## 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:

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 SO<sub>2</sub>, NOx 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.

Date of Installation PM **SO2** NOx Mercury (Hg)  $600 \text{mg/Nm}^3 < 500 \text{MW}$  $0.03 \text{ mg/Nm}^3$  for Before December 2003 100mg/Nm<sup>3</sup> 600 mg/Nm<sup>3</sup> 200mg/Nm3 >= 500MW >=500MW January 2004 to  $600 \text{mg/Nm}^3 < 500 \text{MW}$ 50mg/Nm<sup>3</sup> 300 mg/Nm<sup>3</sup> 0.03 mg/Nm<sup>3</sup> December 2016 200mg/Nm3 >= 500MW January 2017 onwards 0.03 mg/Nm<sup>3</sup> 30mg/Nm<sup>3</sup> 100 mg/Nm<sup>3</sup> 100 mg/Nm<sup>3</sup>

Table 1 New Environmental Norms, December 2015

#### 2. Ambient Air Quality (AAQ) Data

The latest ambient air quality (SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>) data monitored for the 745 stations located cross 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 SO<sub>2</sub>/NOx 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 SO<sub>2</sub> ground based levels across the country are mostly within a range of  $0-40\mu$ g/m<sup>3</sup> which is good as per the MoEF&CC standards (Annexure I). However, the major cause of concern is the PM<sub>10</sub>, PM<sub>2.5</sub> levels which are relatively very high. This suggests that high particulate matter (PM<sub>2.5</sub>/PM<sub>10</sub>) 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 SO<sub>2</sub>, can be exempted from installation of additional equipment to control SO<sub>2</sub> 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 SO<sub>2</sub>/NOx/PM<sub>2.5</sub>/PM<sub>10</sub> 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  $SO_2$  is occurring in the atmosphere. It broadly isolates the problem region which need immediate rectification. The locations can be identified as small

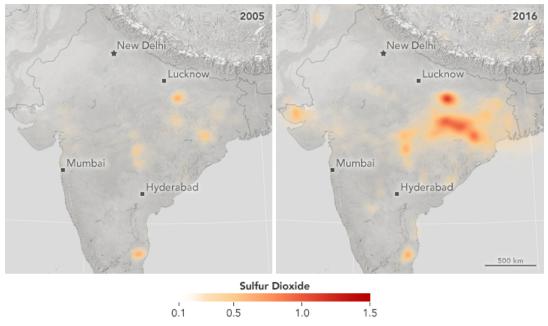


Figure 1 Satellite imagery of SO2 Emissions observed over India (courtesy

### NASA)

clusters in the states of Odisha, Jharkhand, Chhattisgarh, Maharashtra, Tamil Nadu and Gujarat. As the satellite image shows the concentration of SO<sub>2</sub> at certain height, the measurement of ground level SO<sub>2</sub> in the same area can play an important role.

In an attempt to explore such a feasibility, the 24hr avg.(max) SO<sub>2</sub> ground based measured levels (CPCB, 2018 data) were categorized into 5 distinct levels:

- i. Level I: >40  $\mu$ g/m<sup>3</sup>,
- ii. Level II:  $31-40 \ \mu g/m^3$ ,
- iii. Level III:  $21-30 \ \mu g/m^3$ ,
- iv. Level IV: 11-20  $\mu$ g/m<sup>3</sup> and,
- v. Level V:  $0-10\mu g/m^3$ .

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 SO<sub>2</sub> 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 SO<sub>2</sub> present in ambient air of this area is very less and as per CPCB the quality of air is good in regards to SO<sub>2</sub> as shown in the table below:

Table 2 Various SO<sub>2</sub> limit values as per Air Quality Index (AQI), MOEFF&CC

Concentration	Good	Satisfactory	Moderately	Poor	Very	Severe
Range (µg/m3)			polluted		poor	
$SO_2$	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  $CO_2$  and locally it contributes large quantity of bottom ash, fly ash (PM) and some emissions of  $SO_2/NOx$ . 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  $SO_2/NOx$  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  $SO_2$  in a decade from year 2005 to 2016. It shows that the  $SO_2$  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 ( $SO_2/NOx/PM$ ) 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 SO<sub>2</sub> levels of about  $45.9\mu$ g/m<sup>3</sup> at the plant drop significantly to  $1\mu$ g/m<sup>3</sup> at a distance of 40 km (Copy enclosed). Thus, beyond 40 km the impact of SO<sub>2</sub> becomes insignificant. Similar trend is seen in the case of NOx.

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<sub>2</sub>/NOx) 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.

SO <sub>2</sub> Level (µg/m <sup>3</sup> )	0-10	11-15	16-20	21-25	26-30	31-3 5	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 3 SO<sub>2</sub> Levels (max.) in the vicinity of Thermal Power Plants

SO <sub>2</sub> Level (µg/m <sup>3</sup> )	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 SO<sub>2</sub> level is more than  $40\mu g/m^3$  (level -I) and in next phase may be after 1 year of commissioning of 1<sup>st</sup> phase (observing the effectiveness of the control equipment), in plants located in areas where ambient SO<sub>2</sub> level is more than  $30\mu g/m^3$  (level-II). Presently thermal plants located in the area where ambient SO<sub>2</sub> level is less than  $30\mu g/m^3$  (level-III, VI & V) need not to take any corrective measures. The list of power plant according to their location (level of SO<sub>2</sub> in ambient air) is given at Annexure II. The ambient air quality is divided into five regions according to the presence of SO<sub>2</sub> level and the capacity of thermal power plants under various level (on the basis of received data only) has been identified (Table 5).

Region	Ambient Air SO <sub>2</sub> Concentration	Total
	Levels	Capacity
		(MW)
1	Level-I (>40 $\mu$ g/m <sup>3</sup> )	1,460
2	Level-II (> $30\mu g/m^3 \& \le 40\mu g/m^3$ )	5,048
3	Level-III (> $20\mu g/m^3 \& \leq 30\mu g/m^3$ )	290
4	Level-IV (>10 $\mu$ g/m <sup>3</sup> &≤20 $\mu$ g/m <sup>3</sup> )	17,890
5	Level-V (> $0\mu g/m^3 \& \le 10\mu g/m^3$ )	11,020

Table 5 Thermal Capacity based on Ambient Air Quality SO2 Levels

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 SO<sub>2</sub>, NOx, 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.

Pollutants	Location	Emission Limits, mg/m3
PM	All areas	30
FIVI	Key Region	20
	New	100/200
SO <sub>2</sub>	Existing	200/400
	Key Region	50
NOx	All areas	100/200
NOX	Key Region	100

**Table 6** Emission limit values forCoal fired power plants, China

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	n wise Emission	standards of Australia
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Region	PM		SO <sub>2</sub>		No <sub>x</sub>		
U U	Existing	New	Existing	New	Existing	New	
Australia <sub>NHMRC</sub>	80 mg/m <sup>3</sup>		200 mg/m <sup>3</sup>		800 <sup>1</sup> mg/m <sup>3</sup>		
Australia <sub>souтн</sub>	250 <sup>2</sup> mg/m <sup>3</sup>		100 <sup>3</sup> mg/m <sup>3</sup>		700 <sup>4</sup> mg/m <sup>3</sup>		
Australia <sub>tasmania</sub>	100 mg/m <sup>3</sup>		100 <sup>3</sup> mg/m <sup>3</sup>		500 <sup>5</sup> mg/m <sup>3</sup> 800 <sup>6</sup> mg/m <sup>3</sup>		
Australia <sub>victoria</sub>	500 mg/m <sup>3</sup>	250 mg/m <sup>3</sup>	$200^7$ mg/m <sup>3</sup>	$200^7$ mg/m <sup>3</sup>	$1000^8$ mg/m <sup>3</sup>	$700^4 \text{ mg/m}^3$	
1 Power Generating Boilers >30MW		3 Sulphuric acid mist and SO2		5 Plant Size <30MWe		7 SOx as SO <sub>3</sub>	
2 Plant Size >100MJ/h		4 Plant Size >250	Plant Size >250MWe		We	<b>8</b> Plant Size > 150,000MJ/h	

Courtesy: Xing Zhang, Emission Standards and Control of PM2.5 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.

Region	Ambient Air SO <sub>2</sub> Levels	Remarks
1	L e v e l - I (>40µg/m <sup>3</sup> )	FGD shall be installed immediately
2	Level-II (> $30\mu g/m^3 \& \leq 40\mu g/m^3$ )	FGD shall be installed in 2 <sup>nd</sup> phase
3	Level-III (> $20\mu g/m^3 \& \leq 30\mu g/m^3$ )	FGD is not required at present
4	Level-IV (> $10\mu g/m^3 \& \leq 20\mu g/m^3$ )	FGD is not required at present
5	Level-V (>0µg/m <sup>3</sup> &≤10µg/m <sup>3</sup> )	FGD is not required at present

Table 8 Phasing of FGD Installation based on Ambient Air Quality SO<sub>2</sub> Levels

- 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 1<sup>st</sup> 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.

Annexure I

### AMBIENT AIR QUALITY MONITORING DATA FOR THE YEAR 2018

tate / UT	City / Town / Village	Location	SO <sub>2</sub>	NO <sub>2</sub>	24-hourly PM <sub>10</sub>	PM <sub>2.5</sub>	Leve
		Location	$\mu g/m^3$	μg/m <sup>3</sup>		μg/m <sup>3</sup>	Leve
			με/ 111	μg/ 11	με/ 11	με/ 11	
dhra 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
	Chitoor	GNC Toll Gate Tirumala	22	92	157	77	III
		Near Nutrine Confectionery, Palamaner Road	12	69	200	62	IV
		Mining Office, Greamspet	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
	Cuptur	Near Hindu College, Market Road	7	28	147		v
	Guntur						
		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
	Kadana			28		42	v
	Kadapa	Near ICL Industries, Yerragunta, YSR	8		103	43	
		Devi Diabetes & Hormone Centre, 7 Roads	12	32	136		١٧
		DIC Office,Kadapa	7	34	123		V
		RIMS	7	19	78		V
		Municipal Primary School	6	33	128		V
	Kakinada	Office Building Ramanayyapeta	15	52	179	110	١٧
		Gram Panchayathi building, Surya rao peta	14	33	149		١١
		MEE/MEPMA building, Salipeta	16	32	195		١١
		Petrochemical Eng. Of JNTU Campus	12	25	160		IN IN
	Kurnool	Mourya Inn, Krishna Nagar	9	22	129	65	v
		APIIC Building Industrial estate, Kallur at IDA Bobbili Growth Center	9	27	129		v
							v v
		Rajvihar Circle	10	46	120		
		Pump House, Venkataramana Colony	8	23	91		V
	Nellore	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
		Dr.P.V. Rama chandra Reddy Hospital, Brindavnam	6	28	68		v
	Ongole	Near Court Center	6	27	101		v
		APIIC , Administrative Office, IGS	6	25	71		v
		Ongole Municipal Corporation	7	29	91		v
		Prakasam Milk Produce Compay	8	26	73		V
		Staff Clud Building, A.P. Paper Mill	13	28	168	107	١١
	varam	GAIL Administrative Office, A.V. Apparao Road	12	26	175		١١
		MCH Block ,District Hospital, Near Central Prison, Lalacheruvu Road	10	24	149		V
	Srikakulam	SAMKRG Pistons Quarters Bulding, Near IDA, Pydibhimavaram	16	30	344		IN
		District cooparative office at SKLM Old Bridge	14	28	218		١١
		Kushalapuram	12	25	93		IN
		Muncipal corporation Office, Old Bustand	15	36	249		IN
	Tirupati	Regional Science Centre, Chittoor Bypass	7	40	146	14	
	Inupati					14	
		Municipal Office	6	38	104		
		APPCB-Regional Office	5	20	109		\ \
		S.V. Guest house	6	29	93		\ \
	Vijaywada	NTR Veterinary college of sciences, Gannavaram	5	21	86		<u>۱</u>
		VR Siddhartha Engineering college , Kanuru	5	21	59		\ \
		APIIC,IALA, IDA, Kondaplli	5	22	84		\ \
		Benz Circle	6	66	105	48	\ \
		Autonagar	6	28	105	52	
		Police Control Room	6	29	107	50	
		A.P. Pollution Control Board, plot no. 41, Sri Kanakadurga Officers colony,	6	27	105		\ \
		Gurunank Road			100		<u> </u>
		Gram Panchayat Office, Yenamalakuduru	7	29	106		V
		Indian Medical Association Hall, Eluru Road, Governorpet	7	31	109		V
				41			11

