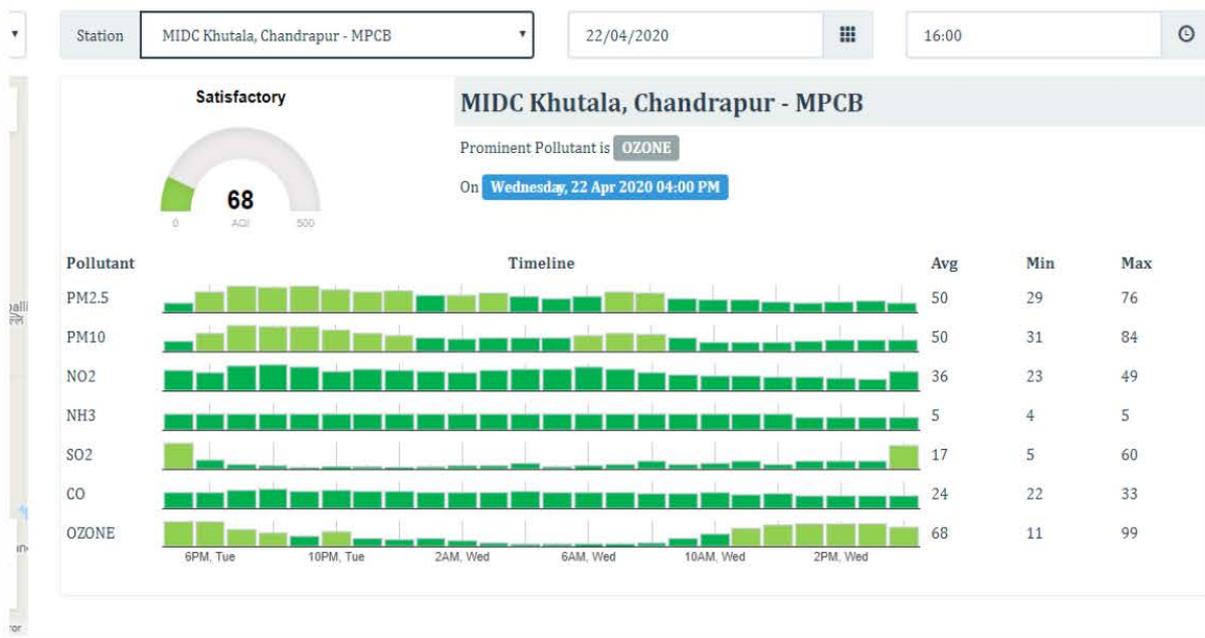
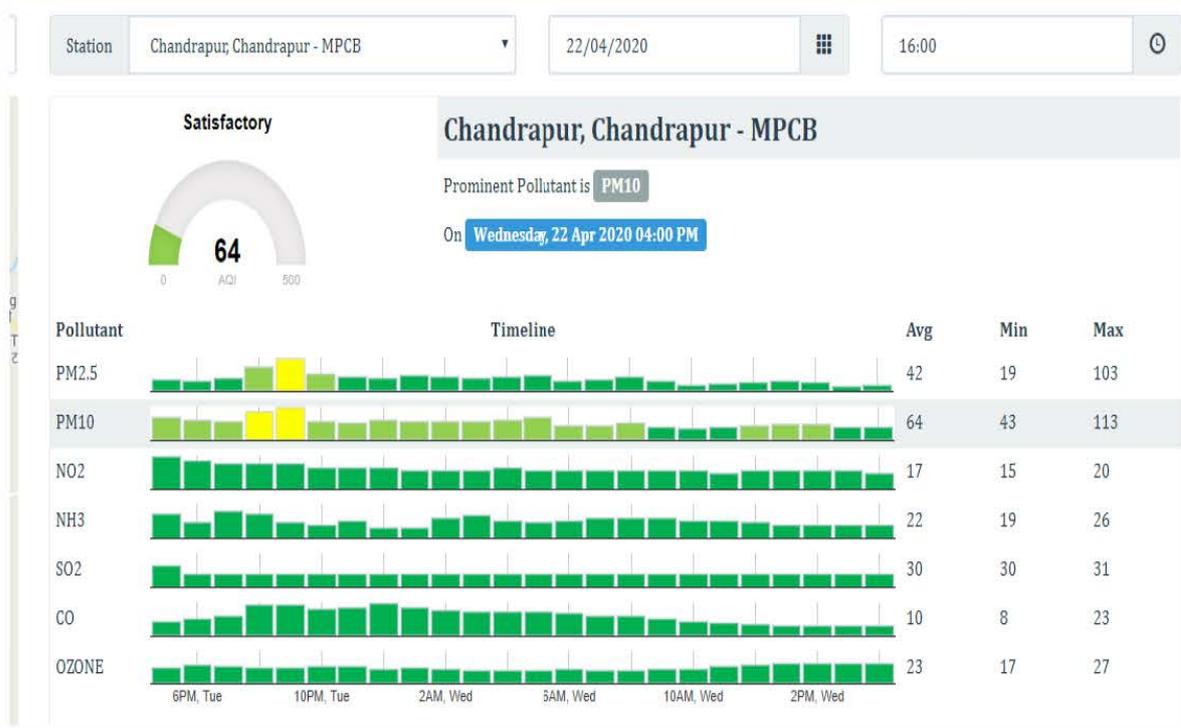
MIDC Khutala, Chandrapur - MPCB

Prominent Pollutant is **OZONE**
On **Monday, 20 Apr 2020 04:00 PM**











Station Chandrapur, Chandrapur - MPCB

23/04/2020

16:00

Satisfactory



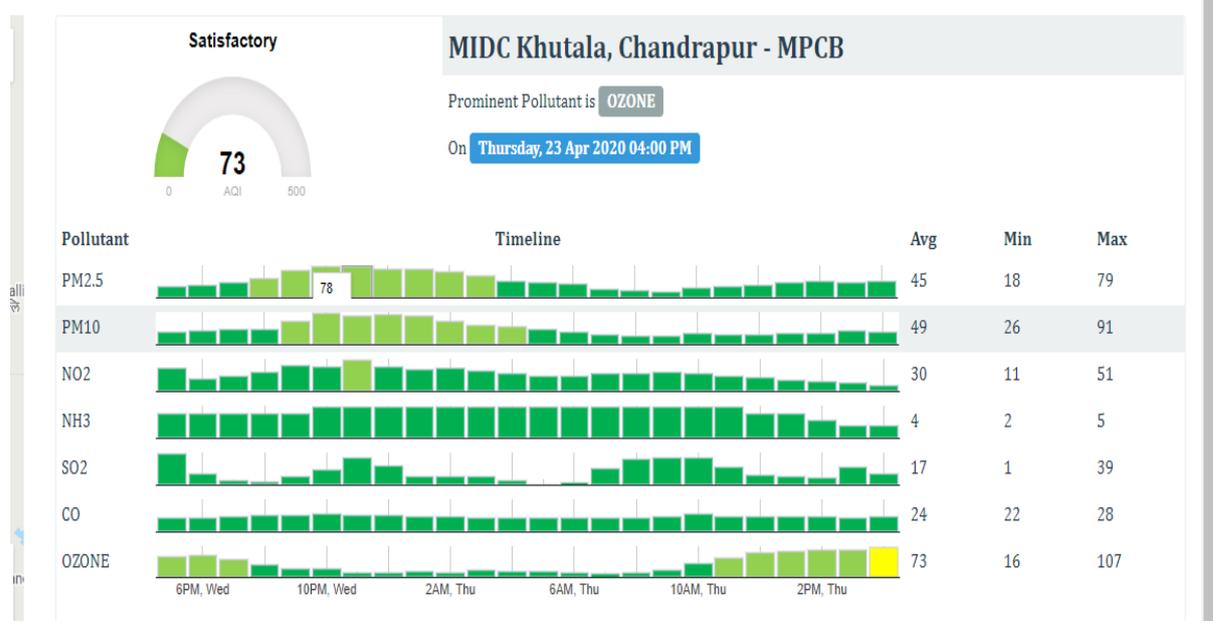
Chandrapur, Chandrapur - MPCB

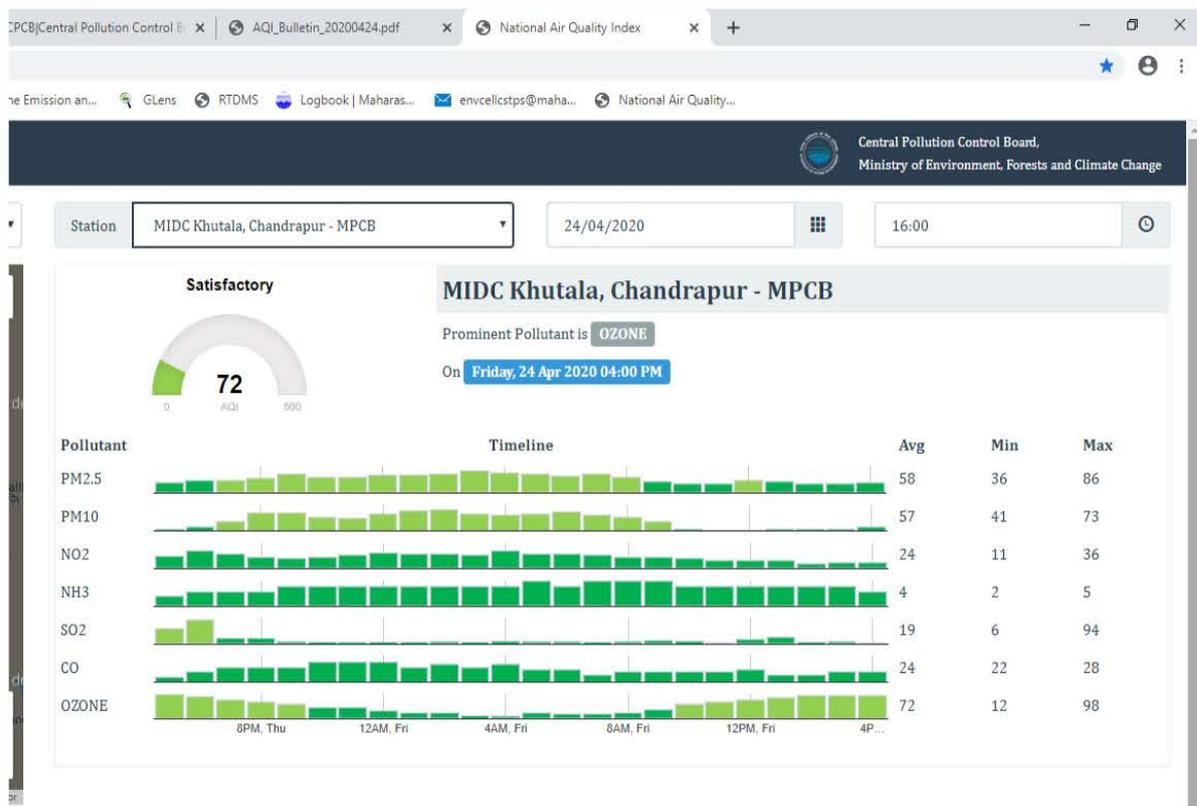
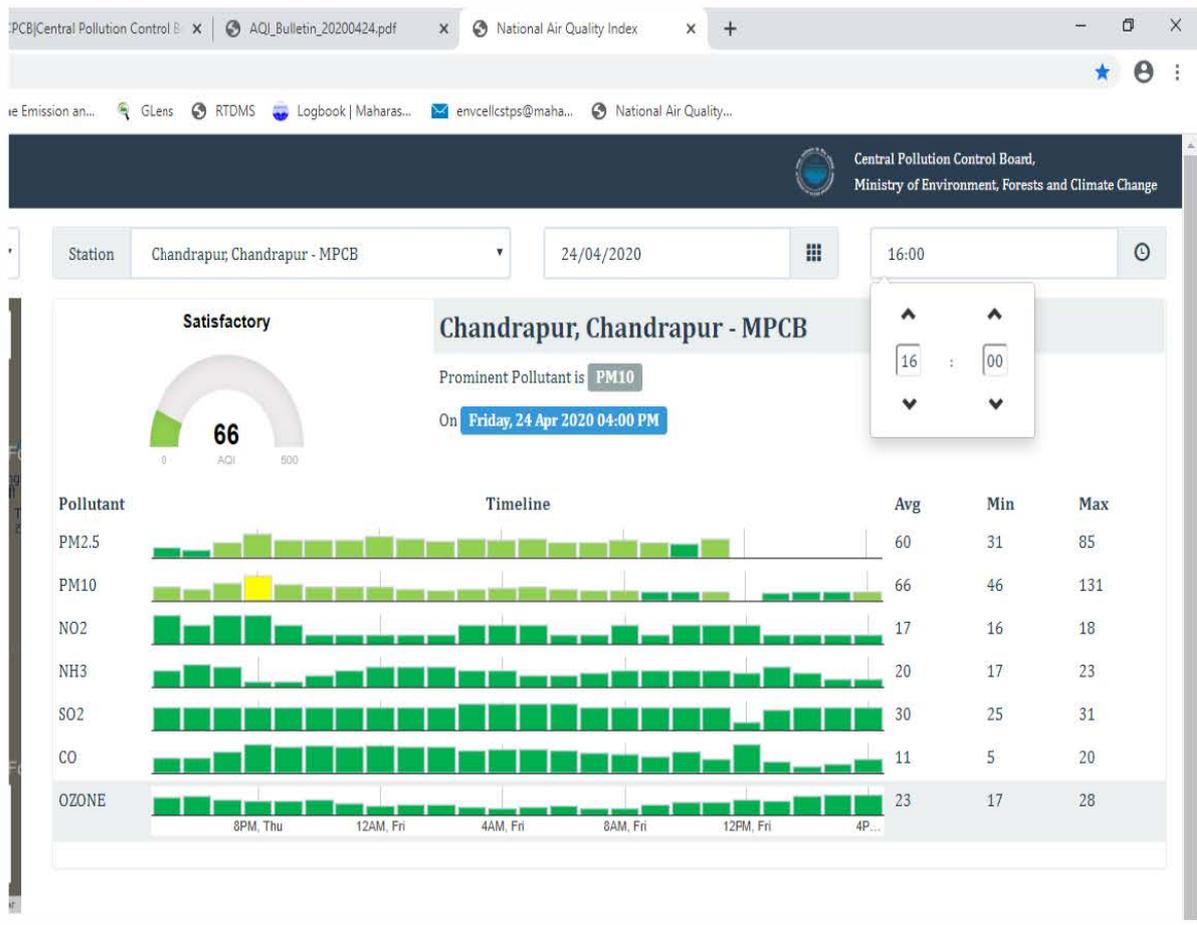
Prominent Pollutant is **PM10**

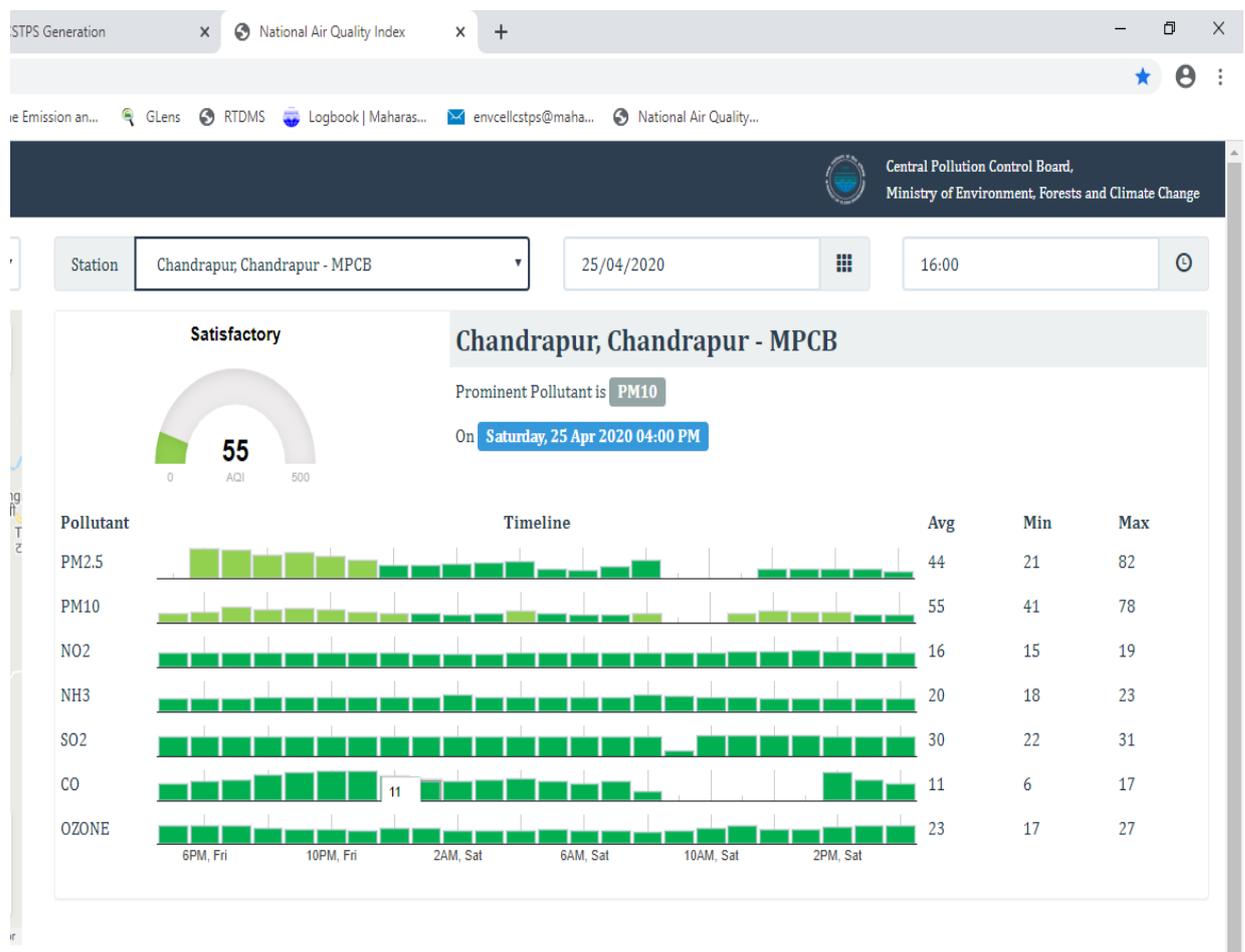
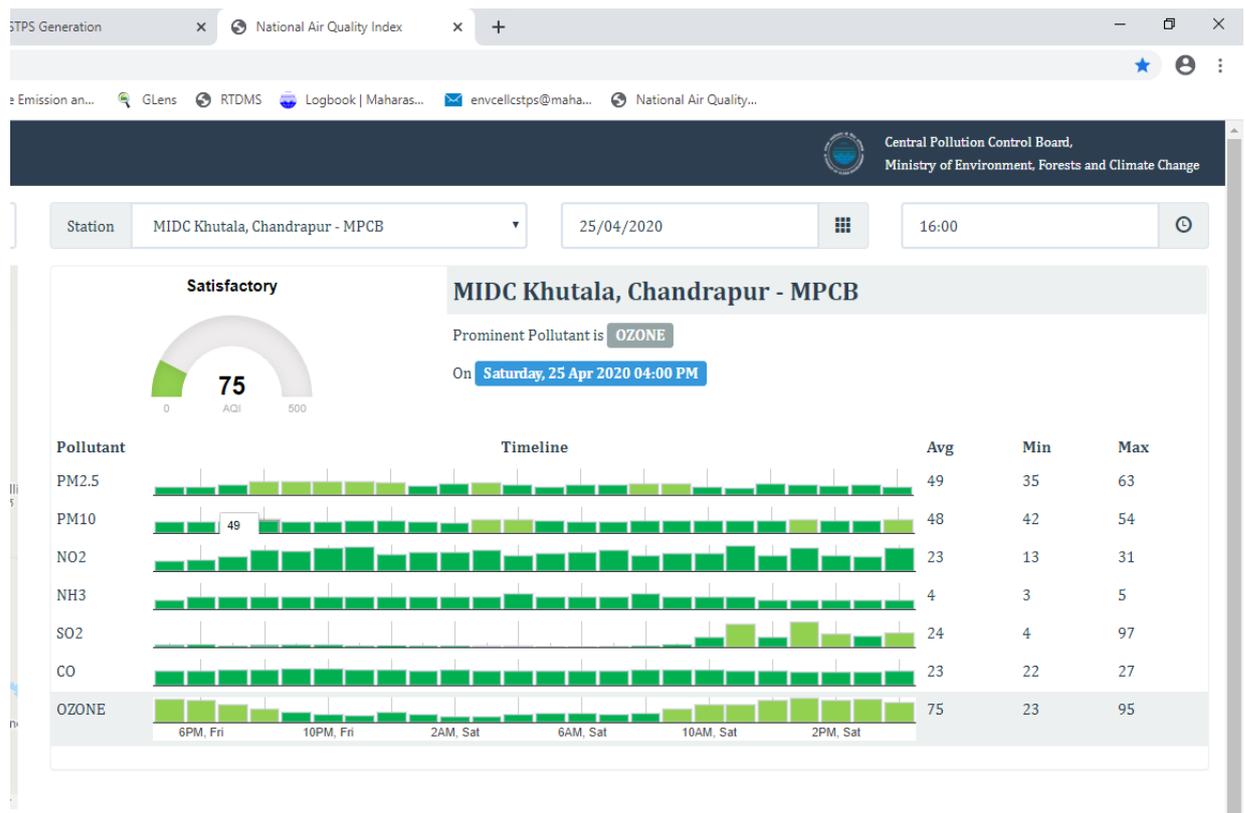
On **Thursday, 23 Apr 2020 04:00 PM**

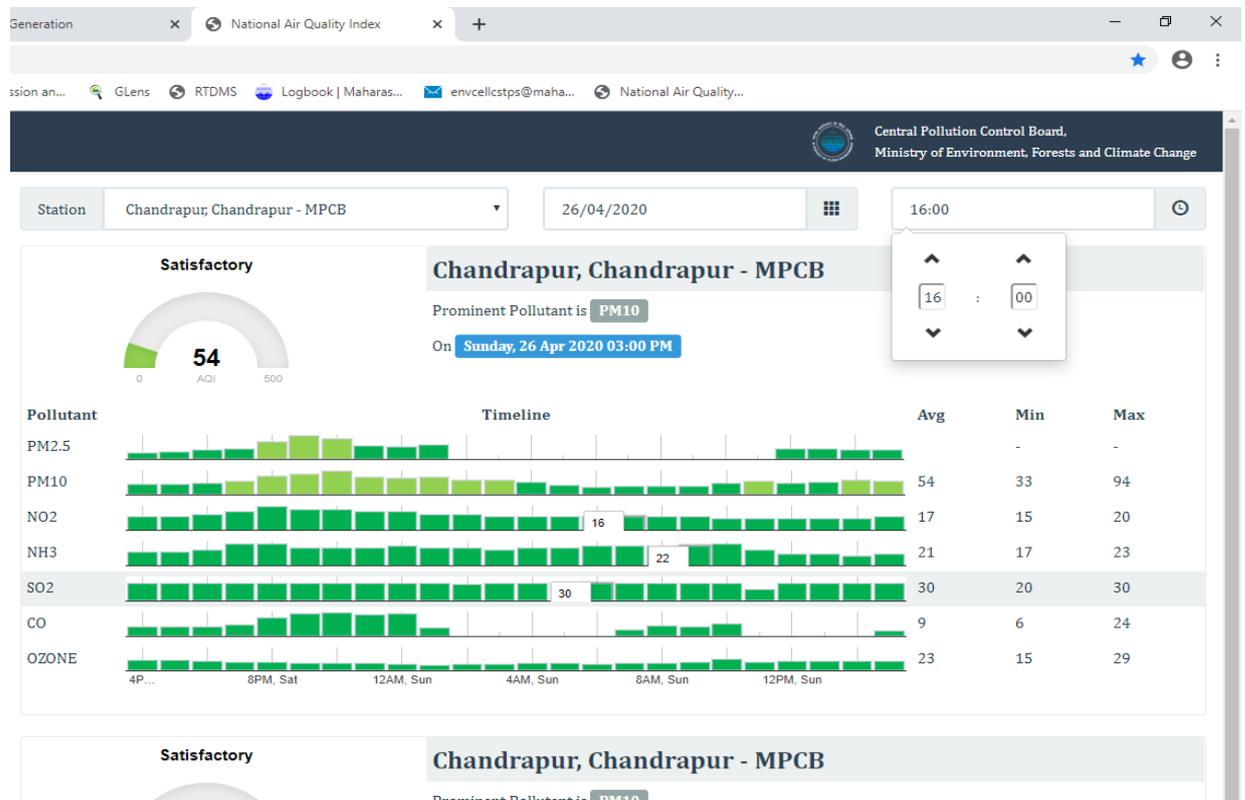
| Pollutant | Timeline | Avg | Min | Max |
|-----------|----------|-----|-----|-----|
| PM2.5 | | 39 | 12 | 91 |
| PM10 | | 64 | 32 | 122 |
| NO2 | | 16 | 15 | 18 |
| NH3 | | 21 | 19 | 23 |
| SO2 | | 30 | 30 | 31 |
| CO | | 11 | 9 | 26 |
| OZONE | | 24 | 17 | 29 |

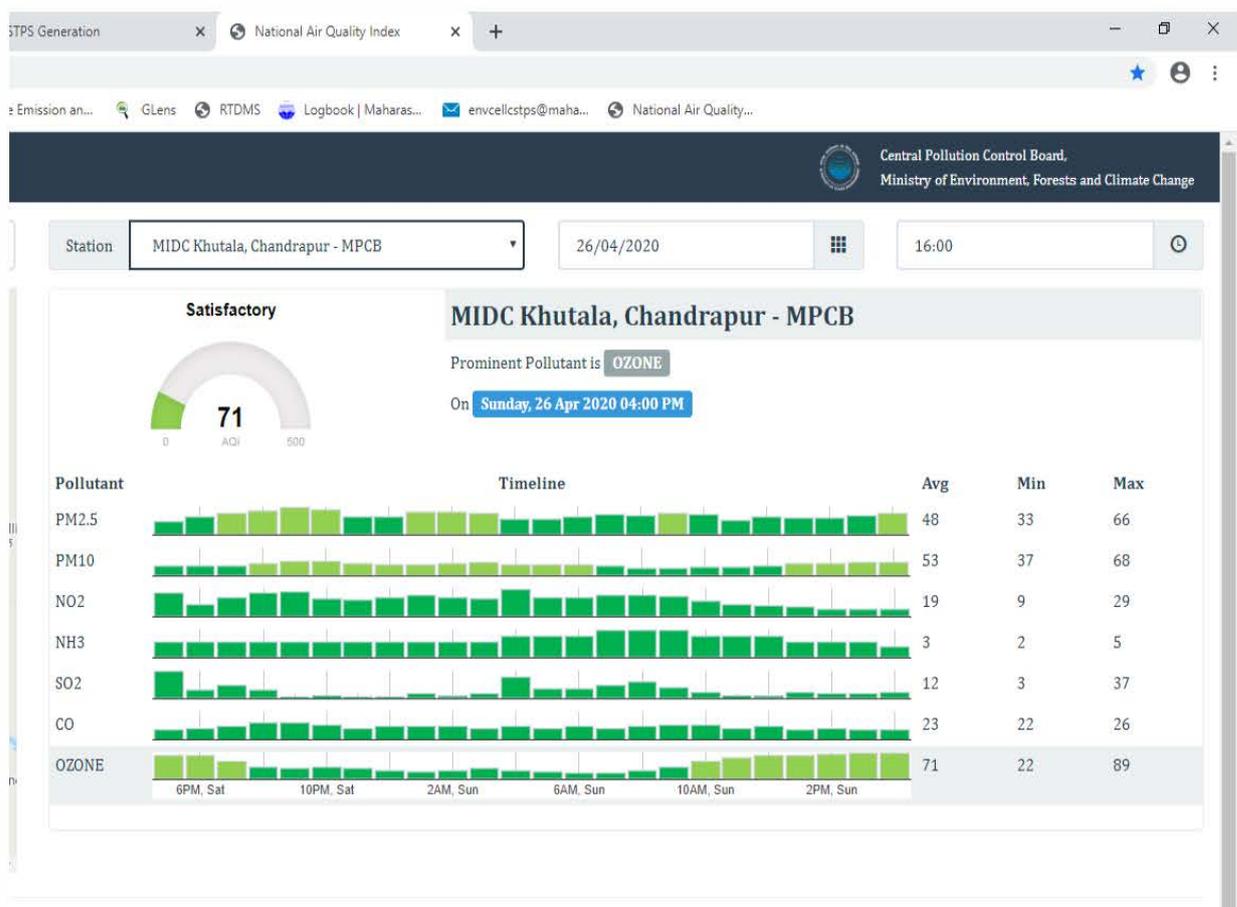
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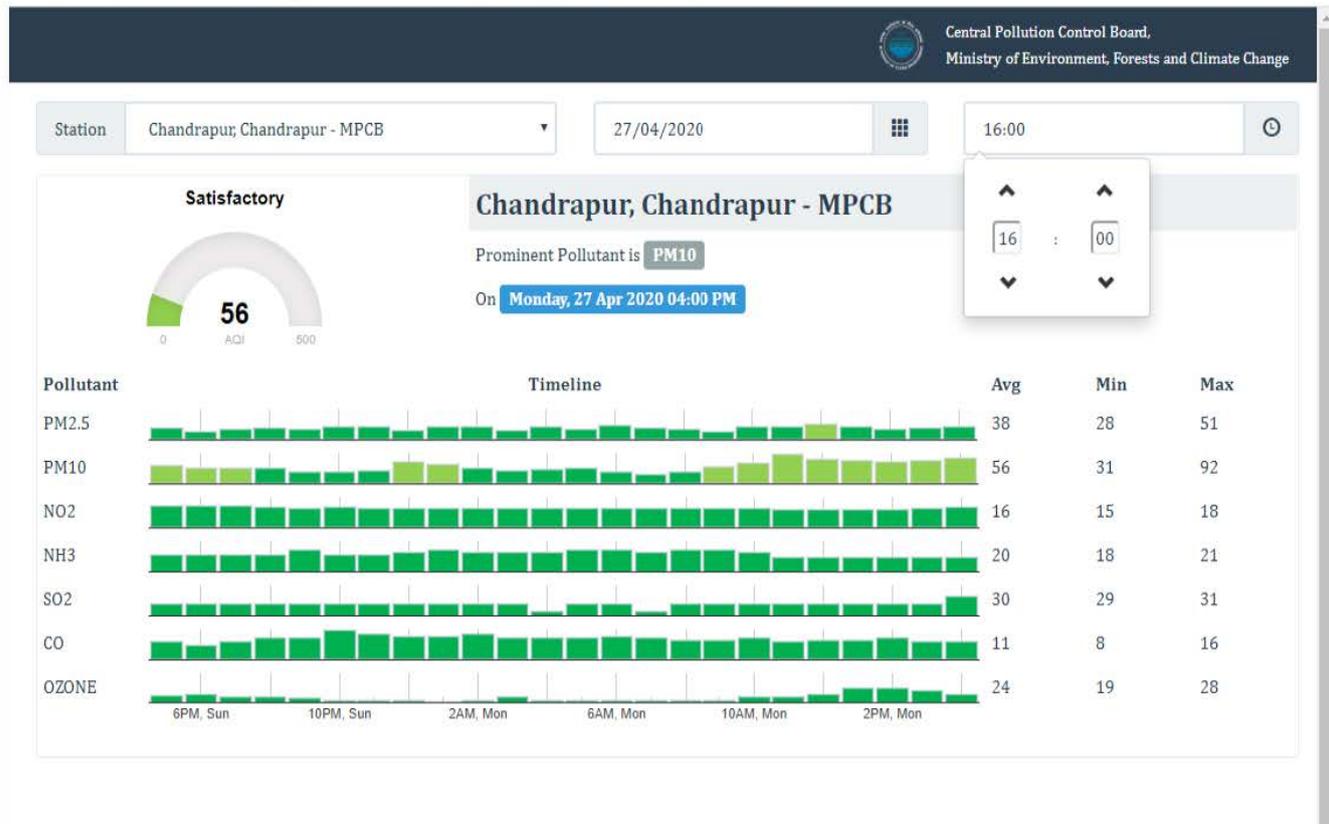




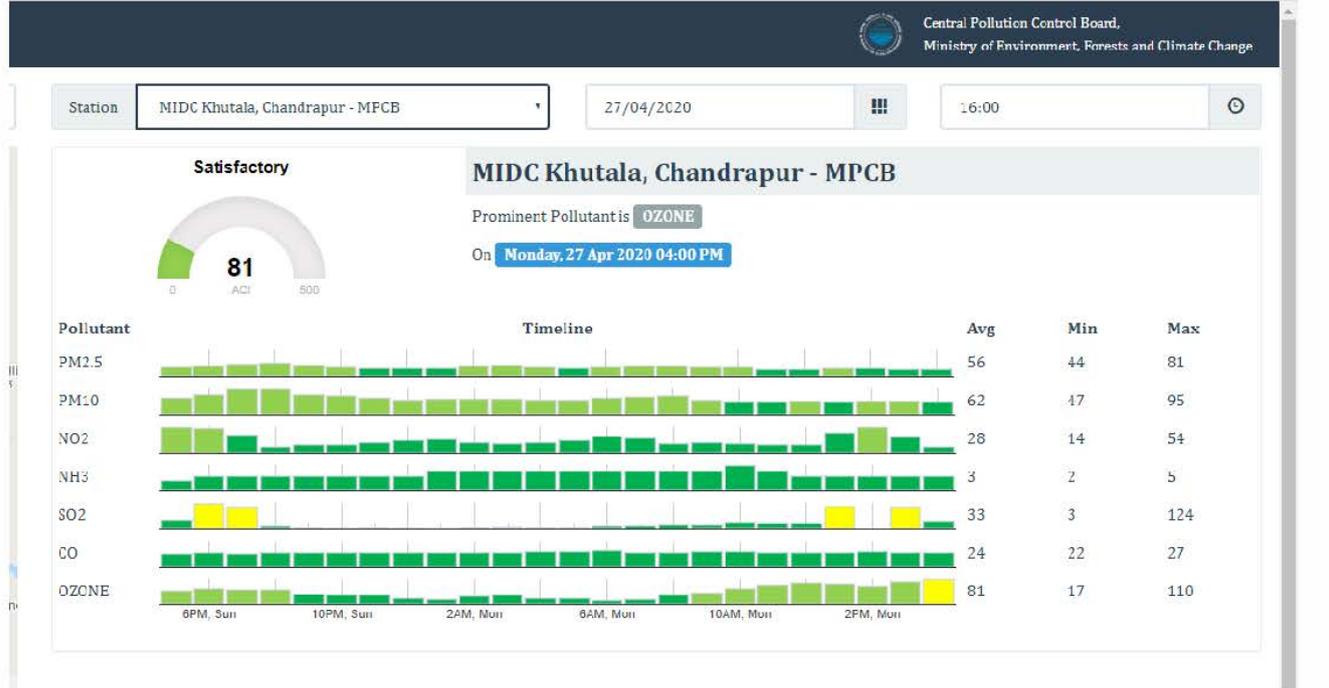




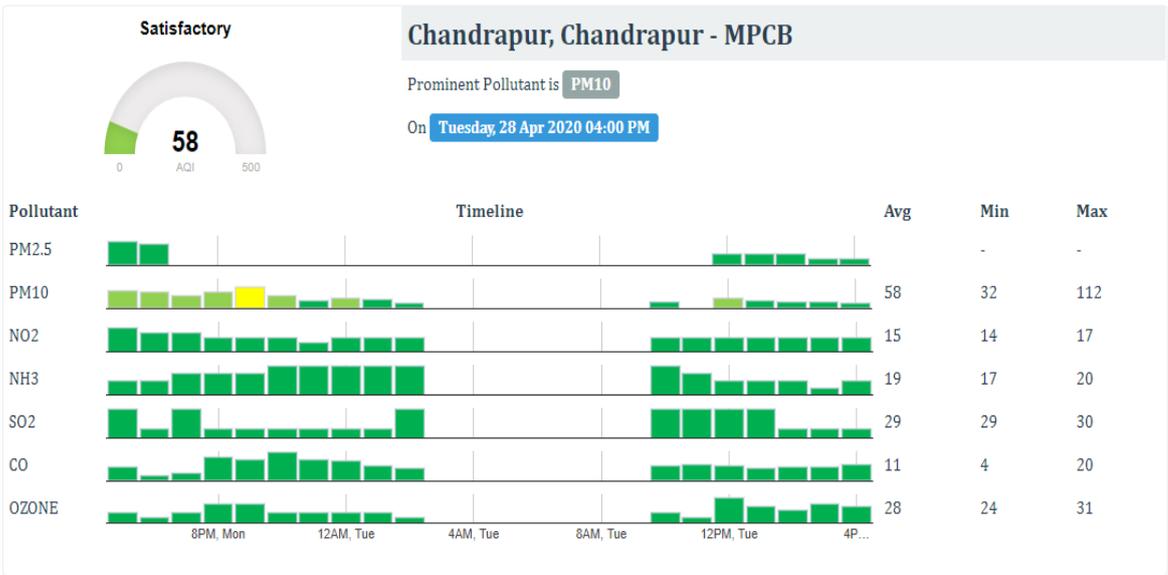




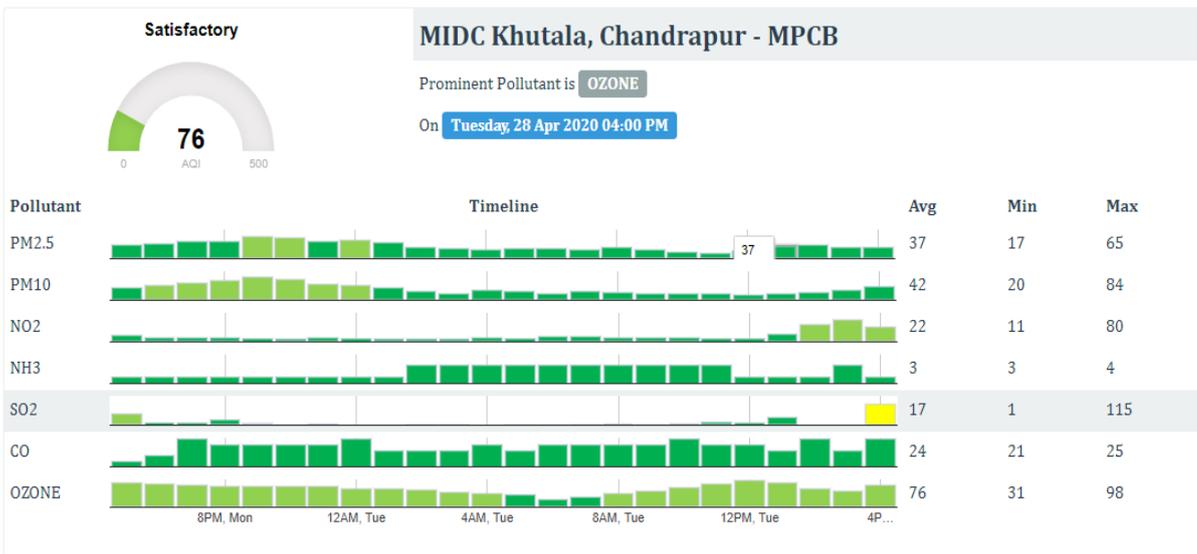
[List of AQI Stations with Data of above selected Date & Time](#)