		Panchayat Raj office, Mindi	25	39	236	161	111
		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	Ш
		Pedagantyada (V), Gajuwada (M)	22	33	181	122	Ш
		CWMP, RAMKY, Parawada	23	33	145	93	ш
		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
		Muncipal 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
Assdin							
	Bongaigaon	Oil India Ltd. PS-6, Chirang	29	43	184		
	-	Barpara Office Building	26	39	150		
	Daranga	BATAD, Sandoop 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	Ш
		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 Pragjyotish 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	24	180		IV
	North	Bazar Patti, North Lakhimpur Town	15	29	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		
	Gaya	Godam Road, Raja Market	16	28	261		IV
	Muzaffarpur	BSPCB Regional Office, Bela Industrial Area, Bela	22	49	423	239	
	Patna	Beltron Bhawan, Shastri Nagar	13	74	426	233	IV
			36	124	564		10
	D. I. I.	Gandhi Maidan, Auto Exhaust Test Centre					
	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	İ	v
		M.P. Laghu Udyog Nigam	27	26	106		
		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, Jamnipali	24	32	115	23	
	Raigarh	Regional Office, ECB, Raigarh		52	77	35	v
		Jindal Industrial Area,Punjipathra, Raigarh			95	56	v
	Paipur		17	26		30	IV
	Raipur	New HIG-9, Hirapur/Housing Board Complex Kabir Nagar	17	26	91		
		M/S Wool Worth India Pvt. Ltd. Sarora	24	41	99		
	II Baldevi (Dadra & Nagar Haveli)*	Baldevi Village, Athola, Dandul Faliya, Teh:Dadra & Nagar Haveli	24	52	130	46	111
Dadra & Nagar Have		1			170	50	<u> </u>
Dadra & Nagar Have		Keedeli Leductula Anna Keedeli					
Dadra & Nagar Have	Silvassa	Khadoli Industrial Area, Khadoli	45	51	178	59	
	Silvassa	Chetan Guest House, Near Post Office, Piperia, silvassa Char Rasta	45	43	171	59	I
Dadra & Nagar Have							I 
	Silvassa	Chetan Guest House, Near Post Office, Piperia, silvassa Char Rasta	45	43	171	59	
	Silvassa	Chetan Guest House, Near Post Office, Piperia, silvassa Char Rasta Prima Plastic, Kadaiya Industrial Area, Kadaiya	45 40	43 45	171 157	59 59	
	Silvassa Daman	Chetan Guest House, Near Post Office, Piperia, silvassa Char Rasta Prima Plastic, Kadaiya Industrial Area, Kadaiya Mashal Chawk, Nani Daman	45 40 41	43 45 42	171 157 158	59 59 57	 
Daman & Diu	Silvassa Daman Patlara (Daman)*	Chetan Guest House, Near Post Office, Piperia, silvassa Char Rasta Prima Plastic, Kadaiya Industrial Area, Kadaiya Mashal Chawk, Nani Daman Makat Faliya/ Ambavadi, Patlara Village, Moti Daman Teh:Daman	45 40 41 34	43 45 42 29	171 157 158 140	59 59 57	    
Daman & Diu	Silvassa Daman Patlara (Daman)*	Chetan Guest House, Near Post Office, Piperia, silvassa Char Rasta Prima Plastic, Kadaiya Industrial Area, Kadaiya Mashal Chawk, Nani Daman Makat Faliya/ Ambavadi, Patlara Village, Moti Daman Teh:Daman N.Y. School, Sarojini Nagar, Delhi	45 40 41 34 26	43 45 42 29 179	171 157 158 140 345	59 59 57 45	    

		Nizamuddin	13	166	708	204	IV
		Pritampura	41	160	990	831	1
		Shahadra	31	124	699	365	Ш
		Shahzada Bagh	21	181	918		Ш
		Siri Fort	12	123	916	116	IV
		Town Hall, Ayurvedic Dispensary, Chandni Chowk, Delhi	22	190	400		
Goa	Amona	Amona, Bicholim	10	18	98	31	V
000	Assanora	Assanora Junction, Bardez	10	17	95	31	IV
							v
	Bicholim	Bicholim	10	16	173	56	
	Codli	Codli Tisk, Ponda, Sanguem	11	17	143	46	IV
	Cuncolim	Cuncolim	17	20	94	54	IV
	Curchorem	Curchorem, 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
Guiarat			32				
Gujarat	Ahmedabad	Naroda, G.I.D.C., Ahmadabad		46	334	96	
		Cadilla Bridge Narol	49	66	419	128	1
		Bhagavathi Estate, Keval Kanta Road, Rakhiyal	38	78	408	134	11
		Reliable Products, 61/62 Ilaben estate, Pirana Dump Site, Narol (previous Dyno	32	52	504	143	11
		Wash)					
		L.D. Engg. College	33	70	329	185	П
		Shardaben Hospital, Saraspur	32	59	378	106	Ш
		R.C. Technical High School, Mirzapur	28	53	408	112	
		AZL Behrampura, Ahmadabad	33	70	327	97	11
		Sola L.T. Chanakyapuri Pumping Station	37	74	374	109	
	Anklesvar	Rallis India Ltd.	31	41	218	75	
	Alikiesvar						
		Durga Traders, Bhavanafarm Society	28	56	245	75	111
	Jamnagar	Fisheries Office	35	59	272	107	11
	Rajkot	Nr. Sardhara Industrial Corporation	38	59	411	112	Ш
		GPCB Regional Offce	37	80	326	112	П
	Surat	S.V.R. Engg. College	49	57	150	59	1
		B.R.C. High School, Udhna	65	87	401	126	I
		Near Air India Office	50	59	318	96	
	Vadodara	GPCB Office, Geri Vasahat	35	46	249	84	11
	Vadoana		33		228	82	
		Sterling Gelatin Guest House, Vill-Karakhadi Padia		46			
		Dandia Bazaar	42	60	326	102	I
		CETP Nandesari	43	54	391	108	1
		Lubrizol	65	85	322	100	I.
	Vapi	GEB, Illrd Phase, GIDC	38	58	317	96	11
		Vapi Nagar Palika, Vapi	29	38	296	98	Ш
Haryana	Hissar	Urban Estate - II	14	12	306		IV
Himachal Pradesh	Baddi	Industry Department Office Building	3	55	644		v
		AHC barotiwala	3	56			v
					463	L	
		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	10	178	79	v
	Manali						v v
	Manali	Nehru Park, Manali, Kullu	5	29	207	75	
		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	117	v
	Shimla	Bus Stand, Winterfield	8	40	168	65	v
	Snimia Sunder Nagar						
	I SUMMAR MODER	HPSPCB, BBMB Colony, Mandi	2	20	321	162	V
	Sunder Wagan						
		Muncipal Council, NH-21, Mandi	2	28	464	151	V

	Una	Regional Office, Una	2	6	556		\
		DIC Building, Mehatpur, Una	2	7	84		\ \
	Vashisht	Behind pollution check barrier, Bhang	3	13	90		,
nmu & Kashmir	Jammu	Regional Office, Jammu	7	25	367	77	
		M.A. Stadium, Jewel Chowk	8	24	291	79	
		Bari Brahamana Industrial Area	7	24	283	63	
	Pulwama	Khrew			170		
	Srinagar	SPCB Office Campus, Srinagar			162		, I
		Khonmoh			205		, ,
		Lasjan, Budgam			820		<u> </u>
Jharkhand	Barajamda	Barajamda U.M. Office	20	63	104		
Jilarkilanu	Dhanbad	R.O. Dhanbad	19	47	358		
	Dilalibau						
		EMTI, Bastacola	19	53	465		
		CGM Office, Kusunda	26	59	481		
	Jamshedpur	Bistupur Vehical Testing Centre	49	59	190		
		Golmuri Vehicle Testing Centre	43	56	186		
	Jharia	M.A.D.A.	18	45	498		1
	Ranchi	Albert Ekka Chowk, Main Road	21	39	147		
	Saraikela	RO Building, Adityapur	46	56	196		
	Sindri	BIT / PDIL	22	45	214		
Karnataka	Bagalkote	Bagalkote KSPCB Office Premises	2	34	106	78	
	Bangalore	Graphite India, White Field Road	3	40	270	70	
		AMCO Batteries, Mysore Road	4	41	162	72	
		KHB Industrial Area, Yelahanka	3	40	254		
		Peenya Industrial Area	3	40	158	66	
			5	41 37		00	
		Victoria hospital			129	01	
		Yeshwanthpura police station	4	40	243	91	
		Jnanabharathi, Bangalore University	10	23	65		
		TERI office, Vital Medi healthcare Pvt Ltd	3	39	175	69	
	Belgaum	Karnataka SPCB Office Building	2	23	325	82	
	Bidar	KSPCB Office Premises	3	32	147	76	
	Bijapur	KSPCB Office Premises	2	21	185	75	
	Chitradurga	KSPCB Office Premises	17	12	354		1
	Devanagere	Regional Office building, KSPCB	10	12	83	45	
		HPF Intakewell, Kumarapattnam	24	11	70	33	
	Gulburga	Government Hospital	5	41	154	90	
	Hassan	KSRTC bus stand building	5	23	47	39	
	Hubli-Dharwad	Lakkamanahalli Industrial Area, Dharwad	7	29	87	36	
		Rani Chennamma Circle, Hubli	8	30	106	41	
	Kolar	KSPCB Office Premises, Kolar	2	39	148	58	
	Mandya	KSPCB Building, Bandigowda Badarahe	2	14	55	50	
					87		
	Mangalore	Baikampady Industrial Area	10	13			
	Mysore	K.R.Circle, Visvesvaraya Bldg	10	20	77	38	
	Raichur	KSPCB Office Premises, Raichur	23	28	284	77	
	Shimaga	The VISL, Oxygen Plant, Shimoga	25	12	92	42	
	Timukuru	KSPCB Office Premises	3	39	181		
Kerala	Alappuzha	District Office, Alissery Road	2	5	69		
		DC Mills, Pathirappally	2	5	76		
	Kochi	Eloor I, FACT, Ambalamughal	4	40	99		
		Eloor II	6	46	113		
		Irumpanam	10	33	136		
		Ernakulum South	7	25	136		
		VYTTILA	9	44	188		
		MG Road Bank Ernakulum	9	26	194		
			10	32	194		
	Kallam	KALAMASSERY / CSIR Complex					
	Kollam	KSPCB, District Office, Kadappakada	3	7	54		
		KMML Chavara	4	7	60		
	Kottayam	Kottayam	4	14	57		
		Vadavathoor	5	15	85		
	Kozhikode	Kozhikode City	2	29	501	13	
		Nallalam	2	23	131	12	
	Malapuram	Kakkanchery, Sijmak oils	2	38	77		
	Palakkad	SEPR Refractories India Ltd.	8	10	97		
	Pathanamthitta	KSPCB, Makkamkunnu	2	19	39		
	Thiruvanantha puram	PRS Hospital/COSMO	8	30	59		
		SMV School	8	53	67		
		VELI / HiTech Chackai	21	28	64		
		PETTAH / Sasthamangalam	9	20	69		
	Thissur						
	Thissur	KSPCB, District Office, Poonkunnam	18 2	31	82		
				5	49		
akshwadeep	Wayanad	Sulthan Bathery Power House Building (Second Floor)	2				_