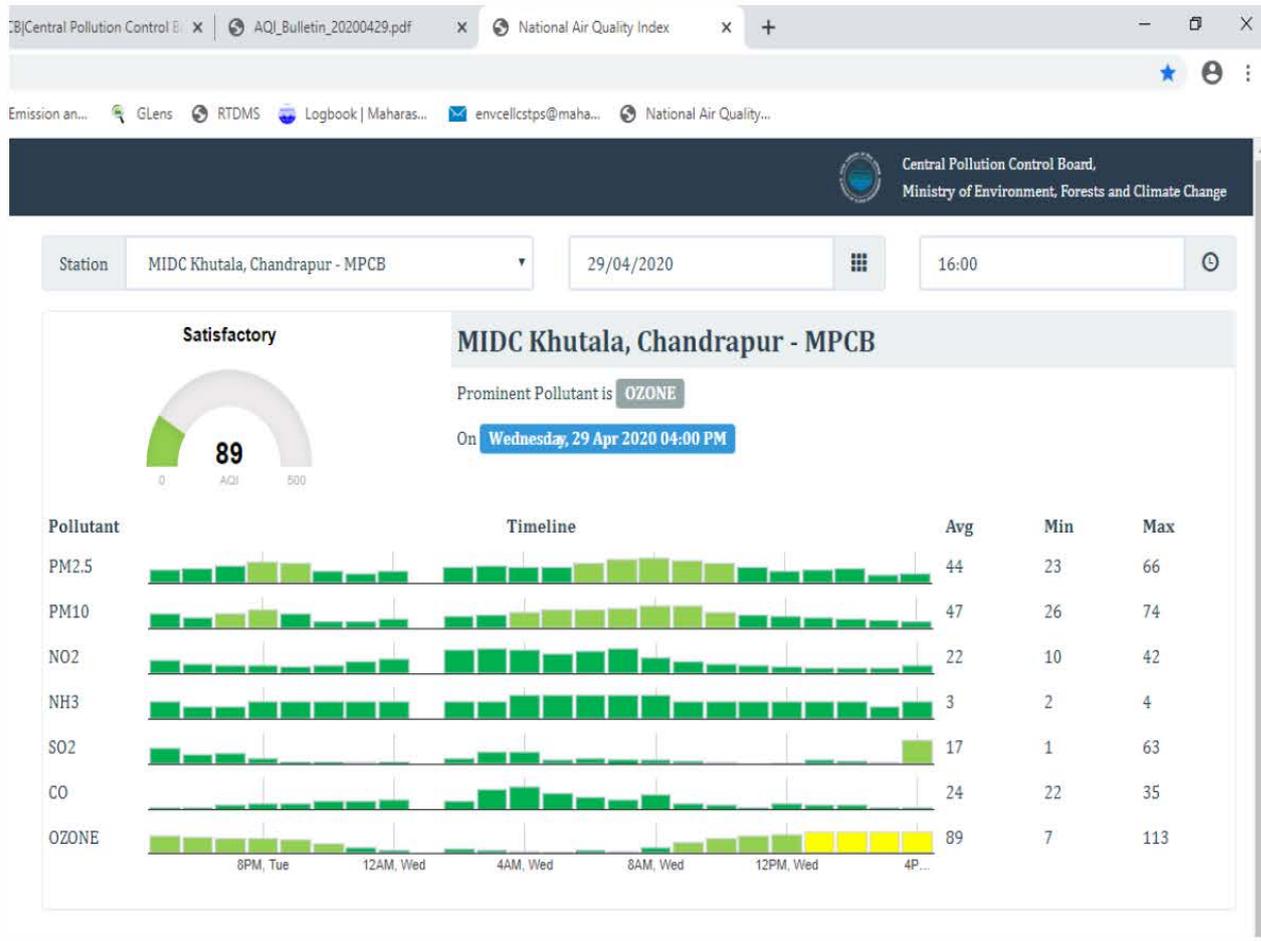
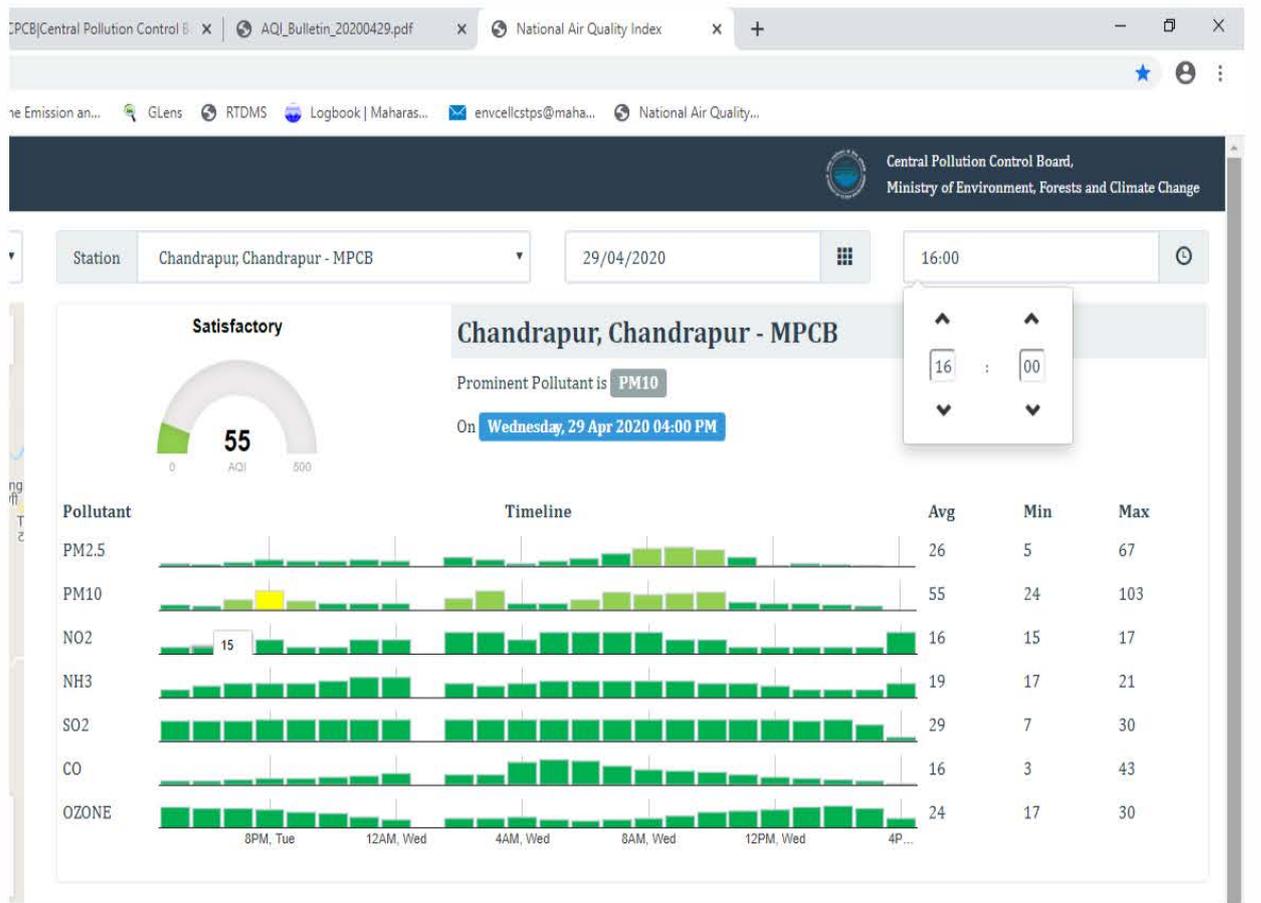


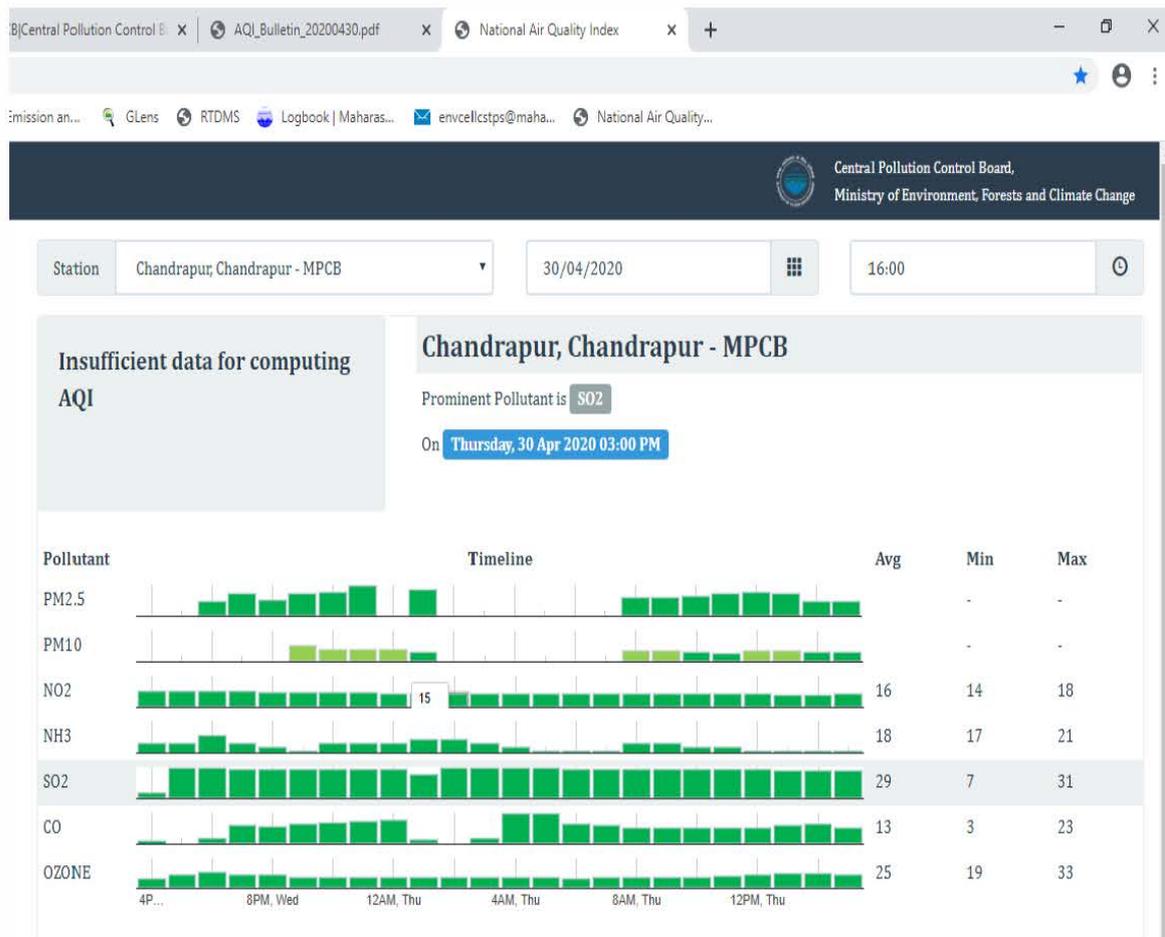
Station: Chandrapur, Chandrapur - MPCB | Date: 28/04/2020 | Time: 16:00

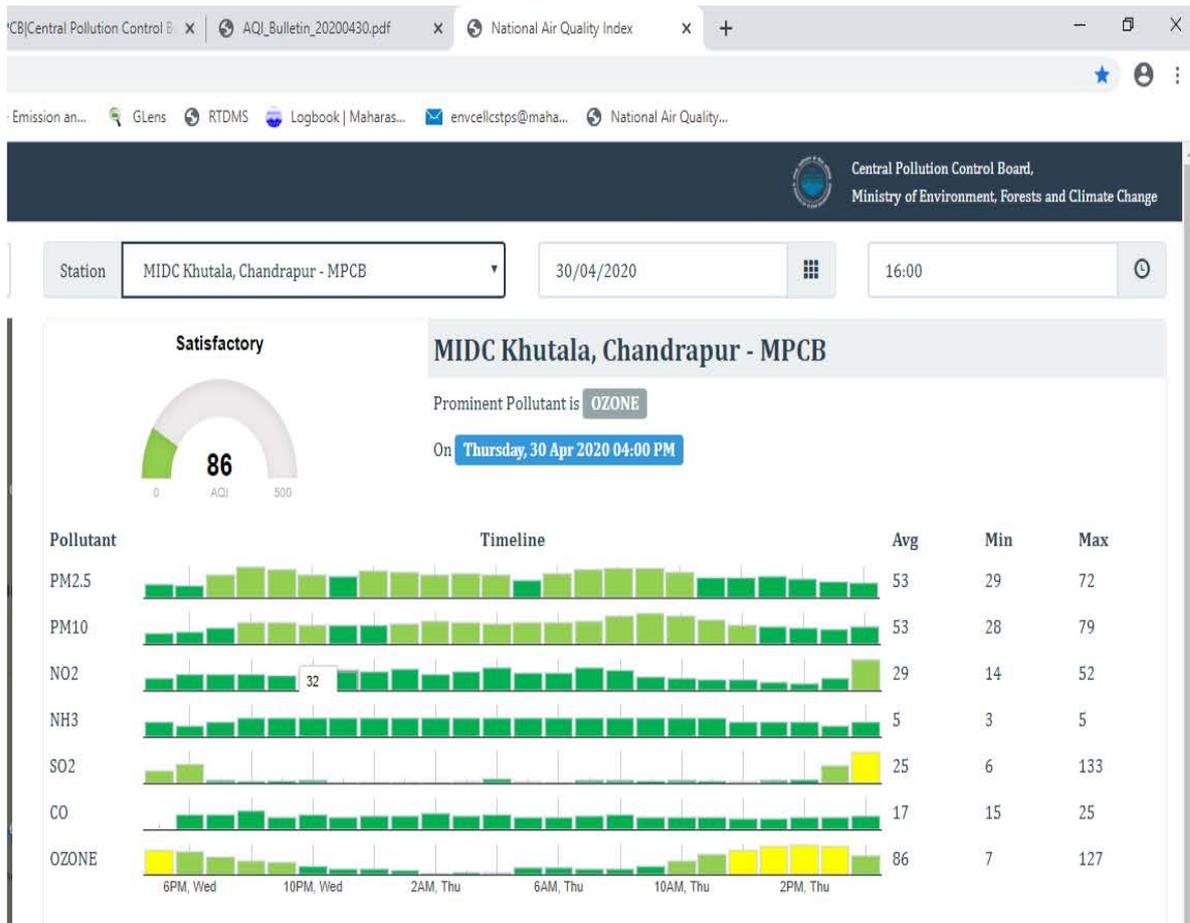


Station: MIDC Khutala, Chandrapur - MPCB |
 Date: 28/04/2020 |
 Time: 16:00









T.C.

Ax. R9

801

Agreement by industries to lift the 100% Fly Ash

भारतीय गैर न्यायिक

एक सौ रुपये



Rs. 100

रु. 100

**ONE
HUNDRED RUPEES**

सत्यमेव जयते

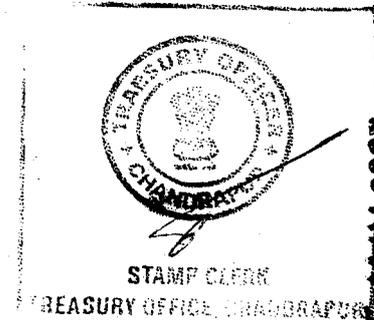
भारत INDIA

INDIA NON JUDICIAL

महाराष्ट्र MAHARASHTRA कम्पनी १००

AF 337512

क्र. मां. १५४३ २०५१०६
महाराष्ट्र मंत्रालय, मुंबई
मि. ए. शास्त्रकार
स्टॅम्पविकेता, चंद्रपूर.
नं. १७२२/१७२४/०२



ARTICLES OF AGREEMENT

These ARTICLES OF AGREEMENT entered into this 12th day of October 2007 at CSTPS, Chandrapur (M.S.).

BETWEEN

MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED, a Company registered under provisions of the Companies Act, 1956 having its registered office at Hongkong Bank Bldg, M.G. Road, Fort, Mumbai hereinafter referred to as "MSPGCL" (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) OF THE ONE PART.

AND

The Manikgarh Cement- Manikgarh

WHEREAS

The MSPGCL owns and operates 2340 MW Thermal Power Station at Chandrapur (CTPS TPS), having 7 units, unit 1 to 4 having a capacity of 210 MW and unit 5 to 7 having capacity 500 MW each.

T.C.

[Handwritten signature]

[Handwritten signature]

B. THE Manikgarh Cement has submitted the proposal for development of Dry Ash Collection and Disposal Plant for **unit no. 1&2 at CTPS** (here after referred as 'Plant') as per their offer enclosed.

C. The proposal is accepted by the MSPGCL.

NOW THEREFORE IN CONSIDERATION OF THE PREMISES AND THE MUTUAL COVENANTS HEREINAFTER CONTAINED, THE PARTIES HERETO HEREBY AGREE AND THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. **Definitions and Interpretations :**

1.1 **Definitions :**

In this Agreement, the following words and expression shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

"Accounting Year" means the financial year commencing from 1st April of any calendar year and ending on 31st March of the next calendar year.

"Agreement" means this Agreement, the Annexure hereto and any amendments thereto made in accordance with the provisions contained in this Agreement.

"Applicable Laws" means all laws, promulgated or brought into force and effect by GOI or GOM including regulations and rules made there under, and judgments, decrees, injunctions, writs and orders of any court of record, as may be in force and effect during the subsistence of this Agreement.

"Applicable Permits" means all clearances, permits, authorizations, consents and approvals required to be obtained or maintained under Applicable Laws in connection with the design, engineering, financing, procurement, construction, operation and maintenance of the Plant during the subsistence of this Agreement.

"Bid" means the documents in their entirety comprised in the bid submitted by the Bidder in response to the Tender Notice in accordance with the provisions thereof.

"COD" means the commercial operations date of the Project. This shall be Four (4) Months from the date of commissioning of the Plant which is stabilization period for de-bottlenecking and removal of teething problems. This period of stabilization and de-bottlenecking can be reviewed by the Chief General Manager (Gen O&M) Chandrapur, in case of unforeseen circumstances.

"Cure Period" means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and upon failing of which the Agreement may be terminated by the other Party. Vii-2

"Drawings" means all the drawings, plans, calculations and documents pertaining to the Project and shall include "as built" drawings of the Project.

"GOI" means the Government of India.

"GOM" means the Government of the State of Maharashtra.

"Parties" means the parties to this Agreement collectively and "Party" shall mean any of the Parties to this Agreement individually and any person claiming through

such party or individual.

"Rs." Or "Rupees" means the lawful currency of the Republic of India.

"Termination" means the expiry or termination of this Agreement.

"Termination Date" means the date on which this Agreement expires pursuant to the provisions of this Agreement or is terminated by a Termination Notice.

"Termination Notice" means the communication issued in accordance with this Agreement by any one Party to the other Party terminating this Agreement.

1.2 In this Agreement, unless the context otherwise requires,

In the interpretation of this Agreement, unless the context otherwise requires:

- (a) The singular includes the plural and vice versa and in particular (but without limiting the generality of the foregoing) and word or expression defined in the singular has the corresponding meaning used in the plural and vice versa.
- (b) A reference to persons includes natural persons, corporations, limited liability companies, partnership and other legal entities;
- (c) A reference to any gender includes the other gender.
- (d) A reference to a Section, Article, clause, sub-clause, paragraph, sub-paragraph, Schedule or Recital is a reference to a Section, Article, clause, paragraph, sub-paragraph, Schedule or Recital of this Agreement.
- (e) A reference to any agreement is a reference to that agreement and all exhibits, schedules, appendices incorporated therein, as the same is amended, modified, supplemented, varied, substituted, replaced, renewed or extended from time to time.
- (f) A reference to statutes be construed as including all statutory provisions consolidating, amending, modifying, supplementing or replacing the statute referred to
- (g) The terms 'include' and "including" shall be deemed to include the words "without limitation"
- (h) Any reference to a person or entity shall include such persons and such "entities successors and permitted assigns", and shall include all natural persons, corporations, companies limited liability companies, partnership and other legal entities.
- (i) A reference to 'writing' includes printing, typing, lithography and other means of reproducing words in a visible form; and

Any date or period set forth in this Agreement shall be such date or period as may be adjusted in accordance with the terms and conditions of this Agreement.

2. Scope of Project :

The Manikgarh Cement shall be responsible for;

- i) (a) Procurement, erection, installation, commissioning, operation and Maintenance of the Fly Ash "Transportation, Collection and Disposal Plant ("Plant")" for 18 hoppers of unit no. 1 & 18 hoppers of unit no.2(total 36 hoppers) at CSTPS including inter-alia, construction of Silo(s), to be

constructed inside the power station boundary, all fabrication connecting vessels between the silos etc, at the Site at its own costs, expenses and charges and risk and responsibility. The Plant shall be developed in accordance with the technical plans approved by MSPGCL.

- (b) Achieving the ash utilization / disposal level at CSTPS as specified in this Agreement.
- (c) Operating and maintaining the Plant as per the operations and maintenance plan approved by MSPGCL, and
- (d) Performance and fulfillment of other obligations as may be specified under the Agreement.

The Manikgarh Cement shall undertake its obligations at its own cost and risk.

- ii) Road user charge shall be applicable to the Manikgarh Cement for collection of fly ash from Unit nos. 1 & 2 as the system is to be installed on land inside CSTPS boundary for which necessary road will be maintained by the MSPGCL. The charges towards Power Station internal road usages are as under .

| | |
|--------------------------------------|--------------------|
| a) Tractor/Trolley | Rs. 100/- per trip |
| b) Truck upto 10 MT capacity | Rs. 250/- per trip |
| c) Truck bulker above 10 MT capacity | Rs. 500/- per trip |

Annual increase of 10 % (flat rate) will be done in above road user charges.
- iii) CDM or any other benefits such as excise duty, taxes etc. or others related to fly ash are availed by the Manikgarh Cement, the Manikgarh Cement shall share the same with MSPGCL on 50-50 basis. The Manikgarh Cement shall submit six monthly statements for the same duly signed by the Company Secretary & the head of accounts. The required payments are to be made by the Manikgarh Cement to MSPGCL on six monthly basis or whenever the dues reaches Rs. 5 lacs, whichever is earlier.
- iv) The Manikgarh Cement will reimburse the cost of services provided by MSPGCL under clause (ii) above at the rates fixed by MSPGCL from time to time.
- v) In case of any deviation or amendment in Supreme Court/ MoEF's guidelines, regarding issue of ash free of cost, MSPGCL shall be free to review the issue and shall levy charges for supplying of ash to the Manikgarh Cement as per directives or guidelines of MoEF in future in addition to road user charges as is (2 (II)

3. Land for Project Development:

MSPGCL will provide land to the Manikgarh Cement at a mutually agreed location in CSTPS for setting up their Plant under an Agreement, which will be valid for the term of this Agreement.

A rent of Rs. 1/- (Rs. One Only) per sq. ft. per month would be charged for the entire area allotted to the Manikgarh Cement which will have to be deposited by them monthly, in advance on or before 10th day of every month.

MSPGCL shall not transfer the land in the name of Manikgarh Cement. MSPGCL shall however grant permission to the Manikgarh Cement to establish their Plant on such land.

4. **Licenses and Permits:**

It will be the responsibility of the Manikgarh Cement to obtain all necessary permissions, licenses, approvals, permits, consents, as may be required under all applicable governing laws. To enable the Manikgarh Cement to obtain all applicable permissions, permits, etc, MSPGCL shall give No Objection Certificates / other Certificates as may be required from time to time.

5. **Support Services:**

Electricity and Water services will be provided by MSPGCL on commercial chargeable basis as per MSEDCL tariff. The plant operation cost charges for fly ash given free through Manikgarh Cement to small users shall be borne by Manikgarh Cement.

6. **Development Phasing:**

The Manikgarh Cement shall develop Plant and shall achieve commissioning of the entire Plant within a period of 12(twelve) months from the date of this Agreement. Penalty Rs. 5000/- day for delay in commissioning will be levied and MSPGCL will have rights to allow fly ash to other agencies during commissioning stage.

7. **Right to Collect Fly ash:**

Subject to and in accordance with the terms and conditions set forth in this agreement, MSPGCL shall grant the Manikgarh Cement permission to collect and utilize ash as per agreement available from unit 1&2 for the entire term of the agreement. Save for the 20% (Twenty Percent) of the ash generated from Unit No. 1&2, which will be governed by the Clause No. 10 of this agreement. The entire quantity of the fly ash lifted by the Manikgarh Cement will be utilized by them as proposed by them in their letter only.

8. **Fly ash utilization levels:**

The Manikgarh Cement shall achieve the following ash utilization level commitments from the date of Commissioning:

- Within 3 (Three) Months – 80% of the total fly ash generated from date of commissioning by Unit no.1 & 2 of CS TPS.

For the 3 months period, the Manikgarh Cement shall give it's ash utilization plan to MSPGCL, so that balance fly ash can be allotted to other Agencies, if so desired by MSPGCL.

9. **Penalty for failure to achieve the Fly ash utilization level:**

In the event the Manikgarh Cement fails to meet the target utilization levels, MSPGCL will have the right to levy a penalty @ Rs. 25 per MT on the quantity of unutilized ash which will be computed as follows:

- | | |
|--|---|
| <ul style="list-style-type: none"> - Up to 3 (Three) Months from the date of commissioning - Start of Month 4 (four) and onwards | <ul style="list-style-type: none"> - Nil. - (0.8) total ash generated from (Unit No.1 &2 in MT) -(actual ash utilization in MT) x Rs.25. |
|--|---|

The penalty will be levied on daily basis .

The penalty shall be paid by the Manikgarh Cement on monthly basis, it will be recoverable from performance bank guarantee, if not paid by 15th of every month.

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The Chief General Manager, CSTPS shall be the Competent Authority to decide the applicability of the penalty clause and his decision shall be final and binding on both the parties.

In case the fly ash collection plant setup by the Manikgarh Cement at Chandrapur TPS, under goes any breakdown etc., the Manikgarh Cement, should arrange to lift the ash from the available ash loading system inside the power station, paying road user charges as levied by MSPGCL.

In the event the Manikgarh Cement is unable to achieve fly ash utilization level as per clause 8 above within period of 6 (Six) Months from the date of commissioning, then MSPGCL will have the right to terminate this agreement.

In case the Manikgarh Cement fails to lift the committed quantity of ash from power station for any reason, MSPGCL will have the right to order the Manikgarh Cement, to issue the unutilized quantity of ash to any person or organization or users etc. even under such conditions which may not be favourable to the Manikgarh Cement, and it will be binding on the Manikgarh Cement, to comply such orders. The Manikgarh Cement will be allowed to collect service charges as approved by MSPGCL. However this will not, in any way, restrict or limit the rights of MSPGCL to recover the liquidated damages or to impose penalties, or to take any other action, as included in various clauses of this agreement.

Breakdowns at CSTPS shall be acceptable to the Manikgarh Cement and the period of such breakdowns shall be excluded for assessing fulfillment of the obligations for achieving the ash utilization levels.

In case the Manikgarh Cement fails to lift the ash as per the stipulations of this agreement at Chandrapur Thermal Power Station, and the Manikgarh Cement is engaged at any other Power Station of MSPGCL in utilization of fly ash, then MSPGCL will have right to take suitable action in the agreement applicable to the other Power Stations and vice-versa.

10. Supply to small users

MSPGCL shall have the right to instruct the Manikgarh Cement to supply fly ash free of cost to small users. However, such free supply shall not exceed 20% (Twenty Percent) of the total quantity of fly ash available to the Manikgarh Cement at units 1 & 2 of CSTPS. Estimated quantity of fly ash to be given to small users will be forecasted by MSPGCL time to time, if the actual ash lifted by the local / small users is less than 20% or in case the small Users do not lift the ash at all, under such circumstances, it will be binding on the Manikgarh Cement to lift entire remaining quantity of the ash generated by the Units 1&2.

No cost or compensation or relaxation of any sort will be extended by MSPGCL on this account.

11. Maintenance of the Plant

The Manikgarh Cement shall ensure that the Plant is well maintained and should be in good working condition all the time, till the end of the term of this Agreement. Authorized representatives of MSPGCL shall be permitted to inspect

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with prior intimation to ensure that the Manikgarh Cement are adhering to proper maintenance practices. Break-down at collection plant maximum upto 3 days in calendar month will be allowed Alternate arrangement to be provided by Manikgarh Cement, otherwise penalty @ Rs. 25 Per MT on unutilised ash.

12. Modifications to the Plant

The Manikgarh Cement shall not undertake any major modification or dismantling of equipment without prior written approval from MSPGCL.

13. Annual Fly Ash Generation Estimate

MSPGCL and The Manikgarh Cement shall at the beginning of each year estimate the ash generation based on the operating plan of MSPGCL for units 1 & 2 of CSTPS taking into account any planned outages or shut down. The target ash utilization level will be determined based on the ash generation estimate and in accordance with ash utilization schedule.

14. Fly Ash Utilisation Measurement/Weighment

The Manikgarh Cement shall maintain the daily record of vehicles dispatched from Silo site at CSTPS . The Manikgarh Cement shall provide to MSPGCL monthly statement of the dispatches of ash vehicles on daily basis and their corresponding weights as recorded at the Weighbridges installed at the loading point at ChandrapurTPS. The ash utilization levels shall be established from such statements provided by the Manikgarh Cement. The Manikgarh Cement will have to provide install, operate and maintain weighbridge at their own cost.

The Weighbridges shall be calibrated by the Legal Meteorology Department, Government of Maharashtra. A copy of the certificate shall be submitted to MSPGCL by the Manikgarh Cement.

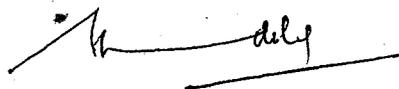
The Manikgarh Cement will ensure that the truck drivers do not unload any part of the fly ash lifted from the ChandrapurTPS en-route on the roadside, to avoid pollution and nuisance to the public and incase of failure the Manikgarh Cement shall be solely responsible to all the action taken by the concerned Authorities.

15. Performance Security

The Manikgarh Cement shall provide to MSPGCL a Bank Guarantee, in the form acceptable to MSPGCL, for a sum equivalent to Rs.20 Lakhs for due and faithful performance of their obligations under this agreement during the term of this agreement. The penalties / claims will be recoverable from the Bank Guarantee, if not settled within 7days. The Manikgarh Cement should recoupe the Bank Guarantee within 21days of raising claim by MSPGCL.

16. Term of Agreement

The Agreement shall be valid for an initial period of 15 (Fifteen) years from the date of commissioning. In the event the commissioning is not achieved within a period of 12 (twelve) months from the date of this Agreement, the Agreement Term shall commence immediately upon expiry of 12 months from the date of this Agreement.



17. **Renewal of Agreement:**

This agreement can be renewed at the end of the term, on such terms & conditions as may be mutually agreed upon by MSPGCL & the Manikgarh Cement.

In order to ensure smooth operations, MSPGCL and the Manikgarh Cement will commence negotiations for renewal of the Agreement 12 (Twelve) months prior to the date of expiry of this Agreement.

18. **Transfer of Plant on Expiry of Agreement Terms:**

The Manikgarh Cement shall transfer the existing dry fly ash plant to MSPGCL in healthy and good working condition free of cost at the end of the term of the agreement. If they fail to do so MSPGCL reserve the right to ask agency to attend all the repairs at their cost including supply of required material, spares and make the plant in good working and healthy condition upto the satisfaction of MSPGCL.

19. The Manikgarh Cement, will not sublet / rent out their plant to any other person or agency without the written permission of Chief General Manager (Gen O&M) Chandrapur. The land will be exclusively used for installation & operation of ash collection plant and not for any other propose i.e. residential / colony etc.

20. **Manikgarh Cement's Events of Default:**

The following shall constitute events of default:

- Failure to develop the Plant as per the Technical Plans approved by MSPGCL.
- Failure to commission the Plant within the agreed upon time frame.
- Failure to meet the target fly ash utilization level.
- Failure to maintain the Plant as per the maintenance plan approved by MSPGCL.
- Failure to make payments to MSPGCL for the support services provided by MSPGCL and penalty under this Agreement.
- Failure to meet its obligations and responsibilities under the Agreement.
- Failure to follow directions of the Hon. High Court regarding distribution of 20% (Twenty Percent) ash to small users.
- Failure to recoup performance Bank Guarantee within 21 days of claim made by MSPGCL.
- Any other item which is a material breach of the Agreement.

In the event of any failure / default on the part of the

Manikgarh Cement, MSPGCL may terminate this agreement in part or full and MSPGCL will have the right to allot the ash to any other user as may be decided by MSPGCL.

21. **MSPGCL Events of Default:**

The following shall constitute MSPGCL events of default:

- Failure to provide land to the Manikgarh Cement for developing the Plant.
- Failure to meet its obligations and responsibilities under the Agreement.



- Any other item which is a material breach of the Agreement.

22. Termination:

The parties may terminate this agreement, in whole or part, by mutual consent in writing.

In the event of termination of the Agreement due to the Manikgarh Cement event of default, the plant shall be handed over to MSPGCL free of cost on the date of event of default. In case MSPGCL does not exercise its right to takeover the Plant then the Manikgarh Cement shall, at its own cost, expenses and charges forthwith remove, or cause to be removed all its plant and machinery and deliver to MSPGCL the vacant and peaceful possession of the site.

The Party seeking termination shall give a notice of at least three months to the other party clearly stating the reasons for seeking termination. The other party shall be given adequate opportunities to be heard before termination is agreed upon.

In the event of termination of this agreement due to MSPGCL event of default, the plant will be transferred to MSPGCL at 80% of depreciated value on the date of default or the market value of the assets whichever is lower.

23. Settlement of Disputes and Arbitration:

As per Annexure-'A' (enclosed herewith)

24. Amendment and Waiver:

No amendment or waiver of any provision of this Agreement shall in any event be effective unless the same is mutually agreed and signed by both the Parties through their authorities / representative and such amendment or waiver shall be effective only for the specified instance and purpose for which it is given and all other provisions not otherwise specifically affected by the amendment or waiver of this Agreement shall remain in full force.

Except as otherwise expressly provided in this Agreement, all notices and other communications, which are required and permitted hereunder, shall be in writing and sufficient if delivered personally, or sent by registered or certified mail, telecopy of telegram address as follows :

If to MSPGCL:

The Chief General Manager

Maharashtra State Power Generation Company Limited

Chandrapur Thermal Power Station,

Distt. Chandrapur (M.S.) – 442404.

Telephone No. (07172 – 220155. Fax No. (07172 – 220203)

If to THE MANIKGARH CEMENT:

All notice or communication given by fax or telegram shall be confirmed by depositing a copy of the same in the post office in an envelope properly addressed to the appropriate Party for delivery by registered or certified mail or courier services, but any failure to so confirm shall not vitiate the original notice or communication. All notices sent by fax and telegram shall be deemed

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delivered upon receipt, and all notices sent by registered or certified mail and courier service shall be deemed delivered upon expiration of seven business days of depositing the same in the post office.

Change of address :

Any Party may by notice change its address and / or addressees to which any notices or communications hereunder are to be delivered or mailed.

25. Liability and Insurance :

The Manikgarh Cement shall be liable and indemnify MSPGCL and its employees for all losses and damages suffered by them due to the negligence of the Manikgarh Cement its employees or agents.

The Manikgarh Cement shall obtain and maintain such insurance policies covering the Site, the Plant, the operation thereof at its own costs, expenses and charges as may be required by MSPGCL.

26. Representations, Warranties and Covenants :

MSPGCL Representations and Warranties :

MSPGCL hereby represents and warrants to the Manikgarh Cement that;

- (i) It is a Company registered under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions hereof;
- (ii) This Agreement constitutes the valid, legal and binding obligation of MSPGCL enforceable in accordance with the terms hereof
- (iii) The execution, delivery and performance of this Agreement by MSPGCL has been duly authorized by all requisite action, and will not (a) constitute a violation of any statute,

judgment order decree of any court, Government Manikgarh Cement, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business or (b) contravene or violate its Articles or Association, or (c) cause a breach of any provision of, or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

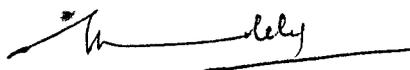
MSPGCL Covenants :

MSPGCL hereby covenants with the Manikgarh Cement that MSPGCL shall ensure the continued provision of the Support Services as Stated in Article 5 above ensure the delivery of the services agreed to be provided by MSPGCL herein, in accordance with the terms of this Agreement;

THE MANIKGARH CEMENT Representations and Warranties :

THE MANIKGARH CEMENT hereby represents and warrants to MSPGCL that ;

- (i) It is a company incorporated under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions



and provisions thereof;

- (ii) This Agreement constitutes the valid, legal and binding, obligation of the Manikgarh Cement enforceable in accordance with the terms hereof;
- (iii) The execution, delivery and performance of this Agreement by the Manikgarh Cement has been duly authorized by all requisite action, and will not (a) constitute a violation of any statute, judgment order decree of any court, Government Manikgarh Cement, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business or (b) contravene or violate its Articles or Association, or (c) cause a breach of any provision of, or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

Covenants:

THE MANIKGARH CEMENT hereby covenants with MSPGCL that ;

- (i) THE MANIKGARH CEMENT shall utilize the ash supplied to it by MSPGCL and achieve the ash utilization levels specified under this Agreement.
- (ii) THE MANIKGARH CEMENT shall carry on its operations in the Plant at its sole risk and responsibility and neither shall it cause any nuisance, annoyance to MSPGCL during such operations, nor cause any injury or damage to the CSTPS or any party thereof or any other agencies working in CSTPS, Chandrapur.

27. Force Majeure :

Force Majeure is herein defined as any cause which is beyond the control of the Manikgarh Cement or MSPGCL, as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the contract such as :

- (a) Natural calamity including but not limited to floods, drought, earthquakes and epidemics.
- (b) Acts of any government, domestic or foreign, including but not limited to war, declared or undeclared quarantines, embargoes etc.

Provided either party shall, within fifteen (15) days from the occurrence of such a cause, notify the other in writing of such causes. Unless otherwise directed by MSPGCL in writing the Manikgarh Cement shall continue to perform his obligation under the contract as far as reasonably practical and shall seek all the alternative means for performance not prevented by the force Majeure event.

Unless otherwise mutually agreed by both the parties in writing, both parties continue to perform their obligation under this agreement as far as reasonably practical and shall seek alternative means for performance not prevented by the force Majeure event.

The Manikgarh Cement as well as MSPGCL shall not be liable for delays in performing their respective obligations under this agreement resulting from any

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force Majeure cause as referred to and / or defined above. The date of completion for fulfillment of the said obligation affected by the force Majeure events, shall be extended by a reasonable time period to be mutually agreed upon between the parties.

28. **Miscellaneous :**

Remedies Cumulative :

All remedies afforded to the Parties under this Agreement shall be taken and construed as cumulative and in addition to every other remedy provided herein or available to a Party under law or in equity.

Headings :

The headings contained in this Agreement are used solely for convenience and do not constitute a part of this Agreement nor shall such headings be used in any manner to aid in the construction of this Agreement.

No Third Party Beneficiaries :

This Agreement is intended solely for the benefit of the Parties. Nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to any person not a Party to this Agreement nor does this Agreement confer any right whatsoever on any third party to bring an action.

Relationship of Parties :

The duties, obligations and liabilities of the Parties are intended to be several and not joint or collective. Each party shall be individually and severally liable for its respective obligations under this Agreement. In addition, this Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

Survival :

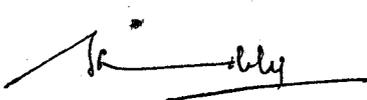
Any cancellation, expiration, earlier termination of this Agreement or arbitration of Disputes shall not relieve the Parties of their respective obligations hereunder that by their nature should survive such cancellation, expiration or termination, including, without limitation, obligations relating to warranties, remedies, promises of indemnity and confidentiality.

Governing Law :

This Agreement and the rights and obligations hereunder shall be interpreted, construed and governed by the substantive laws of India, without regard for its principles of conflict of laws that would require the application of the law of any other jurisdiction.

Entirety :

This Agreement and any attachment hereto are intended by the Parties as the final expression, or their agreement with respect or the subject matter thereof



and are intended as a complete and exclusive statement of the terms of such agreement. All prior written or oral understandings, offers or other communications of any kind are hereby superseded, abrogated and withdrawn.

Invalidity :

If at any time any provision of this Agreement becomes illegal, invalid or unenforceable in any respect under any applicable law, then that shall not affect or impair the legality, validity, re-enforceability of any other provision of this Agreement.

Successors and Assigns :

This Agreement shall be binding upon, and injure to the benefit of the Parties and their respective successors and permitted assigns.

Further acts and assurances :

Each Party shall execute and deliver all further agreements and instruments, and do and perform all such further acts and things, as shall be necessary or convenient to perform the terms of this Agreement.

Except as expressly set forth herein, each party shall pay for its own costs and expenses (including, without limitations, fees and expenses of its agents, representatives, counsel and accountants) necessary for the negotiation preparation, execution, delivery, performance of and compliance with this Agreement.

Counterparts :

This Agreement is signed in duplicate, equally authentic, one each for MSPGCL and MANIKGARH CEMENT.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement through their authorized representative on the day, month and year first above mentioned in the presence of :

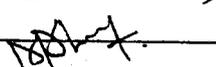
For and on behalf of

Maharashtra State Power
Generation Company Ltd.,

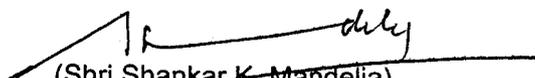

(Shri Vijay Singh)
Chief General Manager
CSTPS, Chandrapur.

In the presence of:
Witness

Name : B. M. Das
Designation : SE (G)
Signature : 

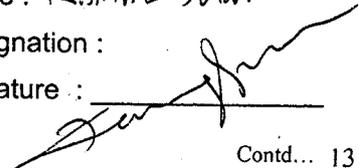
Name : M. P. Masaram
Designation : E.E (Tech)
Signature : 

Manikgarh Cement


(Shri Shankar K. Mandelia)
Sr. Vice President (C&A)
Manikgarh Cement, Gadchandur

In the presence of:
Witness

Name : P. K. BASAS
Designation : GM (C)
Signature : 

Name : KAMAL JOTWANI
Designation :
Signature : 

ANNEXURE-A(As per clause 23 of agreement)RESOLUTION OF DISPUTES AND ARBITRATIONThe matters to be determined by the Chief General Manager (CGM)

All disputes and differences of any kind whatsoever arising out of or in connection with the contract whether during the progress of the work of after its completion and whether before or after the determination of the contract shall be referred by the contractor to the CGM and the CGM shall (within 120 days after receipt of the contractor's representation make and notify decisions of all matters referred to by the contractor in writing.

Demand for Arbitration:

- In the event of any dispute or difference between the parties here to as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, the dispute or difference on any account or as to be withholding by MSPGCL of any certificate to which the contractor may claim to be entitled to or if the CGM fails to make a decision (within 120 days) then and in any such case, the contractor (after 120 days) but within (180 days) of his presenting his final clam on disputed matters, shall demand in writing that the dispute or difference to be referred to arbitration.
- ii) The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim itemwise. Only such dispute (s) or difference (s) in respect of which the demand has been made, together with counter claims or set off, shall be referred to arbitration and other matters shall not be included in the reference.
- a) The arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the Company.
- b) The claimant shall submit his claim stating the facts supports the claims along with all relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.
- c) The Company shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from the Tribunal thereafter unless otherwise extension has been granted by the Tribunal.
- iii) No new claim shall be added during the proceedings by either party.. However, a party may amend or supplement the original claim or defence thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.
- iv) If the contractor(s) does/ do not prefer his/their specific and final claims in writing,



within a period of 90 days of receiving the intimation from the Company, that the final bill is ready for payment, he/ they will be deemed to have waived his/ their claim(s) and the Company shall be discharged and released of all liabilities under the contract in respect of these claims.

2. Obligation during pendency of Arbitration:

Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the Company shall be withheld on account of such proceedings, provide, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should be continued during arbitration proceedings.

- i) In cases where the total value of all claims in question added together does not exceed Rs. 1,00,00,000/- (Rupees One Crore) the Arbitral Tribunal shall consist of a Sole Arbitrator who shall be either the CGM of the Company or serving or retired officer of the Company/Government not below the grade of CGM or equivalent nominated by the Managing Director of the Company in that behalf. The Sole Arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitration is received by the Company.
- ii) In case the value of the claim exceeds Rs. 1,00,00,000/- (Rupees One Crore) as above, the Arbitral Tribunal shall consist of panel of 3 serving or retired officers of MSPGCL/ Govt. not below the grade of CGM as the Arbitrators. For this purpose the Company will send a panel of more than 3 names of arbitrators of one or more department of the Company / Govt. to the contractor who will be asked to suggest to the M D at least 2 names for appointment as contractor's nominee. The M D shall appoint at least of them as the contractor's nominee and will also appoint the balance number of arbitrators wither from the panel or from outside the panel, duly indicating the presiding arbitrator from amongst the three (3) arbitrators so appointed. While nominating arbitrators, it will be necessary to ensure that one of them is or has worked in Accounts Department.
- iii) If one or more arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator or vacates his/ their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the Chairman fails to act without undue delay, the M D shall appoint new arbitrators/s to act in his/ their place in the same manner in which the earlier arbitrator/s had been appointed. Such reconstituted Tribunal, may as its discretion proceed with the reference from the stage at which it was left by the previous arbitrator(s).
- iv) The Tribunal shall have powers to call for such evidence by way of affidavits or otherwise as the Arbitral Tribunal shall think proper and it shall be the duty of the parties hereto do or cause to be done all such things as may be necessary to enable the Arbitral Tribunal to make the award without any delay.
- v) While appointing arbitrator(s) as above, due care shall be taken that he/they is/are not the are/those who had an opportunity to deal with the matters to

only

which the contract relates or who in the course of his/ their duties as Company servant's expressed views on all or any of the matters under dispute or differences. The proceedings or the Arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/ their duties expressed views on all or any of the matters under dispute.

- vi) Arbitral award shall state itemwise the sum and reasons upon which it is based.
- vii) A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award and interpretation of specific point of award to tribunal within 30 days of receipt of the award.
- viii) A party may apply to Tribunal within 30 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings, but omitted from the arbitral award.
- ix) In case of the Tribunal, comprising of three members any ruling or award shall be made by a majority of Members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.
- x) Where the arbitral award is for payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.
- xi) The cost of the arbitration shall be borne equally by the respective parties. The cost shall inter-alia include fees of the arbitrators as per the rates fixed by the Board from time to time provided that the fees payable per arbitrator for claims up to Rs. One Crores. Shall not exceed Rs. 2000/- per sitting subject to a maximum of Rs. 25,000/- and the fees payable per arbitrator for claims over Rs. one crore, shall not exceed Rs. 2000/- per sitting subject to a maximum of Rs. 50,000/- provided further that the arbitrators who are in service of Govt./ MSPGCL shall draw fees at half of the rates mentioned above.
- xii) Company shall maintain a list of arbitrators. The M.D shall have full powers to delete or add the name of the arbitrators in the list or to make amendments to the said list as per his discretion.
- xiii) The arbitral proceedings should be completed and the award be finalized within one year from the date of appointment of arbitrators.
- xiv) Subject to the provisions as aforesaid, Arbitration and Conciliation Act, 1996 and the rules there-under, and any statutory notification thereof shall apply to the arbitration proceedings under this clause.



Ambuja Cement

(Unit 334)

Chandrapur

June 15, 2005

The Chief Engineer,
Maharashtra State Power Generation Co. Ltd,
Chandrapur Super Thermal Power Station,
Maharashtra State Electricity Board,
Urjanagar,
Chandrapur 442 404.

Dear Sir,

Sub : Flyash Collection and Disposal System.

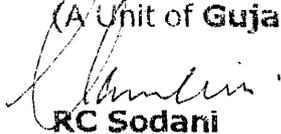
This has reference to the Proposal submitted jointly by ACC and MCW for installation of Flyash Collection and Disposal System on Part of Units VI and VII at CSTPS.

We wish to inform you that the System was proposed to be installed jointly by ACC and MCW. It has, however, been decided now that the Systems installed by ACC and MCW will be totally independent of each other.

In view of the above, the Agreement to be executed with you for 94 hoppers on Units VI and VII will be only by MCW.

Thanking you,

Yours faithfully,
For **Maratha Cement Works**
(A Unit of **Gujarat Ambuja Cements Ltd**)



RC Sodani
Sr. Vice President (Commercial)

Sub to C/S. pd. 
16/6/05
16/6


17/6/05

MARATHA CEMENT WORKS

(A Unit of Gujarat Ambuja Cements Limited)

At & Post- Upparwahi - 442 908, Taluka - Korpana, Dist.-Chandrapur (M. S.)

Tel. : 07173 - 240015 - 20 • Fax : 07173 - 240008 - 9

Regd. Office : P. O. Ambujanagar - 362 715, Taluka - Kodinar, Dist. - Junagadh (Gujarat)

Corporate Office : 122, Maker Chambers III, Nariman Point, Mumbai - 400 021



महाराष्ट्र MAHARASHTRA

अ. सं. ११६६२ दि. ११/११/०५ - १००/-
 चे. नं. २३५२११ रु. गुला विमर वलय
 वाचक वलय वि. २१/२४/०५

[Signature]
 वाचक वलय

श्री. ए. ए. ए. ए. ए.
 वाचक वलय



G 033795

[Signature]
 STAMP CLERK
 TREASURY OFFICE, CHANDRAPUR

15 SEP 2005

Articles of Agreement

These ARTICLES OF AGREEMENT entered into this 11th day of November 2005 at Chandrapur.

BETWEEN

MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED, a Company registered under provisions of the Companies Act, 1956 having its registered office at Hongkong Bank Bldg, M.G. Road, Fort, Mumbai hereinafter referred to as "**MSPGCL**" (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) OF THE ONE PART.

AND

GUJARAT AMBUJA CEMENTS LTD (Unit - Maratha Cement Works), a Company registered under the provisions of the Companies Act, 1956 having its registered office at P.O. Ambujanagar - 362 715, Taluka - Kodinar, District - Junagadh (Gujarat) and Corporate Office at 122, Maker Chambers III, Nariman Point, Mumbai - 400 021, hereinafter referred to as "**MCW**" (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) OF THE OTHER PART.

[Signature]

WHEREAS

- A. MSPGCL owns and operates 2,340 MW Chandrapur Super Thermal Power Station ('CSTPS'), located at Chandrapur, Maharashtra. CSTPS has seven units (Unit I to IV having a capacity of 210 MW each and Units V to VII having a capacity of 500 MW each).
- B. In response to MSPGCL's Request for Proposal ('RFP'), MCW submitted their technical and commercial proposals for development of Dry Fly ash Collection and Disposal Plant for Units III and IV at CSTPS.
- C. After evaluation of the Proposals so received MSPGCL accepted the Proposals of the Company.

NOW THEREFORE IN CONSIDERATION OF THE PREMISES AND THE MUTUAL COVENANTS HEREINAFTER CONTAINED, THE PARTIES HERETO HEREBY AGREE AND THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. **Definitions and Interpretations :**

1.1 **Definitions :**

In this Agreement, the following words and expression shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them :

"Accounting Year" means the financial year commencing from 1st April of any calendar year and ending on 31st March of the next calendar year.

"Agreement" means this Agreement, the Annexures hereto and any amendments thereto made in accordance with the provisions contained in this Agreement.

"Applicable Laws" means all laws, promulgated or brought into force and effect by GOI or GOM including regulations and rules made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, as may be in force and effect during the subsistence of this Agreement.

"Applicable Permits" means all clearances, permits, authorizations, consents and approvals required to be obtained or maintained under Applicable Laws in connection with the design, engineering, financing, procurement, construction, operation and maintenance of the Plant during the subsistence of this Agreement.

"Bid" means the documents in their entirety comprised in the bid submitted by the Bidder in response to the Tender Notice in accordance with the provisions thereof.

"COD" means the commercial operations date of the Project. This shall be one year from the date of commissioning of the Plant which is stabilisation period for debottlenecking and removal of teething problems.

Wmmu *Shadani*

"Cure Period" means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and upon failing of which the Agreement may be terminated by the other Party.

"Drawings" means all the drawings, plans, calculations and documents pertaining to the Project and shall include "as built" drawings of the Project.

"GOI" means the Government of India.

"GOM" means the Government of the State of Maharashtra.

"Parties" means the parties to this Agreement collectively and "Party" shall mean any of the Parties to this Agreement individually and any person claiming through such party or individual.

"Rs." or "Rupees" means the lawful currency of the Republic of India.

"Termination" means the expiry or termination of this Agreement.

"Termination Date" means the date on which this Agreement expires pursuant to the provisions of this Agreement or is terminated by a Termination Notice.

"Termination Notice" means the communication issued in accordance with this Agreement by any one Party to the other Party terminating this Agreement.

1.2 In this Agreement, unless the context otherwise requires,

In the interpretation of this Agreement, unless the context otherwise requires:

- (a) the singular includes the plural and vice versa and in particular (but without limiting the generality of the foregoing) and word or expression defined in the singular has the corresponding meaning used in the plural and vice versa.
- (b) a reference to persons includes natural persons, corporations, limited liability companies, partnership and other legal entities;
- (c) a reference to any gender includes the other gender.
- (d) a reference to a Section, Article, clause, sub-clause, paragraph, sub-paragraph, Schedule or Recital is a reference to a Section, Article, clause, paragraph, sub-paragraph, Schedule or Recital of this Agreement.
- (e) A reference to any agreement is a reference to that agreement and all exhibits, schedules, appendices incorporated therein, as the same is amended, modified, supplemented, varied, substituted, replaced, renewed or extended from time to time.
- (f) A reference to statutes be construed as including all statutory provisions consolidating, amending, modifying, supplementing or replacing the statute referred to
- (g) The terms 'include' and "including" shall be deemed to include the words "without limitation"

11/11/2011



- (h) Any reference to a person or entity shall include such persons and such "entity's successors and permitted assigns", and shall include all natural persons, corporations, companies limited liability companies, partnership and other legal entities.
- (i) A reference to 'writing' includes printing, typing, lithography and other means of reproducing words in a visible form; and

Any date or period set forth in this Agreement shall be such date or period as may be adjusted in accordance with the terms and conditions of this Agreement.

2. **Scope of Project :**

MCW shall be responsible for;

- (a) erection, installation and commissioning of the Fly ash Collection and Disposal Plant ('Plant') for Units III and IV as defined in the RFP at CSTPS including inter alia, construction of Silo(s), the common fabrication connecting spool between the hoppers etc, at the Site at its own costs, expenses and charges and risk and responsibility. The Plant shall be developed in accordance with the technical plans approved by MSPGCL. The configuration of the hoppers covered under this Agreement is enclosed.
- (b) Achieving the ash utilization / disposal level at CSTPS as specified in this Agreement;
- (c) Operating and maintaining the Plant as per the operations and maintenance plan approved by MSPGCL, and
- (d) Performance and fulfillment of other obligations as may be specified under the Agreement.

MCW shall undertake its obligations at its own cost and risk.

3. **Land for Project Development :**

MSPGCL will provide land to MCW at a mutually agreed location in CSTPS for setting up the Plant under an Agreement, which will be valid for the term of this Agreement.

MSPGCL shall not transfer the land to MCW. MSPGCL shall however grant permission to MCW to establish the Plant on such land.

4. **Licenses and Permits :**

It will be the responsibility of MCW to obtain all necessary permissions, licenses, approvals, permits, consents, as may be required under all applicable governing laws. To enable MCW to obtain all applicable permissions, permits, etc, MSPGCL shall give all the No Objection Certificates / other Certificates as may be required from time to time.

Wm *Prakash*

5. **Support Services :**

Electricity and Water services will be provided by MSPGCL on commercial chargeable basis. It will be decided mutually after discussions between MSPGCL and MCW. The operation cost limited to only electricity and water charges for ash given to small users will not be charged to MCW. However, Plant operation cost including maintenance cost will be borne by MCW.

Further provision of any additional support services required for operating Plant and transportation of Fly ash from CSTPS, the terms and conditions shall be mutually agreed upon by MSPGCL and MCW.

6. **Development Phasing :**

MCW shall develop Plant in two Phases in accordance with the development phasing plan attached. MCW shall achieve commissioning for Phase I of the Plant within a period of twelve months from the date of this Agreement.

MCW shall commence development of Phase II of the Plant after achievement of the Fly ash utilisation levels for Phase I within a period of five years from the COD and achieve commissioning for Phase II of the Plant within a period of six months from the commencement date for Phase II.

7. **Right to Collect Fly ash :**

Subject to and in accordance with the terms and conditions set forth in this agreement, MSPGCL shall grant MCW exclusive rights to collect and utilise / dispose the entire Fly ash generated from Units III and IV Phase I of the Plant for the entire term of the agreement.

Further MSPGCL shall grant MCW exclusive rights to collect and utilise / dispose the entire Fly ash generated from Units III and IV Phase II of the Plant from the date it achieves COD for Phase II of the Plant till the remaining term of the agreement.

MSPGCL shall not levy any charges during the initial term of this agreement as well as during the period of extension of this agreement under the provisions of this agreement, for granting rights to MCW to collect and utilise the entire Fly ash generated from Units III and IV.

8. **Issue of fly ash on chargeable basis in future to Cement factory :**

In case of any deviations or amendments in MoEF's / Supreme Court's guidelines regarding issue of fly ash free of cost in future, MSPGCL shall be free to review the issue and shall think of charging MCW for supplying fly ash to MCW as per directives or guidelines of MoEF / Supreme Court in future but not earlier than 01/01/2009.

9. **Benefit of Carbon trading :**

In case MCW avail the benefit of carbon trading (under CDM) by utilising fly ash supplied by MSPGCL to MCW free of cost, then 50% of carbon trading benefit shall be passed on to MSPGCL.

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10. **Fly ash utilisation levels :**

MCW shall achieve the following Fly ash utilisation level commitments :

- Within three years – 50% of the total Fly ash generated by Phase I of the Plant.
- Within five years – 70% of the total Fly ash generated by Phase I of the Plant.
- Within eight years – 70% of the total Fly ash generated by all Units III and IV.
- Within ten years – 80% of the total Fly ash generated by all Units III and IV.
- The time periods shall be computed from the COD of the respective Phases.

11. **Failure to achieve the Fly ash utilisation level :**

In the event MCW fails to meet the target utilisation levels, MSPGCL will have the right to levy a penalty @ Rs. 25/- per MT on the quantity of unutilised Fly ash which will be computed as follows :

- Upto three years – Nil.
- Start of Year Four to completion of Year Five – 50% of Fly ash generated by Phase I of the Plant – Actual Fly ash utilisation x Rs. 25/-.
- Start of Year Six to completion of Year Eight – 70% of Fly ash generated by Phase I of the Plant– Actual Fly ash utilisation x Rs. 25/-.
- Start of Year Nine to completion of Year Ten – 70% of Fly ash generated by all Units III and IV - Actual Fly ash utilisation x Rs. 25/-.
- From Year Eleven onwards – 80% of Fly ash generated by Units III and IV - Actual Fly ash utilisation x Rs 25/-.
- 20% of Ash reserved for small users or the actual quantity utilised by them, whichever is less, will be considered for computation of quantity for levy of penalty.

The Chief General Manager, CSTPS shall be the Competent Authority to decide the applicability of the penalty clause and his decision shall be final and binding on both the parties.

In the event MCW is unable to achieve Fly ash utilisation level equivalent or greater than 50% of the Fly ash generated from Phase I of the Plant within period of five years from the COD, then MSPGCL will have the right to terminate this agreement.

In the event MCW is unable to achieve Fly ash utilisation level equivalent or greater than 50% of the Fly ash generated from Units III and IV within period of ten years from the COD, then MSPGCL will have the right to terminate this agreement.

 P. S. Srinivasan

MCW shall submit to MSPGCL a quarterly plan for Fly ash utilisation at the start of each quarter. For the purposes of computing the penalty, the annual Fly ash utilisation level achieved by MCW shall be computed on a yearly basis. At the end of each year, MCW shall provide a statement to MSPGCL, in a manner and form to be mutually agreed between the parties, showing the target of Fly ash utilisation levels to be achieved during the year and the actual Fly ash utilisation level achieved during the year.

Breakdowns at CSTPS or at the Cement Plants shall be acceptable to both the parties and the period of such breakdowns shall be excluded for assessing fulfillment of the obligations for achieving the Fly ash utilisation levels.

12. Supply to Small Users

MSPGCL shall have the right to instruct MCW to supply Fly ash free of cost to small users located within a radius of 100 Kms. This supply shall continue till separate arrangements are made by MSPGCL for Dry Fly ash Collection and Disposal or upto 2 years from the date of this Agreement, whichever is earlier. However, such free supply shall not exceed 20% of the total Fly ash available to MCW at Units III and IV. Estimated quantity of Fly ash to be given to small users will be forecast by MSPGCL one month in advance.

13. Maintenance of the Plant :

MCW shall be responsible for operations and maintenance of the Plant during the term of this agreement at its own cost and in accordance with the statutory regulations prevailing from time to time. MSPGCL and MCW shall mutually agree upon the annual maintenance plan for the Plant.

MCW shall ensure that the Plant is well maintained and should be in good working condition till the end of this agreement. An authorised representatives of MSPGCL shall be permitted to inspect with prior intimation to ensure that MCW are adhering to the mutually agreed Annual Maintenance Plan.

14. Modifications to the Plant :

MCW shall not undertake any major modification or dismantling of equipment without prior written approval from MSPGCL.

15. Annual Fly ash Generation Estimate :

MSPGCL and MCW shall at the beginning of each year estimate the Fly ash generation based on the operating plan of MSPGCL for Units III and IV taking into account any planned outages or shut down. The target Fly ash utilisation level will be determined based on the Fly ash generation estimate.

16. Fly ash Utilisation Measurement / Weighment :

MCW shall maintain the daywise records of vehicles despatched from Silo Site at CSTPS taking Fly ash to MCW. MCW shall provide to MSPGCL monthly statement of the despatches of Fly ash vehicles and their corresponding weights as recorded at the weigh-bridges installed in the MCW Plant at Bhendvi / Upparwahi. The Fly ash utilisation levels shall be established from such statements provided by MCW.

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The Weigh-bridges shall be calibrated by the Legal Metrology Department, Government of Maharashtra. A copy of the certificate shall be submitted to MSPGCL by MCW.

17. **Performance Security :**

MCW shall provide to MSPGCL a Bank Guarantee in the form acceptable to MSPGCL for a sum equivalent to Rs. 10 lakhs for due and faithful performance of their obligations under this agreement during the term of this agreement.

18. **Term of Agreement :**

The agreement shall be valid for a initial period of 15 years from the date of achievement of COD for Phase I of the Plant. In the event of the COD for Phase I of the Plant is not achieved within a period of 24 months from the date of this agreement, the agreement term shall commence immediately upon 24 months from the date of this agreement.

19. **Renewal of Agreement :**

This Agreement can be renewed at the end of the term on such terms and conditions as may be mutually agreed upon by MSPGCL and MCW. MSPGCL agreed to grant right of first refusal to MCW for the purpose of renewing the term of this Agreement.

In order to ensure smooth operations, MSPGCL and MCW will commence negotiations for renewal of the Agreement 12 months prior to the date of expiry of this Agreement.

20. **Transfer of Plant on Expiry of Agreement Terms :**

MCW shall have the right to dismantle the Plant at its own cost and risk from the project site within a period of 6 months from the date of termination of this Agreement. MCW shall ensure that the Plant is dismantled in a manner that it does not affect the operation of MSPGCL and deliver to MSPGCL the vacant and peaceful possession of the Plant Site.

MCW will have the option to sell the Plant to MSPGCL on termination of this Agreement on such terms and conditions to be mutually agreed upon at that stage.

21. **MCW Events of Default :**

The following shall constitute MCW events of default :

- Failure to develop the Plant as per the Technical Plans approved by MSPGCL.
- Failure to commission the Plant within the agreed upon time frame.
- Failure to meet the target Fly ash utilisation level.
- Failure to maintain the Plant as per the maintenance plan approved by MSPGCL.
- Failure to make payments to MSPGCL for the support services provided by MSPGCL and penalty under this Agreement.

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- Failure to meet its obligations and responsibilities under the Agreement.
- Failure to follow directions of the Hon. High Court regarding distribution of 20% fly ash to small users.
- Any other item which is a material breach of the Agreement.

22. **MSPGCL Events of Default :**

The following shall constitute MSPGCL events of default :

- Failure to provide land to the BOO operator for developing the Plant.
- Failure to meet its obligations and responsibilities under the Agreement.
- Any other item which is a material breach of the Agreement.

23. **Termination :**

The parties may terminate this agreement, in whole or part, by mutual consent in writing.

In the event of termination of this agreement by efflux of time, MCW shall, at their own costs, expenses, charges forthwith remove, or cause to be removed all its plant and machinery at this Plant and deliver to MSPGCL the vacant and peaceful possession of the Site. Provided that MCW will have the option to sell the plant and machinery to MSPGCL on such terms and conditions to be mutually agreed upon at that stage.

In the event of termination of the Agreement due to MCW event of default, MSPGCL shall have the right to purchase the Plant from MCW at a value equivalent to 80% of the book value on the date of event of default or the market value of the assets whichever is lower. In case MSPGCL does not exercise its right to purchase the Plant then MCW shall, at its own cost, expenses and charges forthwith remove, or cause to be removed all its plant and machinery at the Plant and deliver to MSPGCL the vacant and peaceful possession of the site.

In the event of termination of this agreement due to MSPGCL event of default, MCW shall remove plant and machinery.

The Party seeking termination shall give a notice of atleast three months to the other party clearly stating the reasons for seeking termination. The other party shall be given adequate opportunities to be heard before termination is agreed upon.

24. **Settlement of Disputes and Arbitration :**

The settlement and arbitration shall be as per the Office Order No SCR-42/3676 dated February 14, 2005 issued by the Secretary, Maharashtra State Electricity Board. A copy of the same is enclosed with the Agreement and forms a part of this Agreement. Wherever the word MSEB appears, it shall mean MSPGCL and the word Contractor shall mean MCW.

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25. Amendment and Waiver :

No amendment or waiver of any provision of this Agreement shall in any event be effective unless the same is mutually agreed and signed by the Parties through their authorities representative and such amendment or waiver shall be effective only for the specified instance and purpose for which it is given and all other provisions not otherwise specifically affected by the amendment or waiver of this Agreement shall remain in full force.

Except as otherwise expressly provided in this Agreement, all notices and other communications, which are required and permitted hereunder, shall be in writing and sufficient if delivered personally, or sent by registered or certified mail, teletype or telegram address as follows :

If to MSPGCL :

The Chief General Manager
Maharashtra State Power Generation Company Limited
Chandrapur Super Thermal Power Station,
Urjanagar,
Chandrapur 442 404 (MS).
Fax No. (07172 - 220203)
Telephone No. (220155, 220156).

If to MCW :

Sr. Vice President (Commercial)
Maratha Cement Works
(A Unit of **Gujarat Ambuja Cements Ltd**)
Upparwahi 442 908,
Tahsil - Korpana,
District - Chandrapur (MS)
Fax No. (07173 - 240008-9)
Phone No. (07173 - 240015 - 20).

All notice or communication given by fax or telegram shall be confirmed by depositing a copy of the same in the post office in an envelope properly addressed to the appropriate Party for delivery by registered or certified mail or courier services, but any failure to so confirm shall not vitiate the original notice or communication. All notices sent by fax and telegram shall be deemed delivered upon receipt, and all notices sent by registered or certified mail and courier service shall be deemed delivered upon expiration of seven business days of depositing the same in the post office.

Change of address :

Any Party may by notice change its address and / or addressees to which any notices or communications hereunder are to be delivered or mailed.

26. Liability and Insurance :

MCW shall be liable and indemnify MSPGCL and its employees for all losses and damages suffered by them due to the negligence of MCW its employees or agents.

MCW shall obtain and maintain such insurance policies covering the Site, the Plant, the operation thereof at its own costs, expenses and charges as may be required by MSPGCL.

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27. Representations, Warranties and Covenants :

MSPGCL Representations and Warranties :

MSPGCL hereby represents and warrants to MCW that;

- (i) it is a Company registered under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions hereof;
- (ii) this Agreement constitutes the valid, legal and binding obligation of MSPGCL enforceable in accordance with the terms hereof
- (iii) the execution, delivery and performance of this Agreement by MSPGCL has been duly authorised by all requisite action, and will not (a) constitute a violation of any statute, judgement order decree of any court, Government Agency, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business of (b) contravene or violate its Articles or Association, or (c) cause a breach of any provision of, or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

MSPGCL Covenants :

- (i) MSPGCL hereby covenants with MCW that MSPGCL shall ensure the continued provision of the Support Services as Stated in Article 5 above ensure the delivery of the services agreed to be provided by MSPGCL herein, in accordance with the terms of this Agreement;
- (ii) MSPGCL hereby covenants that it shall not enter into similar arrangement with any other party for the other units of CSTPS on terms and conditions that are more favourable to such other party. In case any such arrangement is entered into then such favourable terms and conditions shall be made applicable to this Agreement.