4

Aadhya Pradesh	Amlai	нл	26	30	139	67	
		ОРМ	24	27	151	70	
	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	111
		Barkatuallah University, Hoshgabad Road, Bhopal	12	40	225	97	IV
		Main Road, Hemu Colony, Bairagarh, Bhopal	16	47	218	90	١V
	Chhindwara	HIG -33, Front of Geetanali Park Housing Board Colony, Chadagaon	23	42	141	66	
		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	11
		Vikas Nagar	20	25	80	96	IN
	Gwalior	Dindayal Nagar	16	26	235	90	١١
		Maharaj Bada	18	32	239	90	١١
	Indore	M.P. Laghu Udyog, Pologround	13	24	134	89	١١
		Kothari Market, M.G. Road	39	36	252	141	1
		Telephone Nagar, 26 A, Kanadia Road	16	32	273	115	IN
	Jabalpur	Vijay Nagar	2	29	231	104	v
	Jubulpul	Udaipur Beverage Racchai	19	31	246	87	IN IN
	Katni		30	41	170	74	
	Naun -	HIG-4 Housing Board Colony Jhinjhri, Katni Caldenye Worke Refactories India Private	27	37		74 80	
		Calderys Works Refactories India Private Limited, Guest House, Katni	27	3/	152	80	"
	Nagda	Chem. D. Labour Club	33	27	85	44	
		B C I Labour Club	20	33	80	38	
			20	33	80 116	55	
	Drithorson	Grasim Kalyan Kendra Vikas Bhavan, Sector-2	23	30	116 112	55	
	Prithampur						1
		RCC Over Head Tank No. 1, Sector-3	27	31	119	46	
	Sagar	Pt.Deendayal Nagar	11	30	197	89	1\
		Katra Bazar, Sagar	6	24	141	72	\ \
	Satna	Sub-divisional Office E/M Light Machniery	6	13	210	98	\ \
		MPPCB, Dharwari GaliNo.5, House No.318	5	10	129	64	\ \
	Singrauli	Jayant Township	37	42	193	75	1
		N.T.P.C., Vidyanagar	32	70	198	74	
		Waidhan	31	88	181	82	I
	Ujjain	District Office	19	20	116	56	IN
		Regional Office	17	18	116	46	IN
		Mahakal Temple	38	50	370	273	1
		Chamunda Mata Chouraha	18	19	136	58	IN
Maharashtra	Akola	LRT Commerce College, Civil Lines, Akola	14	14	94		IN IN
		MIDC Water Work, Phash-II, MIDC Akola	18	19	92	-	IN
		College Of Engineering & Tech, Akola	15	16	91		IN
	Ambernath	Ambernath Municipal Council Office	41	107	350		
	Amravati		27	29	152		
	Amravati	Apurva Oil Industries, A-23, MIDC					
		Elect. Dept., Govt College Engineering	24	28	141		1
		Rajkamal Square, Vaneeta Samaj	27	29	140	<u> </u>	1
	Aurangabad	S.B.E.S. College	27	51	91		
		Collector Ofiice	16	37	92		IN
	L	C.A.D.A. Ofiice, Garkheda	24	48	94		1
	Badlapur	BIWA Office	38	101	256		I
	Bhiwandi	Prematai Hall, Near Dhamankar Naka	41	47	83		
		Fire Brigade Office, I.G.M. Hospital	42	53	85		
		Regional Office, M.P.C. Board, Kalyan	58	60	83		
	Chandrapur	Grampanchat Ghughus	6	46	630		N N
		M.I.D.C. Chandrapur	8	54	135		\ \
		Nagar Parishad	75	72	220		
		Gadchandur Gram Panchayat, Rajura	6	46	274		\ \
		MIDC, Tadali	8	43	210		
		Muncipal Council, Ballarshah	6	60	256		
	Dombivali	Dombivali MIDC Phase-II	43	101	230		
	Jalgaon	B. J. Market	21	44	138		
	130180011	Girna water tank	19	44	138		
	<u> </u>	MIDC Jalgaon	20	44	131	<u> </u>	ľ
	Jalna	Bachat Bhawan, Near S P Office	14	60	141	<u> </u>	ľ
		Krishidhan Seeds Ltd, MIDC Area	14	61	110	<u> </u>	ľ
	Kolhapur	University Campus, Shivaji University	19	36	88		P
	Koniupui				1.00		
	Kondpur	Ruikar Trust, S.T. Stand	42	81	162		
		Ruikar Trust, S.T. Stand Mahadwar Road, Near Mahalaxmi Temple	42 34	81 66	162 133		1
	Latur						II V