MCW Representations and Warranties :

MCW hereby represents and warrants to MSPGCL that ;

- (i) It is a company incorporated under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions thereof;
- (ii) this Agreement constitutes the valid, legal and binding, obligation of MCW enforceable in accordance with the terms hereof;
- (iii) the execution, delivery and performance of this Agreement by MCW has been duly authorised by all requisite action, and will not (a) constitute a violation of any statute, judgement order decree of any court, Government Agency, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business of (b) contravene or violate its Articles or Association, or (c) cause a breach of any provision of, or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

Covenants :

MCW hereby covenants with MSPGCL that ;

- (i) MCW shall utilise the Fly ash supplied to it by MSPGCL and achieve the Fly ash utilisation specified under this Agreement.
- (ii) MCW shall carry on its operations in the Plant at its sole risk and responsibility and neither shall it cause any nuisance, annoyance to MSPGCL during such operations, nor cause any injury or damage to the CSTPS or any party thereof or any other agencies working in CSTPS, Chandrapur.

28. Force Majeure :

Force majeure is herein defined as any cause which is beyond the control of MCW or MSPGCL, as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the contract such as :

- (a) Natural calamity including but not limited to floods, drought, earthquakes and epidemics.
- (b) Acts of any government, domestic or foreign, including but not limited to war, declared or undeclared quarantines, embargoes etc.

Provided either party shall, within fifteen (15) days from the occurrence of such a cause, notify the other in writing of such causes. Unless otherwise directed by MSPGCL in writing MCW shall continue to perform his obligation under the contract as far as reasonable practical and shall seek all the alternative means for performance not prevented by the force majeure event.

Unless otherwise mutually agreed by both the parties in writing, both parties continue to perform their obligation under this agreement as far as reasonably practical and shall seek alternative means for performance not prevented by the force majeure event.

MCW as well as MSPGCL shall not be liable for delays in performing their respective obligations under this agreement resulting from any force majeure cause as referred to and / or defined above. The date of completion for fulfillment of the said obligation affected by the force majeure events, shall be extended by a reasonable time period to be mutually agreed upon between the parties.

29. Miscellaneous :**Remedies Cumulative :**

All remedies afforded to the Parties under this Agreement shall be taken and construed as cumulative and in addition to every other remedy provided herein or available to a Party under law or in equity.

Headings :

The headings contained in this Agreement are used solely for convenience and do not constitute a part of this Agreement nor shall such headings be used in any manner to aid in the construction of this Agreement.

No Third Party Beneficiaries :

This Agreement is intended solely for the benefit of the Parties. Nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to any person not a Party to this Agreement nor does this Agreement confer any right whatsoever on any third party to bring an action.

Relationship of Parties :

The duties, obligations and liabilities of the Parties are intended to be several and not Joint or collective. Each party shall be individually and severally liable for its respective obligations under this Agreement. In addition, this Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

Survival :

Any cancellation, expiration, earlier termination of this Agreement or arbitration of Disputes shall not relieve the Parties of their respective obligations hereunder that by their nature should survive such cancellation, expiration or termination, including, without limitation, obligations relating to warranties, remedies, promises of indemnity and confidentiality.

Governing Law :

This Agreement and the rights and obligations hereunder shall be interpreted, construed and governed by the substantive laws of India, without regard for its principles of conflict of laws that would require the application of the law of any other jurisdiction.

Entirety :

This Agreement and any attachment hereto are intended by the Parties as the final expression, or their agreement with respect or the subject matter thereof and are intended as a complete and exclusive statement of the terms of such agreement. All prior written or oral understandings, offers or other communications of any kind are hereby superseded, abrogated and withdrawn.

Invalidity :

If at any time any provision of this Agreement becomes illegal, invalid or unenforceable in any respect under any applicable law, then that shall not affect or impair the legality, validity, re-enforceability of any other provision of this Agreement.

Successors and Assigns :

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns.

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Further acts and assurances :

Each Party shall execute and deliver all further agreements and instruments, and do and perform all such further acts and things, as shall be necessary or convenient to perform the terms of this Agreement.

Except as expressly set forth herein, each party shall pay for its own costs and expenses (including, without limitations, fees and expenses of its agents, representatives, counsel and accountants) necessary for the negotiation preparation, execution, delivery, performance of and compliance with this Agreement.

Counterparts :

This Agreement is signed in duplicate, equally authentic, one each for MSPGCL and MCW.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement through their authorised representative on the day, month and year first above mentioned in the presence of :

For and on behalf of

Maharashtra State Power Generation Company Ltd.,

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**Chief General Manager
CSTPS, Chandrapur.**

For and on behalf of

Maratha Cement Works

(A Unit of Gujarat Ambuja Cements Ltd).

Shodani

Sr. Vice President (Commercial)

In the presence of:

Witness

Name :

Mias Daxmulla

Designation : ASST. VICE PRESIDENT (COMMERCIAL)

Signature : N. Daxmulla

Name : Satish Govindrao chaware

Designation : Ex. Engineer (Tech)

Signature : S. Chaware

**Fly Ash collection and Disposal System
Phasewise Implementation Programme**

| Unit | Field | No of Hoppers | Phase I | Phase II |
|--------------|-------|---------------|-----------|-----------|
| | | | (Nos) | (Nos) |
| III | 1 | 8 | 8 | |
| | 2 | 8 | 8 | |
| | 3 | 8 | | 8 |
| | 4 | 8 | | 8 |
| | 5 | 8 | | 8 |
| IV | 1 | 8 | 8 | |
| | 2 | 8 | 8 | |
| | 3 | 8 | | 8 |
| | 4 | 8 | | 8 |
| | 5 | 8 | | 8 |
| Total | | 80 | 32 | 48 |

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**Fly Ash Collection and Disposal System
Phasewise Implementation Programme**

Unit III

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Note

Legal/ 531
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Sub: -Draft of Arbitration and payment clause to be incorporated
in the tender documents

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In view of the discussion in the meeting dtd. 24.8.2004, wherein the
Hon'ble Chairman, A.M., T.M.(T&D), T.M(Gen.), Secretary, T.D (Dist.), L.O.
were present. The decisions were taken to amend the Arbitration clause in the
tender documents to be issued in future. In view of the said discussion the Clauses
are redrafted as follows:-

1. The matters to be determined by the Chief Engineer:-

All disputes and differences of any kind whatsoever arising out of or in
connection with the contract, whether during the progress of the work or after
its completion and whether before or after the determination of the contract,
shall be referred by the contractor to the C.E. and the C.E. shall (within 120
days after receipt of the contractor's representation make and notify decisions
of all matters referred to by the contractor in writing.

(i) Demand for Arbitration:-

In the event of any dispute or difference between the parties hereto as
to the construction or operation of this contract, or the respective
rights and liabilities of the parties on any matter in question, the
dispute or difference on any account or as to the withholding by
MSEB of any certificate to which the contractor may claim to be
entitled to, or if the C.E. fails to make a decision (within 120 days).
then and in any such case, the contractor (after 120 days) but within

(180 days) of his presenting his final claim on disputed matters, shall demand in writing that the dispute or difference to be referred to arbitration.

(ii) The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim itemwise. Only such dispute(s) or difference (s) in respect of which the demand has been made, together with counter claims or set off, shall be referred to arbitration and other matters shall not be included in the reference.

(a) The arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the Board.

(b) The claimant shall submit his claim stating the facts supporting the claims along with all relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.

(c) The Board shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from the Tribunal thereafter unless otherwise extension has been granted by the Tribunal.

iii. No new claim shall be added during the proceedings by either party. However, a party may amend or supplement the original claim

place in the same manner in which the earlier arbitrator/s had been appointed. Such reconstituted Tribunal, may, as its discretion proceed with the reference from the stage at which it was left by the previous arbitrator(s).

- (iv) The Tribunal shall have powers to call for such evidence by way of affidavits or otherwise as the Arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the Arbitral Tribunal to make the award without any delay.
- (v) While appointing arbitrator(s) as above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties as Board's servant(s) expressed views on all or any of the matters under dispute or differences. The proceedings of the Arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.

- (vi) Arbitral award shall state itemwise, the sum and reasons upon which it is based.
- (vii) A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award and interpretation of specific point of award to tribunal within 30 days of receipt of the award.
- (viii) A party may apply to Tribunal within 30 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings, but omitted from the arbitral award.
- (ix) In case of the Tribunal, comprising of three members any ruling or award shall be made by a majority of Members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.
- (x) Where the arbitral award is for payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.
- (xi) The cost of the arbitration shall be borne equally by the respective parties. The cost shall inter-alia include fees of the arbitrators as per the rates fixed by the Board from time to time. Provided that the fees payable per arbitrator for claims up to Rs. One Crore, shall not exceed Rs.2000/- per sitting subject to a maximum of Rs.25,000/- and the fees payable per

arbitrator for claims over Rs. One Crore, shall not exceed Rs.2000/- per sitting subject to a maximum of Rs.50,000/-. Provided further that the arbitrators who are in service of Govt./MSEB shall draw fees at half of the rates mentioned above.

(xii) Board shall maintain a list of arbitrators. The Chairman shall have full powers to delete or add the name of the arbitrators in the list or to make amendments to the said list as per his discretion.

(xiii) The arbitral proceedings should be completed and the award be finalized within one year from the date of appointment of arbitrators.

(xiv) Subject to the provisions as aforesaid, Arbitration & Conciliation Act, 1996 and the rules thereunder, and any statutory notification thereof shall apply to the arbitration proceedings under this clause.

In case the contractor (s) falls within the ambit of Small Scale & Ancillary Industrial Undertakings Act, 1993, following clause regarding payment shall be incorporated:-

Payment of Bills:-

"In case the contractor(s)/ supplier(s) falls within the ambit of Small Scale & Ancillary Industrial Undertakings Act, 1993, the Board shall pay the price of the goods received, as far as possible, within 60 days subject to a maximum of 120

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days from the date of acceptance or the date of deemed acceptance of goods as per specifications. In case the Board fails to pay price of the goods within 120 days from the date of acceptance or the date of deemed acceptance of the goods as per specifications, the Board shall be liable to pay interest as per provisions of Small Scale & Ancillary Industrial Undertakings Act, 1993.

or defence thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.

- iv. If the contractor(s) does/do not prefer his/their specific and final claims in writing, within a period of 90 days of receiving the intimation from the Board, that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and the Board shall be discharged and released of all liabilities under the contract in respect of these claims.

2. Obligation during pendency of Arbitration:-

Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the Board shall be withheld on account of such proceedings, provided, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should be continued during arbitration proceedings.

- (i) In cases where the total value of all claims in question added together does not exceed Rs. 1,00,00,000/- (Rupees One Crore) the Arbitral Tribunal shall consist of a Sole Arbitrator who shall be either the C.E. of the Board or serving or retired officer of the Board/Government not below the grade of C.E. or equivalent nominated by the Chairman of the Board in that behalf. The Sole Arbitrator shall be appointed within 60 days

from the day when a written and valid demand for arbitration is received by the Board.

- (ii) In cases the value of the claim exceeds Rs. 1,00,00,000/- (Rupees One Crore) as above, the Arbitral Tribunal shall consist of panel of 3 serving or retired officers of MSEB/Govt. not below the grade of C.E./C.A.O. as the Arbitrators. For this purpose, the Board will send a panel of more than 3 names of arbitrators of one or more department of the Board/Govt. to the contractor who will be asked to suggest to the Chairman at least 2 names for appointment as contractor's nominee. The Chairman shall appoint atleast one of them as the contractor's nominee and will also appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the presiding arbitrator from amongst the three (3) arbitrators so appointed. While nominating arbitrators, it will be necessary to ensure that one of them is or has worked in Accounts department.
- (iii) If one or more arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the Chairman fails to act without undue delay, the Chairman shall appoint new arbitrator/s to act in his/their



Urjanagar, CHANDRAPUR-442404 (Maharashtra)
Phone no. 220155 to 220159 Fax 07172- 22020
Email: cestps_cha@sancharnet.in
AN ISO 9001 & 14001 UNIT

843100

To. CSTPS/O&M/Tech/ No 13398

Dt: 29 OCT 2004

To

M/s. Ultratech Cemco Ltd.,
Awarpur,
CHANDRAPUR.

Sub:- Agreement with M/s. Ultratech Cemco and MSEB, CSTPS, Chandrapur for setting up dry fly ash collection plant at CSTPS, Chandrapur.

Dear sir,

With reference to above subject, please find enclosed here with copy of agreement signed between MSEB, CSTPS, Chandrapur and M/s. Ultratech Cemco Ltd., Awarpur, for setting up dry fly ash collection plant at CSTPS, Chandrapur. This is for your information and needful action please.

Thanking you,

Encl: As above

Yours faithfully,

Unum
28/10

**CHIEF ENGINEER (GEN O&M)
CSTPS, CHANDRAPUR.**

Copy f.w.c.to:-

1. The Chief Engineer (Gen Works), MSEB, Mumbai.
2. The Chief Engineer (Gen P&P), MSEB, Mumbai.
3. The Chief Engineer (CEHSU), MSEB, Mumbai.

Copy to:-

1. The Dy. Chief Engineer (Gen)-II, CSTPS, Chandrapur.
2. The SE (O)-II/M-II/EM-II, CSTPS, Chandrapur.

Sh
28/10/04
O/C
28/10/04

29/10/04
RD

A



General Stamp Office, Mumbai

Date.....

L.S.V. No.....

22 SEP 2004

Paper Officer

95

श्री. अशोक सुनाय अद्वय

(एल एस व्ही. नं १५)

290-शाहिद भगतसिंग रोड,

आनंद भुवन, 2/15, फोर्ट, मुंबई-२.

क्र. 06010 दिनांक

28 SEP 2004

श्री./श्रीमती

यांना न्यायिकेत्तर मुद्रांक पेपर विक्रीला

UltraTech CemCo Limited

परजाना शाक न्यायिकेता

Articles of Agreement

These ARTICLES OF AGREEMENT entered into this 1st day of October 2004 at MSEB.

BETWEEN

MAHARASHTRA STATE ELECTRICITY BOARD, a Board constituted under (the provisions of the Electricity (Supply) Act, 1948 having its registered office at Hongkong Bank Bldg, M.G. Road, Fort, Mumbai hereinafter referred to as "MSEB" (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) OF THE ONE PART.

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AND

ULTRATECH CEMCO LIMITED, a company registered under the provisions of the Companies Act, 1956 having its registered office at "A" Wing, Ahura Centre, 1st floor, Mahakali Caves Road, Andheri (E), Mumbai – 400 093, hereinafter referred to as "UltraTech " (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) OF THE OTHER PART

WHEREAS

- A. MSEB owns and operates 2,340 MW Chandrapur Super Thermal Power Station ('CSTPS'), located at Chandrapur, Maharashtra. CSTPS has seven units (Unit 1 to 4 having a capacity of 210 MW each and units 5 to 7 having a capacity of 500 MW each.
- B. As part of its efforts to improve the fly ash utilization level at CSTPS, MSEB invited proposals from qualified parties for development of dry fly ash collection and disposal plant at CSTPS on Build, Own and Operate ('BOO') basis. Proposals were invited for the following three packages:
- ◆ Package A – comprising of units 1 to 4
 - ◆ Package B – comprising of unit 5 and portion of unit 6
 - ◆ Package C – comprising of balance portion of unit 6 and unit 7
- C. In response to MSEB's Request for Proposal ('RFP') UltraTech Cemco submitted its technical and commercial bids for development of dry fly ash collection and disposal plant for Package B at CSTPS.
- D. After evaluation of the Bids so received MSEB accepted the Bid of the Company.

NOW THEREFORE IN CONSIDERATION OF THE PREMISES AND THE MUTUAL COVENANTS HEREINAFTER CONTAINED, THE PARTIES HERETO HEREBY AGREE AND THIS AGREEMENT WITNESSETH AS FOLLOWS:

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1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

“Accounting Year” means the financial year commencing from 1st April of any calendar year and ending on 31st March of the next calendar year.

“Agreement” means this Agreement, the Annexures hereto and any amendments thereto made in accordance with the provisions contained in this Agreement.

“Applicable Laws” means all laws, promulgated or brought into force and effect by GOI or GOM including regulations and rules made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, as may be in force and effect during the subsistence of this Agreement.

“Applicable Permits” means all clearances, permits, authorisations, consents and approvals required to be obtained or maintained under Applicable Laws in connection with the design, engineering, financing, procurement, construction, operation and maintenance of the Plant during the subsistence of this Agreement.

“Arbitration Act” means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof as in force from time to time.

“Bid” means the documents in their entirety comprised in the bid submitted by the Bidder in response to the Tender Notice in accordance with the provisions thereof.

“COD” means the commercial operations date of the Project. This shall be one year from the date of commissioning of the plant which is stabilisation period for debottlenecking and removal of teething problems.

“Cure Period” means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such

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breach or default and upon failing of which the Agreement may be terminated by the other Party.

“Drawings” means all the drawings, plans, calculations and documents pertaining to the Project and shall include “as built” drawings of the Project.

“GOI” means the Government of India.

“GOM” means the Government of the State of Maharashtra.

“Parties” means the parties to this Agreement collectively and “Party” shall mean any of the Parties to this Agreement individually.

“Rs.” Or “Rupees” means the lawful currency of the Republic of India.

“Termination” means the expiry or termination of this Agreement.

“Termination Date” means the date on which this Agreement expires pursuant to the provisions of this Agreement or is terminated by a Termination Notice.

“Termination Notice” means the communication issued in accordance with this Agreement by any one Party to the other Party terminating this Agreement.

1.2 In this Agreement, unless the context otherwise requires,

In the interpretation of this Agreement, unless the context otherwise requires:

- (a) the singular includes the plural and vice versa and in particular (but without limiting the generality of the foregoing) and 'word or expression defined in the singular has the corresponding meaning used in the plural and vice versa;
- (b) a reference to persons includes natural persons, corporations, limited liability companies, partnership and other legal entities;
- (c) a reference to any gender includes the other gender
- (d) a reference to a Section, Article, clause, sub-clause, paragraph, sub-paragraph, Schedule or Recital is a reference to a Section, Article, clause, paragraph, sub-paragraph, Schedule or Recital of this Agreement
- (e) A reference to any agreement is a reference to that "agreement and all

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exhibits, schedules, appendices incorporated therein, as the same is amended, modified, supplemented, varied, substituted, replaced, renewed or extended from time to time

- (f) A reference to statutes be construed as including all statutory provisions consolidating, amending, modifying, supplementing or replacing the statute referred to
- (g) The terms 'include' and "including" shall be deemed to include the words "without limitation"
- (h) Any reference to a person or entity shall include such person's and such "entity's successors and permitted assigns, and shall include all natural persons, corporations, companies limited liability companies, partnership and other legal entities
- (i) A reference to 'writing' includes printing, typing, lithography and other means of reproducing words in a visible form; and

Any date or period set forth in this Agreement shall be such date or period as may be adjusted in accordance with the terms and conditions of this Agreement.

2. SCOPE OF PROJECT

UltraTech shall be responsible for:

- Erection, installation and commissioning the Fly Ash Collection and Disposal Plant ('Plant') for Package B, as defined in the RFP document, at CSTPS including, inter alia, construction of Silo(s), the common fabrication of connecting spool between the Hoppers etc. at the Site at its own costs, expenses and charges and risk and responsibility. The Plant shall be developed in accordance with the technical plans approved by MSEB (the approved technical plans are attached in Annexure 1)
- Achieve the ash utilization/disposal level at CSTPS as specified in this Agreement;
- Operate and maintain the Plant as per the operations and maintenance plan approved by MSEB; and

- Performance and fulfillment of other obligations as may be specified under the Agreement.

UltraTech shall undertake its obligations at its own cost and risk.

3. LAND FOR PROJECT DEVELOPMENT

MSEB will provide land to UltraTech at a mutually agreed location in CSTPS for setting up the Plant under an agreement, which will be valid for the term of this Agreement. MSEB shall not transfer the land to UltraTech, MSEB shall however grant permission to UltraTech to establish the Plant on such land.

4. LICENSES AND PERMITS

It will be the responsibility of UltraTech to obtain necessary licenses, approvals, permits, etc. for development of Plant in accordance with the requirements of all applicable governing Laws.

5. SUPPORT SERVICES

Electricity and water services will be provided by MSEB on commercial chargeable basis. It will be decided mutually after discussions between MSEB and bidder. The operation cost limited to only electricity and water charges for ash given to small users will not be charged to M/s UltraTech. However, plant operation cost including maintenance cost will be borne by M/s UltraTech.

Further provision of any additional support services required for operating the Plant and transportation of fly ash from CSTPS shall be mutually agreed upon by UltraTech and MSEB.

6. DEVELOPMENT PHASING

UltraTech shall develop the Plant in two phases in accordance with the development phasing plan attached in Annexure 2. UltraTech shall achieve commissioning for phase I of the Plant within a period of 9 months from the date of this Agreement.

UltraTech shall commence development of phase II of the plant after achievement of fly ash utilization level for phase-I within a period of [5] years from the date of this agreement and shall achieve commissioning for phase II of the Plant within a period of [6] months from the Phase II Commencement Date.

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7. RIGHT TO COLLECT FLY ASH

Subject to and in accordance with the terms and conditions set forth in this Agreement, MSEB shall grant UltraTech exclusive rights to collect and utilize/dispose the entire fly ash generated from package B Phase I of the Plant for the entire term of the Agreement.

Further MSEB shall grant UltraTech exclusive rights to collect and utilize/dispose the entire fly ash generated from package B Phase II of the Plant from the date it achieves COD for Phase II of the plant till the remaining term of the Agreement.

MSEB shall not levy any charge, during the initial term of this Agreement, for granting the right to UltraTech to collect and utilize/dispose the entire fly ash generated from Package B.

8. FLY ASH UTILISATION LEVEL

UltraTech shall achieve the following fly ash utilization level commitments:

- Within three years - 60% of the total fly ash generated by Phase I of the Plant
- Within five years – 80% of the total fly ash generated by Phase I of the Plant
- Within eight years - 50% of the total fly ash generated by all units of Package B
- Within ten years - 60% of the total fly ash generated by all units of Package B

The utilisation will be computed after excluding the actual utilisation against the obligations to supply fly ash to small users.

9. FAILURE TO ACHIEVE THE FLY ASH UTILISATION LEVEL

In the event UltraTech fails to meet the target utilization level, excluding 20% or actual quantity identified for small users, MSEB will have the right to levy a penalty @ Rs 25 per MT on the quantity of unutilized fly ash, which will be computed as follows:

- Upto Year Three of completion – Nil

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- Start of Year Four to completion of Year Five – 60% of fly ash generated by phase I of the plant – Actual fly ash utilisation X Rs.25/-
- Start of Year Six to completion of Year Eight – 80% of fly ash generated by phase I of the plant – Actual fly ash utilisation X Rs.25/-
- Start of Year Nine to completion of Year Ten – 50% of fly ash generated by all unit of Package B – Actual fly ash utilisation X Rs.25/-
- From Year Eleven onwards – 60% of fly ash generated by all units of Package B – Actual fly ash utilisation X Rs.25/-
- 20% of ash reserved for small users or the actual quantity utilized by them which ever is less will be considered for computation of quantity for levy of penalty.

[For the purposes of computing the penalty actual fly ash utilization level achieved by UltraTech shall be computed on a yearly basis. At the end of each year UltraTech shall provide a statement to MSEB, in a manner and form to be mutually agreed between MSEB and UltraTech, showing the target fly ash utilization level to be achieved during the year and the actual fly ash utilization achieved during the year. However, UltraTech shall provide to MSEB a quarterly plan of fly ash utilization at the start of each quarter.]

In the event UltraTech is unable to achieve fly ash utilization level equivalent or greater than 50% of the fly ash generated from phase I of the Plant within period of five years from the date of this Agreement then MSEB will have the right to terminate this Agreement.

In the event UltraTech is unable to achieve fly ash utilization level equivalent or greater than 50% of the fly ash generated from all units of Package B within period of ten years from the date of this Agreement then MSEB will have the right to terminate this Agreement.

10. OBLIGATION TO SUPPLY FLY ASH FREE OF COST TO SMALL USERS

MSEB shall have the right to instruct UltraTech to supply fly ash free of cost to small users located within a radius of 100 km. However such free supply shall not exceed 20% of the total fly ash generated by Package B units. Estimated quantity to be given to small users will be forecasted by MSEB one month advance.

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11. MAINTENANCE OF THE PLANT

UltraTech shall be responsible for maintenance of the Plant during the term of the Agreement at its own cost and in accordance with the statutory regulations prevailing from time to time. MSEB and UltraTech shall mutually agree on the annual maintenance plan for Plant.

UltraTech shall ensure that the Plant is well maintained and should be in good working condition till the end of the term of this Agreement. MSEB shall have the right to conduct regular inspection of the Plant to ensure that UltraTech is adhering the to mutually agreed annual maintenance plan.

12. MODIFICATIONS TO THE PLANT

UltraTech shall not undertake any major modification or dismantling of equipment without prior written approval from MSEB.

13. ANNUAL FLY ASH GENERATION ESTIMATE

MSEB and UltraTech shall at the beginning of each year estimate the fly ash generation based on the operating plan of MSEB for Package B taking into account any planned outages or shut down. The target fly ash utilization level will be determined based on the fly ash generation estimate.

14. FLY ASH UTILISATION MEASUREMENT/WEIGHMENT

UltraTech shall maintain the day-wise record of vehicles dispatched from Silo site taking fly ash to UltraTech Limited, Awarpur Cement Works. UltraTech shall provide to MSEB monthly statement of the fly ash vehicles and their weights received from CSTPS extraction plant and as recorded at UltraTech's weighbridge at Awarpur. The ash utilization shall be established from such statements provided by UltraTech.

15. PERFORMANCE SECURITY

UltraTech shall for due and faithful performance of its obligations during the term of this Agreement provide to MSEB a bank guarantee in the form acceptable to MSEB for a sum equivalent to Rs. 10 lakhs.

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16. TERM OF AGREEMENT

This Agreement shall be for an initial period of 15 Years from the date of achievement of COD for phase I of the Plant. In the event COD for phase I of the Plant is not achieved within a period of 9 months from the date of this Agreement then the Agreement Term shall commence immediately upon expiry of 21 months (9 months for commissioning and 12 months for stabilisation) from the date of this Agreement.

17. RENEWAL OF AGREEMENT

This Agreement can be renewed at the end of the term on such terms and conditions as may be mutually agreed upon by MSEB and UltraTech. MSEB agrees to grant right of first refusal to UltraTech for the purposes of renewing the term of this Agreement.

In order to ensure smooth operations MSEB and UltraTech will commence negotiations for renewal of the Agreement 12 months prior to the date of expiry of this Agreement.

18. TRANSFER OF PLANT ON EXPIRY OF AGREEMENT TERM

UltraTech shall have the right to dismantle the Plant at its own cost and risk from the project site within a period of 3 months from the date of termination of this Agreement. UltraTech shall ensure that the plant is dismantled in a manner that it does not affect the operations of MSEB and deliver to MSEB the vacant and peaceful possession of the Plant site.

UltraTech will have the option to sell the Plant to MSEB on termination of this Agreement on such terms and conditions to be mutually agreed upon at that stage.

19. UltraTech EVENTS OF DEFAULT

The following shall constitute UltraTech events of default:

- Failure to develop the Plant as per the Technical Plans approved by MSEB
- Failure to commission the Plant within the agreed upon time frame
- Failure to meet the target fly ash utilization level

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- Failure to maintain the Plant as per the maintenance plan approved by MSEB
- Failure to make payments to MSEB (for supply of electricity and water, penalty, charges for disposing unutilized fly ash, etc.)
- Failure to meet its obligations and responsibilities under the Agreement
- Any other item which is a material breach of the Agreement.

20. MSEB EVENTS OF DEFAULT

The following shall constitute MSEB events of default:

- Failure to provide land to the **BOO** operator for developing the Plant
- Failure to meet its obligations and responsibilities under the Agreement
- Any other item which is a material breach of the Agreement.

21. TERMINATION

The parties may terminate this Agreement, in whole or in part by mutual consent in writing.

In the event of termination of the Agreement by efflux of time or MSEB event of default UltraTech shall, at its own cost, expenses and charges forthwith remove, or cause to be removed all its plant and machinery at the Plant and deliver to MSEB the vacant and peaceful possession of the site. Provided that UltraTech will have the option to sell the Plant to MSEB on such terms and conditions to be mutually agreed upon at that stage.

In the event of termination of the Agreement due to UltraTech event of default, MSEB shall have the right to purchase the Plant from UltraTech at a value equivalent to 80% of the book value on the date of event of default or the market value of the assets whichever is lower. In case MSEB does not exercise its right to purchase the Plant then UltraTech shall, at its own cost, expenses and charges forthwith remove, or cause to be removed all its plant and machinery at the Plant and deliver to MSEB the vacant and peaceful possession of the site.

22. SETTLEMENT OF DISPUTES AND ARBITRATION

Informal Dispute Resolution

Each party shall designate in written to the other Party a representative who shall be authorized to resolve any dispute, controversy or claim arising out of or relating to this Agreement, or the breach, termination, or validity thereof ("dispute") in a equitable manner and, unless otherwise provided hearing to exercise the authority of respective party to make decision by mutual agreement. If such designated representatives are unable to resolve any such Dispute within 7 days of such Disputes being brought there notice, such dispute shall be referred by such representatives to Chief Engineer (Gen O&M), Chandrapur Super Thermal Power Station, Chandrapur of MSEB who shall attempt to resolve the dispute within further period of 7 days.

The Parties agree to use their best effects to attempt to resolve all disputes arising hereunder promptly, equitably and in good faith and further agree to provide each other with reasonable access during normal business hours to any and all records, information and data relating to this agreement.

Arbitration of Disputes

In the event the Dispute is not settled under the above provisions then the Parties agree that the Dispute shall be settled by arbitration held in accordance with arbitration pursuant to the provisions of the Arbitration and Conciliation Act, 1996 or such modifications or re-enactment thereof.

The arbitral tribunal shall consist either (a) of sole arbitrator mutually agreed upon or (b) of three (3) arbitrators - one each to be chosen by each Party and third person to be selected by two arbitrators so chosen before commencement of arbitration proceedings to act as an umpire/third arbitrator.

Place of Arbitration

The arbitration shall be conducted at Mumbai, India

Finality and enforcement of Award

The arbitral tribunal shall give reasoned decision or award, which shall be final and binding upon the Parties and that none of the parties shall be entitled to commence or maintain any action in court of law upon any matter in dispute arising from or in relation

to the Agreement, except for the enforcement of an arbitral award granted pursuant to this Clause 22.

Nothing in Clause 22 shall, in any way, affect the right of any party to seek such interim relief as may be needed to maintain the status quo in aid of the arbitration, in any court of competent jurisdiction in Mumbai or any Arbitral Tribunal.

This Clause shall survive termination of this Agreement.

23. AMENDMENT AND WAIVER

No amendment or waiver of any provision of this Agreement shall in any event be effective unless the same is mutually agreed and signed by the Parties through their authorities representative and such amendment or waiver shall be effective only for the specified instance and purpose for which it is given and all other provisions not otherwise specifically affected by the amendment or waiver of this Agreement shall remain in full force.

Except *as* otherwise expressly provided in this Agreement, all notices and other communications, which are required and permitted hereunder, shall be in writing and sufficient if delivered personally, or sent by registered or certified mail, telecopy, or telegram address as follows:

IF to MSEB

The Chief Engineer (Gen-O&M),
MSEB
Chandrapur Super Thermal Power Station,
Chandrapur
Attention: Shri V. J. Mulchandani
Fax No. [07172- 220203]
Telephone No. [220155, 220156]

IF to UltraTech

| | | |
|-----------------------------|-----|----------------------------|
| General Manager – Materials | and | Vice President |
| UltraTech CemCo Limited | | Awarpur Cement Works |
| Mumbai – 400 001 | | Awarpur |
| Attention: Mr.T.A.Krishnan | | Attn: Mr.A.K.Jain |
| Fax No. 022-26571440 | | Fax No. 07173 -266341 |
| Telephone No. 022-26571423 | | Telephone No. 07173-266323 |

All notice or communication given by fax or telegram shall be confirmed by depositing a copy of the same in the post office in an envelope properly addressed to the appropriate Party for delivery by registered or certified mail or courier services, but any failure to so confirm shall not vitiate the original notice or communication. All notices sent by fax and telegram shall be deemed delivered upon receipt, and all notices sent by registered or certified mail and courier service shall be deemed delivered upon expiration of two business days of depositing the same in the post office.

Change of address

Any Party may by notice change its addresses and/or addressees to which any notices or communications hereunder are to be delivered or mailed.

24. LIABILITY AND INSURANCE

UltraTech shall be liable and indemnify MSEB and its employees for all losses and damages suffered by them due to the negligence of UltraTech its employees or agents.

UltraTech shall obtain and maintain such insurance policies covering the Site, the Plant, the operation thereof at its own costs, expenses and charges as may be required by MSEB.

25. REPRESENTATIONS, WARRANTIES AND COVENANTS

MSEB Representations and Warranties

MSEB hereby represents and warrants to UltraTech that:

- (i) it is a Board duly constituted under the Electricity Supply Act 1948 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions hereof;
- (ii) this Agreement constitutes the valid, legal and binding obligation of MSEB enforceable in accordance with the terms hereof
- (iii) the execution, delivery and performance of this Agreement by MSEB has been duly authorized by all requisite action, and will not (a) constitute a violation of any statute, judgment order or decree of any court, Government Agency, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business or

(b) contravene or violate its Articles of Association, or (c) cause a breach of any provision of, or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

MSEB Covenants

- (i) MSEB hereby covenants with UltraTech that MSEB shall ensure the continued provision of the Support Services as Stated in Article 5 above ensure the delivery of the services agreed to be provided by MSEB herein, in accordance with the terms of this Agreement;
- (ii) *MSEB hereby covenants that it shall not enter into similar arrangement with any other party for the other units of CSTPS on terms and conditions that are more favourable to such other party. In case any such arrangement is entered into then such favourable terms and conditions shall be made applicable to this Agreement.*

UltraTech Representations and Warranties

UltraTech hereby represents and warrants to MSEB that;

- (i) It is a company incorporated under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions thereof;
- (ii) this Agreement constitutes the valid, legal and binding, obligation of UltraTech enforceable in accordance with the terms hereof;
- (iii) the execution, delivery and performance of this Agreement by UltraTech has been duly authorized by all requisite action, and will not (a) constitute a violation of any statute, judgment, order or decree of any court, Government Agency, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business or (b) contravene or violate its Articles of Association, or (c) cause a breach of any provision of or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

Covenants

UltraTech hereby covenants with MSEB that:

- (i) UltraTech shall utilize the fly ash supplied, to it by MSEB and achieve the fly ash utilisation specified under this Agreement
- (ii) UltraTech shall carry on its operations in the Plant at its sole risk and responsibility and neither shall it cause any nuisance, annoyance to MSEB during such operations, nor cause any injury or damage to the CSTPS or any part thereof or any other agencies working in CSTPS, Chandrapur

26. FORCE MAEJURE

Force majeure is herein defined as any cause which is beyond the control of UltraTech or MSEB, as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the contract such as:

- a) Natural calamity including but not limited to floods, drought, earthquakes and epidemics.
- b) Acts of any Government, domestic or foreign, including but not limited to war, declared or undeclared quarantines, embargoes etc.

Provided either party shall, within fifteen (15) days from the occurrence of such a cause, notify the other in writing of such causes. Unless otherwise directed by MSEB in writing UltraTech shall continue to perform his obligation under the contract as far as reasonably practical and shall seek all the alternative means for performance not prevented by the force majeure event.

UltraTech or MSEB shall not be liable for delays in performing their respective obligations resulting from any force majeure cause as referred to and / or defined above. The date of completion shall be extended by a reasonable time even though such cause may occur after the UltraTech's performance of his obligations has been delayed for other causes.

27. MISCELLANEOUS

Remedies Cumulative

All remedies afforded to the Parties under this Agreement shall be taken and construed as cumulative and in addition to every other remedy provided herein or available to a Party under law or in equity.

Headings

The headings contained in this Agreement are used solely for convenience and do not constitute a part of this Agreement nor shall such headings be used in any manner to aid in the construction of this Agreement.

No Third Party Beneficiaries

This Agreement is intended solely for the benefit of the Parties. Nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to any person not a Party to this Agreement nor does this Agreement confer any right whatsoever on any third party to bring an action.

Relationship Of Parties

The duties, obligations and liabilities of the Parties are intended to be several and not Joint or collective. Each party shall be individually and severally liable for its respective obligations under this Agreement. In addition, this Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

Survival

Any cancellation, expiration, earlier termination of this Agreement or arbitration of Disputes shall not relieve the Parties of their respective obligations hereunder that by their nature should survive such cancellation, expiration or termination, including, without limitation, obligations relating to warranties, remedies, promises of indemnity and confidentiality.