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Gor. Approxima Collign. Start         32         93         97           MBC Offer Integras Nati         32         94         98         98           MBC Offer Integras Nati         32         84         288         98           MBC Maximal Anax, MBC Offer Integras         33         66         923         91           MBC Offer Integras         71         83         70         71           Mark Maxin, Mark Mark, Mark Mark         33         76         230         71           Mark Solida AD, Uring Braun, Rahi         34         76         230         71           Mark Solida AD, Uring Braun, Rahi         71 <td></td> <td></td> <td></td>				
MBC forder triggers field         Sign         Sign         Sign         Sign           MBC field triggers         MAGE field triggers         Sign         Sign         Sign           MBC field triggers         MAGE field triggers         Sign         Sign         Sign           MBC field triggers         MAGE field triggers         Sign         Sign         Sign           MBC field triggers         MAGE field triggers         Sign         Sign         Sign           MBC field triggers         MAGE field triggers         Sign         Sign         Sign           MBC field triggers         MAGE field triggers         Sign         Sign         Sign         Sign           MAGE field triggers         MAGE field triggers         MAGE field triggers         Sign         Sign         Sign         Sign           MAGE field triggers         MAGE field triggers         MAGE field triggers         Sign         Si			Nagpur	
Mather beak and and a set of the set				
NameNumberNumbe		-		
Network         <	17 84 283	MIDC Industrial Area, MIDC Office, Hingna 17		
Map         Map         Map         Map         Map         Map         Map         Map           Nashik         8.1.0. Colory prink         220         380         332         1           Mashik         Map         Map         380         332         1           Mashik         Map         Sale         380         200         1         300         1 <t< td=""><td>22 45 304</td><td>Nagpur Coop Building, Maskasath, Itwari 22</td><td></td></t<>	22 45 304	Nagpur Coop Building, Maskasath, Itwari 22		
Nathik         1.0 Colory Tank.         24         30         93           VP digotry Tank. MUC Stypun         22         38         941           Nethik Municipal Cource Building.         22         38         201           MCE Stap R.G. Lidyog Bhavan, Nathik         22         38         331         337           MCE Stap R.G. Lidyog Bhavan, Nathik         33         76         337         330           MCE Stap R.G. Lidyog Bhavan, Nathik         23         76         332         330           MCE Stap R.G. Lidyog Bhavan, Nathik         26         73         140         330         330         330           MCE Stap R.G. Lidyog Bhavan, Nathik         72         69         300         250         330	18 56 <u>232</u> 111	NEERI Lab, Nehru Marg, Highway No. 7 18		
with during and product Sympo         22         30         93         93           NabM Munipol Caurd Building         22         38         93         200           NabM Munipol Caurd Building         24         38         200         1           NabM Munipol Caurd Building         121         380         220         1           Nav Munipal         T.L.R.Rabat Anol, TTC         22         68         228         2           No.C. Statio Calleg, Nerul, TEC         22         68         235         2         1           O.C. Statio Calleg, Nerul, TEG         22         72         310         2	33 66 268	MPCB Office Premises, Civil Lines 33		
Marki Municipal Council building         22         38         200           MESS Size R.G. Udyog Bhanan, Nashik         33         76         337           Faci As Danle Arrol, TTC         20         66         228           O. D. Pati Colleg, Nerval, TTC         20         76         337           MCS Lia, Mange, TT         200         70         140           COC Notal Offer Marghar         20         78         387           MCR Lia, Mange, TT         200         78         88         78           MCR Lia, Mange, TT         200         78         88         200         100           Mark Paun Disco, Fanval, Tabja         20         78         380         200         100           Mark Danley Colleg, Col	24 29 171	R.T.O. Colony Tank 24	Nashik	
Mean Numbal         Mean Numbal         24         34         70           New Numbal         TE LA, Raba Anda, TTC         27         6.6         228           MrG Callar, Mapae, TC         27         6.6         228         0           MrG Callar, Mapae, TC         27         6.6         228         0           CDCO Notal Olice Manghar         27         6.6         228         0           CDCO Notal Olice Manghar         27         71         8.8         8.55           Mino Callor Exity Building, Talaja         34         6.8         155         0           Mino Callor Sangha Distopi         74         4.84         276         338         0	22 30 193	VIP Industrial Area, MIDC Satpura 22		
Navi Mumbal         BLA, Rabale Anol, TTC         B32         76         337           In, D.Y. Pray, Colump, Poul, TTC         26         71         140           In, D.Y. Pray, Colump, Poul, TTC         26         71         140           Ind, D.Y. Pray, Colump, Poul, Paray, Tari, Colump, Poul, Paray, Tari, Colump, Poul, Paray, Tari,	22 38 204	Nashik Municipal Council Building 22		
Navi Mumbal         8.1.4. Rabale Anol. TTC         9.32         9.6         33.7           Dr. D.Y. Program         2.60         7.1         1.00         1.00           MCR Lab, Mhape, TTC         2.60         7.1         1.00         1.00           MCR Lab, Mhape, TTC         2.60         7.1         1.07         1.00           MURC Colorn Facility Building, Tabja         2.7         6.9         2.00         1.00           MURC Colorn Facility Building, Tabja         3.60         1.48         0.80         1.85         2.00           Pumpri-         Bande Bace Building, Keerk Calliding         3.60         1.44         1.80         2.00         1.00           Sengel Marg Building, Table Cabaski         7.01         1.47         3.16         1.00	24 34 220			
IPUP Pail College, NewLITC         127         66         228           IPUP ICALS, NewLITC         126         71         140           IPUP ICALS, NewLITC         127         71         127           IPUP ICALS, NewLITC         127         71         137           IPUP ICALS, NewLITC         137         137         137           IPUP ICALS, NewLITC         138         80         138         300           IPUP ICALS, NewLITC         138         138         138         130         145           IPUP ICALS, NEWLITC         138         138         138         130         145           IPUP ICALS, NEWLITC         138         138         130         145         145           IPUP ICALS, NEWLITC         138         140         145         145         145           Sangli Minitary ISON MICES angli         138         141         188         141<			Navi Mumbai	
MeGL Lab. Maps. TC.         120         140         140           COCO Nodal Office Marghar         27         69         200           Mub C Colon Facility Builing, Taloja         27         10         17           Pinnpri-         Ban of Baroka Builing, Karva K Builing,         76         128         330           Chinchwal         71         147         315         100           Pane         Marstha Chamber of commerce, Bhosari         80         148         260         100           Sargel More Builing, Karva K Builing,         73         147         315         100				
Income Name Control         97         99         200           Vecter Name House, Name, Taloja         347         7.1         1.37           Mate Colon Incain's Building, Taloja         347         347         358           Pimpri- Chechwad         Bak of Barod Building, Naer MC Building         76         128         330           Pare State Electric Board Building, Naer MC Building         77         147         353         1           State Electric Board Building, Naer MC Building         73         157         159         1           State Electric Board Building         440         148         123         121           Solgour         Wild Campado School / Challe Clinic         159         42         87           Yornnoks School / Challe Clinic         159         42         87         1           Tane         Materin Viscola, Dholdgat, Thone Next         120         64         205         1           Tane         Materin Viscola, Dholdgat, Thone Next         120         64         205         1           Materin Viscola, Dholdgat, Thone Next         120         64         205         1         1           Uhanagar         Schoola Anter, Nawada, Thone West         200         87         1         1				
Mater Pump House, Parvef, Tabija         27         7.1         1.37           Pinpri- Chinchwad         Bank of Facility Sulding, Tabija         348         6.80         1.50           Pinpri- Chinchwad         Bank of Facility Sulding, Tabija         7.0         1.47         0.80           Pure         Maratha Chamber of commerce, Bhostari         7.0         1.47         0.80         1.50           Soragite Police Chawi         7.1         1.47         0.80         1.50         1.50           Sangli         Gindaw ding School Shaltop         7.1         1.47         0.80         1.50           Sangli Wiraj Pinany School Building         7.1         1.40         0.204         1.50           Sangli Wiraj Pinany School Building         1.60         1.60         1.50         1.50           Voronoko School / Chalta Clinic         1.90         4.20         1.50         1.50           Maternity Hospital, Dholighat, Thane Kast         2.50         6.20         1.50         1.50           Ubinsangar         School / Chalta Clinic         1.50         1.50         1.50         1.50           Ubinsangar         School / Chalta Clinic         1.50         1.50         1.50         1.50           Ubinsangar         School /				
MDC Colom Facility Building, Tarioja         34         68         155           Pinpri- Chinchwad         Baho of Farda Building, Nar M.C Building         76         18         20           Pune         Maratha Chamber of commerce, Bhosari         800         145         276         18           Pune         Maratha Chamber of Commerce, Bhosari         73         167         189         100           Sangle Police Chawi         73         167         189         100         10				
Pinpri- (mindrward)         Bank of Barods Buling, Narr M.C Buliding         76         198         330         330           Pune         Maratha Chamber of commerce, Bhosari         60         145         276         1           Start Electricity Boord BLOG Naktop         71         147         306         1           Saragte Police Chawlo         731         147         306         1           Saragte Police Chawlo         731         147         306         1           Saragte Police Chawlo         731         147         306         1				
Chinchwad         Chinchwad <td></td> <td></td> <td></td>				
Pune         Maratha Chamber of commerce, Bhosari         \$80         145         276           Sate Electricity Board BLOG Nakstop         71         1.47         316           Sangli         Udyog bhava / SRO, MCG Sangli         33         90         204           Sangli         Udyog bhava / SRO, MCG Sangli         33         90         212           Sangli         Udyog bhava / SRO, MCG Sangli         38         90         212           Solapur         WT Campus         19         42         87           Voronoko School / Chala Clinic         19         42         82           Thane         Maternity Hospital, Thane East         226         62         382           Ulhaangar         Sinku Market, Naupada, Thane West         286         64         280           Ulhaangar         Smrt, C. H. M. College Campus         32         47         296           Menhjur         Impace Uniding, Jainta Hills Ostrict         34         17         200           Meghalaya         Byrnihat         EPIP, Ri-Bhoi district         36         13         57           Meghalaya         Byrnihat         Imace Uniding, Jainta Hills Ostrict         34         15         30           Meghalaya         Odre Rovine	76 198 330	Bank of Baroda Builing, Near M.C Builiding 76		
State Electricity Board BLDG Naistop         71         147         316           Sargii         Gargie Folice Chawki         73         167         126           Sargii         Gargie Maral SRO, MARG Sangii         38         90         204           Sargii         Gargie Maral SRO, MARG Sangii         448         149         128           Solapur         Krishna Valley School         128         123         201           Solapur         Wir Campus         128         123         201           Yoronoko School / Chalae Clinic         139         44         88         123           Tane         Maternity Hospital, Dhobighat, Thane East         256         66         205         128           Managar         Funch Mecke, Naugad, Thane West         220         61         228         120           Manipur         Inghan Sawai-Chowk, Vithalwadi         307         142         280         120           Marinity         Sparinita         Electricity Board BLDre Naistit         140         130         120           Manipur         Indhangar         Ferest Chale, Filenbard Stricit         30         120         120           Manipur         Indena Strinite         Sparinites, Linupry Naingad         120 <td>80 145 276</td> <td>Maratha Chamber of commerce, Bhosari 80</td> <td></td>	80 145 276	Maratha Chamber of commerce, Bhosari 80		
Swargate Police Chawki         73         167         189           Sangli         Udyog bhasan /SO, MCB Sangli         33         90         204           Sangli         Udyog bhasan /SO, MCB Sangli         33         90         204           Sangli         Singli-King Primary school Suliding         44         439         125           Solapur         WT Campus         138         123         212         110           Yoronoko School / Chitale Clinic         138         123         212         115           Thane         Materiny Hospital, Dhobigha, Thane East         25         62         185         110           Ulhansagar         Smt. C. H. M. College Campus         28         87         110         122           Marijur         Imphal         Secretariat Building, Thane Kest         28         87         110           Meshapa         Smt. C. H. M. College Campus         38         87         110         120         120         120           Marijur         Imphal         Secretariat Building, Thane Kest         130         133         137         130           Meshapa         Smt. C. H. M. College Campus         40         17         280         141         38         16			-	
Sangli         Udyog bhavan / SRO, MPCB Sangli         93         90         204           Sangli-Ming Pirnary school Building Kishna Valley School         14         140         145         145           Solapur         WIT Campus         19         42         87         1           Varonoko School / Chitale Clinic         19         41         88         1           Thane         Maternity Hospital, Dhobighat, Thane East         26         64         205         1           Uhanngar         Shahu Marek, Napada, Thane West         26         64         226         1         226 <t< td=""><td></td><td></td><td></td></t<>				
Sargii-Miraj Primary school Building Krishna Valley School         144         149         185           Solapur         Trampus         123         123         123           Solapur         Trampus         199         42         830           Thane         Maternity Hospital, Thane East         199         41         881           Thane         Maternity Hospital, Thane East         250         664         282           Uhasnagar         Smit. C. H. N. College Campus         32         87         170           Maternity Hospital, Jahta Watek, Mayada, Thane West         32         87         170           Manpur         Imphal         Secretarita Building         100         533         187           Maternity Hospital, Jahta Hills District         34         17         280         170           Meghalaya         Byrnihat         EPIP, Ri-Bold district         34         17         280         181           Nogstoin         Office Premises of E.E, PHED         4         13         35         181           Shilong         Bord Solfice Premises of E.E, PHED         4         14         38         181           Tura         O/6 BOD, C & R.D. Block-Khilehriat         2         16         122			Sangli	
Kishna Valley School         188         123         212           Solapur         WT Campus         19         42         87           Trane         Maternity Hospital, Dhobighat, Thane East         19         42         83           Thane         Maternity Hospital, Dhobighat, Thane East         25         62         185           Kabhu Market, Naupada, Thane West         26         64         205         10           Kabhet and Balkm, Thane West         26         64         205         10           Ulhasnagar         Smit, C. H. N. College Campus         32         87         100         100         53         187           Meghalay         Byrnihat         EPP, Ri-Bhoi district         34         17         280         10         10         53         187         10         100         53         137         10         10         53         137         10         10         100         50         10         53         137         10         <			Jangli	
Solapur         WT Campus Voronoko School / Chitale Clinic         19         42         87           Thane         Matemity Hospital, Dhologhat, Thane East         25         62         185           Thane         Shahu Market, Naupada, Thane West         26         64         205           Kolshet and Balkum, Thane West         22         61         822         62           With Campus         32         87         1.42         286         1.42           Manipur         Impal         Secretarial Building         32         87         1.42         286         1.55				
Normal         Voronoko School / Chitale Clinic         19         41         88           Thane         Maternity Hospital, Thane East         25         62         185           Shahu Market, Naupada, Thane West         26         64         282         1           Ulhasnagar         Scishet and Balkum, Thane West         22         61         282         1           Manipur         Imphal         Scretariat Building, Thane West         32         87         170           Manipur         Imphal         Scretariat Building, Thane West         32         87         170           Manipur         Imphal         Scretariat Building, Thane West         32         87         170           Manipur         Imphal         Scretariat Building, Thane West         32         87         170           Manipur         Imphal         Scretariat Building, David, Phane Netheriat         6         13         57           Manipur         Imphal         Terrace building, Jaintia Hills District         64         11         38           Nongstoin         Office Permises of E.E. PHED         4         11         38         15           Nangat         Baards Office Permises of E.E. PHED         4         15         62         1				
Thane         Maternity Hospital, Dhobighat, Thane East         25         62         185           Shahu Market, Napada, Thane West         26         64         205           Ulhasnagar         Sinki Market, Napada, Thane West         22         61         282           Ulhasnagar         Smt. C. H. M. College Campus         32         87         100           Manipur         Imphal         Secretariat Building         300         53         187           Meghalaya         Byrnihat         EPIP, Ri-Bhoi district         34         17         280           Nongstoin         Office Premises of E., PHED         44         15         30         100           Nongstoin         Office Premises of E., PHED         44         11         38         118           Shillong         Boards Office Permises, Lumpyngngad         2         11         45         18           Mitoram         Mitorano Umain Industrial Complex, Rishol District         3         16         157         100           Tura         PHED, Araimille, West Garo Hills District         3         16         157         127           Mitoram         Alzay         Khata, M.C.Read, Mitoram SPCB         12         12         161         134         144 <td></td> <td></td> <td>Solapur</td>			Solapur	
Shahu Market, Naupada, Thane West         26         64         205           Kolshet and Balkum, Thane West         22         61         282           Uhasnagar         Smit. C. H. M. College Campus         32         87         170           Octroi Naka, Pawai-Chowk, Vitalwadi         32         87         120           Manipur         Imphal         Secretariat Building         100         53         187           Meghalaya         Byrnihat         EPP, Ri-Bhoi district         34         17         280           Dawki         Terrace building, Janita Hills District         34         15         30           Nongstoin         Office Premises of E.E, PHED         4         11         38           Shillong         Boards Office Premises, Lumpyngnad         2         11         45           Shillong         Boards Office Premises, Lumpyngnad         2         16         52           Tura         PHED, Araimlife West Garo Hills District         6         15         127           Tura         PHED, Araimlife West Garo Hills District         6         15         127           Mizoram         Khata, M.G-Road, Mizoram SPCB         5         18         253           Laipuitlang         Savid Garo Hills				
Kolshet and Balkun, Thane West         22         6.1         28.2           Ulhasnagar         Smt. C. H. M. College Campus         32         87         170           Octroi Naka, Pawai-Chowk, Vithalwadi         37         142         296           Manjur         Imphal         Secretariat Bulding         37         122         280           Meghalaya         Byrnihat         EPIP, Ri-Bhoi district         34         17         280           Nongstoin         Office Permises of E. F. PED         4         15         30         12           Nongstoin         Office Permises of E. F. PED         2         11         45         18           Shillong         Boards Office Permises, Lumpyngngad         2         11         45         18           State Tuberculosis Hospital         7         16         52         16         12           Mizora         PHED, Araimille, West Garo Hills District         3         16         157         16           Mizora         PHED, Araimille, West Garo Hills District         3         16         127         16         127           Mizora         PHED, Araimille, West Garo Hills District         3         14         144         142         16         128	25 62 <u>185</u>	Maternity Hospital, Dhobighat, Thane East 25	Thane	
Image matrix         Smt. C. H. M. College Campus Octo Naka, Pavai-Chowk, Vithalwadi         32         87         170           Manipur         Imphal         Secretariat Building         100         53         187           Meghalaya         Byrnihat         EPIP, Ri-Bhol Gistrict         40         15         300           Meghalaya         Byrnihat         Terrace building, Jantia Hills District         4         11         38         170           Nongstoin         Office Premises of E.E, PHED         4         11         38         187           Shillong         Boards Office Premises, Lumpyngngad         2         11         45         180           Tura         O/o Boards Office Premises, Lumpyngngad         2         16         52         160           Mizoram         Atar Tuberculosis Hospital         7         16         52         16           Tura         PHED, Araimille, West Garo Hills District         3         16         157         150           Mizoram         Aizavl         Khatia, M.G-Road, Mizoram SPCB         5         18         253         160           Lumpular         Jumian Industrial Complex, Ri-Bhol District         6         150         122         61           Mizoram         <	26 64 <u>205</u>	Shahu Market, Naupada, Thane West 26		
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Dawki         Terrace building, Jaintia Hills District         4         15         30           Khliehriat         O/o BDO, C & R.D. Block-Khliehriat         6         13         57           Nongstoin         Office Premises of E.E, PHED         4         11         38           Shillong         Boards Office Premises, Lumpyngngad         2         11         45         18           Shate Tuberculosis Hospital         7         16         52         1         41/2         15         62         1           Tura         PHED, Araimille, West Garo Hills District         3         16         157         1           Umiam /Umsning         Umiam Industrial Complex, Ri-Bhol District         3         16         122         61           Mizoram         Aizawl         Khatla, M.G.Road, Mizoram SPCB         5         18         204           Laipuitlang         Bawngkawn         2         16         100         10           Dawrpui Y.M.A, Building, Dawrpui         2         18         204         10         10           Lengpui Airport, Model Veng, Lengpui         2         16         100         10         10         10         10         10         10         10         10         10	100 53 187	Secretariat Building 100	ur Imphal	
Dawki         Terrace building, Jaintia Hills District         4         15         30           Khliehriat         O/o BDO, C & R.D. Block-Khliehriat         6         13         57           Nongstoin         Office Premises of E.E, PHED         4         11         38           Shillong         Boards Office Premises, Lumpyngngad         2         11         45         18           Shate Tuberculosis Hospital         7         16         52         1         41/2         15         62         1           Tura         PHED, Araimille, West Garo Hills District         3         16         157         1           Umiam /Umsning         Umiam Industrial Complex, Ri-Bhol District         3         16         122         61           Mizoram         Aizawl         Khatla, M.G.Road, Mizoram SPCB         5         18         204           Laipuitlang         Bawngkawn         2         16         100         10           Dawrpui Y.M.A, Building, Dawrpui         2         18         204         10         10           Lengpui Airport, Model Veng, Lengpui         2         16         100         10         10         10         10         10         10         10         10         10	34 17 280		ava Byrnihat	
Khilehriat         O/o BDO, C & R. D. Block-Khilehriat         6         13         57           Nongstoin         Office Premises of F.E, PHED         4         11         38           Shillong         Boards Office Premises, Lumpyngngad         2         11         45         18           Shillong         Boards Office Premises, Lumpyngngad         12         26         76         16         52           Forest Rest House, Polo Hills         Forest Rest House, Polo Hills         16         157         62         16         157           Tura         PHED, Araimille, West Garo Hills District         3         16         157         16         52         16         157         16         52         17           Mizoram         Aizawl         Mkatla, M.G-Road, Mizoram SPCB         5         18         253         16         100         16 </td <td></td> <td></td> <td></td>				
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Shilong         Boards Office Permises, Lumpyngnad         2         11         45         18           State Tuberculosis Hospital         12         26         76         16         52           Forest Rest House, Polo Hills         7         16         52         11         45         11         45         12         26         76         16         52         16         52         16         52         16         52         16         52         16         52         16         52         16         52         16         52         16         157         16         52         16         157         16         52         16         157         16         52         16         157         16         52         16         157         16         157         16         157         16         157         16         157         16         157         16         157         16         157         16         157         16         157         16         157         16         157         16         157         16         16         161         161         161         161         161         161         161         161         161				
No.         State Tuberculosis Hospital         12         26         76           Forest Rest House, Polo Hills         7         16         52         1           Tura         PHED, Araimille, West Garo Hills District         3         16         157         1           Umiam /Umsning         Umiam Industrial Complex, Ri-Bhoi District         6         15         127         1           Mizoram         Aizavl         Khata, M.G-Road, Mizoram SPCB         5         18         253         1           Bawngkawn         2         12         61         100         1				
Image: Probability of the set House, Polo Hills         7         16         52           41/2 mile, Mylliem Range Office         4         15         62           Tura         PHED, Araimille, West Garo Hills District         3         16         157           Umiam /Umsning         Umiam Industrial Complex, Ri-Bhoi District         6         15         127           Mizoram         Aizawl         Khatla, M.G-Road, Mizoram SPCB         5         18         253           Bawngkawn         3         14         144         144           Dawrpui Y.M.A, Building, Dawrpui         2         18         204           Laipuitlang         2         18         204         16           Dawrpui Y.M.A, Building, Dawrpui         2         18         204         16           Dawrpui Y.M.A, Building, Dawrpui         2         16         100         16           Champhai         D.T.O Office Building, Kahrawt veng         2         5         56         16           Laizidinga building, Vengthlang         Vengthlang         5         56         56         12           Lunglei         H. Lathuama Building, Salem Veng         2         5         48         12           Kolasib         Hangkhuma Buildi			Shillong	
Image         41/2 mile, Mylliem Range Office         4         15         62           Tura         PHED, Araimille, West Garo Hills District         3         16         157           Umiam /Umsning         Umiam Industrial Complex, Ri-Bhoi District         6         15         127           Mizoram         Aizawl         Khatla, M.G-Road, Mizoram SPCB         5         18         253           Bawngkawn         3         14         144         144           Dawrpui Y.M.A, Building, Dawrpui         2         18         204           Lengun Arport, Model Veng, Lengpui         2         16         100           Champhai         D.T.O Office Building, Kahrawt veng         2         5         56           Kolasib         H. Lathuama Building, Project Veng         2         5         442           Lunglei         Thangkhuma Building, Salem Veng         2         5         56           Nord Bookroom, Building Diakawn         2         5         448           Lunglei         Thangkhuma Building, Salem Veng         2         5         448           Mizoram         Bank Colony         12         12         12           Magaland         Dimajar         Bank Colony         2         2				
TuraPHED, Araimille, West Garo Hills District316157Umiam /UmsningUmiam Industrial Complex, Ri-Bhoi District615127MizoramAizawlKhatla, M.G-Road, Mizoram SPCB518253Laipuitlang21261100Bawngkawn314144144Dawrpui Y.M.A, Building, Dawrpui218204Lengpui Airport, Model Veng, Lengpui216100ChamphaiD.T.O Office Building, Kahrawt veng2542Laizdinga building, Vengthlang55558100KolasibH. Lalthuama Building, Project Veng2548LungleiThangkhuma Building, Salem Veng2512NagalandDimapurBank Colony223248KohimaOpposite NST Office0pposite NST Office26217				
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Mizoram       Aizawl       Khatla, M.G-Road, Mizoram SPCB       5       18       253         Laipuitlang       2       12       61       100         Bawngkawn       3       14       144         Dawrpui Y.M.A, Building, Dawrpui       2       18       204         Lengpui Airport, Model Veng, Lengpui       2       16       100         Champhai       D.T.O Office Building, Kahrawt veng       2       5       42         Lalzidinga building, Vengthlang       5       55       58         Kolasib       H. Lalthuama Building, Project Veng       5       55       56         Synod Bookroom, Building Diakkawn       2       5       42         Lunglei       Thangkhuma Building, Salem Veng       2       5       12         K.Lalliantluanga, Chanmari I, Lunglei       2       5       12       112         Nagaland       Dimapur       Bank Colony       2       23       248       248         Kohima       Opposite NST Office       0       0       27       3       248	3 16 157	PHED, Araimille, West Garo Hills District 3	Tura	
Laipuitlang         2         12         61           Bawngkawn         3         14         144           Dawrpui Y.M.A, Building, Dawrpui         2         18         204           Lengpui Airport, Model Veng, Lengpui         2         16         100           Champhai         D.T.O Office Building, Kahrawt veng         2         5         42           Lalzidinga building, Vengthlang         5         55         58           Kolasib         H. Lalthuama Building, Project Veng         2         5         48           Lunglei         Thangkhuma Building, Salem Veng         2         5         48           K.Lalliantluanga, Chanmari I, Lunglei         2         5         12         112           Magaland         Dimapur         Bank Colony         2         23         248           Kohima         Opposite NST Office         20         273         20         273	6 15 <u>127</u>	Umiam Industrial Complex, Ri-Bhoi District 6	Umiam /Umsning	
Bawngkawn         3         14         144           Dawrpui Y.M.A, Building, Dawrpui         2         18         204           Lengpui Airport, Model Veng, Lengpui         2         16         100           Champhai         D.T.O Office Building, Kahrawt veng         2         5         42           Lalzidinga building, Vengthlang         5         55         58           Kolasib         H. Lalthuama Building, Project Veng         2         5         48           Lunglei         Thangkhuma Building, Salem Veng         2         5         48           K.Lalliantluanga, Chanmari I, Lunglei         2         5         112           Magaland         Dimopur         Bank Colony         2 <t< td=""><td>5 18 253</td><td>Khatla, M.G-Road, Mizoram SPCB 5</td><td>m Aizawl</td></t<>	5 18 253	Khatla, M.G-Road, Mizoram SPCB 5	m Aizawl	
Dawrpui Y.M.A, Building, Dawrpui         2         18         204           Lengpui Airport, Model Veng, Lengpui         2         16         100         100           Champhai         D.T.O Office Building, Kahrawt veng         2         5         42         16         100	2 12 61	Laipuitlang 2		
Dawrpui Y.M.A, Building, Dawrpui         2         18         204           Lengpui Airport, Model Veng, Lengpui         2         16         100         100           Champhai         D.T.O Office Building, Kahrawt veng         2         5         42         16         100	3 14 144	Bawngkawn 3		
Lengpui Airport, Model Veng, Lengpui         2         16         100           Champhai         D.T.O Office Building, Kahrawt veng         2         5         42           Lalzidinga building, Vengthlang         5         5         58         56           Kolasib         H. Lalthuama Building, Project Veng         2         5         56         56           Synod Bookroom, Building Diakkawn         2         5         48         55         56         56           Lunglei         Thangkhuma Building, Salem Veng         2         5         12         55         12           Nagaland         Dimapur         Bahk Colony         2         23         248         24           Kohima         Opposite NST Office         0         20         273         20         273	2 18 204			
Champhai     D.T.O Office Building, Kahrawt veng     2     5     42       Lalzidinga building, Vengthlang     5     55     58       Kolasib     H. Lalthuama Building, Project Veng     2     5     56       Synod Bookroom, Building Diakkawn     2     5     48       Lunglei     Thangkhuma Building, Salem Veng     2     5     12       K.Lalliantluanga, Chanmari I, Lunglei     2     12     112       Nagaland     Dimapur     Bank Colony     2     20     273       Ibobinala     Opposite NST Office     0     21     6     217				
Image: Problem in the system in the syste			Champhai	
Kolasib         H. Lathuama Building, Project Veng         2         5         56           Synod Bookroom, Building Diakkawn         2         5         48         1           Lunglei         Thangkhuma Building, Salem Veng         2         5         12         1           Nagaland         Dimapur         Bank Colony         2         2         2         2         2         2         2         12         112         1			- · · · · · · · · · · · · · · · · · · ·	
Nagaland     Dimapur     Bank Colony     C			Kolasih	
Lunglei         Thangkhuma Building, Salem Veng         2         5         12           Nagaland         Dimapur         Bank Colony         2         12         112           Dobinala         2         2         2         2         2           Kohima         Opposite NST Office         0         2         6         217		<u> </u>		
Nagaland         Dimapur         Bank Colony         Calliantiuanga, Chanmari I, Lunglei         Calliantiuanga, Call			Lungloi	
Nagaland         Dimapur         Bank Colony         2         23         248           Dhobinala         2         20         273           Kohima         Opposite NST Office         2         6         217			Lungiei	
Dhobinala         2         20         273           Kohima         Opposite NST Office         2         6         217				
Kohima         Opposite NST Office         2         6         217			nd Dimapur	
Opposite War Cemetery         2         6         340			Kohima	
	2 6 340	Opposite War Cemetery 2		
Odisha Angul Industrial Estate 20 35 154 85	20 35 <u>15</u> 4 85	Industrial Estate 20	a Angul	
NALCO Township 15 30 163 97	15 30 163 97	NALCO Township 15		
Balasore Sahadevkhunta 4 14 144 95			Balasore	
DIC office 3 14 141 89				
Rasalpur near Balgopalpur I/A         10         14         117         78				
BerhampurRegional Office Orissa SPCB202510765			Berhampur	
Bhubneshwar   Capital Police Station   5   33   159   42			Bhubheshwar	
IRC Village 8 26 172 65				
Office Premises Bhubaneswar 5 34 258 100	5 34 258 100	Office Premises Bhubaneswar 5	I	