Counterparts

This Agreement is signed in duplicate, equally authentic, one each for MSEB and UltraTech.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement through their authorized representative on the day, month and year first above mentioned in the presence of:

**For and on behalf of
MAHARASHTRA STATE
ELECTRICITY BOARD**

W.R. ASWAR

**W.R.ASWAR
Chief Engineer (Gen.O&M)
CSTPS, Chandrapur**

**For and on behalf of
UltraTech CemCo Limited**

T.A. KRISHNAN

**T.A.KRISHNAN
General Manager - Materials**

In the presence of:
Witness

Name: Gorakh Bandgar
Designation: Executive Engineer

Signature: G. Bandgar

In the presence of:
Witness

Name: P.S.Davangeri
Designation: Manager-Materials

Signature: P.S. Davangeri



W.R. ASWAR

for/ent Ambuja (Unit 6 & 7) 100Rs.



महाराष्ट्र MAHARASHTRA

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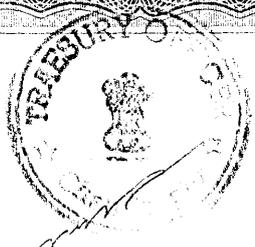
अ. नं. १९०६ दिनांक १५/६/०५ किंमत १००

राज्य गुजरात प्रबुजा लिमिटेड कं. ली. उपखर्ची

पिन ३६४६ मार्केट अहमदाबाद

N.A. Khed
पक्षकाराची सही

जि. पी. गादेवार
अध्यक्ष, चंद्रपूर
ला. नं. १७४०/४३/०३



14 JUN 2005
TREASURY OFFICE CHANDRAPUR

Articles of Agreement

These ARTICLES OF AGREEMENT entered into this 15th day of June 2005 at Chandrapur.

BETWEEN

MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED, a Company registered under provisions of the Companies Act, 1956 having its registered office at Hongkong Bank Bldg, M.G. Road, Fort, Mumbai hereinafter referred to as "MSPGC" (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) OF THE ONE PART.

AND

GUJARAT AMBUJA CEMENTS LTD (Unit - Maratha Cement Works), a Company registered under the provisions of the Companies Act, 1956 having its registered office at P.O. Ambujanagar - 362 715, Taluka - Kodinar, District - Junagadh (Gujarat) and Corporate Office at 122, Maker Chambers III, Nariman Point, Mumbai - 400 021, hereinafter referred to as "MCW" (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) OF THE OTHER PART.

01

WHEREAS

- A. MSPGC owns and operates 2,340 MW Chandrapur Super Thermal Power Station ('CSTPS'), located at Chandrapur, Maharashtra. CSTPS has seven units (Unit 1 to 4 having a capacity of 210 MW each and units 5 to 7 having a capacity of 500 MW each).
- B. In response to MSPGC's Request for Proposal ('RFP'), MCW submitted their technical and commercial proposals for development of Dry Flyash Collection and Disposal Plant for 94 hoppers of Package 'C' at CSTPS.
- C. After evaluation of the Proposals so received MSPGC accepted the Proposals of the Company.

NOW THEREFORE IN CONSIDERATION OF THE PREMISES AND THE MUTUAL COVENANTS HEREINAFTER CONTAINED, THE PARTIES HERETO HEREBY AGREE AND THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. Definitions and Interpretations :**1.1 Definitions :**

In this Agreement, the following words and expression shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them :

"Accounting Year" means the financial year commencing from 1st April of any calendar year and ending on 31st March of the next calendar year.

"Agreement" means this Agreement, the Annexures hereto and any amendments thereto made in accordance with the provisions contained in this Agreement.

"Applicable Laws" means all laws, promulgated or brought into force and effect by GOI or GOM including regulations and rules made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, as may be in force and effect during the subsistence of this Agreement.

"Applicable Permits" means all clearances, permits, authorizations, consents and approvals required to be obtained or maintained under Applicable Laws in connection with the design, engineering, financing, procurement, construction, operation and maintenance of the Plant during the subsistence of this Agreement.

"Bid" means the documents in their entirety comprised in the bid submitted by the Bidder in response to the Tender Notice in accordance with the provisions thereof.

"COD" means the commercial operations date of the Project. This shall be one year from the date of commissioning of the Plant which is stabilisation period for debottlenecking and removal of teething problems.



"Cure Period" means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and upon failing of which the Agreement may be terminated by the other Party.

"Drawings" means all the drawings, plans, calculations and documents pertaining to the Project and shall include "as built" drawings of the Project.

"GOI" means the Government of India.

"GOM" means the Government of the State of Maharashtra.

"Parties" means the parties to this Agreement collectively and "Party" shall mean any of the Parties to this Agreement individually and any person claiming through such party or individual.

"Rs." Or "Rupees" means the lawful currency of the Republic of India.

"Termination" means the expiry or termination of this Agreement.

"Termination Date" means the date on which this Agreement expires pursuant to the provisions of this Agreement or is terminated by a Termination Notice.

"Termination Notice" means the communication issued in accordance with this Agreement by any one Party to the other Party terminating this Agreement.

1.2 In this Agreement, unless the context otherwise requires,

In the interpretation of this Agreement, unless the context otherwise requires:

- (a) the singular includes the plural and vice versa and in particular (but without limiting the generality of the foregoing) and word or expression defined in the singular has the corresponding meaning used in the plural and vice versa.
- (b) a reference to persons includes natural persons, corporations, limited liability companies, partnership and other legal entities;
- (c) a reference to any gender includes the other gender.
- (d) a reference to a Section, Article, clause, sub-clause, paragraph, sub-paragraph, Schedule or Recital is a reference to a Section, Article, clause, paragraph, sub-paragraph, Schedule or Recital of this Agreement.
- (e) A reference to any agreement is a reference to that agreement and all exhibits, schedules, appendices incorporated therein, as the same is amended, modified, supplemented, varied, substituted, replaced, renewed or extended from time to time.
- (f) A reference to statutes be construed as including all statutory provisions consolidating, amending, modifying, supplementing or replacing the statute referred to
- (g) The terms 'include' and "including" shall be deemed to include the words "without limitation"



- (h) Any reference to a person or entity shall include such persons and such "entity's successors and permitted assigns", and shall include all natural persons, corporations, companies limited liability companies, partnership and other legal entities.
- (i) A reference to 'writing' includes printing, typing, lithography and other means of reproducing words in a visible form; and

Any date or period set forth in this Agreement shall be such date or period as may be adjusted in accordance with the terms and conditions of this Agreement.

2. **Scope of Project :**

MCW shall be responsible for;

- (a) erection, installation and commissioning of the Flyash Collection and Disposal Plant ('Plant') for 94 hoppers of Package "C" as defined in the RFP at CSTPS including inter alia, construction of Silo(s), the common fabrication connecting spool between the hoppers etc, at the Site at its own costs, expenses and charges and risk and responsibility. The Plant shall be developed in accordance with the technical plans approved by MSPGC (the approved technical plans are attached in Annexure I alongwith the configuration of the 94 hoppers covered under this Agreement).
- (b) Achieving the ash utilization / disposal level at CSTPS as specified in this Agreement;
- (c) Operating and maintaining the Plant as per the operations and maintenance plan approved by MSPGC, and
- (d) Performance and fulfillment of other obligations as may be specified under the Agreement.

MCW shall undertake its obligations at its own cost and risk.

3. **Land for Project Development :**

MSPGC will provide land to MCW at a mutually agreed location in CSTPS for setting up the Plant under an Agreement, which will be valid for the term of this Agreement.

MSPGC shall not transfer the land to MCW. MSPGC shall however grant permission to MCW to establish the Plant on such land.

4. **Licenses and Permits :**

It will be the responsibility of MCW to obtain all necessary permissions, licenses, approvals, permits, consents, as may be required under all applicable governing laws. To enable MCW to obtain all applicable permissions, permits, etc, MSPGC shall give all the No Objection Certificates / other Certificates as may be required from time to time.



5. **Support Services :**

Electricity and Water services will be provided by MSPGC on commercial chargeable basis. It will be decided mutually after discussions between MSPGC and MCW. The operation cost limited to only electricity and water charges for ash given to small users will not be charged to MCW. However, Plant operation cost including maintenance cost will be borne by MCW.

Further provision of any additional support services required for operating Plant and transportation of Flyash from CSTPS, the terms and conditions shall be mutually agreed upon by MSPGC and MCW.

6. **Development Phasing :**

MCW shall develop Plant in two Phases in accordance with the development phasing plan attached. MCW shall achieve commissioning for Phase I of the Plant within a period of nine months from the date of this Agreement.

MCW shall commence development of Phase II of the Plant after achievement of the Flyash utilisation levels for Phase I within a period of five years from the COD and achieve commissioning for Phase II of the Plant within a period of six months from the commencement date for Phase II.

7. **Right to Collect Flyash :**

Subject to and in accordance with the terms and conditions set forth in this agreement, MSPGC shall grant MCW exclusive rights to collect and utilise / dispose the entire Flyash generated from Package "C" Phase I of the Plant for the entire term of the agreement.

Further MSPGC shall grant MCW exclusive rights to collect and utilise / dispose the entire Flyash generated from Package "C" Phase II of the Plant from the date it achieves COD for Phase II of the Plant till the remaining term of the agreement.

MSPGC shall not levy any charges during the initial term of this agreement as well as during the period of extension of this agreement under the provisions of this agreement, for granting rights to MCW to collect and utilise the entire Flyash generated from Package "C".

8. **Flyash utilisation levels :**

MCW shall achieve the following Flyash utilisation level commitments :

- Within three years – 50% of the total Flyash generated by Phase I of the Plant.
- Within five years – 70% of the total Flyash generated by Phase I of the Plant.
- Within eight years – 70% of the total Flyash generated by all Units of Package "C".
- Within ten years – 80% of the total Flyash generated by all Units of Package "C".

The time periods shall be computed from the COD of the respective Phases.

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9. **Failure to achieve the Flyash utilisation level :**

In the event MCW fails to meet the target utilisation levels, MSPGC will have the right to levy a penalty @ Rs. 25/- per MT on the quantity of unutilised Flyash which will be computed as follows :

- Upto three years - Nil.
- Start of Year Four to completion of Year Five - 50% of Flyash generated by Phase I of the Plant - Actual Flyash utilisation x Rs. 25/-.
- Start of Year Six to completion of Year Eight - 70% of Flyash generated by Phase I of the Plant - Actual Flyash utilisation x Rs. 25/-.
- Start of Year Nine to completion of Year Ten - 70% of Flyash generated by all Units of Package "C" - Actual Flyash utilisation x Rs. 25/-.
- From Year Eleven onwards - 80% of Flyash generated by all Units of Package "C" - Actual Flyash utilisation x Rs 25/-.
- 20% of Ash reserved for small users or the actual quantity utilised by them, whichever is less, will be considered for computation of quantity for levy of penalty.

The Chief Engineer, CSTPS shall be the Competent Authority to decide the applicability of the penalty clause and his decision shall be final and binding on both the parties.

In the event MCW is unable to achieve Flyash utilisation level equivalent or greater than 50% of the Flyash generated from Phase I of the Plant within period of five years from the COD then MSPGC will have the right to terminate this agreement.

In the event MCW is unable to achieve Flyash utilisation level equivalent or greater than 50% if the Flyash generated from all units of Package "C" within period of ten years from the COD, then MSPGC will have the right to terminate this agreement.

MCW shall submit to MSPGC a quarterly plan for Flyash utilisation at the start of each quarter. For the purposes of computing the penalty, the annual Flyash utilisation level achieved by MCW shall be computed on a yearly basis. At the end of each year, MCW shall provide a statement to MSPGC, in a manner and form to be mutually agreed between the parties, showing the target of Flyash utilisation levels to be achieved during the year and the actual Flyash utilisation level achieved during the year.

Breakdowns at CSTPS or at the Cement Plants shall be acceptable to both the parties and the period of such breakdowns shall be excluded for assessing fulfillment of the obligations for achieving the Flyash utilisation levels.

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10. Supply to Small Users

MSPGC shall have the right to instruct MCW to supply Flyash free of cost to small users located within a radius of 100 Kms. This supply shall continue till separate arrangements are made by MSPGC for Dry Flyash Collection and Disposal or upto 2 years from the date of this Agreement, whichever is earlier. However, such free supply shall not exceed 20% of the total Flyash available to MCW at Package 'C' units. Estimated quantity of Flyash to be given to small users will be forecast by MSPGC one month in advance.

11. Maintenance of the Plant :

MCW shall be responsible for operations and maintenance of the Plant during the term of this agreement at its own cost and in accordance with the statutory regulations prevailing from time to time. MSPGC and MCW shall mutually agree upon the annual maintenance plan for the Plant.

MCW shall ensure that the Plant is well maintained and should be in good working condition till the end of this agreement. An authorised representatives of MSPGC shall be permitted to inspect with prior intimation to ensure that MCW are adhering to the mutually agreed Annual Maintenance Plan.

12. Modifications to the Plant :

MCW shall not undertake any major modification or dismantling of equipment without prior written approval from MSPGC.

13. Annual Flyash Generation Estimate :

MSPGC and MCW shall at the beginning of each year estimate the Flyash generation based on the operating plan of MSPGC for Package "C" taking into account any planned outages or shut down. The target Flyash utilisation level will be determined based on the Flyash generation estimate.

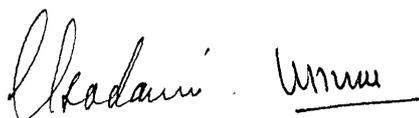
14. Flyash Utilisation Measurement / Weighment :

MCW shall maintain the daywise records of vehicles despatched from Silo Site at CSTPS taking Flyash to MCW. MCW shall provide to MSPGC monthly statement of the despatches of Flyash vehicles and their corresponding weights as recorded at the weigh-bridges installed in the MCW Plant at Bhendvi / Upparwahi. The Flyash utilisation levels shall be established from such statements provided by MCW.

The Weigh-bridges shall be calibrated by the Legal Metrology Department, Government of Maharashtra. A copy of the certificate shall be submitted to MSPGC by MCW.

15. Performance Security :

MCW shall provide to MSPGC a Bank Guarantee in the form acceptable to MSPGC for a sum equivalent to Rs. 10 lakhs for due and faithful performance of their obligations under this agreement during the term of this agreement.

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16. Term of Agreement :

The agreement shall be valid for a initial period of 15 years from the date of achievement of COD for Phase I of the Plant. In the event of the COD for Phase I of the Plant is not achieved within a period of 21 months from the date of this agreement, the agreement term shall commence immediately upon 21 months from the date of this agreement.

17. Renewal of Agreement :

This Agreement can be renewed at the end of the term on such terms and conditions as may be mutually agreed upon by MSPGC and MCW. MSPGC agreed to grant right of first refusal to MCW for the purpose of renewing the term of this Agreement.

In order to ensure smooth operations, MSPGC and MCW will commence negotiations for renewal of the Agreement 12 months prior to the date of expiry of this Agreement.

18. Transfer of Plant on Expiry of Agreement Terms :

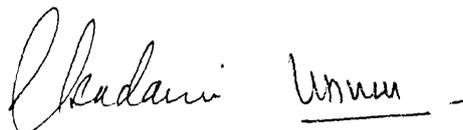
MCW shall have the right to dismantle the Plant at its own cost and risk from the project site within a period of 6 months from the date of termination of this Agreement. MCW shall ensure that the Plant is dismantled in a manner that it does not affect the operation of MSPGC and deliver to MSPGC the vacant and peaceful possession of the Plant Site.

MCW will have the option to sell the Plant to MSPGC on termination of this Agreement on such terms and conditions to be mutually agreed upon at that stage.

19. MCW Events of Default :

The following shall constitute MCW events of default :

- Failure to develop the Plant as per the Technical Plans approved by MSPGC.
- Failure to commission the Plant within the agreed upon time frame.
- Failure to meet the target Flyash utilisation level.
- Failure to maintain the Plant as per the maintenance plan approved by MSPGC.
- Failure to make payments to MSPGC for the support services provided by MSPGC and penalty under this Agreement.
- Failure to meet its obligations and responsibilities under the Agreement.
- Failure to follow directions of the Hon. High Court regarding distribution of 20% fly ash to small users.
- Any other item which is a material breach of the Agreement.


Chandan Kumar

20. MSPGC Events of Default :

The following shall constitute MSPGC events of default :

- Failure to provide land to the BOO operator for developing the Plant.
- Failure to meet its obligations and responsibilities under the Agreement.
- Any other item which is a material breach of the Agreement.

21. Termination :

The parties may terminate this agreement, in whole or part, by mutual consent in writing.

In the event of termination of this agreement by efflux of time, MCW shall, at their own costs, expenses, charges forthwith remove, or cause to be removed all its plant and machinery at this Plant and deliver to MSPGC the vacant and peaceful possession of the Site. Provided that MCW will have the option to sell the plant and machinery to MSPGC on such terms and conditions to be mutually agreed upon at that stage.

In the event of termination of the Agreement due to MCW event of default, MSPGC shall have the right to purchase the Plant from MCW at a value equivalent to 80% of the book value on the date of event of default or the market value of the assets whichever is lower. In case MSPGC does not exercise its right to purchase the Plant then MCW shall, at its own cost, expenses and charges forthwith remove, or cause to be removed all its plant and machinery at the Plant and deliver to MSPGC the vacant and peaceful possession of the site.

In the event of termination of this agreement due to MSPGC event of default, MCW shall remove plant and machinery.

The Party seeking termination shall give a notice of atleast three months to the other party clearly stating the reasons for seeking termination. The other party shall be given adequate opportunities to be heard before termination is agreed upon.

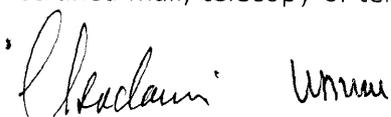
22. Settlement of Disputes and Arbitration :

The settlement and arbitration shall be as per the Office Order No SCR-42/3676 dated February 14, 2005 issued by the Secretary, Maharashtra State Electricity Board. A copy of the same is enclosed with the Agreement and forms a part of this Agreement. Wherever the word MSEB appears, it shall mean MSPGC and the word Contractor shall mean MCW.

23. Amendment and Waiver :

No amendment or waiver of any provision of this Agreement shall in any event be effective unless the same is mutually agreed and signed by the Parties through their authorities representative and such amendment or waiver shall be effective only for the specified instance and purpose for which it is given and all other provisions not otherwise specifically affected by the amendment or waiver of this Agreement shall remain in full force.

Except as otherwise expressly provided in this Agreement, all notices and other communications, which are required and permitted hereunder, shall be in writing and sufficient if delivered personally, or sent by registered or certified mail, telecopy of telegram address as follows :



If to MSPGC :

The Chief Engineer
Maharashtra State Power Generation Company Limited
Chandrapur Super Thermal Power Station,
Urjanagar,
Chandrapur 442 404 (MS).
Fax No. (07172 - 220203)
Telephone No. (220155, 220156).

If to MCW :

Sr. Vice President (Commercial)
Maratha Cement Works
(A Unit of **Gujarat Ambuja Cements Ltd**)
Upparwahi 442 908,
Tahsil - Korpana,
District - Chandrapur (MS)
Fax No. (07173 - 240008-9)
Phone No. (07173 - 240015 - 20).

All notice or communication given by fax or telegram shall be confirmed by depositing a copy of the same in the post office in an envelope properly addressed to the appropriate Party for delivery by registered or certified mail or courier services, but any failure to so confirm shall not vitiate the original notice or communication. All notices sent by fax and telegram shall be deemed delivered upon receipt, and all notices sent by registered or certified mail and courier service shall be deemed delivered upon expiration of seven business days of departing the same in the post office.

Change of address :

Any Party may by notice change its address and / or addressees to which any notices or communications hereunder are to be delivered or mailed.

24. Liability and Insurance :

MCW shall be liable and indemnify MSPGC and its employees for all losses and damages suffered by them due to the negligence of MCW its employees or agents.

MCW shall obtain and maintain such insurance policies covering the Site, the Plant, the operation thereof at its own costs, expenses and charges as may be required by MSPGC.

25. Representations, Warranties and Covenants :

MSPGC Representations and Warranties :

MSPGC hereby represents and warrants to MCW that;

- (i) it is a Company registered under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions hereof;
- (ii) this Agreement constitutes the valid, legal and binding obligation of MSPGC enforceable in accordance with the terms hereof
- (iii) the execution, delivery and performance of this Agreement by

[Handwritten signature]

MSPGC has been duly authorised by all requisite action, and will not (a) constitute a violation of any statute, judgement order decree of any court, Government Agency, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business of (b) contravene or violate its Articles or Association, or (c) cause a breach of any provision of, or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

MSPGC Covenants :

- (i) MSPGC hereby covenants with MCW that MSPGC shall ensure the continued provision of the Support Services as Stated in Article 5 above ensure the delivery of the services agreed to be provided by MSPGC herein, in accordance with the terms of this Agreement;
- (ii) MSPGC hereby covenants that it shall not enter into similar arrangement with any other party for the other units of CSTPS on terms and conditions that are more favourable to such other party. In case any such arrangement is entered into then such favourable terms and conditions shall be made applicable to this Agreement.

MCW Representations and Warranties :

MCW hereby represents and warrants to MSPGC that ;

- (i) It is a company incorporated under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions thereof;
- (ii) this Agreement constitutes the valid, legal and binding, obligation of MCW enforceable in accordance with the terms hereof;
- (iii) the execution, delivery and performance of this Agreement by MCW has been duly authorised by all requisite action, and will not (a) constitute a violation of any statute, judgement order decree of any court, Government Agency, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business of (b) contravene or violate its Articles or Association, or (c) cause a breach of any provision of, or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

Covenants :

MCW hereby covenants with MSPGC that ;

- (i) MCW shall utilise the Flyash supplied to it by MSPGC and achieve the Flyash utilisation specified under this Agreement.

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- (ii) MCW shall carry on its operations in the Plant at its sole risk and responsibility and neither shall it cause any nuisance, annoyance to MSPGC during such operations, nor cause any injury or damage to the CSTPS or any party thereof or any other agencies working in CSTPS, Chandrapur.

26. **Force Majeure :**

Force majeure is herein defined as any cause which is beyond the control of MCW or MSPGC, as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the contract such as :

- (a) Natural calamity including but not limited to floods, drought, earthquakes and epidemics.
- (b) Acts of any government, domestic or foreign, including but not limited to war, declared or undeclared quarantines, embargoes etc.

Provided either party shall, within fifteen (15) days from the occurrence of such a cause, notify the other in writing of such causes. Unless otherwise directed by MSPGC in writing MCW shall continue to perform his obligation under the contract as far as reasonable practical and shall seek all the alternative means for performance not prevented by the force majeure event.

Unless otherwise mutually agreed by both the parties in writing, both parties continue to perform their obligation under this agreement as far as reasonably practical and shall seek alternative means for performance not prevented by the force majeure event.

MCW as well as MSPGC shall not be liable for delays in performing their respective obligations under this agreement resulting from any force majeure cause as referred to and / or defined above. The date of completion for fulfillment of the said obligation affected by the force majeure events, shall be extended by a reasonable time period to be mutually agreed upon between the parties.

27. **Miscellaneous :**

Remedies Cumulative :

All remedies afforded to the Parties under this Agreement shall be taken and construed as cumulative and in addition to every other remedy provided herein or available to a Party under law or in equity.

Headings :

The headings contained in this Agreement are used solely for convenience and do not constitute a part of this Agreement nor shall such headings be used in any manner to aid in the construction of this Agreement.

No Third Party Beneficiaries :

This Agreement is intended solely for the benefit of the Parties. Nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to any person not a Party to this Agreement nor does this Agreement confer any right whatsoever on any third party to being an action.

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Relationship of Parties :

The duties, obligations and liabilities of the Parties are intended to be several and not Joint or collective. Each party shall be individually and severally liable for its respective obligations under this Agreement. In addition, this Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

Survival :

Any cancellation, expiration, earlier termination of this Agreement or arbitration of Disputes shall not relieve the Parties of their respective obligations hereunder that by their nature should survive such cancellation, expiration or termination, including, without limitation, obligations relating to warranties, remedies, promises of indemnity and confidentiality.

Governing Law :

This Agreement and the rights and obligations hereunder shall be interpreted, construed and governed by the substantive laws of India, without regard for its principles of conflict of laws that would require the application of the law of any other jurisdiction.

Entirety :

This Agreement and any attachment hereto are intended by the Parties as the final expression, or their agreement with respect or the subject matter thereof and are intended as a complete and exclusive statement of the terms of such agreement. All prior written or oral understandings, offers or other communications of any kind are hereby superseded, abrogated and withdrawn.

Invalidity :

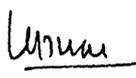
If at any time any provision of this Agreement becomes illegal, invalid or unenforceable in any respect under any applicable law, then that shall not affect or impair the legality, validity, re-enforceability of any other provision of this Agreement.

Successors and Assigns :

This Agreement shall be binding upon, and injure to the benefit of the Parties and their respective successors and permitted assigns.

Further acts and assurances :

Each Party shall execute and deliver all further agreements and instruments, and do and perform all such further acts and things, as shall be necessary or convenient to perform the terms of this Agreement.

Except as expressly set forth herein, each party shall pay for its own costs and expenses (including, without limitations, fees and expenses of its agents, representatives, counsel and accountants) necessary for the negotiation preparation, execution, delivery, performance of and compliance with this Agreement.

Counterparts :

This Agreement is signed in duplicate, equally authentic, one each for MSPGC and MCW.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement through their authorised representative on the day, month and year first above mentioned in the presence of :

For and on behalf of
Maharashtra State Power Generation Company Ltd.,

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**Chief Engineer (Gen.O&M)
CSTPS, Chandrapur.**

For and on behalf of
Maratha Cement Works
(A Unit of **Gujarat Ambuja Cements Ltd).**

Shadani

Sr. Vice President (Commercial)

In the presence of:
Witness

Name : Amin d. S. Kontammm
Designation : S.E Gen.

Signature : Kontammm

Name : Vikas Daxmullu
Designation : ASST. Vice President (Commercial), MCW.

Signature : V. Daxmullu

**Fly Ash Collection and Disposal System
Phasewise Implementation Programme**

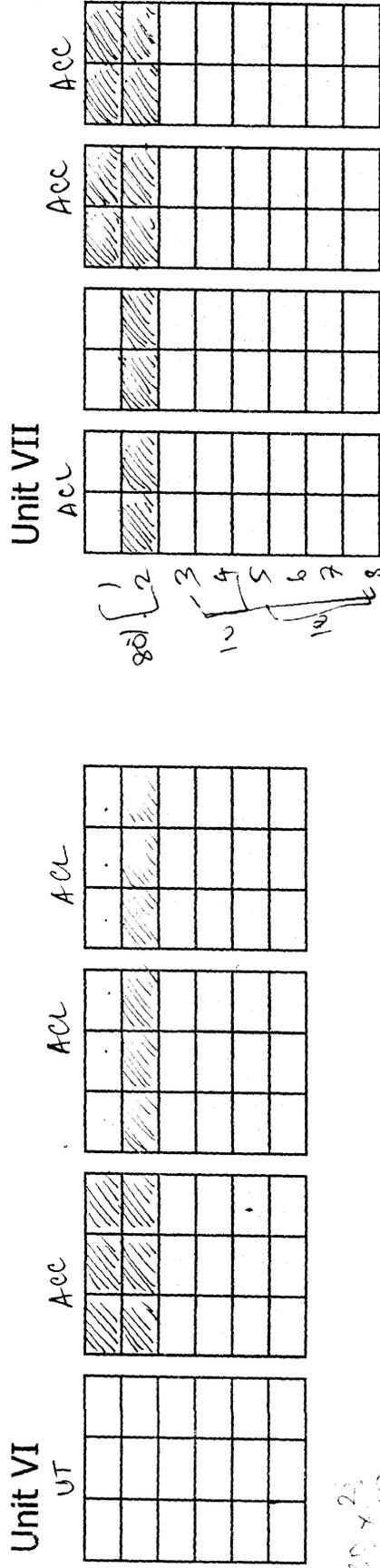
| Unit | Field | No of Hoppers (Total) | No of Hoppers (For MCW) | Phase I (Nos) | Phase II (Nos) |
|--------------|-------|--------------------------|----------------------------|------------------|-------------------|
| VI | 1 | 12 | 6 | 6 | |
| | 2 | 12 | 0 | 0 | |
| | 3 | 12 | 9 | | 9 |
| | 4 | 12 | 9 | | 9 |
| | 5 | 12 | 9 | | 9 |
| | 6 | 12 | 9 | | 9 |
| VII | 1 | 8 | 4 | 4 | |
| | 2 | 8 | 0 | 0 | |
| | 3 | 8 | 8 | | 8 |
| | 4 | 8 | 8 | | 8 |
| | 5 | 8 | 8 | | 8 |
| | 6 | 8 | 8 | | 8 |
| | 7 | 8 | 8 | | 8 |
| | 8 | 8 | 8 | | 8 |
| Total | | | 94 | 10 | 84 |

Acc 11/12
12 18

12 NIL

Okademi Ummu

Phase-wise Implementation Programme



Ultratech | Package C - ACC / MCW

- Hoppers connected / being connected by ACC
- Hoppers proposed to be connected by MCW - Phase I
- Hoppers proposed to be connected by MCW - Phase II

Shadain Wmmu

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Sub: -Draft of Arbitration and payment clause to be incorporated
in the tender documents

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In view of the discussion in the meeting dtd. 24.8.2004, wherein the
Hon'ble Chairman, A.M., T.M.(T&D), T.M(Gen.), Secretary, T.D (Dist.), L.O.
were present. The decisions were taken to amend the Arbitration clause in the
tender documents to be issued in future. In view of the said discussion the Clauses
are redrafted as follows:-

1. The matters to be determined by the Chief Engineer:-

All disputes and differences of any kind whatsoever arising out of or in
connection with the contract, whether during the progress of the work or after
its completion and whether before or after the determination of the contract,
shall be referred by the contractor to the C.E. and the C.E. shall (within 120
days) after receipt of the contractor's representation make and notify decisions
of all matters referred to by the contractor in writing.

(i) Demand for Arbitration:-

In the event of any dispute or difference between the parties hereto as
to the construction or operation of this contract, or the respective
rights and liabilities of the parties on any matter in question, the
dispute or difference on any account or as to the withholding by
MSEB of any certificate to which the contractor may claim to be
entitled to, or if the C.E. fails to make a decision (within 120 days).
then and in any such case, the contractor (after 120 days) but within

(180 days) of his presenting his final claim on disputed matters, shall demand in writing that the dispute or difference to be referred to arbitration.

(ii) The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim itemwise. Only such dispute(s) or difference (s) in respect of which the demand has been made, together with counter claims or set off, shall be referred to arbitration and other matters shall not be included in the reference.

(a) The arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the Board.

(b) The claimant shall submit his claim stating the facts supporting the claims along with all relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.

(c) The Board shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from the Tribunal thereafter unless otherwise extension has been granted by the Tribunal.

iii. No new claim shall be added during the proceedings by either party. However, a party may amend or supplement the original claim

or defence thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.

- iv. If the contractor(s) does/do not prefer his/their specific and final claims in writing, within a period of 90 days of receiving the intimation from the Board, that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and the Board shall be discharged and released of all liabilities under the contract in respect of these claims.

2. Obligation during pendency of Arbitration:-

Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the Board shall be withheld on account of such proceedings, provided, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should be continued during arbitration proceedings.

- (i) In cases where the total value of all claims in question added together does not exceed Rs. 1,00,00,000/- (Rupees One Crore) the Arbitral Tribunal shall consist of a Sole Arbitrator who shall be either the C.E. of the Board or serving or retired officer of the Board/Government not below the grade of C.E. or equivalent nominated by the Chairman of the Board in that behalf. The Sole Arbitrator shall be appointed within 60 days

from the day when a written and valid demand for arbitration is received by the Board.

- (ii) In cases the value of the claim exceeds Rs. 1,00,00,000/- (Rupees One Crore) as above, the Arbitral Tribunal shall consist of panel of 3 serving or retired officers of MSEB/Govt. not below the grade of C.E./C.A.O. as the Arbitrators. For this purpose, the Board will send a panel of more than 3 names of arbitrators of one or more department of the Board/Govt. to the contractor who will be asked to suggest to the Chairman at least 2 names for appointment as contractor's nominee. The Chairman shall appoint atleast one of them as the contractor's nominee and will also appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the presiding arbitrator from amongst the three (3) arbitrators so appointed. While nominating arbitrators, it will be necessary to ensure that one of them is or has worked in Accounts department.
- (iii) If one or more arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the Chairman fails to act without undue delay, the Chairman shall appoint new arbitrator/s to act in his/their

place in the same manner in which the earlier arbitrator/s had been appointed. Such reconstituted Tribunal, may, as its discretion proceed with the reference from the stage at which it was left by the previous arbitrator(s).

- (iv) The Tribunal shall have powers to call for such evidence by way of affidavits or otherwise as the Arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the Arbitral Tribunal to make the award without any delay.
- (v) While appointing arbitrator(s) as above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties as Board's servant(s) expressed views on all or any of the matters under dispute or differences. The proceedings or the Arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.

- (vi) Arbitral award shall state itemwise, the sum and reasons upon which it is based.
- (vii) A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award and interpretation of specific point of award to tribunal within 30 days of receipt of the award.
- (viii) A party may apply to Tribunal within 30 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings, but omitted from the arbitral award.
- (ix) In case of the Tribunal, comprising of three members any ruling or award shall be made by a majority of Members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.
- (x) Where the arbitral award is for payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.
- (xi) The cost of the arbitration shall be borne equally by the respective parties. The cost shall inter-alia include fees of the arbitrators as per the rates fixed by the Board from time to time. Provided that the fees payable per arbitrator for claims up to Rs. One Crore , shall not exceed Rs.2000/- per sitting subject to a maximum of Rs.25,000/- and the fees payable per

arbitrator for claims over Rs. One Crore, shall not exceed Rs.2000/- per sitting subject to a maximum of Rs.50,000/-.

Provided further that the arbitrators who are in service of Govt./MSEB shall draw fees at half of the rates mentioned above.

(xii) Board shall maintain a list of arbitrators. The Chairman shall have full powers to delete or add the name of the arbitrators in the list or to make amendments to the said list as per his discretion.

(xiii) The arbitral proceedings should be completed and the award be finalized within one year from the date of appointment of arbitrators.

(xiv) Subject to the provisions as aforesaid, Arbitration & Conciliation Act, 1996 and the rules thereunder, and any statutory notification thereof shall apply to the arbitration proceedings under this clause.

In case the contractor (s) falls within the ambit of Small Scale & Ancillary Industrial Undertakings Act, 1993, following clause regarding payment shall be incorporated:-

Payment of Bills:-

"In case the contractor(s)/ supplier(s) falls within the ambit of Small Scale & Ancillary Industrial Undertakings Act, 1993, the Board shall pay the price of the goods received, as far as possible, within 60 days subject to a maximum of 120

days from the date of acceptance or the date of deemed acceptance of goods as per specifications. In case the Board fails to pay price of the goods within 120 days from the date of acceptance or the date of deemed acceptance of the goods as per specifications, the Board shall be liable to pay interest as per provisions of Small Scale & Ancillary Industrial Undertakings Act, 1993.

Action plan for 3 year to achieve 100% ash utilization

For FY -2016-17, following steps are taken.

- For Mine stowing at WCL –Permission letter is issued to WCL on 26/12/2015.
- For ROB -- Permission letter is issued to M/s ISC Projects Pvt. Ltd on 03/06/2015
- Long terms action plan -- Meeting conducted with cement company users on 2nd week of May-16.
- Letter to all Tahsildar's
- Construction of approach road in project area (Stacker Reclaimer area) – Letter is issued on 08/09/2015.
- Corresponded with Cement companies like M/s Ambuja (Letter is issued on 07/01/2016), and MIDC Like M/s Bhavana Energy Infrastructure(Letter issued on 30/10/2015),

For FY -17-18, following steps will carried out for 100% ash utilization.

- Correspondence will be carried out with Supdt. Engr. B & C and irrigation for land filling as well as government construction purpose.
- Correspondence will be carried out for land filling as well as government construction purpose to Municipal Corporation area.
- Site visit will be carried out at Small scale industry ,i.e. manufacturing bricks & blocks for maximum utilization of ash.
- Wide advertisement will given in Local Newspaper as well as newspapers nearby CSTPS area.

For FY -2018-19, following steps will carried out for 100% ash utilization.