	1						
		Water works, Palasuni, Rasalgarh	5	50	169	41	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	ш
		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	
		On roof of PPL Gueest	33	17	286	119	
		On roof of STP building IFFCO	26	19	248	102	
	Puri	Sadar police station	2	19	134		v
		Town Police Station	5	25	167		v
	Rajgangpur	DISIR, Rajgangpur	50	36	295	131	•
		Regional Office Orissa SPCB	19	30	161	131	IV
	Rayagada						
		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, Sonaparbat	15	20	110	101	IV
		Kuarmunda, Sundergarh	15	21	184	66	IV
	Sambalpur	Filter Plant, PHD Office, Modipara	39	43	287	220	11
	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
		CHC, Vill:Binjon, Teh: Garshankar	10	22			v
	Binjon(Garshankar)*				616		
	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
	Kotladoom(Ajnala)*	Satyam College, Ramtirath Road, Vill: Kotladoom, 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 Mlls, 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(Muktsar)*	Vill: Mrar Kalan, Teh:Muktsar	7	23	201		v
	Mukandpur(Nawashahar)*	Govt. Senior Sec. School, Vill:Mukandpur, Teh:Nawashahar	10	23	201		v
					217		`
	Mureedke(Batala)*	Johal Farm, Vill: Mureedke, Teh: Batala	11	21	402		IV
		Vill:Naudhrani, Teh:Malerkotla	6	23	239		v
	Naudhrani(Malerkotla)*		0	23	235		•

	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		12	76	246		IV
Kajastilan	Alwar	Rajasthan State Pollution Control Board Gaurav Solvex Ltd. MIA	12	44	353		IV
		RIICO Pump House, MIA	10	44	309		IV
	Rharatnur		17	36			V
	Bharatpur	Khadi Gramoday Samiti		30	387 501		v
		RIICO office Building	10				v
		RO, Building	8	26	347		
	Bhiwadi	R.O.Building	41	173	447		1
		UIT Guest House	34	176	412		
	China and th	Uttam Strips Ltd	39	196	438		 
	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		111
		22,Godam, RIICO Office	36	47	328		11
		Mansarovar Nagar Niigam	32	41	440		11
		RIICO Office Sitapura Industrial Area	19	49	472		IV
	Jodhpur	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		
		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		Ш
		Regional Office,MIA	26	46	398		ш
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	1	IV
	Ravangla	Ravangla Range Office	9	5	44		v
	Singtam	Police Station Building	59	22	99	1	I
	Singtain		-		99	58	IV
Tamilnadu	Chennai	Govt. High School, Manali	17	22	33	30	
Tamilnadu	-	Govt. High School, Manali Kathivakkam	17 16	22	76	46	IV
Tamilnadu	-	Kathivakkam	16				IV IV
Tamilnadu	-	Kathivakkam Thiruvottiyur	16 16	20 19	76 91	46	IV
Tamilnadu	-	Kathivakkam Thiruvottiyur Madras Medical College	16 16 35	20 19 42	76 91 158	46 49	IV II
Tamilnadu	-	Kathivakkam Thiruvottiyur Madras Medical College NEERI, CSIR CampusTaramani	16 16 35 24	20 19 42 80	76 91 158 90	46	IV
Tamilnadu	-	Kathivakkam Thiruvottiyur Madras Medical College NEERI, CSIR CampusTaramani Thiruvottiyur Municipal Office	16 16 35 24 58	20 19 42 80 65	76 91 158 90 162	46 49	IV II III I
Tamilnadu	-	Kathivakkam Thiruvottiyur Madras Medical College NEERI, CSIR CampusTaramani Thiruvottiyur Municipal Office Adiyar	16 16 35 24 58 12	20 19 42 80 65 19	76 91 158 90 162 177	46 49 68	IV II III I IV
Tamilnadu	-	Kathivakkam         Thiruvottiyur         Madras Medical College         NEERI, CSIR CampusTaramani         Thiruvottiyur Municipal Office         Adiyar         Kilpauk	16           16           35           24           58           12           13	20 19 42 80 65 19 23	76 91 158 90 162 177 197	46 49 68 59	IV II III IV IV
Tamilnadu	-	Kathivakkam         Thiruvottiyur         Madras Medical College         NEERI, CSIR CampusTaramani         Thiruvottiyur Municipal Office         Adiyar         Kilpauk         Thiyagaraya Nagar	16           16           35           24           58           12           13           14	20 19 42 80 65 19 23 49	76 91 158 90 162 177 197 196	46 49 68 59 58	IV II III IV IV IV
Tamilnadu	-	Kathivakkam         Thiruvottiyur         Madras Medical College         NEERI, CSIR CampusTaramani         Thiruvottiyur Municipal Office         Adiyar         Kilpauk	16           16           35           24           58           12           13	20 19 42 80 65 19 23	76 91 158 90 162 177 197	46 49 68 59	IV II III IV IV