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NOW THESE PRESENTS witness and it is hereby agreed and declared by and between the parties hereto as follows :-

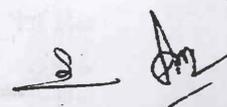
1. **DEFINITIONS :**

- 1.1 "Agreement" means this agreement.
- 1.2 "Fly Ash" means the ash collected in the electro static-precipitators installed for the boilers at the Super Thermal Power Plant of the MSEB at Chandrapur.
- 1.3 "Fly-Ash Handling Plant" means the plant and machinery mentioned in Clause 2.

2. **FLY ASH HANDLING PLANT :**

- 2.1 MSEB would allow ACC to install a dry fly ash handling plant for collection of fly ash from the ESPs of Unit No.6 & 7 at its Chandrapur Super-Thermal Power Station on the land owned by MSEB. MSEB shall provide a plot of land admeasuring 45 mtrs. x 45 mtrs. on a mutually decided lease rental of Re.100/- per month for construction of plant and machinery of adequate capacity for collection and transportation to Silo for temporary storage of fly ash as well as for handling of the fly ash for loading it into closed tankers. The proposed site for location of the fly ash handling plant as shown in Annexure-I, has already been decided jointly by MSEB and ACC.

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- 2.2 ACC would make all necessary erection, including construction of Civil Works, of fly-ash handling plant and also construct a compound wall around the fly-ash handling plant alongwith a gate at its own expense in accordance with the drawings accepted by both MSEB and ACC as shown in Annexure-I. After expiry of the contract, civil works constructed by ACC may be either dismantled by ACC at their cost, or if found suitable may be taken over by MSEB at an agreed price.
- 2.3 ACC shall also bear the cost of future maintenance of its plant and machinery and other ancillary civil works.
- 2.4 The fly-ash handling plant shall be owned by ACC, provided that the ACC shall pay the proportionate property or other taxes and cesses for the area given by MSEB to ACC for it. ACC shall pay rent/compensation at a mutually decided lease rental of Re.100/- per month, in addition to taxes and cesses for the land which will be occupied by them in the premises of MSEB.
- 2.5 On the expiry of this agreement or its renewal, ACC shall have the right to remove, at its own cost, such of the machinery and plant set up under the terms of this Agreement which ACC opts to remove.

3. OPERATION OF THE FLY-ASH HANDLING PLANT :

- 3.1 MSEB shall permit ACC's personnel to operate the Fly-Ash Handling Plant installed by ACC and to supervise the Fly-Ash handling operation of the equipment installed by it. ACC shall ensure that the operation of ash handling plant installed by it for procurement of fly-ash shall be done with proper co-ordination with MSEB's operation and maintenance staff and shall neither hamper the normal plant operation of thermal power station and MSEB Ash Plant nor cause any operational trouble. ACC shall also ensure that while loading closed tankers there shall not be any dust/ash nuisance.
- 3.2 ACC should conform to the provisions of the Environment Protection Act 1986.
- 3.3 ACC shall load the closed tankers at their own cost. ACC shall register their tankers with the Security section of CSTPS while entering and leaving the power station premises to ensure that tankers of ACC containing only ash enter/leave power station premises. The outward movement gate passes shall be issued by authorised representative of MSEB.
- 3.4 MSEB shall allow free movement of labour to be employed by the contractor and engaged by ACC and also free movement of machinery, materials, movement of trucks etc. subject to security restrictions as imposed by MSEB from time to time for the safety and security of Plant, Machinery & Staff of Chandrapur Super Thermal Power Station in particular and MSEB in general.

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- 3.5 MSEB shall provide the power and water that may be required by ACC for the construction as well as operation of the Fly-Ash handling plant. The quantum of water and power required for the plant of ACC would be made available at one point. ACC shall install recording meters for consumption of electrical power and water at their own cost. M/s.ACC shall make only the consumptive use of water ie. there won't be any discharge of water from the plant and make up water required for the system will be drawn by the Plant.
- 3.6 ACC shall pay for the power supply made by MSEB, for construction and operation of the fly ash handling plant. This power supply to ACC will be governed by the normal terms and conditions applicable from time to time to the consumers of MSEB. ACC shall also pay the charges for water supplied to them at mutually agreed rates.
- 3.7 ACC shall make its own arrangement at its own cost to keep the fly-ash handling plant operationally effective.
- 3.8 MSEB has agreed to give consent, No Objection Certificate, writings and confirmations as may be required by ACC from time to time to be submitted to various Government and other agencies for the purpose of implementation and running of the said fly-ash storage/handling/loading plant to be put up by ACC at CSTPS premises without prejudice to the interest of MSEB.

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4. SUPPLY OF DRY FLY-ASH TO ACC

4.1 During the currency of this Agreement, MSEB shall provide to ACC a minimum quantity of 1,10,000 tonnes of dry fly-ash per annum on as is where is basis from the terminal point of electrostatic precipitator hopper as per approved scheme. MSEB shall not at any time guarantee any specific quality of fly ash to ACC. But efforts shall be made to maintain the rate of supply at a minimum of 300 tonnes per day initially which is expected to increase upto 500 tonnes per day, subject to force majeure conditions beyond the control of either of the party. (In case generating unit is out or at low load, MSEB will not be in a position to deliver 300 tonnes of fly-ash in one day and this position is acceptable to ACC. Similarly in case of any breakdown in ACC plant, ACC will not be in a position to accept the fly-ash till the plant is brought into normal operation and this position is acceptable to MSEB) ACC shall transport ash from power station in closed tankers so as to prevent pollution inside the power station and enroute. Failing to observe the above condition, MSEB shall be free to terminate the said Agreement after giving due notice to ACC.

4.2 MSEB will supply the said dry fly ash free of cost to ACC as per existing Government policy.

4.3 ACC shall have the option, without being liable to pay compensation or damages, to discontinue lifting of fly-ash under this agreement in case ACC finds it uneconomical or undesirable to use the fly-ash. ACC shall, however, give a clear notice of three months to MSEB communicating its decision to discontinue lifting of fly-ash from Chandrapur Super Thermal Power Station if it so decides.

[Handwritten signature]

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5. After meeting the requirement of M/s.ACC, if surplus fly ash is available in their collection system the same may be supplied to other consumers on payment on mutually acceptable terms.
6. If ACC's Fly-Ash Handling Plant is not in operation for a period of more than six months, MSEB may ask ACC to Dismantle the plant within a further period of six months, however the ownership of fly ash handling plant would rest with ACC. If ACC fails to do so, MSEB shall have right to dismantle the plant at ACC's risk & cost.
7. ACC shall conform with Factory Act and Labour Law provisions as applicable for its operation at CSTPS.
8. **VALIDITY** - This agreement will be in force for a period of thirty years from the date of signing of this agreement and may be extended for a further period as per mutual agreement between MSEB and ACC.
9. **FORCE MAJURE** - NOTWITHSTANDING ANYTHING CONTAINED HEREIN the obligations of MSEB and of ACC under this Agreement shall remain suspended and neither of them shall be entitled to claim compensation from the other for any loss or damage caused by such suspension, whether total or partial; if and to the extent that either MSEB or ACC is unable to perform its obligations under this Agreement by reason of strike, lock out or retrenchment or workmen cessation or restriction or go slow policy of work by workmen (whether it be workmen employed by the MSEB or the ACC or by any other person, firm Company, or authority) and whether such strike, lockout, retrenchment or cessation or restriction has the effect of stopping, restricting or delaying

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supply of material required by MSEB Super Thermal Power Station at Chandrapur or ACC or otherwise impeding or delaying the carrying out of the obligations of the parties to this Agreement or by reason of fire, breakdown or accident to machinery, climatic disability, shortages, riots, disturbance, war or warlike situation, instruction or restrictions imposed by government, Act of Legislature or whatever authority or acts of war or of enemies of the state or of any other cause whatsoever whether or not of the same nature as the foregoing, beyond the control of MSEB or ACC.

10. **DAMAGE TO PLANT OR PROPERTY** - ACC shall be liable for all or any damage to MSEB's property or injury to MSEB employees or third party caused solely by the willful negligence on the part of ACC or its employees or its carriers. Similarly, MSEB shall be liable for all or any damage to ACC's property caused by the willful negligence of MSEB or its employees. The risks shall be covered by ACC through Insurance Policies of a nominal amount to be indicated by MSEB.

11. **WAIVER** - Any failure by either party to this Agreement to enforce any of its rights hereunder whether arising from the failure on the part of the other party to adhere to and fulfill its obligations under the terms hereof or otherwise shall not be deemed to constitute a waiver of any such default and/or surrender of any such rights.

12. **SETTLEMENT OF DISPUTES ETC**

In the event of any question, dispute or difference arising between the parties hereto touching the construction of any clause therein contained or the rights, duties and liabilities of the parties hereto or in any way touching or arising out of these presents, the same shall be referred for determination by two arbitrators, one to be chosen by each party and in the event of disagreement, by an umpire to be appointed by such arbitrators before proceeding under reference in accordance with the provisions of the Indian Arbitration Act, 1940, or any other amendment or modification thereof for the time being in force.

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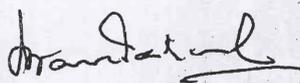
13. CONTINUITY

Services under the Agreement, notwithstanding the existence of any dispute, question or recovery, shall continue during the arbitration proceedings and no payments due and payable by ACC to MSEB, or supply of fly-ash by MSEB to ACC shall be withheld on account of such arbitration proceedings unless such payment or supply itself is the direct subject matter or one of the subject matters of arbitration.

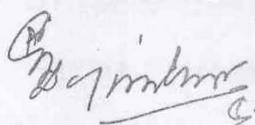
IN WITNESS WHEREOF the parties hereto have executed this AGREEMENT the day and year first above written.

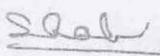
Signed by the Constituted Attorney
Of the Associated Cement Companies
Limited, in the presence of :

1)  Dy. reg. M.
(P. URISHNA KUMBHAR)


Signed for and on behalf of the Associated
Cement Companies Ltd.

2)

1)  S.E.


Signed for and on behalf of the Maharashtra
State Electricity Board.

2) (M.L. Gajabhatwari)



Ref UTCL/ACW/CSTPS/2021/01

February 05, 2021

The Chief Engineer
Chandpur Super Thermal Power Station
Urjanagar
Chandrapur 442 404

Dear Sir

Sub: Submission of Agreement for lifting of Dry Fly Ash from Unit 8 & 9.
Ref: Sale Intimation No;MWR/eA/MSPGCL-CTPS/20-21/16541/3- ;24.12.2020

Dear Sir,

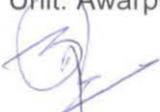
This is in reference to above referred letter of Fly Ash received from MSTC against allocation quantity of 1,20,000MT per annum against Auction MSTC/WRO MAHARASTRA STATE POWER GENERATION COMPANY LIMITED /1/CHANDRAPUR /20-21/21468 /24.12.2020

Please find here with the original copy of agreements in 2 sets as per the format provided by you.

Kindly sign the agreement and return one original copy to us for our record & issue the DO accordingly.

Thanking you,

Yours faithfully
For UltraTech Cement Ltd.
Unit: Awarpur Cement Works


Ashish Khare
HOD -Material



महाराष्ट्र MAHARASHTRA

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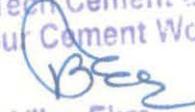
Sub Treasury Office
Rajura Dist. Chandrapur

1 FEB 2021

AGREEMENT

THIS AGREEMENT made at Chandrapur, this 28 Day of January 2021 BETWEEN ULTRATECH CEMENT LIMITED UNIT AWARPUR CEMENT WORKS AND MAHARASHTRA STATE POWER GENERATION CO. LTD (MSPGCL)(Herein after called "THE CONTRACTORS" which expression shall unless excluded by or repugnant to the context include its successors or permitted assigns) of the one part and the Maharashtra State Power Generation Co. Ltd., (hereinafter called "THE OWNER" which expressions shall unless excluded by or repugnant to the context include its successors and assigns) of the other part.

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For UltraTech Cement Limited
Awarpur Cement Works

Vijay Ekre
Unit Head


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WHEREAS the Chief Engineer Chandrapur Thermal Power Station, Maharashtra State Power Generation Co. Ltd., invited tenders according to the powers held by him as per rules for the work of E-Auction for Dry fly ash Collection from Unit No. 8 & 9, CHANDRAPUR in accordance with the plans and specifications annexed there to and WHEREAS the said tender was accepted by the Maharashtra State Power Generation Co. Ltd., under letter of intent/ Acceptance Letter No. MSTC/WRO/20-21/3 dated 31.12.2020 with attached special terms and condition (Annexure-A), placed with the said contractor on the terms and conditions specified in the tender and aforesaid work order letter of the owner and on the condition of the contract as specified in the tender documents of the Maharashtra State Power Generation Co. Ltd., attached with the tender.

NOW THIS AGREEMENT witnesses and it is hereby agreed and declared as under:

In consideration of the value of contract (Order Value without taxes)-viz Rs 74,40,000/- (Sevanty four lac forty thousand only) placed with contractor on the terms and conditions specified in the contract (Annexure-A), the contractor hereby covenants with the owner that he shall and will duly provide and execute the work and shall perform all other works and things in this contract mentioned and described or which are implied there from or may reasonably be necessary for the completion of the said work within and at the same time and in the manner and subject to the terms and conditions and stipulations contained in this contract and the owner shall pay to the contractor all the sums of money as and when they may become due and payable under the provisions of this contract .

The contractor shall undertake the work of Dry fly ash Collection from Unit No. 8 & 9 as mentioned and described in the contract as per specifications and tender accepts vide letter of intent/Acceptance No. MSTC/WRO/20-21/3 dated 31.12.2020 with attached special terms and condition (Annexure-A) and will complete the same in stipulated period in accordance with plans and specifications and conditions annexed.

The contractor shall complete the work as per the terms and conditions specified in the owner's letter of intent/Acceptance No. MSTC/WRO/20-21/3 dated 31.12.2020 and terms and conditions specified in the Tender documents for the works attached (Annexure-A).

The contractor shall indemnify the owner for all claims for injury caused to any person, whether workmen or not, while in upon the works or the site and the owner shall not be bound to defend any claims brought under the workmen's compensation Act and the Contractor shall be liable for any such claims.

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For UltraTech Cement Limited
Awarpur Cement Works


Vijay Ekre
Unit Head



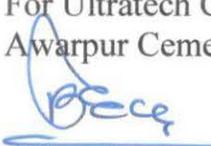
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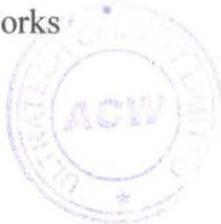
This agreement shall remain valid during the currency of contract period including extension of time limit if any, or up to expiry of the maintenance period beyond the physical completion of the work as accepted by Maharashtra State Power Generation Co. Ltd., whichever is later.

The aforesaid owner's letters along with tender submitted by the contractor along with plans and specifications and his acceptance letter dated 29.12.2020 (Letter with SD amount Rs.3,72,000/-) and the Tender documents for the works of the Maharashtra State Power Generation Co.Ltd., shall be deemed to be the part of this contract. The said papers are signed by Shri Vijay Ekre, Unit Head for and on behalf of the contractor and by for and on behalf of the owner for the purpose of identification and annexed herewith as schedule.

IN WITNESS WHERE OF the parties here to have signed this Agreement on date respectively mentioned against their signature.

For Ultratech Cement Limited
Awarpur Cement Works


Vijay Ekre
Unit Head



Signed and Delivered by duly constitute attorney for and on behalf of the contractor in the presence of

1. Shri Yogesh Kumar Bhatt



2. Shri Ashish Khare



Signed & delivered by
Shri


CHIEF ENGINEER
C.S.T.P.S., CHANDRAPUR.

Chandrapur Thermal Power Station, MSPGCL, Chandrapur. For and on behalf of
Chandrapur Thermal Power Station, MSPGCL, in the presence of

1. D.Y. Chaudhary

Exec Engr (Mahagams)



2. S.M. Jadhao

SE (RP)



SPECIAL TERMS & CONDITIONS

MSPGCL CONDITIONS FOR E-AUCTION SALE OF DRY FLY ASH

1. The Dry Fly Ash qty. **3000 MT/day from Fly Ash Silo of Unit-8&9 of CSTPS, Chandrapur** as per MSPGCL and declared on the MSTC website shall be disposed-off by way of e-auction through the MSTC website (www.mstcpcommerce.com).

2. **Scope of supply:**

Unit-8&9 of CSTPS, Chandrapur would be in a position to make available allocated quantity of fly ash subject to availability, force Majeure conditions and unplanned outage of the thermal unit of MSPGCL. MSPGCL reserves the right to supply quantity not lifted by the buyers to any other party at the sole discretion of MSPGCL.

3. **Acquaintance with local conditions:**

The prospective bidders may inspect the mode of collection of Dry fly ash (as mentioned in bid documents) offered for e-auction sale within seven days prior to the actual date of e-auction sale during working hours, at the site where the Dry fly ash loading is located. The bidders shall satisfy themselves about condition, quality, and quantity etc. of the Dry fly ash which they intend to purchase. No complaints shall be entertained regarding, quantity, quality and weight of the Dry fly ash as the information given in the catalogue is approximate and no warranty or guarantee shall be implied. Dry fly ash shall be sold on "**AS IS WHERE IS BASIS**" and on the assumption that the bidders have inspected the Dry fly ash loading and know what they are buying, irrespective of whether the bidders have inspected the Dry fly ash prior to e-auction sale or not: the principle of **CAVEAT EMPTOR** shall apply.

4. **Registration of Bidders:**

For participation in the e-auction, the prospective bidders shall register themselves with the MSTC website and following are the conditions.

- (1) Only registered bidders can participate in the e-auction.
- (2) The bidders shall pay the Pre-bid Earnest Money Deposit (Pre-Bid EMD) for the applicable lot(s) to MSTC prior to e-auction.

5. **Confidentiality:**

1. Information relating to the examination, clarification, evaluation, and comparison of bids, and recommendations for allocation shall not be disclosed to bidders or any other person not officially concerned with such process.

For UltraTech Cement Limited
Awarapur Cement Works


Vijay Ekre
Unit Head

2. Any effort by the bidder to influence the supplier in the Suppliers bid evaluation, bid comparison, or allocation decisions may result in the rejection of the Bidders bid.
3. From the time of bid opening to the time of allocation, if any **Bidder** wishes to contact the supplier on any matter related to its bid, it should do so in writing.

6. Methodology for pricing and bidding:

1. Pricing & bidding:

Floor price of dry fly ash and Quantity of dry fly ash at Unit-8&9 of CSTPS, Chandrapur to be auctioned will be **Rs. 55/- & 3000 MT/day**. Bidder shall quote for any qty of lot. Minimum lot quantity is 50 MT and maximum quantity shall be worked out with available quantity of 3000 MT/day. Bidder shall quote the quantity in multiples of 50 MT only. Bidders may quote the annual quantity required against a price starting from floor price and with increment of Re. 1.00.

2. **Award price:** The award price shall remain firm for a period of one year.
3. **Price Revision (applicable if contract is for more than one year):** In case the period of contract is for more than one year, price shall be revised after completion of each year by **10% higher than final price**.

7. Award for supply of Dry Fly Ash:

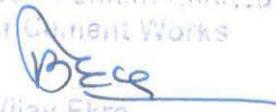
1. On completion of e-auction proceedings & after receipt of e-auction Bid sheet statement from MSTC, the MSPGCL auction committee shall take decision in respect of acceptance or rejection of bids. Such decision shall be binding to the bidders as well as to MSTC. MSPGCL shall not be bound to assign any reason for such acceptance or rejection of bids.

2. Auction Committee:

- 1) Chief Engineer (O&M), CSTPS, Chandrapur
- 2) Dy Chief Engineer-IV
- 3) Supdtg. Engineer (RP/Co-ord), CSTPS, Chandrapur
- 4) Asstt. General manager (F&A), CSTPS, Chandrapur
- 5) Exe. Engineer(Mahagams), Ash Utilization Cell
- 6) Exe. Chemist/Sr. Chemist, environmental section

3. Decision of the auction committee regarding acceptance or rejection of H-1 bid(s) for the respective lot(s) shall be communicated to MSTC at the earliest (preferably within 2 working days) from the date of e-auction. Accordingly, MSTC shall issue sale intimation letters to the successful bidders under intimation to CGM (E&S) & Chief Engineer of CSTPS, Chandrapur. CSTPS, Chandrapur shall issue sale order within two working days from the date of

For Ultra Tech Cement Limited
Awarapur Cement Works


Vijay Ekra
Unit Head

intimation of acceptance/ rejection of H-1 bids from auction committee of CSTPS, Chandrapur.

4. All consequential damages during collection of dry fly ash will be determined by the Chief Engineer, CSTPS, Chandrapur and the successful bidder/ buyer shall be responsible for such damages.

8. Pre Bid EMD:

1. Pre bid EMD shall be Re. 1/- per MT (i.e. Rs 50 for each lot of 50 MT and multiple of same) thus bidders intended to participate for more than one lot need to submit EMD for total No. of lots they intend to participate (i.e. if the bidders are interested in participating for Y no. of lots then the EMD will be, EMD amt. for one lot (i.e. Rs 50) x Y
2. If the bidder is declared successful in the e-auction for the applicable lots, MSTC shall immediately transfer the amount of Pre-Bid EMD to the Chief Engineer of Chandrapur TPS. EMD of unsuccessful bidders in the e-auction shall be refunded immediately by MSTC to the respective unsuccessful bidders.

9. Performance Security Deposit:

1. The successful bidders shall have to pay Security Deposit i.e. 5% of order value to CSTPS, Chandrapur by NEFT/RTGS within 7 working days from the date of sale intimation letter.
2. Alternatively, the security deposit can also be paid to CSTPS, Chandrapur in form of Bank Guarantee from any nationalized bank only in the enclosed proforma as per Annexure-A. The bank guarantee shall be in favor of MSPGCL however, the same shall be furnished to MSTC who in turn will forward the BG to CSTPS, Chandrapur. The bank guarantee shall be kept valid for a period of one year from the date of e-auction with a provision of further extension, if demanded by MSPGCL.
3. The successful bidder shall furnish declaration in the following proforma to MSPGCL immediately after receipt of sale intimation letter:

"I/ We _____ hereby declare that I/ We have purchased the Lot No. _____ at (location of Dry Fly ash) for Rs. _____ (Rupees) in the e-auction held on (Date). I/ We agree to complete the transaction of purchase in terms and conditions prescribed for the e-auction within the respective periods stipulated therein for carrying out our obligations."

SIGNATURE OF THE PURCHASER
For Ultra Tech Cement Limited
Awarpu Cement Works

Vijay Ekre
Unit Head

4. The amount/BG on account of Performance security deposit will be transferred By MSTC to the Chief Engineer, CSTPS, Chandrapur.
5. If the successful bidder fails to pay the requisite amount of Performance Security Deposit within the stipulated period of 7 working days or stipulated otherwise, the Sale Intimation Letter issued to him shall be treated as cancelled and he shall have no claim over the lot thereafter. The MSTC shall forfeit the amount of Pre-Bid EMD with due notice to the concerned bidder. The lot may be offered for e-auction at the discretion of the MSPGCL auction committee.
6. The S.D. can also be forfeited against 'Damage to MSPGCL property and not maintaining cleanliness on site.
7. Failure to pay the amount of penalty can form a cause to forfeit the Security Deposit.
8. The amount of Performance Security Deposit will be 5 % of order value to be paid by the successful bidder in the e-auction & shall be binding on MSTC & the buyers.
9. On receipt of Performance Security Deposit from the successful bidder/ buyer within the stipulated period, MSTC shall issue Sale Orders to the respective buyers under intimation to the Chief Engineer, CSTPS, Chandrapur immediately.

10. Payment Terms:

1. The buyers shall have to pay the advance payment of one month off-take quantity equal to **monthly allocated quantity X quoted rate** (along with statutory taxes & duties and corresponding declarations, if applicable) within 15 calendar days from the date of sale order (excluding the date of sale order), unless stated otherwise, to MSTC. The buyer should start lifting of fly ash within 15 calendar days after depositing the amount of monthly advance.
2. For the next monthly schedule, i.e. from the second month onwards, the buyer has to deposit the advance payment 25 day in advance of the monthly lifting schedule.
3. If the buyer fails to make payment on the due date, the buyer is allowed to make the due payment with application of Delayed Payment Charges @0.1%(zero point one percent) of the monthly advance payment, per day up to 15 days from the due date.
4. If the buyer fails to deposit the monthly installment payment on the date, including DPC period, the buyer shall be treated as defaulter and shall have no claim over the lot thereafter. MSPGCL shall cancel/

For UltraTech Cement Limited
Awarpur Cement Works


Vijay Ekre
Unit Head

terminate the sale order issued to him and forfeit the amount of security deposit paid by him, under intimation to him.

11. Delivery:

1. On receipt of advance payments (along with statutory taxes & duties and corresponding declaration, if applicable) from the buyers the MSTC shall issue Delivery Orders to the buyers under intimation to Chief Engineer, CSTPS, Chandrapur. On production of Delivery Orders issued by MSTC, the Chief Engineer, CSTPS, Chandrapur shall issue sale Release Order & Gate Pass to the buyer under intimation to MSTC, at the earliest (Preferably within 2 working days).
2. Monthly quota for ash lifting is to be completed within the corresponding month.
3. The buyers shall have to collect dry fly ash as generated on day to day basis from CSTPS/Unit/Silo as the case may be for the specified period from the date of sale release order, unless stated otherwise, from location mentioned on E-Auction list.
4. The collection of Dry Fly Ash shall be made on "as is where is" basis.
5. The buyers shall produce the authorization/ identification letter issued by the MSTC while lifting the concerned lot.
6. Minimum acceptable price for e-auction will be 90% of floor price mentioned.

12. Penalty for Short Lifting:

If the buyer fails to lift the Dry fly ash less than 80% of allotted/adjusted quantity during specified period as above, he shall be liable to pay penalty at rate of Rs. 25/MT for non lifted quantity. The quantity can also be calculated at the end of 6 months period from the date of issue of sale order. The due amount of penalty shall be deposited at CSTPS, Chandrapur. Failure to pay the penalty within 30 days from the due date will be a cause for forfeiture of Security Deposit.

13. In case the Dry Fly Ash lot is not available during specified period due to MSPGCL reasons like shutdown or less generation of ash then in that case Chief Engineer, CSTPS, Chandrapur will decide for change of alternative schedule of collection of Dry Fly Ash lot and no complaint or claim for financial implication will be entertained for whatsoever reason in this regards.
14. After effecting full payment, if the buyer fails to take delivery of Dry fly ash during specified period the buyer shall be treated as defaulter and shall have no

For UltraTech Cement Limited
Awarapur Cement Works


Vijay Ekre
Unit Head

claim over the lot thereafter. MSPGCL shall cancel/ terminate the sale order and delivery order issued to him and shall forfeit the amount of security deposit and advance payment paid by him, under intimation to him.

15. If the last day of the specified dates for payments happens to be a holiday/weekly off, the payments shall be allowed on the next working day without application of delayed payment charges for the last day of payment.

16. On submission of copy of the Delivery Order & Gate Pass, the Chief Engineer CSTPS, Chandrapur shall issue Tax Invoices to the buyers.

17. Chief Engineer, CSTPS, Chandrapur shall deposit amount collected from the buyers towards statutory taxes & duties to the respective authorities.

18. Payments:

- **Advance payment :**

The successful bidder shall pay the advance (including statutory taxes & duties, if applicable) within the period specified in the Sale Order. All the payments are to be deposited with MSTC by DD/NEEFT/RTGS within the period stipulated.

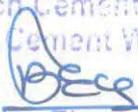
- **Service charges:**

Service charges payable to MSTC for sale/disposal of material effected through e-Auction. MSTC shall be entitled to a Service charge @2.25% (two point Twenty Five percent) on the net material value disposed (excluding duties and taxes) on the basis of actual sales realized.

19. Statutory Taxes & Duties:

The buyer shall be responsible to pay all the statutory taxes & duties at prevailing rate as declared by the respective State/ Central Government Authorities due in respect of this sale. If the buyer claims exemption / concession in the statutory taxes, he shall furnish the necessary declaration in that respect. The buyer shall have to pay the GST on sale price for the purchased quantity before depositing the balance sale amount. If MSPGCL allows the buyer to lift the Dry Fly Ash in multiple installments and make the payments accordingly, the statutory taxes in such cases shall be paid on the proportionate sale price of each installment along with payment of corresponding installment. The rate of applicable GST & duties shall be indicated against individual lot in the list displayed on the e-auction site. However, statutory GST & duties shall be paid by the buyer at the rates applicable at the time of advance payment.

For UltraTech Cement Limited
Awarpur Cement Works


Vijay Ekre
Unit Head

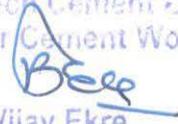
20. Receipt towards Payments made:

For all the payments received from successful bidders/ buyers, the Chief Engineer, CSTPS, Chandrapur shall issue formal receipts/ invoices to them. The buyers shall produce these receipts for verification as and when called upon to do so.

21. Conditions of Delivery:

1. Loading and delivery will be permitted as per practice followed at CSTPS, Chandrapur.
 2. The Buyer shall remove Dry Fly Ash corresponding to the lot purchased from the site of Unit-8&9, CSTPS, Chandrapur. The Buyer shall make his own arrangement for lifting, loading & transport. The Buyer shall not be entitled to claim any facility / assistance / transport from MSPGCL.
 3. If the buyer wish to take delivery of the items purchased through his representative, he shall authorize his representative by a Letter of Authority which shall be presented to the Chief Engineer, CSTPS, Chandrapur.
 4. The buyer has to maintain the delivery site clean and should not cause any damage to MSPGCL property; failing which he may have to face suspension of contract and/or forfeiture of security deposit.
- 22.** Delivery of respective lot shall be deemed to have completed only after issue of "No Objection / No Due / Completion Certificate" from the Chief Engineer, CSTPS, Chandrapur. In the event of any Dry Fly Ash lot being found to be deficient in quantity, quality and weight from those stated in the list published on the website, the buyer shall have no claim against MSPGCL or MSTC nor shall the purchaser be entitled to seek any annulment of sale or claim for loss of profit, interest, damage or any other ground except for refund of a part purchaser's money for the quantitative shortages in delivery and he shall be bound to remove the same from the site as good purchased by him. The weighments indicated in the catalogue / list is tentative and no guarantees assured for the same. In case Dry Fly ash is sold on lot basis, against which the tentative weight is also indicated, the buyer prior to commencing the delivery may request the concerned officer to allow him to lift the Dry fly ash by weight basis or by measure basis, even though he has bided on lot basis and upon receipt of such a request from the bidder, the concerned officer may allow delivery accordingly. Once the permission to lift Dry fly ash on the lot basis or on weighments / measurement basis is granted, the mode of delivery once accepted cannot be revived until completion of delivery and no complaint will be entertained in this regard.

For UltraTech Cement Limited
Awarpur Cement Works


Vijay Ekre
Unit Head

23. The buyers shall abide by and will be responsible to follow all the Labor Laws in respect of persons engaged by them. MSPGCL shall not be responsible for any claims raised by their personnel in respect of the e-auctions.

24. All the judicial proceedings, if any, in respect of any dispute(s) arising out of the e-auction shall be subject to the jurisdiction of Courts in vicinity of CSTPS, Chandrapur.

25. **Working hours:** The delivery of fly ash will be given round the clock and as per instructions of engineer in charge.

26. Safety Requirements:

The buyer shall ensure safety and security of all its personnel, working at different places in connection with work and shall be fully responsible for the same. All safety tools, PPEs and tackles required, like helmets, goggles, respiratory masks, gumboots, shoes safety belts wherever required will be provided by the buyer. The buyer shall also ensure safety and security of all MSPGCL personnel at delivery site.

27. Suspension of supply:

1. The Supplier reserves the right to suspend and reinstate execution of the whole or any part of the supply with due notice.
2. The Supplier shall not be responsible for any liabilities for suspension of issue of fly ash or issue of reduce quantity of Fly Ash for any reason whatsoever.

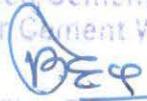
28. In case of any dispute arising out of sale of Dry Fly Ash, Hon. C.M.D., Mahagenco will be the final authority.

29. Allotment of dry fly ash:

Based on the annual quantity bidded, the monthly quantity will be allocated to agency,

Bidder shall lift annual allotted quantity in 12 months (Monthly quantity=Total quantity/12). However, monthly quantity can be revised on either side after approval from Chief Engineer (O&M).

For UltraTech Cement Limited
Awarpur Cement Works


Vijay Ekre
Unit Head

ANNEXURE - A**Specimen of Bank Guarantee Form for Security Deposit against Contract for Sale of Dry Fly Ash through e-Auctions**

(Ref: Clause No. 9 of MSPGCL Conditions for e-auction Sale of Dry Fly Ash)

The Bank of _____ hereby agrees unequivocally and unconditionally to pay, at _____ within 48 hours, on demand in writing from the Maharashtra State Power Generation Co. Ltd. or any officer authorized by it in this behalf, of any amount up to and not exceeding Rs. _____/- (In words Rupees _____ only) to the said Maharashtra State Power Generation Co. Ltd. on behalf of M/s. _____ (name of the successful bidder/purchaser) for sale/ purchase of Dry fly ash against order No. _____ dated _____ Extension order No. _____ dtd. _____ total value of order is Rs. _____ . Extension order value is Rs. _____ .

This agreement shall be valid and binding on this Bank up to and including _____ and shall not be terminable by notice or any change in the constitution of the Bank or the firm of contractor or any other reason whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or knowledge or consent, by or between parties to the said within return contract. The validity of this Bank Guarantee will be extended by us for further period of _____, one month prior to expiry of its present validity period at the request of Maharashtra State Power Generation Co. Ltd.

In case of any dispute arising out of or in connection with the extension or encashment of Bank guarantee, the Court (s) in _____ will have jurisdiction.

Our liability under this Guarantee is restricted to Rs. _____. (In words Rupees _____ only). Our Guarantee shall remain in force until _____, unless a claim under the Guarantee is lodged with us within six months from aforesaid date, all your rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all our liability thereunder.

Signature

For _____

Banker's Rubber seal

For UltraTech Cement Limited
Awarapur Cement Works


Vijay Ekre
Unit Head

Terms & Conditions at a Glance

| Sr. No. | Terms | Indicated by CE of Power Station |
|---------|----------------------|--|
| 1 | Security deposit | 5 % of order value |
| 2 | EMD | Re 1 per MT |
| 3 | FLOOR PRICE | Rs. 55/- |
| 4 | INCREMENT | By Re. 1/- |
| 5 | Validity | Two years |
| 5 | PENALTY CLAUSE | 1) Rs. 25/- per MT for Un lifted qty. (Un lifted qty = 80% of contracted /adjusted qty - actual qty lifted) Calculated at the end of 6 months. |
| 6 | ESTIMATED ANNUAL QTY | 9,00,000 MT |

For UltraTech Cement Limited
Awarpur Cement Works

B. E. K.
Vijay Ekre
Unit Head

एम एस टी सी
लि मि टे ड
(एन सी ई सी एन सी)
पश्चिम क्षेत्र



MSTC
LIMITED
(A Govt. of India Enterprise)
WESTERN REGION

607 रहेजा सेंटर, नरीमन पॉइन्ट, (छठवा तल), मुंबई - 400 021.
607, Raheja Centre, 6th Floor, Nariman Point, Mumbai - 400 021.
Phone : 2288 6261, Fax : (022) 2284 5130, 2287 4470
Cable : ISPATSCRAP, Email : mstcwro@mstcindia.co.in
Website : www.mstcecommerce.com / www.mstcindia.co.in

Acceptance Letter(स्वीकृति पत्र)

Ref No. : MSTC/WRO/20-21/3
Date : 31-12-2020
Auction No : MSTC/WRO/MAHARASHTRA STATE POWER GENERATION
COMPANY LIMITED/1/CHANDRAPUR/20-21/21468
Period Of Auction : 15/12/2020
Contact Person : **CHIEF ENGINEER, CSTPS, CHANDRAPUR Ph : 7030950836.**

Buyer Details

ULTRATECH CEMENT LIMITED/75575,
B WING AHURA CENTRE 2ND
FLOOR MAHAKALI CAVES ROAD
ANDHERI EAST MUMBAI
400093

Seller Details

Maharashtra State Power
Generation Company Ltd[22198]
CSTPS, URJANAGAR,
CHANDRAPUR
442404
GST : 27AAECM2935R1ZV, India

Contact Person :
D. Y. CHAUDHARY, EE MAHAGAMS

Dear Sir,

We acknowledge receipt of your S/D of INR 3,72,000 as per details below.