	Coimbatore	Poniarajapuram, On the top of DEL	10	33	204	136	V
		G.D.Matric Hr.Sec.School	11	63	141	102	IV
		SIDCO Office, Coimbatore/ Kurichi	9	38	121	94	V
	Cuddalore	Eachangadu Village	28	20	67	39	
		SIPCOT (Project Office)	40	18	58	36	
		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	
		Kunnathur Chatram Avvai Girls HS School	22	37	190	85	
	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	
		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	
	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, Mancherial	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	102		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
		Jalasoudha building	12	80	116		IV
	Kothur	Mehaboobnagar	13	81	153		IV
	Nalgonda	AP PCB Nalgonda	11	30	100	50	IV
	Naigoriua						
		M/s. Srini 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	11
	Sangareddy	Pashamylaram/Municipal Office	78	106	267	250	
		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				1
			43	81	170		
Tripura		Mee-Seva Building ,Municipal Complex	11	81	170	71	IV
	Agartala	Mee-seva Building ,Municipal Complex SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban				71 33	IV III
	Agartala	SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban	11	86	142		
		SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala	11 23 37	86 26 31	142 57 159	33	
	Agartala Agra	SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala Regional Office, Bodla	11 23 37 7	86 26 31 31	142 57 159 450	33	III II V
		SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala Regional Office, Bodla Nunhai	11 23 37 7 9	86 26 31 31 34	142 57 159 450 574	33 72	III II V V
		SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala Regional Office, Bodla Nunhai Taj Mahal	11 23 37 7 9 26	86 26 31 31 34 58	142 57 159 450	33	       
		SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala Regional Office, Bodla Nunhai	11 23 37 7 9	86 26 31 31 34	142 57 159 450 574	33 72	III II V V
		SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala Regional Office, Bodla Nunhai Taj Mahal	11 23 37 7 9 26	86 26 31 31 34 58	142 57 159 450 574 605	33 72 403	       
		SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala Regional Office, Bodla Nunhai Taj Mahal DIC Nunhai	11 23 37 7 9 26 16	86 26 31 31 34 58 65	142 57 159 450 574 605 675	33 72 403 398 292	III V V III IV
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-	Agra Allahabad Anpara Bareily Firozabad	SPCB, Pavivesh Bhawan, Pandit Nehru Complex, Gorkhabasti, Kunjaban         Bordowali Bipani Bitan, Agartala MC, Bordowali, Near Nagerjala         Regional Office, Bodla         Nunhai         Taj Mahal         DIC Nunhai         Etmad-uddaulah         Rambagh         Square crossing circle of Laxmi Talkies         Bharat Yantra Nigam Ltd         Alopibagh/Sewage Pumping Stations         Jhonstonganj/co-operative Bank         Rambagh         Anpara Colony, Sonabhadra         Renusagar Colony, Sonabhadra         IvRI Izatnaga         Indian oetrol pump, Civil Line         Center for Development of Glass Industry         Tilak Nagar         Raza ka Tal	11         23         37         7         9         26         16         13         21         15         15         12         9         23         24         45         44         12         12         12         13         14         15         15         12         11	86           26           31           34           58           65           64           63           51           96           111           79           35           34           38           40           44           40           37	142           57           159           450           574           605           675           644           424           485           437           448           364           320           313           315           679           371           324           330	33 72 403 398 292	III           II           V           III           IV
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CPU pindustral Ares, Methina         610         82         94         94           Hendi         Begin findigh         612         78         220         1/2           Mondabod         Hadu Collage, Station Road         58         466         328         50         1/2           Mondabod         Contra Pick Hospital, Coll Lines'         58         616         381         600         701         610         711         610         711         610         7111         711         711         711		Mathura			28			IV
Meenut         Begins Bridger Thum Balaway Rad / Kensgnarj         B2         P28         P20         //           Mondabad         Hindu Calger, Sunton Ruad         S0         744         444         1           Central Police Hoppital Civil Lines         39         91         300         10         11           Nolfa         UP PDR, 61: Ling South Ruad         53         97         001         11         1           Rebard         Toms Hall Congo, Ahand Mage, Calob Rad         10         12         138         V         V           Annown Rodin, Arna Rabard, Calob Rad         10         12         138         171         V           Annown Rodin, Arna Rabard         12         138         171         V         N           Annown Rodin, Arna Rabard         12         35         357         111         N           Unnao         Hinb, Siristina Nagar         13         32         131         110 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
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General Electroping and Eng. Work         53         53         503         118         (1)           Rebarrell         Toom Hall Colony, Almand Nagar, Guiah Rood         16         27         138         17         18           Rob mand Tinnha Luckoow, Koad Readvardl         16         21         18         171         17         17           Sharangur         SKA. Jir Rookes, Sharangur Gamus         22         35         328         181         17         18           Unaso         HN. 05, Schrina Nagar         130         22         181         17         18           Unaso         HN. 05, Schrina Nagar         130         22         181         17         18           Unaso         HN. 05, Schrina Nagar         130         22         181         17         18           Unaso         HN. 05, Schrina Nagar         130         130         230         240         18           State Kagar         12         38         240         18         11         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110 <td></td> <td>Noida</td> <td></td> <td></td> <td></td> <td></td> <td>211</td> <td></td>		Noida					211	
Baebareli         Town Hall Colory, Annad Nagar, Guila Braid         100         170         158         100         V           Khoya mand Tiraha Lucknow Road Raebareli         120         121         121         170         170           Sharanpur         SRF-A, IT Roorkee, Sharanpur Campus         225         355         352         101         100           UFCL SC. Offee, Near Color Korver         280         355         427         100         100           Unnao         H. No. 5, Krishna Nagar         120         122         222         121         100		Noida					511	
Interpretation         Interpr		Daaharali						
Image         Amswan Road Ind. Area Raebareli         11         12         13         171         171         171           Saharanpur         SRE A. If Rorkee. Saharanpur Campus         25         38         350         320         110           UPCLS I. Ordree, Near Clock Tower         28         35         320         110         110           Unnao         H. No. S, Krishn Augar         130         232         361         100         110           Varanasi         Regional Office, Jawshar Nagar         130         230         240         100         110           Saket Nagar         130         930         236         100         110         130         100         100         100           Banaras Hindu Undversity         131         349         275         100		Raebaren						
Sharanpur         SREA, IT Boorke, Sabaranpur Campus         25         35         37         III           Unao         INCS.S. Office, Near Clock Tower         28         35         37         III           Unao         IN.S., Krihan Nagar         13         32         161         IV           Mailing, Industrial Area, Ste 10         12         32         131         IV         IV           Sabar Magar         32         103         647         IV         IV           Salart Nagar         32         103         647         IV         IV           Salart Nagar         11         33         216         IV         IV           Bararas Indu University         11         33         216         IV         IV           Bararas Indu University         13         92         225         III         IV           Chardpur         Rajour Body Ker argu Dary         22         22         233         III         IIII           Haldwari         Gov. Komen Hospital         22         23         III         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII								
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Coochbehar         ABM Seal College         6         22         112         V           Uttarbanga Krishi Visvavidyalaya, Pundibari         6         20         105         V           Dankuni         Krishnanagar Municipility, Dankuni         12         62         307         IV		· · · · · · · · · · · · · · · · · · ·						
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Dankuni     Krishnanagar Municipility, Dankuni     12     62     307     IV		Coochbehar						
DarjeelingBose Institute Campus5197544V								
		Darjeeling	Bose Institute Campus	5	19	75	44	V

Durgapur	DMC Water Works, Angadpur	21	46	261		
	Kwality Hotel, Bhiringi More, Benachiti	21	49	273		
	Bidhannagar, PCBL Club, Muchipara	24	51	256	136	Ш
	Dew India Limited, PCBL More, Durgapur	21	48	240		ш
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		Ш
	Supermarket Building, Durgachak	20	47	119	46	IV
	WBIIDC Ruchi Soya Ind. Durgachak	21	48	155		
Howrah	Howrah Municipal Corporation	21	160	514	290	
	Naskarpara Pump House, Ghuseri	20	94	441		IV
	CDS & Health Centre, Bator	15	119	437	267	IV
	Howrah Municipality School, Bandhaghat	23	134	462		111
Jalpaiguri	Raninagar Jalpaigur	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	57	IV
Kolkata	Salt Lake, Rooftop of CK Market	10	62	300		V
NUIKala	KMC office Building, Moulali	10	91	428	202	IV
					292	IV IV
	Minto Park, Inside Park AJC Bose Road	13	72	352	192	
	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		1
	Dalhousie Square, Lal Bazzar Police Headqtr.	86	86	361		I
	Kasba	41	41	358	335	I
	RD Kasba	37	105	289		П
	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	10	65	306		V
	Road, Mominpur					
	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 Biulding, 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 Municipility, 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 Municipility	10	27	135		V
Raigunj	Raigunj College	6	20	108		V
Rampurhat	Rampurhat Municipility	7	28	136		V
Ranaghat	Ranaghat Municipility, 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 Municipility	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	10	56	203		IV
Ciliauri	P Mukherjee's House, Near SBI Amta	13	44	266	74	IV
Siliguri	Siliguri	8	25	124	71	V
Suri	Suri Municipility	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

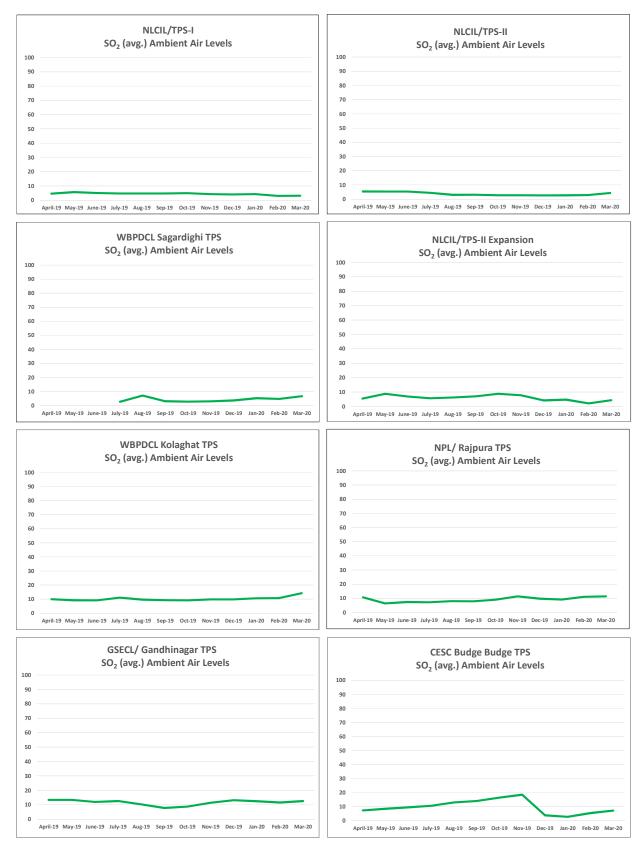


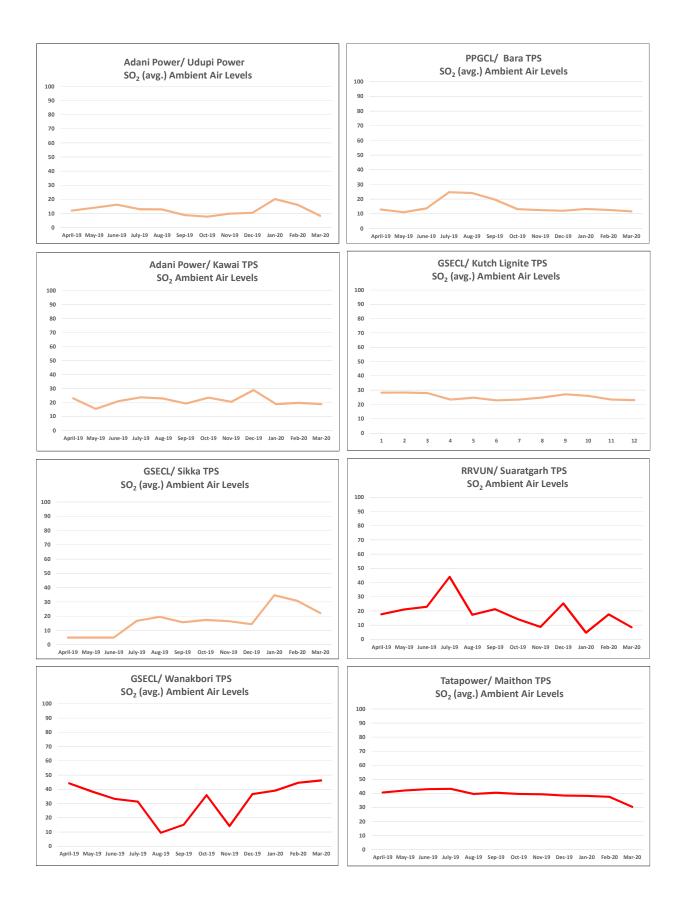




MODERATELY POLLUTED

# List of Power Plants according to $SO_2$ 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 ( $CO_2$ ), nitrogen oxides (NOx), sulfur dioxide ( $SO_2$ ), 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 NOx and 3.0 million tonnes of  $SO_2$  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  $SO_2$  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  $SO_2$  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  $SO_2$ 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 SO<sub>2</sub> and NO<sub>x</sub> emission from Talwandi Power plant at a short distance as well as long-distance up to 250 km.
- Modeling of SO<sub>4</sub> and NO<sub>3</sub> formation precursor gaseous emission of SO<sub>2</sub> and NO<sub>x</sub> 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

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)	SO2- 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	<ol> <li>ID fan (2x60% capacity at worst coal) :- 2523600m3/hr</li> <li>/ power 5.4 MW</li> <li>FD fan(2x60% capacity at worst coal) :- 993600 m3/hr</li> <li>/ Power 2.1 MW</li> </ol>
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 <sup>3</sup> /hr on dry basis

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

The SO<sub>2</sub> emission rate has been taken as 2.77 kg/s which refers to full load generation (1980 MW) for modelling exercise for SO<sub>4</sub>. For the purpose of estimation of SO<sub>2</sub> 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 NOx, the emission is taken as 0.55 kg/s as per the ratio of NO<sub>x</sub> to SO<sub>2</sub> 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).