All figures are in INR

| Vch No | ePayment/DD/PO | Date | Bank/Branch | Amount |
|--------|----------------|------------|------------------------------------|----------|
| MR NO | 503534 | 30.12.2020 | Chief Engineer - Chandrapur TPS | 3,72,000 |

We confirm acceptance of your rate for the following items as per details given below :

| Lot No. | Quantity | Rates | Material Value | GST | TCS | Total |
|---------|------------|-------|----------------|-----------------|-------|------------|
| 1 | 120000.0MT | 62 | 7440000.00 | 372000.00(5.0%) | 58590 | 7870590.00 |

Dry Fly Ash on arising basis
Annual Approximate QTY: 900000 MT
LIFTING - 3000 MT PER DAY
Bidding Methodology : Quantity & Price

PRE-BID EMD : The Pre-Bid EMD shall be Rs. 1/- Per MT (i.e Rs.50 for each lot of 50 MT and multiple of same). Bidders interested in participating for more than one lot need to submit EMD for the total number of lots they intend to participate (e.g. If the bidders are interested in participating for Y no. of lots then the EMD will be, EMD amount for one lot (i.e Rs.50) x Y to be paid through RTGS/NEFT to MSTC ON OR BEFORE 14.12.2020.

Minimum Floor Price : Rs.55 per MT

The detailed breakup of day wise lifting for 300days are as below:

| SL No. | Quantity/Day | Material Value | Total Duties TCS & Others | Pay Favoring Seller | Pay Favoring MSTC | Total | Last Date Of Payment |
|--------|--------------|----------------|---------------------------|---------------------|-------------------|----------|----------------------|
| 1 | 400 | 24800.00 | 1435 [TCS :195] | 25598.00 | 638.00 | 26236.00 | As per terms |

You are requested to deposit **as per the schedule above by way of ePayment/DD/PO** in favour of **MSPGCL CHANDRAPUR** of the amount **Favouring Seller** and in favour of MSTC Limited payable at **CHANDRAPUR** of the amount **Favouring MSTC** Branch Code No if applicable or **as per payment terms of Special Terms & Conditions** at any office of MSTC Ltd.

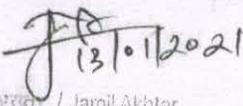
Remarks (if any) :RFM: PLEASE REFUND PREBID EMD OF Rs.200000.00/- TO THE BUYER..

NOTE:-(BUYER) YOU ARE REQUESTED TO SUBMIT PAYMENT AS PER TERMS.

Please note that in case, you fail to make payment towards material value and other charges for any or all lots,your security deposit for the corresponding lot/s shall be forfeited.

From

MSTC ADMIN


जमील अख्तर / Jamil Akhtar
व्यक्ति प्रबंधक / Sr. Manager
एम्एस सी.ए. लि, मुंबई /MSTC Ltd, Mumbai

917

M/s



महाराष्ट्र MAHARASHTRA

2017

AE 789312

Handwritten initials

3 - OCT 2018

ARTICLES OF AGREEMENT

These ARTICLES OF AGREEMENT entered into this 12th day of October, 2018 at Chandrapur TPS, Dist. Chandrapur

BETWEEN

MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED, a Company registered under provisions of the Companies Act, 1956 having its registered office at HDIL Tower, 3rd Floor, A Wing, Prof. Anant Kanekar Marg, Bandra (East), Mumbai 400 051 here in after referred to as "MSPGCL" (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) of the one part

maha genco

AND

M/s. UltraTech Cement Ltd, a company registered under provisions of the Companies Act, 1956 having its registered office at 'B' Wing, Ahura Center, 2nd Floor, Mahakali Caves Road, Andheri (E), Mumbai-400093, hereafter referred to as "ULTRATECH" (which expression shall, unless repugnant to the meaning or context thereof, mean and include its successors and assigns) OF THE OTHER PART.

these of



Handwritten signature



October 13, 2018

The Chief Engineer (O & M)
Chandrapur Super Thermal Power Station
Urjanagar
Chandrapur- 442 404

Dear Sir,

Sub: Submission of Articles of Agreement for sale/disposal of fly ash from
Unit-8 & 9, CSTPS, Chandrapur.

Ref: Tender No. Et-57322 (Amendment-6)
Our offer dated 30-07-2018
LOA No. CHN/RP/Technical/T-521/2018/et-57322/1907 dtd. 29-09-2018
Our Acceptance Letter dated 03.10.2018

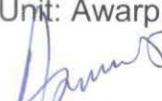
With reference to above, we are sending herewith following documents:

1. Articles of Agreement – 2 copies in original.
2. Performance Bank Guarantee – 1 in original and 1 copy

Please accept the above and provide one copy of original Article of Agreement duly signed by you for our record.

Thanking you,

Yours faithfully,
For UltraTech Cement Limited
Unit: Awarpur Cement Works


A.S.N. Murty
Manager (Materials)

Encl: a/a

UltraTech Cement Limited

(Unit: Awarpur Cement Works)

Awarpur P.O., Tal.. Korpana, Dist. Chandrapur – 442 917 (Maharashtra)

WHEREAS

- A. The MSPGCL owns and operates new units of 1000 MW Thermal Power Station at CSTPS, Chandrapur having 2 new Units of capacity 500 MW each.
- B. As part of its efforts to improve the fly ash utilization level at Chandrapur TPS, MSPGCL invited proposals from qualified parties for the work of evacuation of dry fly Ash from silo of Unit-8 & 9 at CSTPS, Chandrapur.
- C. In response to MSPGCL Tender No. CE/GEN/CHN/Ash Sale Tender/Unit-8 & 9/eT-57322 **ULTRATECH** submitted their Technical and Commercial bids for the work of evacuation of dry fly Ash from existing silo of Unit -8 & 9 at CSTPS, Chandrapur.
- D. After evaluation of the Bids so received MSPGCL accepted the Bid of the Company and issued its Award of Contract No. CHN/RP/Technical/ T-521/2018/eT-57322 /001907 Dated 29.09.2018 for quantity **350 MT/per day** (In words Three Hundred Fifty MT only) and ash sale price of **Rs.50/- per MT** (In words Rs. Fifty per MT only) to the Company requiring, inter alia, the execution of this Agreement within 5 weeks of the date there of for the work of evacuation of dry fly Ash from silo at CSTPS, Chandrapur.

NOW THEREFORE IN CONSIDERATION OF THE PREMISES AND THE MUTUAL COVENANTS HEREINAFTER CONTAINED. THE PARTIES HERETO HEREBY AGREE AND THIS AGREEMENT WITNESSETH AS FOLLOWS:

Definitions and Interpretations:**1.1 Definitions:**

In this Agreement, the following words and expression shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

“Accounting year” means the financial year commencing from 1st April of any calendar year and ending on 31st March of the next calendar year

“Agreement” means this Agreement, the Annexure hereto and any amendments thereto made in accordance with the provisions contained in this Agreement.

“Applicable Laws” means all laws, promulgated or brought into force and effect by GOI or GOM including regulations and rules made there under, and judgments, decrees, injunctions, writs and orders of any court of record, as may be in force and effect during the subsistence of this Agreement.

“Applicable Permits” means all clearances, permits, authorizations, consents



and approvals required to be obtained or maintained under applicable Laws in connection with the design, engineering, financing, procurement, construction, operation and maintenance of the Plant during the subsistence of this Agreement.

“Bid” means the documents in their entirety comprised in the bid submitted by **ULTRATECH** in response to the Tender Notice in accordance with the provisions thereof.

“Cure Period” Means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the party responsible for such breach or default and upon failing of which the Agreement may be terminated by the other.

“Drawings” means all the drawings, plans, calculations and documents pertaining to the CSTPS and shall include “as built” drawings of the CSTPS units.

“GOI” means the Government of India.

“GOM” means the Government of the State of Maharashtra.

“Parties” means the parties to this Agreement collectively and “Party” shall mean any of the Parties to this Agreement individually and any person claiming through such party or individual.

“₹” Or “Rupees” means the lawful currency of the Republic of India.

“Termination” means the expiry or termination of this Agreement.

“Termination Date” means the date on which this Agreement expires pursuant to the provisions of this Agreement or is terminated by a Termination Notice.

“Termination Notice” means the communication issued in accordance with this Agreement by any one Party to the other Party terminating this Agreement.

“Ash Sale Price” means the price quoted by **ULTRATECH** for the purchase of Ash in the Commercial Bid.

1.2 Interpretations: In the interpretation of this Agreement, unless the context otherwise requires:

- (a) The singular includes the plural and vice versa and in particular (but without limiting the generality of the foregoing) and word or expression defined in the singular has the corresponding meaning used in the plural and vice versa.
- (b) A reference to persons includes natural persons, corporations, limited liability companies, partnerships and other legal entities; *partnerships*
- (c) A reference to any gender includes the other gender.



Agreed

[Signature]

- (d) A reference to a Section, Article, clause, sub-clause, paragraph, sub-paragraph, Schedule or Recital is a reference to a Section, Article, clause, paragraph, sub-paragraph, Schedule or Recital of this Agreement.
- (e) A reference to any agreement is a reference to that agreement and all exhibits, schedules, appendices incorporated therein, as the same is amended, modified, supplemented, varied, substituted, replaced, renewed or extended from time to time.
- (f) A reference to statutes be construed as including all statutory provisions consolidating, amending, modifying, supplementing or replacing the statute referred to
- (g) The terms 'include' and "including" shall be deemed to include the words "without limitation"
- (h) Any reference to a person or entity shall include such persons and such "entities successors and permitted assigns", and shall include all natural persons, corporations, companies' limited liability companies, partnership and other legal entities.
- (i) A reference to 'writing' includes printing, typing, lithography and other means of reproducing words in a visible form; and
- (j) Any date or period set forth in this Agreement shall be such date or period as may be adjusted in accordance with the terms and conditions of this Agreement.

1. Scope :

2.1 **ULTRATECH** shall be responsible for;

- i) (a) Achieving the ash utilization/disposal level at Unit no. 8&9, CSTPS, Chandrapur as specified in this Agreement.
- (b) Performance and fulfillment of other obligations as may be specified under the Agreement. **ULTRATECH** shall undertake its obligations at its own cost and risk.
- ii) During the period of this agreement the dry ash evacuation of Unit no. 8&9, CSTPS, Chandrapur and collection of the ash in the silo, Chandrapur TPS will be provided, operated and maintained by MSPGCL as per present practice. **ULTRATECH** will provide, operate and maintain all arrangements for transportation of dry ash from the silo through close tankers/bulkers.

2.2 **Rs. 50/- per MT (Ash Sale Price)** shall be applicable to **ULTRATECH** for collection of fly ash from Unit No.8 & 9, CSTPS Chandrapur

2.3 The taxes (i.e. All Government taxes applicable time to time) & other



charges (water charges) applicable will be charged extra. **Electricity and admin charges will be waived off on as sale price vide Letter no. COO/MAHAGAMS/Ele. & Admin charges/Ash sale/670/11904 Dtd. 07.10.2017 (BR No. MSPGCL/BM-173/173.16 Dtd. 25.09.2017)**

2.4 **ULTRATECH** will pay the above mentioned charges on month to month basis in the office of the Chief Engineer(O&M), CSTPS, MSPGCL, Chandrapur on or before every first working day of month, failing to which the Chief Engineer(O&M), CSTPS, MSPGCL, Chandrapur shall give 7 (Seven) days prior notice to **ULTRATECH** to pay the above charges. If even after the aforesaid notice **ULTRATECH** fails to pay the above charges, then Chief Engineer will have full rights to stop **ULTRATECH** to lift the fly ash from the power station and **to operate dry fly ash evacuation plant at CSTPS**, Chandrapur through any agency of his choice and to issue the fly ash to any person or organization of his choice without any financial or legal obligation towards **ULTRATECH** till the time aforesaid amount is deposited by **ULTRATECH** with interest and other contingency charges.

Force majeure conditions faced by the industry shall be considered on production of documentary evidence to that effect.

2.5 In case of any deviation or amendment in Supreme Court/ Ministry of Environment & Forest's (MoEF) guidelines, regarding disposal of fly ash, MSPGCL shall be free to review this agreement and shall levy charges for supplying of ash to **ULTRATECH** as per directives or guidelines of MoEF in future. This will be in addition to 2.2 above.

2.6 The operation of the valve connected to that tap shall be such that no atmospheric air shall enter the silo.

2.7 The quantity and quality of dry fly ash is not assured and no claim in this regard will be entertained.

2.8 Ash lifting should maintain MPCB norms during the entire operation.

2.9 The transport vehicle should have proper covering to avoid spillage of ash while lifting and transporting. If ash spilled in the area it is to be cleaned by contractor as directed by Engineer in-charge.

2.10 At no juncture of time the discipline of our power station is disturbed on account of operations by **ULTRATECH**'s staff.

2.11 The contractor will ensure that these truck drivers do not unload any part of the fly ash lifted from the Chandrapur TPS en-route on the road side, to avoid pollution and nuisance to the public and incase of failure the contractor shall be solely responsible to all the action taken by



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- concerned Authorities.
- 2.12 The daily entry passes/gate passes for taking ash, out of the power station will be issued by the engineer in the charge, at Chandrapur TPS. Record of such gate passes shall be maintained.
 - 2.13 Ash lifting agency should maintain cleaning in silo area. Cleaning of drainage is also to be done by ash lifting agency so that no drainage will be choked up. Penalties for various purposes on each occasion are as below: a) if cleaning not found proper, then the penalty of Rs.1000/- will be imposed every time. b) For carrying the repair work of fork lift at site Rs.1000/- c) For broken trolleys lying in premises Rs.100/- per trolley.
 - 2.14 All the persons engaged inside power station should have authorized and valid gate pass/identity cards from CISF/Sr. Manager (Security) and Vigilance of CSTPS Chandrapur. Color coded uniform is to be maintained for labours engaged as per directives of representative of MSPGCL, Chandrapur TPS.
 - 2.15 Ash lifting agency should submit list of man power and required number of vehicles including closed containers, bulkers, hydras, trolleys and forklifts to Chandrapur TPS on the 1st day of every month. Only those persons and vehicles will be allowed to enter in the premise.
 - 2.16 Ash lifting agency should not carry out maintenance/repair its fork lifters on ash collection site. Do not spill the oil, spare parts of lifters anywhere on site.
 - 2.17 Minimum monthly quantity: Payment will be on the basis of quantity of ash lifted collected from hopper/security gate passes issued by Engineer In charge.
 - 2.18 The driver should have legitimate driving license and all necessary documents needed by R.T.O. You should provide proper lights and horns to your vehicles.
 - 2.19 The period of permission is purely temporary basis till further instructions and depending upon your performance to lift ash as mentioned in terms and conditions.
 - 2.20 In case of damage to any material/equipment belonging to Chandrapur TPS during the course of execution of work of collection, transportation of ash, you will have to pay full cost of the same as decided by undersigned. Nonpayment of the cost/compensation for damage will lead to immediate cancellation of permission to lift dry fly ash from Chandrapur TPS and security deposit will be forfeited.
 - 2.21 Ash lifting agency should have to maintain a register to record daily



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- utilization of ash from Chandrapur TPS and same should be provided to Excise department whenever required. Monthly ash utilization record should be submitted on 1st day at next month to Ash Utilization Cell, and then only permission will be granted to continue for lifting.
- 2.22 In case of utilization of water while executing the work at power station, separate charges will be applicable to you.
- 2.23 W.C. Act and Factory Act will be applicable along with safety Rules and regulations will be applicable.
- 2.24 The transport vehicle should be routed through specified route only. As soon as ash carrying vehicle is out of CSTPS, Chandrapur premises, MSPGCL will not be responsible regarding any event related with ash. The transport vehicle should be cleaned daily before entering into CSTPS premises.
- 2.25 Non availability of ash due to shut down, withdrawal of sets or any other reason will be exempted from advance payment clause of special terms & conditions. However cleaning of the respective ash lifting site shall be maintained during shut down by respective ash lifting agencies.
- 2.26 Ash lifting agency staff should enter the premises with valid gate pass and through our face recognition system/Biometric system from main gate.
- 2.27 There should not be any disturbance in generation of electricity, industrial peace and industrial safety.
- 2.28 Mahagenco reserves the right to recover all the amounts of penalties & charges or any other recovery under this contract or any other contract/arrangement with Mahagenco from the bills payable or security deposited under this contract.
- 2.29 The undersigned reserves the rights to withdraw the permission without assigning any reason. In such a case you will have to stop the collection of dry fly ash from power station immediately as well as return the valid gate passes of your persons to the Sr. Manager (Security), CSTPS, Chandrapur.
- 2.30 **No extra water will be provided by Mahagenco except for cleaning of the bulker and surrounding area only at the sole decision of Engineer In charge.**
- 2.31 Mahagenco reserves the right to recover all the amounts of penalties and charges or any other contract/agreement with Mahagenco from the monthly charges/advances or security deposit under the contract.



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- 2.32 Record of ash utilization by the contract shall be submitted every month.
3. TERMS AND CONDITIONS as per following.
- 3.1 MAHAGENCO has rights to change the quantity of fly ash and allotment.
- 3.2 **ULTRATECH** has to pay ash sale price including Taxes & other charges in advance as per terms and conditions for monthly Committed/allotted quantity of fly ash on or before every first working day of month.
- 3.3 If **ULTRATECH** fails to lift the committed/allotted quantity of fly ash during any month the amount paid in advanced for committed/allotted quantity will not be carry-over or it will not return back to **ULTRATECH** under any condition except reasons attributable to MSPGCL like shutdown, less generation of ash etc.
- 3.4 If availability of fly ash is more as compared to allotted quantity from allotted silo then, **ULTRATECH** can lift that excess quantity of fly ash and payment of same has to be deposited along with next subsequent month's advance payment.
- 3.5 If **ULTRATECH** does not lift/utilize/dispose 80% of allotted quantity for preceding three months, then Chief Engineer (O&M) will revise the committed quantity accordingly on the basis of average of last three months lifted/utilized/disposed. This quantity of Fly Ash will be offered to other successful bidders of MSPGCL's choice as per commercial charges and other conditions specified in contract. MSPGCL has right to allot any quantity in such scenario. In case of continuous failure to achieve target of even revised allotted quantity of fly ash, Mahagenco has rights to terminate contract. Further MSPGCL reserves right to float a fresh tender for sale of this un lifted quantity of fly ash available due to termination of this contract.
- 3.6 Tender is published without prejudice to MSPGCL right to cancel/ amend/ modify the terms of the contract based on further awards as may be passed by the Hon. Courts in matter of Chandrapur TPS fly ash. Such amendment/ cancellation/ modification shall be binding on **ULTRATECH**.
- 3.7 The award of contract to **ULTRATECH** can be cancelled at any time and all rights reserved to Mahagenco regarding continuation / cancellation of this contract without assigning any reason thereof.
- 3.8 The parties which are in litigation with Mahagenco regarding fly ash matter will not be entitled for participation in this tender.
- MAHAGENCO will not entertain any objection/argument in this regard.



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4. Licenses and Permits:

It will be the responsibility of **ULTRATECH** to obtain all necessary permissions, licenses, approvals, permits, consents, as may be required under all applicable governing laws. To enable **ULTRATECH** to obtain all applicable permissions, permits, etc, MSPGCL shall give No Objection Certificates / other Certificates as may be required from time to time.

5. Right to Collect Fly ash:

Subject to and in accordance with the terms and conditions set forth in this agreement, MSPGCL shall grant **ULTRATECH** permission to collect and utilize ash as per agreement available from Unit 8 & 9 for the entire term of the agreement. The 20% (Twenty Percent) of the fly ash generated from Chandrapur TPS will be governed by the Clause No. 8 of this Agreement. The entire quantity of the fly ash lifted by **ULTRATECH** will be utilized as proposed by them.

6. Fly ash lifting levels:

ULTRATECH shall achieve **monthly minimum 80%** ash lifting level (i.e. total quantity of ash allotted to **ULTRATECH**) from the next day of date of Agreement. **ULTRATECH** shall give its ash lifting plan to MSPGCL.

7. Failure to achieve the Fly ash lifting level:

In the event **ULTRATECH** fails to meet the target lifting levels,

- 7.1 If **ULTRATECH** fail to lift the committed/allotted quantity of fly ash during any month the amount paid in advanced for committed/allotted quantity will not be carry-over or it will not return back to **ULTRATECH** under any condition except reasons attributable to MSPGCL like shutdown, less generation of ash etc.

(Refer following guide lines for calculation of advance payments and Tabel-1 for calculation of penalties.)

- **ULTRATECH** should deposit first advance payment as per committed quantity for the month on day_1 of month_1.
- **ULTRATECH** should deposit Second advance payment as per committed quantity for the month on day_1 of Month_2.
- Performance of **ULTRATECH** for the month_1 will be evaluated on day_1 of Month_3.
- If **ULTRATECH** fails to lift committed quantity in the month_1 then penalty will be calculated as per clause No. 13 and carry forward of advance payment will be calculated as per Table-1 given below.



Table-1

| Lifting Levels of allotted Quota | Carry-over of advance payment |
|---|--------------------------------------|
| >80% | 100% of balance advance payment |
| > 50% and <80% | 50% of balance advance payment |
| > 0% and <50% | 0% of balance advance payment |

Force majeure conditions faced by the industry shall be considered on production of documentary evidence to that effect.

- 7.2 If **ULTRATECH** does not lift/utilize/dispose committed quantity for preceding three months, then Chief Engineer (O&M), CSTPS, Chandrapur will revise the committed quantity accordingly on the basis of average of last three months lifted/utilized/disposed. This quantity will be offered to other successful bidders of MSPGCL choice as per commercial charges and other conditions specified in contract. MSPGCL have right to allot any quantity in such scenario.

Further, in case of continuous failure to achieve target of revised allotted quantity of fly ash, Mahagenco have rights to terminate contract. Further MSPGCL reserve right to float a fresh tender for sale of these un-lifted/quantity of terminated party of fly ash. MAHAGENCO will not entertain any objection/ argument in this regard.

However this will not, in any way, restrict or limit the rights of MSPGCL to recover the damages or to take any other action, as included in various clauses of this agreement.

Breakdowns at Unit of CSTPS shall be acceptable to **ULTRATECH** and the period of such breakdowns shall be excluded for assessing fulfillment of the obligations for achieving the ash lifting levels.

In case **ULTRATECH** fails to lift the fly ash as per the stipulations of this agreement at Chandrapur TPS, and **ULTRATECH** is engaged at any other Power Station of MSPGCL in lifting of fly ash, then MSPGCL will have right to take suitable action as per agreement applicable to the other Power Stations and vice-versa.

8. Annual Fly Ash Generation Estimate:

MSPGCL and **ULTRATECH** shall at the beginning of the year estimate the ash generation based on the operating plan of MSPGCL for Unit no. 8 & 9 of CSTPS, Chandrapur taking into account any planned outages or shut down. The target ash lifting level will be determined based on the ash generation estimate and in accordance with ash lifting schedule.



9. Fly Ash Measurement/Weighing:

ULTRATECH shall maintain the daily record of vehicles dispatched from silo at Unit- 8 & 9 Chandrapur TPS. **ULTRATECH** shall provide to MSPGCL monthly statement of the dispatches of ash vehicles on daily dispatches of ash and their corresponding weights as (Gross Tare & Net). The monthly ash lifting levels shall be established from such statements by **ULTRATECH**.

- a. It will be responsibility of ~~ash vendor~~ ^{ULTRATECH} for taking weight of the loaded bulker at the nearest weigh bridge outside Power House, on his own cost. The weight receipt slip shall be shown to the Mahagenco's Engineer for record.
- b. In case of weigh bridge failure or not available on any day loaded weight (capacity) of the bulker can be taken. Care should be taken that in any case weight should not exceed weight approved by RTO on the vehicles R.C. papers/smart card.
- c. The electronic print out of Weigh Bridge and no of bulkers having designed capacity will be considered for measurement and levy of charges. If any complications arise due to weight of ash in bulker vendor will be responsible.

10. **Performance Security:** **ULTRATECH** shall provide to MSPGCL a Bank Guarantee (B.G.), in the form acceptable to MSPGCL, for a sum equivalent to 5 % of the order value calculated per year basis (i.e. 5% * Highest quoted Rate * annual allotted fly ash quantity in MT) or Rs 5 Lacks whichever is more. The bank Guarantee should be renewed every year till agreement period and faithful performance of their obligations under this agreement during the term of this agreement. The penalties / claims will be recoverable from the Bank Guarantee, if not settled within 7 days. **ULTRATECH** should recoup the Bank Guarantee within 21 days of raising claim by MSPGCL.

11. Penalties:

Ash lifting agency ^{of ULTRATECH} should maintain silo area including drainage area neat & clean. Penalties for various purposes on occasion are as below:

- a) If cleaning not found proper, then penalty of Rs. 500/- will be imposed every time.
- b) For carrying the repair work of Trucks, Trolleys and fork lift at site Rs. 500/-.
- c) Lying of damaged/broken/unusable equipment belonging to the



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contractor in MSPGCL premises Rs. 100/- per equipment per occasion.

In case of damage to any installation/equipment/materials belonging to CSTPS, Chandrapur, during the course of execution of work of collection, transportation of ash, you will have to pay full cost of the same as decided by undersigned. Nonpayment of the cost/compensation for the damage may lead to cancellation of permission to lift dry fly ash from Chandrapur TPS and security deposit will be forfeited.

The amounts of penalty will be deposited within 7 days from the date of demand or along with the monthly advance payment. Failing which the prorated monthly allocation in terms of days of the month shall be cancelled and the penalty amount will be deducted from Security deposit.

The MSPGCL reserves the right to waive the penalty in case of shutdown of unit/ESP field or any circumstances.

Decision communicated in writing by any of the Executive Engineer, Safety Officer or Sr. Manager (Security), CSTPS, Chandrapur in the matters of indiscipline, non-performance, penalties, unsafe operations shall be final and the actions as per the order terms and conditions shall be initiated against contractor.

12. Term of Agreement.

The contract period will be for a period of two years. This period for particular contract will be extended or minimized.

13. ULTRATECH's Events of Default: The following shall constitute ULTRATECH's Events of Default:

- Failure to meet the target ash lifting level. Penalty for non-lifting of committed quantity will be Rs. 25/- per MT will be calculated twice in a year).
- Failure to make payments to MSPGCL for the support services provided by MSPGCL and penalty under this Agreement.
- Failure to make payments to MSPGCL for Ash Sale Price or other charges or taxes applied by Government time to time or Charges for consumption of electricity & water (if applicable) by MSPGCL.
- After construction of Weighbridge, failure to report Weight of the Fly Ash lifted daily in the form of a computerized statement (signed by ULTRATECH) generated by Electronic Weighbridge.
- Failure to follow MoEF guidelines and MPCB rules and regulation.



- Failure to meet its obligations and responsibilities under the Agreement.
- Failure to recoup performance Bank Guarantee within 21 days of claim made by MSPGCL.
- Any other item which is a material breach of the Agreement.

In the event of any failure /default on the part of **ULTRATECH**, MSPGCL may terminate this agreement in part or full and MSPGCL will have the right to allot the fly ash to any other user as may be decided by MSPGCL without prejudice to the other rights of MSPGCL under the Agreement.

14. MSPGCL's Events of Default: The following shall constitute MSPGCL's Events of Default:

- Failure to meet its material obligations and responsibilities under the Agreement.
- Agreement without prejudice interest of Mahagenco.

15. Termination:

For any reason other than Party's Events of Default, parties may terminate this agreement, in whole or part, by mutual consent in writing. The Party seeking termination shall give a notice of at least three months to the other Party clearly stating the reasons for seeking termination. The other Party shall be given adequate opportunities to be heard before termination is agreed upon.

16. Settlement of Disputes and Arbitration:

As per Annexure-'A' (enclosed herewith)

17. Amendment and Waiver:

Amendments, due to changes in MoEF Notification, shall be binding on **ULTRATECH**. Any other amendment or waiver of any provision of this Agreement, shall in any event be effective unless the same is mutually agreed and signed by both the Parties through their authorities / representative and such amendment or waiver shall be effective only for the specified instance and purpose for which it is given and all other provisions not otherwise specifically affected by the amendment or waiver of this Agreement shall remain in full force.

Except as otherwise expressly provided in this Agreement, all notices and other communications, which are required and permitted hereunder, shall be in writing and sufficient if delivered personally, or sent by registered or certified mail, telecopy or telegram address as follows:



If to MSPGCL:

The Chief Engineer (O&M)
Maharashtra State Power Generation Company Limited
Chandrapur Super Thermal Power Station
Chandrapur, Dist-Chandrapur-442404.

Telephone No. (07172-220155)

E-Mail: cegenchandrapur@mahagenco.in.

If to **ULTRATECH**:

All notice or communication given by fax or email shall be confirmed by depositing a copy of the same in the post office in an envelope properly addressed to the appropriate Party for delivery by registered or certified mail or courier services, but any failure to so confirm shall not vitiate the original notice or communication. All notices sent by ~~fax and telegram~~ shall be deemed delivered upon receipt, and all notices sent by registered or certified mail and courier service shall be deemed delivered upon expiration of seven business days of depositing the same in the post office.

Change of address:

Any Party may by notice change its address and / or addressees to which any notices or communications hereunder are to be delivered or mailed.

18. Liability and Insurance:

ULTRATECH shall be liable and shall indemnify MSPGCL, its employees and any third party for all losses or damages suffered by them due to any act or negligence on the part of **ULTRATECH** or its employees or agents as the case may be. **ULTRATECH** shall obtain and maintain such insurance policy covering the equipment, employees and such other material whatsoever. **ULTRATECH** shall also obtain insurance policies as required by law.

19. Representations, Warranties and Covenants: MSPGCL Representations and Warranties: MSPGCL hereby represents and warrants to **ULTRATECH that;**

- (i) It is a Company registered under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions hereof.



- (ii) This Agreement constitutes the valid, legal and binding obligation of MSPGCL enforceable in accordance with the terms hereof
- (iii) The execution, delivery and performance of this Agreement by MSPGCL has been duly authorized by all requisite action, and will not (a) constitute a violation of any statute, judgment order decree of any court, Government Agency, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business or (b) contravene or violate its Articles or Association, or (c) cause a breach of any provision of, or constitute a default under, any material agreement, document or instrument to which it is a party or by which it or its property may be bound;

MSPGCL Covenants:

MSPGCL hereby covenants with **ULTRATECH** that MSPGCL shall ensure the continued provision of the Support Services as Stated in Article 4 above ensure the delivery of the services agreed to be provided by MSPGCL herein, in accordance with the terms of this Agreement;

ULTRATECH Representations and Warranties: **ULTRATECH** hereby represents and warrants to MSPGCL that;

- (i) It is a company incorporated under the Companies Act, 1956 and validity existing under the laws of India and has all requisite legal power and authority to execute this Agreement and to carry out the terms, conditions and provisions thereof.
- (ii) This Agreement constitutes the valid, legal and binding, obligation of **ULTRATECH** enforceable in accordance with the terms hereof;

The execution, delivery and performance of this Agreement by **ULTRATECH** has been duly authorized by all requisite action, and will not (a) constitute a violation of any statute, judgment order decree of any court, Government Agency, administrative body or arbitral tribunal applicable to or with jurisdiction over, its property or its business or (b) contravene or violate its Articles or Association, or (c) cause a breach of any provision , or constitute a default under, any material agreement, document or instrument to which it is a Party or by which it or its property may be bound;

ULTRATECH Covenants:

ULTRATECH hereby covenants with MSPGCL that;

- (i) **ULTRATECH** shall lift the ash supplied to it by MSPGCL and achieve the ash lifting levels specified under this Agreement.



- (ii) During such operations, nor cause any injury or damage to the CSTPS, Chandrapur plant or any party thereof or any other agencies working in Unit 8 & 9, CSTPS, Chandrapur.

20. Force Majeure:

Force Majeure is herein defined as any cause which is beyond the control of **ULTRATECH** or MSPGCL, as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the contract such as:

(a) Natural calamity including but not limited to floods, drought, earthquakes and epidemics.

(b) Acts of any government, domestic or foreign, including but not limited to war, declared or undeclared quarantines, embargoes etc. provided either party shall, within fifteen (15) days from the occurrence of such a cause, notify the other in writing of such causes. Unless otherwise directed by MSPGCL in writing **ULTRATECH** shall continue to perform his obligation under the contract as far as reasonably practical and shall seek all the alternative means for performance not prevented by the force Majeure event.

Unless otherwise mutually agreed by both the parties in writing, both parties continue to perform their obligation under this agreement as far as reasonably practical and shall seek alternative means for performance not prevented by the force Majeure event.

ULTRATECH as well as MSPGCL shall not be liable for delays in performing their respective obligations under this agreement resulting from any force Majeure cause as referred to and / or defined above. The date of completion for fulfillment of the said obligation affected by the force Majeure events shall be extended by a reasonable time period to be mutually agreed upon between the parties.

21. TERMS & CONDITIONS FOR FIRE & SAFETY:

1] Chandrapur Thermal Power Station is a prohibited area. Contractor will have to follow rules laid down by MAHAGENCO. Contractor can get his difficulties cleared, if any from security officer after receiving this firm order. For obtaining the entry gate passes for the workers /staff, contractor will have to submit the passport size photograph and the character certificate of worker from the police patil / police station authority of the area in which he resides.

2] A] Safety precautions are to be observed by the contractors, labors



and staff. The policy of the management is "ZERO ACCIDENT" in the plant. The contractor shall provide required safety appliances / equipment's to their workers like safety shoes, helmet, goggles, welding screen safety belt, nose mask, hand gloves etc. depending upon the working condition and nature of job and work in hand. The appliances, equipment shall be arranged by you at your cost. Contractor should instruct its supervisor and labors to follow safe working practices. If any unsafe condition is noticed by you or your labor it should be immediately brought to the notice of the MAHAGENCO's supervisor /Engineer at site for corrective action.

B] All precautions are already taken to provide safe working conditions in the plant as per Factories Act 1948 & Maharashtra Factories Rules 1963.

C] Contractor should deploy competent persons/workers for the particular jobs; submit the list of his workers deployed for the job.

D] i] If any accident occurs to the contractor's laborer due to unsafe working practice or non use of PPE, the contractor will be held responsible for it. Any claim penalty/Compensation in this respect will be the entire contractor's responsibilities. All the financial and legal complication arising out of the accident fatal or nonfatal in line with statutory rules & regulations prevailing during the period of the contract lies on the contractor and they shall assist MAHAGENCO to comply all such statutory provisions if the need arises.

ii] If any accident to the contractor laborer, it is the responsibility of the contractor for shifting of the injured persons to hospital and to intimate the occurrence immediately to the concerned MAHAGENCO's supervisor/Officer.

iii] Contractor workers shall be confirmed to the working spot only and shall not be found wandering in unauthorized area.

E] Safety of your workers and staff is your sole responsibilities. You shall undertake to pay compensation to your workers/ staff in case they meet with an accident and under no circumstance, and in no case MAHAGENCO will be responsible to pay any compensation as per workman compensation act.

F] You have to ensure that the manpower to be engaged by you for the nature of works allotted to them are well trained and experienced for carrying out that nature of work and have a complete sense of knowledge of risks involved at the place of working and the safety



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equipment/devises/ safe works procedures to be used for no accident during the working.

G] The contractor has to deploy competent person/ workers well trained /versed with the plant system, equipment of particular job assigned to them. They are to be informed about safe working practices & use of required personal protective equipment as per the job to be carried out. The contractor supervisor has to remain at work place & ensure safe work practice.

H] If any of our Officer /supervisor fined that the agency is not following the safe working Practice, safety rules & regulations including use of personal protective equipment at site, he is authorized to stop the work immediately the order may be terminated or you may be declared debarred for the further contract.

3] Worker shall be confined to the working spot only and shall not be found wandering in unauthorized area.

4] No compensation / claims for the idle laborers / staff for any reason will be entertained by the MAHAGENCO.

5] Engagement of Laborers:

Contractor has to employ only medically fit, healthy & capable male labors in sufficient strength to carry out all the works specified in the scope of work to the satisfaction of MAHAGENCO's authority /representative. Female laborers will not be allowed to work.

6] Character of laborers employed should be good. If they will be found committing any theft, misconduct or mischief in the plant they must be immediately discontinued from the services Loss incurred on this account shall be recovered from the contractor's bank guarantee.

7] Presence at Site:

After the awards of the contract, contractor will always be available at site to receive the instructions from time to time. In his absence he will post at site his authorized representative to supervise the job. After issuing the instructions to contractor's representative it will be assumed that the instructions are conveyed to the contractor.

The contractor has to depute his authorized supervisors/representatives for overall supervision. The contractor/supervisor/authorized representative will follow all instruction and orders issued by the undersigned.



ULTRATECH

8] Responsibility of Contractor:

It will be contractor responsibility to maintain discipline of his staff and any hindrance to the running of power station or MAHAGENCO's staff will be viewed seriously and liable for termination of contract by the MAHAGENCO without entertaining any claim from the contractor in this regard. If contractor's labour /staff cause any damaged to the MAHAGENCO's property the contractor will be liable for the cost of damage and the cost incurred for repairs/replacement will be recovered from the contractor's bank guarantee/security deposit as far as possible. The contractor will also be liable for resultant loss/damage to the MAHAGENCO's equipment/plant, being out of service due to damages by contractor's men or vehicle. The contractor will follow all safety regulations strictly and ensured against any fire hazards while working.

22. **Miscellaneous:** Remedies Cumulative: All remedies afforded to the parties under this Agreement shall be taken and construed as cumulative and in addition to every other remedy provided herein or available to a party under law or in equity.

Headings:

The headings contained in this Agreement are used solely for convenience and do not constitute a part of this Agreement nor shall such headings be used in any manner to aid in the construction of this Agreement.

No Third Party Beneficiaries:

This Agreement is intended solely for the benefit of the parties. Nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to any person not a party to this Agreement nor does this Agreement confer any right whatsoever on any third party to being an action.

Relationship of Parties:

The duties, obligations and liabilities of the parties are intended to be several and not joint or collective. Each party shall be individually and severally liable for its respective obligations under this Agreement. In addition, this Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the parties or to impose any partnership obligation or liability upon either party. Neither party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other party.



Survival:

Any cancellation, expiration, earlier termination of this Agreement or arbitration of disputes shall not relieve the parties of their respective obligations hereunder that by their nature should survive such cancellation, expiration or termination, including, without limitation, obligations relating to warranties, remedies, promises of indemnity and confidentiality.

Governing Law:

This Agreement and the rights and obligations hereunder shall be interpreted, construed and governed by the substantive laws of India, without regard for its principles of conflict of laws that would require the application of the law of any other jurisdiction.

JURISDICTION OF CONTRACT:

Any disputes, difference arising under, out of or in connection with this tender, or contract if concluded, shall be subject to the exclusive jurisdiction of the Courts in Chandrapur district.

Entirety:

This Agreement and any attachment hereto are intended by the parties as the final expression, or their agreement with respect or the subject matter thereof and are intended as a complete and exclusive statement of the terms of such Agreement. All prior written or oral understandings, offers or other communications of any kind are hereby superseded, abrogated and withdrawn.

Invalidity:

If at any time any provision of this Agreement becomes illegal, invalid or unenforceable in any respect under any applicable law, then that shall not affect or impair the legality, validity, re-enforceability of any other provision of this Agreement.

Successors and Assigns:

This Agreement shall be binding upon, and injure to the benefit of the parties and their respective successors and permitted assigns.

Further acts and assurances:

Each party shall execute and deliver all further Agreements and instruments, and do and perform all such further acts and things, as shall



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be necessary or convenient to perform the terms of this Agreement.

Except as expressly set forth herein, each party shall pay for its own costs and expenses (including, without limitations, fees and expenses of its agents, representatives, counsel and accountants) necessary for the negotiation preparation, execution, delivery, performance of and compliance with this Agreement.

Counterparts:

This Agreement is signed in duplicate, equally authentic, one each for MSPGCL and **ULTRATECH** IN WITNESS WHERE OF the parties hereto have executed this Agreement through their authorized representative on the day, month and year first above mentioned in the presence of:

For and on behalf of
Maharashtra State Power
Generation Company Ltd.



Chief Engineer
GEN O&M, CHANDRAPUR.

UltraTech Cement Ltd.



G. Balasubramaniam
President & Unit Head



In the presence of: In the presence of:

1) Name:

Designation:

Signature: _____

Name: Anand Lohiya

Designation: Sr. Vice President (F & C)

Signature:  _____

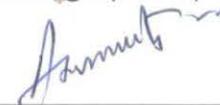
2) Name:

Designation:

Signature: _____

Name: A.S.N. Murty

Designation: Manager(Mtrls.)

Signature:  _____

ANNEXURE-A (As per clause 17 of agreement)**RESOLUTION OF DISPUTES AND ARBITRATION****The matters to be determined by the Chief Engineer**

- 1) All disputes and differences of any kind whatsoever arising out of or in connection with the contract whether during the progress of the work or after its completion and whether before or after the termination of the contract shall be referred by the contractor to the Chief Engineer and the CE shall (within 120 days after receipt of the contractor's representation make and notify decisions of all matters referred to by the contractor in writing.
 - i) Demand for Arbitration:

In the event of any dispute (s) or difference (s) between the parties here to as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, the dispute or difference on any account or as to be withholding by MSPGCL of any certificate to which the contractor may claim to be entitled to or if the CE fails to make a decision (within 120 days) then and in any such case, the contractor (after 120 days) but within (180 days) of his presenting his final claim on disputed matters, shall demand in writing that the dispute or difference to be referred to arbitration.
 - ii) The demand for arbitration shall specify the matters, which are in question, or subject of the dispute or difference as also the amount of claim item wise. Only such dispute or difference, in respect of which the demand has been made, together with counter claims or set off, shall be referred to arbitration and other matters shall not be included in the reference.
 - a) The arbitration proceedings shall be assumed to have commenced from the day; a written and valid demand for arbitration is received by the Company.
 - b) The claimant shall submit his claim stating the facts supports the claims along with all relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.
 - c) The Company shall submit its defense, statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from the Tribunal thereafter unless otherwise extension has been granted by the Tribunal.



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- iii) No new claim shall be added during the proceedings by either party. However, a party may amend or supplement the original claim or defense thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.

If the contractor (s) does/ do not prefer his/their specific and final claims in writing, within a period of 90 days of receiving the intimation from the Company, that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and the Company shall be discharged and released of all liabilities under the contract in respect of these claims.

2. Obligation during pendency of Arbitration:

Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the Company shall be withheld on account of such proceedings, provide, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should be continued during arbitration proceedings.

- i) In cases where the total value of all claims in question added together does not exceed Rs. 1, 00, 00,000/- (Rupees One Crore) the Arbitral Tribunal shall consist of a Sole Arbitrator who shall be either the CE of the Company or serving or retired officer of the Company/Government not below the grade of CE or equivalent nominated by the Managing Director of the Company in that behalf. The Sole Arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitration is received by the Company.
- (1) In case the value of the claim exceeds Rs. 1,00,00,000/- (Rupees One Crore), the Arbitral Tribunal shall consist of panel of three (3) serving or retired officers of MSPGCL/ Govt. not below the grade of CE as the Arbitrators. For this purpose the Company will send a panel of more than three (3) names of arbitrators of one or more department of the Company / Govt. to the contractor who will be asked to suggest to the M D at least two (2) names for appointment as contractor's nominee. The M D shall appoint at least one (1) of them as the contractor's nominee and will also appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the presiding arbitrator from amongst the three (3) arbitrators so appointed. While nominating arbitrators, it will be necessary to ensure that one of them is or has worked in Accounts Department.
- iii) If one or more arbitrators appointed as above refuses to act as



arbitrator, withdraws from his office as arbitrator or vacates his/ their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the Chairman fails to act without undue delay, the M D shall appoint new arbitrators/s to act in his/ their place in the same manner in which the earlier arbitrator/s had been appointed. Such reconstituted Tribunal may at its discretion proceed with the reference from the stage at which it was left by the previous arbitrator(s).

The Tribunal shall have powers to call for such evidence by way of affidavits or otherwise as the Arbitral Tribunal shall think proper and it shall be the duty of the parties hereto do or cause to be done all such things as may be necessary to enable the Arbitral Tribunal to make the award without any delay.

- v) While appointing arbitrator(s) as above, due care shall be taken that he/they is/are not these /those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/ their duties as Company servant's expressed views on all or any of the matters under dispute or differences. The proceedings or the Arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/ their duties expressed views on all or any of the matters under dispute.
- vi) Arbitral award shall state item wise the sum and reasons upon which it is based.
- vii) A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award and interpretation of specific point of award to tribunal within 30 days of receipt of the award.
- viii) A party may apply to Tribunal within 30 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings, but omitted from the arbitral award.
- ix) In case of the Tribunal, comprising of three members any ruling or award shall be made by a majority of Members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.
- x) Where the arbitral award is for payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.



- xi) The cost of the arbitration shall be borne equally by the respective parties. The cost shall inter-alia include fees of the arbitrators as per the rates fixed by the Board from time to time provided that the fees payable per arbitrator for claims up to Rs. One Crores. Shall not exceed Rs. 2000/- per sitting subject to a maximum of Rs. 25,000/- and the fees payable per arbitrator for claims over Rs. one Crore, shall not exceed Rs. 2000/- per sitting subject to a maximum of Rs. 50,000/- provided further that the arbitrators who are in service of Govt. / MSPGCL shall draw fees at half of the rates mentioned above.
- xii) Company shall maintain a list of arbitrators. The M.D shall have full powers to delete or add the name of the arbitrators in the list or to make amendments to the said list as per his discretion.
- xiii) The arbitral proceedings should be completed and the award be finalized within one year from the date of appointment of arbitrators.

Subject to the provisions as aforesaid, Arbitration and Conciliation Act, 1996 and the rules there under, and any statutory notification thereof shall apply to the arbitration proceedings under this clause.


Chief Engineer (O&M),
CSTPS, Chandrapur







महाराष्ट्र MAHARASHTRA

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AV 735119

27 JAN 2021



AGREEMENT

THIS AGREEMENT made at Chandrapur, this 29th Day of January Two thousand twenty one BETWEEN MURLI INDUSTRIES LTD (Herein after called "THE CONTRACTORS" which expression shall unless excluded by or repugnant to the context include its successors or permitted assigns) of the one part and the Maharashtra State Power Generation Co. Ltd., (hereinafter called "THE OWNER" which expressions shall unless excluded by or repugnant to the context include its successors and assigns) of the other part.

WHEREAS the Chief Engineer Chandrapur Thermal Power Station, Maharashtra State Power Generation Co. Ltd., invited tenders according to the powers held by him as per rules for the work of **Collection of Dry Fly ash from unit no 8/9 CSTPS Chandrapur** in accordance with the plans and specifications annexed thereto and WHEREAS the said tender was accepted by the Maharashtra State Power Generation Co. Ltd., under letter of intent / **Acceptance letter No.MBTTC/WRO/20-21/2 Dt.31.12.2020** and work order No. _____ dt. _____, placed with the said contractor on the terms and conditions specified in the tender and aforesaid workorder letter of the owner and on the condition of the contract as specified in the tender documents of the Maharashtra State Power Generation Co. Ltd., attached with the tender.

NOW THIS AGREEMENT witnesses and it is hereby agreed and declared as under:

In consideration of the value of contract (Order Value without taxes)-viz **Rs. 1,24,00,000/- (One Crore Twenty Four Lakhs Only)** Placed with contractor on the terms and conditions specified in the contract, the contractor hereby covenants with the owner that he shall and will duly provide and execute the work and shall perform all other works and things in this contract mentioned and described or which are implied there from or may reasonably be necessary for the completion of the said work within and at the same time and in the manner and subject to the terms and conditions and stipulations contained in this contract and the owner shall pay to the contractor all the sums of money as and when they may become due and payable under the provisions of this contract .

The contractor shall undertake the work of **Collection of Dry Fly ash from unit no 8/9 CTPS Chandrapur** as mentioned and described in the contract as per specifications and tender accepts vide letter of intent / **No Acceptance letter No.MBTTC/WRO/20-21/2 Dt.31.12.2020** and will complete the same in stipulated period in accordance with plans and specifications and conditions annexed.

The contractor shall complete the work as per the terms and conditions specified in the owner's letter of intent /No. **No Acceptance letter No.MBTTC/WRO/20-21/2 Dt.31.12.2020** and order No _____, and terms and conditions specified in the Tender documents for the works attached.

The contractor shall indemnify the owner for all claims for injury caused to any person, whether workmen or not, while in upon the works or the site and the owner shall not be bound to defend any claims brought under the workmen's



compensation Act and the Contractor shall be liable for any such claims.

This agreement shall remain valid during the currency of contract period including extension of time limit if any, or up to expiry of the maintenance period beyond the physical completion of the work as accepted by Maharashtra State Power Generation Co. Ltd., whichever is later.

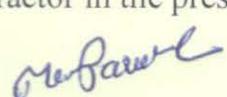
The aforesaid owner's letters along with tender submitted by the contractor along with plans and specifications and his acceptance letter and the Tender documents for the works of the Maharashtra State Power Generation Co. Ltd., shall be deemed to be the part of this contract. The said papers are signed by **MR. SAJAY PARGAONKAR Manager Commercial** for and on behalf of the contractor and by **CHIEF ENGINEER** for and on behalf of the owner for the purpose of identification and annexed herewith as schedule.

1.

2.

IN WITNESS WHEREOF the parties here to have signed this Agreement on date respectively mentioned against their signature.

Signed and Delivered by duly constitute attorney for and on behalf of the contractor in the presence of

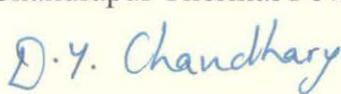
1.  (Mahaj K. Patil)
2.  (Dharmendra K. Singh)

Signed & delivered by

Shri **CHIEF ENGINEER** .


CHIEF ENGINEER
 C.S.T.P.S., CHANDRAPUR.

Chandrapur Thermal Power Station, MSPGCL., Chandrapur. For and on behalf of Chandrapur Thermal Power Station, MSPGCL., in the presence of

1.  D.Y. Chandhary Exec- Engr (Mahagams) 
2.  S.M. Joshi SE 



SPECIAL TERMS & CONDITIONS

MSPGCL CONDITIONS FOR E-AUCTION SALE OF DRY FLY ASH

1. The Dry Fly Ash qty. **3000 MT/day from Fly Ash Silo of Unit-8&9 of CSTPS, Chandrapur** as per MSPGCL and declared on the MSTC website shall be disposed-off by way of e-auction through the MSTC website (www.mstcpcommerce.com).

2. Scope of supply:

Unit-8&9 of CSTPS, Chandrapur would be in a position to make available allocated quantity of fly ash subject to availability, force Majeure conditions and unplanned outage of the thermal unit of MSPGCL. MSPGCL reserves the right to supply quantity not lifted by the buyers to any other party at the sole discretion of MSPGCL.

3. Acquaintance with local conditions:

The prospective bidders may inspect the mode of collection of Dry fly ash (as mentioned in bid documents) offered for e-auction sale within seven days prior to the actual date of e-auction sale during working hours, at the site where the Dry fly ash loading is located. The bidders shall satisfy themselves about condition, quality, and quantity etc. of the Dry fly ash which they intend to purchase. No complaints shall be entertained regarding, quantity, quality and weight of the Dry fly ash as the information given in the catalogue is approximate and no warranty or guarantee shall be implied. Dry fly ash shall be sold on "**AS IS WHERE IS BASIS**" and on the assumption that the bidders have inspected the Dry fly ash loading and know what they are buying, irrespective of whether the bidders have inspected the Dry fly ash prior to e-auction sale or not: the principle of **CAVEAT EMPTOR** shall apply.

4. Registration of Bidders:

For participation in the e-auction, the prospective bidders shall register themselves with the MSTC website and following are the conditions.

- (1) Only registered bidders can participate in the e-auction.
- (2) The bidders shall pay the Pre-bid Earnest Money Deposit (Pre-Bid EMD) for the applicable lot(s) to MSTC prior to e-auction.

5. Confidentiality:

1. Information relating to the examination, clarification, evaluation, and comparison of bids, and recommendations for allocation shall not be disclosed to bidders or any other person not officially concerned with such process.



2. Any effort by the bidder to influence the supplier in the Suppliers bid evaluation, bid comparison, or allocation decisions may result in the rejection of the Bidders bid.
3. From the time of bid opening to the time of allocation, if any **Bidder** wishes to contact the supplier on any matter related to its bid, it should do so in writing.

6. Methodology for pricing and bidding:

1. Pricing & bidding:

Floor price of dry fly ash and Quantity of dry fly ash at Unit-8&9 of CSTPS, Chandrapur to be auctioned will be **Rs. 55/- & 3000 MT/day**. Bidder shall quote for any qty of lot. Minimum lot quantity is 50 MT and maximum quantity shall be worked out with available quantity of 3000 MT/day. Bidder shall quote the quantity in multiples of 50 MT only. Bidders may quote the annual quantity required against a price starting from floor price and with increment of Re. 1.00.

2. **Award price:** The award price shall remain firm for a period of one year.
3. **Price Revision (applicable if contract is for more than one year):** In case the period of contract is for more than one year, price shall be revised after completion of each year by **10% higher than final price**.

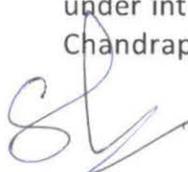
7. Award for supply of Dry Fly Ash:

1. On completion of e-auction proceedings & after receipt of e-auction Bid sheet statement from MSTC, the MSPGCL auction committee shall take decision in respect of acceptance or rejection of bids. Such decision shall be binding to the bidders as well as to MSTC. MSPGCL shall not be bound to assign any reason for such acceptance or rejection of bids.

2. Auction Committee:

- 1) *Chief Engineer (O&M), CSTPS, Chandrapur*
- 2) *Dy Chief Engineer-IV*
- 3) *Supdtg. Engineer (RP/Co-ord), CSTPS, Chandrapur*
- 4) *Asstt. General manager (F&A), CSTPS, Chandrapur*
- 5) *Exe. Engineer(Mahagams), Ash Utilization Cell*
- 6) *Exe. Chemist/Sr. Chemist, environmental section*

3. Decision of the auction committee regarding acceptance or rejection of H-1 bid(s) for the respective lot(s) shall be communicated to MSTC at the earliest (preferably within 2 working days) from the date of e-auction. Accordingly, MSTC shall issue sale intimation letters to the successful bidders under intimation to CGM (E&S) & Chief Engineer of CSTPS, Chandrapur. CSTPS, Chandrapur shall issue sale order within two working days from the date of



intimation of acceptance/ rejection of H-1 bids from auction committee of CSTPS, Chandrapur.

4. All consequential damages during collection of dry fly ash will be determined by the Chief Engineer, CSTPS, Chandrapur and the successful bidder/ buyer shall be responsible for such damages.

8. Pre Bid EMD:

1. Pre bid EMD shall be Re. 1/- per MT (i.e. Rs 50 for each lot of 50 MT and multiple of same) thus bidders intended to participate for more than one lot need to submit EMD for total No. of lots they intend to participate (i.e. if the bidders are interested in participating for Y no. of lots then the EMD will be, EMD amt. for one lot (i.e. Rs 50) x Y
2. If the bidder is declared successful in the e-auction for the applicable lots, MSTC shall immediately transfer the amount of Pre-Bid EMD to the Chief Engineer of Chandrapur TPS. EMD of unsuccessful bidders in the e-auction shall be refunded immediately by MSTC to the respective unsuccessful bidders.

9. Performance Security Deposit:

1. The successful bidders shall have to pay Security Deposit i.e. 5% of order value to CSTPS, Chandrapur by NEFT/RTGS within 7 working days from the date of sale intimation letter.
2. Alternatively, the security deposit can also be paid to CSTPS, Chandrapur in form of Bank Guarantee from any nationalized bank only in the enclosed proforma as per Annexure-A. The bank guarantee shall be in favor of MSPGCL however, the same shall be furnished to MSTC who in turn will forward the BG to CSTPS, Chandrapur. The bank guarantee shall be kept valid for a period of one year from the date of e-auction with a provision of further extension, if demanded by MSPGCL.
3. The successful bidder shall furnish declaration in the following proforma to MSPGCL immediately after receipt of sale intimation letter:

"I/ We _____ hereby declare that I/ We have purchased the Lot No. _____ at _____ (location of Dry Fly ash) for Rs. _____ (Rupees) in the e-auction held on _____ (Date). I/ We agree to complete the transaction of purchase in terms and conditions prescribed for the e-auction within the respective periods stipulated therein for carrying out our obligations."



SIGNATURE OF THE PURCHASER

4. The amount/BG on account of Performance security deposit will be transferred By MSTC to the Chief Engineer, CSTPS, Chandrapur.
5. If the successful bidder fails to pay the requisite amount of Performance Security Deposit within the stipulated period of 7 working days or stipulated otherwise, the Sale Intimation Letter issued to him shall be treated as cancelled and he shall have no claim over the lot thereafter. The MSTC shall forfeit the amount of Pre-Bid EMD with due notice to the concerned bidder. The lot may be offered for e-auction at the discretion of the MSPGCL auction committee.
6. The S.D. can also be forfeited against 'Damage to MSPGCL property and not maintaining cleanliness on site.
7. Failure to pay the amount of penalty can form a cause to forfeit the Security Deposit.
8. The amount of Performance Security Deposit will be 5 % of order value to be paid by the successful bidder in the e-auction & shall be binding on MSTC & the buyers.
9. On receipt of Performance Security Deposit from the successful bidder/ buyer within the stipulated period, MSTC shall issue Sale Orders to the respective buyers under intimation to the Chief Engineer, CSTPS, Chandrapur immediately.

10. Payment Terms:

1. The buyers shall have to pay the advance payment of one month off-take quantity equal to **monthly allocated quantity X quoted rate** (along with statutory taxes & duties and corresponding declarations, if applicable) within 15 calendar days from the date of sale order (excluding the date of sale order), unless stated otherwise, to MSTC. The buyer should start lifting of fly ash within 15 calendar days after depositing the amount of monthly advance.
2. For the next monthly schedule, i.e. from the second month onwards, the buyer has to deposit the advance payment 25 day in advance of the monthly lifting schedule.
3. If the buyer fails to make payment on the due date, the buyer is allowed to make the due payment with application of Delayed Payment Charges @0.1%(zero point one percent) of the monthly advance payment, per day up to 15 days from the due date.
4. If the buyer fails to deposit the monthly installment payment on the date, including DPC period, the buyer shall be treated as defaulter and shall have no claim over the lot thereafter. MSPGCL shall cancel/



terminate the sale order issued to him and forfeit the amount of security deposit paid by him, under intimation to him.

11. Delivery:

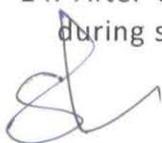
1. On receipt of advance payments (along with statutory taxes & duties and corresponding declaration, if applicable) from the buyers the MSTC shall issue Delivery Orders to the buyers under intimation to Chief Engineer, CSTPS, Chandrapur. On production of Delivery Orders issued by MSTC, the Chief Engineer, CSTPS, Chandrapur shall issue sale Release Order & Gate Pass to the buyer under intimation to MSTC, at the earliest (Preferably within 2 working days).
2. Monthly quota for ash lifting is to be completed within the corresponding month.
3. The buyers shall have to collect dry fly ash as generated on day to day basis from CSTPS/Unit/Silo as the case may be for the specified period from the date of sale release order, unless stated otherwise, from location mentioned on E-Auction list.
4. The collection of Dry Fly Ash shall be made on "as is where is" basis.
5. The buyers shall produce the authorization/ identification letter issued by the MSTC while lifting the concerned lot.
6. Minimum acceptable price for e-auction will be 90% of floor price mentioned.

12. Penalty for Short Lifting:

If the buyer fails to lift the Dry fly ash less than 80% of allotted/adjusted quantity during specified period as above, he shall be liable to pay penalty at rate of Rs. 25/MT for non lifted quantity. The quantity can also be calculated at the end of 6 months period from the date of issue of sale order. The due amount of penalty shall be deposited at CSTPS, Chandrapur. Failure to pay the penalty within 30 days from the due date will be a cause for forfeiture of Security Deposit.

13. In case the Dry Fly Ash lot is not available during specified period due to MSPGCL reasons like shutdown or less generation of ash then in that case Chief Engineer, CSTPS, Chandrapur will decide for change of alternative schedule of collection of Dry Fly Ash lot and no complaint or claim for financial implication will be entertained for whatsoever reason in this regards.

14. After effecting full payment, if the buyer fails to take delivery of Dry fly ash during specified period the buyer shall be treated as defaulter and shall have no



claim over the lot thereafter. MSPGCL shall cancel/ terminate the sale order and delivery order issued to him and shall forfeit the amount of security deposit and advance payment paid by him, under intimation to him.

15. If the last day of the specified dates for payments happens to be a holiday/weekly off, the payments shall be allowed on the next working day without application of delayed payment charges for the last day of payment.
16. On submission of copy of the Delivery Order & Gate Pass, the Chief Engineer CSTPS, Chandrapur shall issue Tax Invoices to the buyers.
17. Chief Engineer, CSTPS, Chandrapur shall deposit amount collected from the buyers towards statutory taxes & duties to the respective authorities.

18. Payments:

- **Advance payment :**

The successful bidder shall pay the advance (including statutory taxes & duties, if applicable) within the period specified in the Sale Order. All the payments are to be deposited with MSTC by DD/NEEFT/RTGS within the period stipulated.

- **Service charges:**

Service charges payable to MSTC for sale/disposal of material effected through e-Auction. MSTC shall be entitled to a Service charge @2.25% (two point Twenty Five percent) on the net material value disposed (excluding duties and taxes) on the basis of actual sales realized.

19. Statutory Taxes & Duties:

The buyer shall be responsible to pay all the statutory taxes & duties at prevailing rate as declared by the respective State/ Central Government Authorities due in respect of this sale. If the buyer claims exemption / concession in the statutory taxes, he shall furnish the necessary declaration in that respect. The buyer shall have to pay the GST on sale price for the purchased quantity before depositing the balance sale amount. If MSPGCL allows the buyer to lift the Dry Fly Ash in multiple installments and make the payments accordingly, the statutory taxes in such cases shall be paid on the proportionate sale price of each installment along with payment of corresponding installment. The rate of applicable GST & duties shall be indicated against individual lot in the list displayed on the e-auction site. However, statutory GST & duties shall be paid by the buyer at the rates applicable at the time of advance payment.



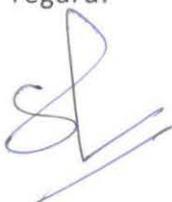
20. Receipt towards Payments made:

For all the payments received from successful bidders/ buyers, the Chief Engineer, CSTPS, Chandrapur shall issue formal receipts/ invoices to them. The buyers shall produce these receipts for verification as and when called upon to do so.

21. Conditions of Delivery:

1. Loading and delivery will be permitted as per practice followed at CSTPS, Chandrapur.
2. The Buyer shall remove Dry Fly Ash corresponding to the lot purchased from the site of Unit-8&9, CSTPS, Chandrapur. The Buyer shall make his own arrangement for lifting, loading & transport. The Buyer shall not be entitled to claim any facility / assistance / transport from MSPGCL.
3. If the buyer wish to take delivery of the items purchased through his representative, he shall authorize his representative by a Letter of Authority which shall be presented to the Chief Engineer, CSTPS, Chandrapur.
4. The buyer has to maintain the delivery site clean and should not cause any damage to MSPGCL property; failing which he may have to face suspension of contract and/or forfeiture of security deposit.

22. Delivery of respective lot shall be deemed to have completed only after issue of "No Objection / No Due / Completion Certificate" from the Chief Engineer, CSTPS, Chandrapur. In the event of any Dry Fly Ash lot being found to be deficient in quantity, quality and weight from those stated in the list published on the website, the buyer shall have no claim against MSPGCL or MSTC nor shall the purchaser be entitled to seek any annulment of sale or claim for loss of profit, interest, damage or any other ground except for refund of a part purchaser's money for the quantitative shortages in delivery and he shall be bound to remove the same from the site as good purchased by him. The weighments indicated in the catalogue / list is tentative and no guarantees assured for the same. In case Dry Fly ash is sold on lot basis, against which the tentative weight is also indicated, the buyer prior to commencing the delivery may request the concerned officer to allow him to lift the Dry fly ash by weight basis or by measure basis, even though he has bided on lot basis and upon receipt of such a request from the bidder, the concerned officer may allow delivery accordingly. Once the permission to lift Dry fly ash on the lot basis or on weighments / measurement basis is granted, the mode of delivery once accepted cannot be revived until completion of delivery and no complaint will be entertained in this regard.



23. The buyers shall abide by and will be responsible to follow all the Labor Laws in respect of persons engaged by them. MSPGCL shall not be responsible for any claims raised by their personnel in respect of the e-auctions.
24. All the judicial proceedings, if any, in respect of any dispute(s) arising out of the e-auction shall be subject to the jurisdiction of Courts in vicinity of CSTPS, Chandrapur.
25. **Working hours:** The delivery of fly ash will be given round the clock and as per instructions of engineer in charge.

26. **Safety Requirements:**

The buyer shall ensure safety and security of all its personnel, working at different places in connection with work and shall be fully responsible for the same. All safety tools, PPEs and tackles required, like helmets, goggles, respiratory masks, gumboots, shoes safety belts wherever required will be provided by the buyer. The buyer shall also ensure safety and security of all MSPGCL personnel at delivery site.

27. **Suspension of supply:**

1. The Supplier reserves the right to suspend and reinstate execution of the whole or any part of the supply with due notice.
2. The Supplier shall not be responsible for any liabilities for suspension of issue of fly ash or issue of reduce quantity of Fly Ash for any reason whatsoever.

28. In case of any dispute arising out of sale of Dry Fly Ash, Hon. C.M.D., Mahagenco will be the final authority.

29. **Allotment of dry fly ash:**

Based on the annual quantity bidded, the monthly quantity will be allocated to agency,

Bidder shall lift annual allotted quantity in 12 months (Monthly quantity=Total quantity/12). However, monthly quantity can be revised on either side after approval from Chief Engineer (O&M).



ANNEXURE - A**Specimen of Bank Guarantee Form for Security Deposit against Contract for Sale of Dry Fly Ash through e-Auctions**

(Ref: Clause No. 9 of MSPGCL Conditions for e-auction Sale of Dry Fly Ash)

The Bank of _____ hereby agrees unequivocally and unconditionally to pay, at _____ within 48 hours, on demand in writing from the Maharashtra State Power Generation Co. Ltd. or any officer authorized by it in this behalf, of any amount up to and not exceeding Rs. _____/- (In words Rupees _____ only) to the said Maharashtra State Power Generation Co. Ltd. on behalf of M/s. _____ (name of the successful bidder/purchaser) for sale/ purchase of Dry fly ash against order No. _____ dated _____ Extension order No. _____ dtd. _____ total value of order is Rs. _____ . Extension order value is Rs. _____.

This agreement shall be valid and binding on this Bank up to and including _____ and shall not be terminable by notice or any change in the constitution of the Bank or the firm of contractor or any other reason whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or knowledge or consent, by or between parties to the said within return contract. The validity of this Bank Guarantee will be extended by us for further period of _____, one month prior to expiry of its present validity period at the request of Maharashtra State Power Generation Co. Ltd.

In case of any dispute arising out of or in connection with the extension or encashment of Bank guarantee, the Court (s) in _____ will have jurisdiction.

Our liability under this Guarantee is restricted to Rs. _____. (In words Rupees _____ only). Our Guarantee shall remain in force until _____, unless a claim under the Guarantee is lodged with us within six months from aforesaid date, all your rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all our liability thereunder.

Signature**For** _____**Banker's Rubber seal**

Terms & Conditions at a Glance

| Sr. No. | Terms | Indicated by CE of Power Station |
|---------|----------------------|--|
| 1 | Security deposit | 5 % of order value |
| 2 | EMD | Re 1 per MT |
| 3 | FLOOR PRICE | Rs. 55/- |
| 4 | INCREMENT | By Re. 1/- |
| 5 | Validity | Two years |
| 5 | PENALTY CLAUSE | 1) Rs. 25/- per MT for Un lifted qty. (Un lifted qty = 80% of contracted /adjusted qty - actual qty lifted) Calculated at the end of 6 months. |
| 6 | ESTIMATED ANNUAL QTY | 9,00,000 MT |



एम एस टी सी
लि मि टे ड
(महाराष्ट्र राज्य सरकार)
पश्चिम क्षेत्र



MSTC
LIMITED
(A Govt. of India Enterprise)
WESTERN REGION

607 राहेजा सेंटर, नरीमन पॉइन्ट, (छठवा तल), मुंबई - 400 021.
607, Raheja Centre, 6th Floor, Nariman Point, Mumbai - 400 021.
Phone : 2288 6261, Fax : (022) 2284 5130, 2287 4470
Cable : ISPATSCRAP, Email : mstcwro@mstcindia.co.in
Website : www.mstcecommerce.com / www.mstcindia.co.in

Acceptance Letter(स्वीकृति पत्र)

Ref No. : MSTC/WRO/20-21/2
Date : 31-12-2020
Auction No : MSTC/WRO/MAHARASHTRA STATE POWER GENERATION
COMPANY LIMITED/1/CHANDRAPUR/20-21/21468
Period Of Auction : 15/12/2020
Contact Person : CHIEF ENGINEER, CSTPS, CHANDRAPUR Ph : 7030950836.

Buyer Details

MURLI INDUSTRIES LTD/55040,
Sr No 481 488, Bhandara Road,
City:Vadoda
Tq: & Distt: NAGPUR 441104

Seller Details

Maharashtra State Power
Generation Company Ltd[22198]
CSTPS, URJANAGAR,
CHANDRAPUR
442404
GST : 27AAECM2935R1ZV, India

Contact Person :
D. Y. CHAUDHARY, EE MAHAGAMS

Dear Sir,

We acknowledge receipt of your S/D of INR 6,20,000 as per details below.

All figures are in INR

| Vch No | ePayment/DD/PO | Date | Bank/Branch | Amount |
|--------|----------------|------------|---------------------------------|----------|
| MR NO | 503644 | 31.12.2020 | Chief Engineer - Chandrapur TPS | 6,20,000 |

We confirm acceptance of your rate for the following items as per details given below :

| Lot No. | Quantity | Rates | Material Value | GST | TCS | Total |
|---------|------------|-------|----------------|-----------------|-------|-------------|
| 1 | 200000.0MT | 62 | 12400000.00 | 620000.00(5.0%) | 97650 | 13117650.00 |

Dry Fly Ash on arising basis

Annual Approximate QTY: 900000 MT

LIFTING - 3000 MT PER DAY

Bidding Methodology : Quantity & Price

PRE-BID EMD : The Pre-Bid EMD shall be Rs. 1/- Per MT (i.e Rs.50 for each lot of 50 MT and multiple of same). Bidders interested in participating for more than one lot need to submit EMD for the total number of lots they intend to participate (e.g. If the bidders are interested in participating for Y no. of lots then the EMD will be, EMD amount for one lot (i.e Rs.50) x Y to be paid through

RTGS/NEFT to MSTC ON OR BEFORE 14.12.2020.

Minimum Floor Price : Rs.55 per MT

The detailed breakup of day wise lifting for 300days are as below:

| SL No. | Quantity/Day | Material Value | Total Duties TCS & Others | Pay Favoring Seller | Pay Favoring MSTC | Total | Last Date Of Payment |
|--------|--------------|----------------|---------------------------|---------------------|-------------------|----------|----------------------|
| 1 | 666.66 | 41333.00 | 2392 [TCS :326] | 42662.00 | 1063.00 | 43725.00 | As per terms |

You are requested to deposit **as per the schedule above by way of ePayment/DD/PO** in favour of **MSPGCL CHANDRAPUR** of the amount **Favouring Seller** and in favour of MSTC Limited payable at **CHANDRAPUR** of the amount **Favouring MSTC** Branch Code No if applicable or **as per payment terms of Special Terms & Conditions** at any office of MSTC Ltd.

Remarks (if any) :RFM: PLEASE REFUND PREBID EMD OF Rs.200000.00/- TO THE BUYER..

NOTE:-(BUYER) YOU ARE REQUESTED TO SUBMIT PAYMENT AS PER TERMS.

Please note that in case, you fail to make payment towards material value and other charges for any or all lots,your security deposit for the corresponding lot/s shall be forfeited.

From

MSTC ADMIN

J.A.
13/12/2021
जमील अहमद / Jamil Ahmad
दरिस्त प्रबंधक / Sr. Manager
एम एस सी एल लि. का मुख्यालय / MSTC Ltd. Office

T.C.

Sharma