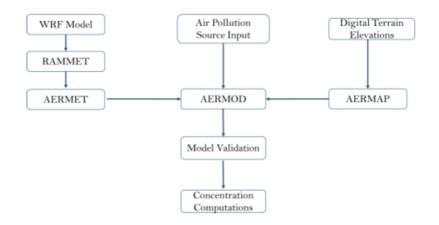


Figure 1: Methodology adopted for the Study

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 preprocessors (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 km<sup>2</sup>) 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  $0.1^0 \times 0.1^0$  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 ( $3 \times 660$ ) 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.

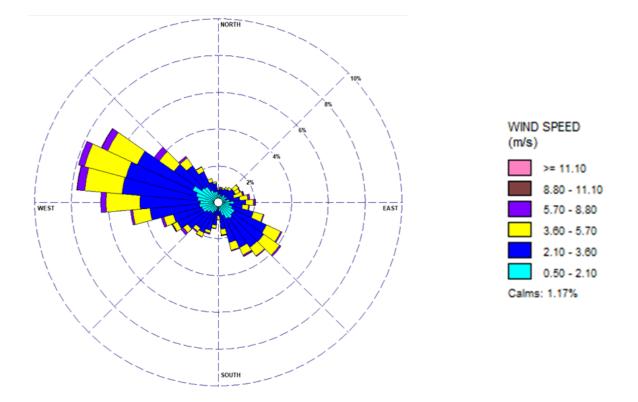


Figure 3 Wind Rose Plot for the year 2018

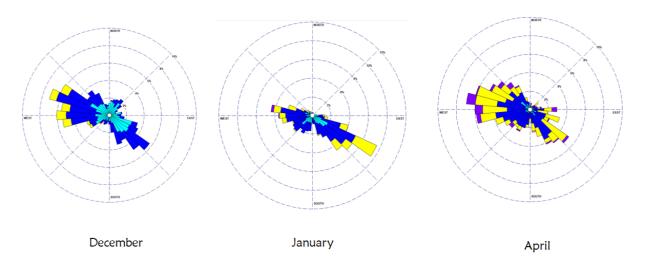


Figure 4 Wind rose plot the main month in different season

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.

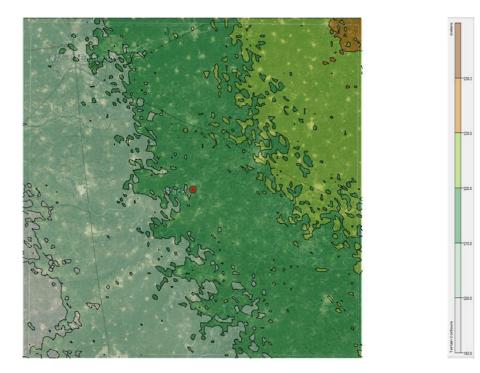


Figure 5 DEM of the study area

## 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  $SO_2$  from Talwandi Sabo Power Plant is presented in Table 1. The peak concentration varies from 25.47 to 45.9 µg/m3.

Month	Peak Concentration (µg/m <sup>3</sup> )	Average Concentration (µg/m <sup>3</sup> )
December	25.47	8.75
January	29.8	13.7
April	45.9	12.1

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

The peak and average concentration at different locations (distance) are presented in Table 2: **Table 2** SO<sub>2</sub> results at distances towards direction of Delhi of Talwandi Sabo Power Plant

Month	$SO_2(\mu g/m^3)$	10km	20km	30km	40km	Beyond 40km	Date
December	Peak Concentration	14	8	6	4	<4	12-12-2018
December	Average Concentration	4.5	2.5	1.7	1.5	<1	-
Tommore	Peak Concentration	13	7	5	4	<4	31-01-2018
January	Average Concentration	2.5	1.4	1	0.7	<0.7	-
A	Peak Concentration	7	3	1	0	0	22-04-2018
April	Average Concentration	2.5	1.2	1	0	0	-

The wind rose & Iso-concentration graph of  $SO_2$  and central line GLC and terrain contour is shown in Figure 6 to 32.



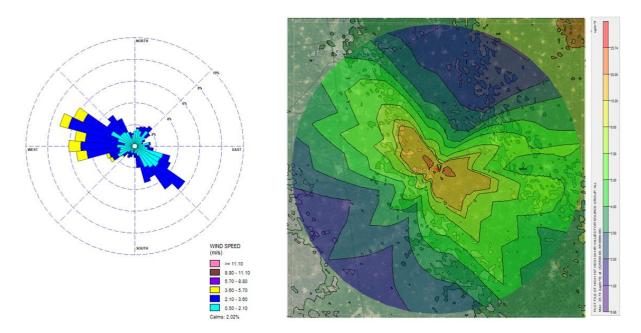


Figure 6 SO<sub>2</sub> 1st Highest Conc. for December Month

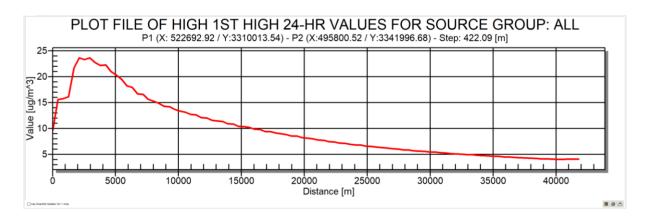


Figure 7 SO<sub>2</sub> 1st Highest Conc. Cross Section towards Bhatinda

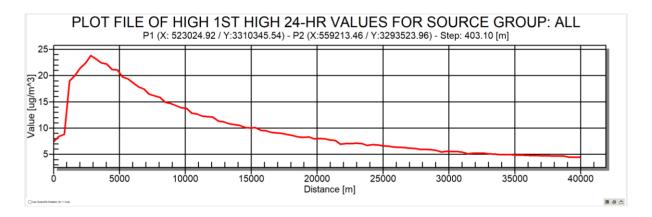


Figure 8 SO<sub>2</sub> 1st Highest Conc. Cross Section towards Delhi

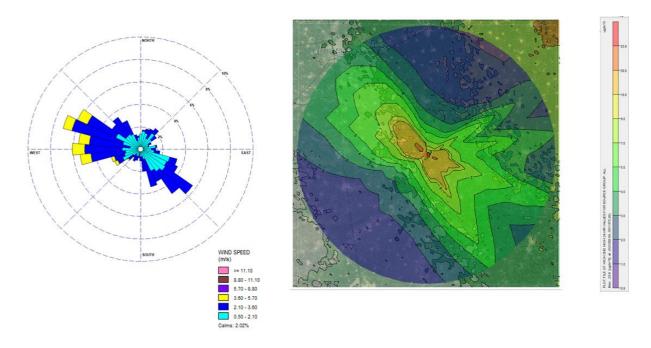
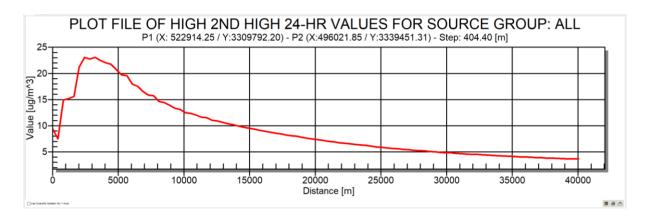
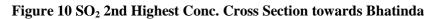


Figure 9 SO<sub>2</sub> 2nd Highest Conc. for December Month





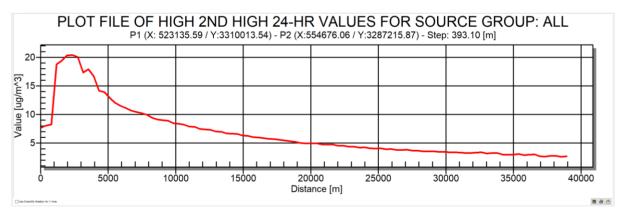


Figure 11 SO<sub>2</sub> 2nd Highest Conc. Cross Section towards Delhi

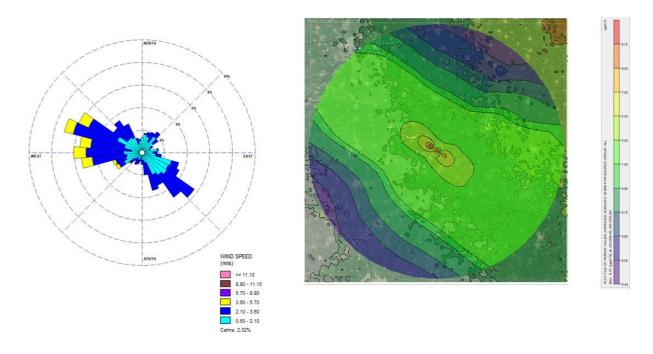


Figure 12 SO<sub>2</sub> Average Conc. for December Month

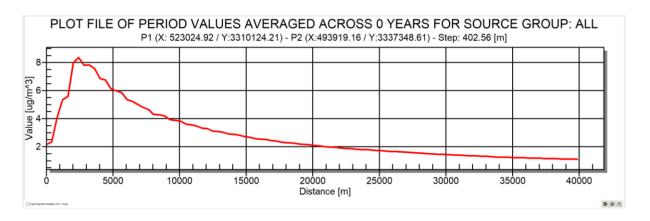


Figure 13 SO<sub>2</sub> Average Conc. Cross Section towards Bhatinda

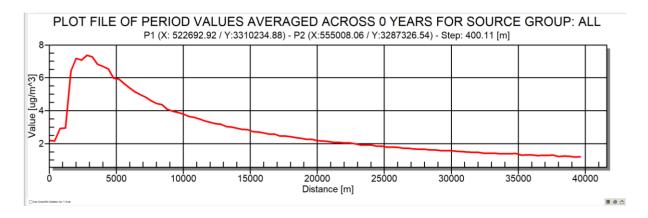


Figure 14 SO<sub>2</sub> Average Conc. Cross Section towards Delhi

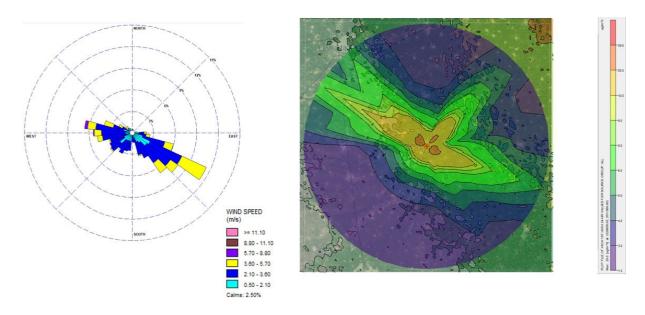


Figure 15 SO<sub>2</sub> 1st Highest Conc. for January Month

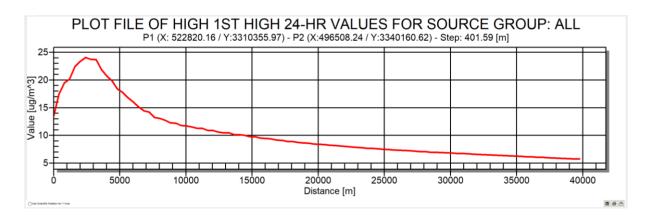


Figure 16 SO<sub>2</sub> 1st Highest Conc. Cross Section towards Bhatinda

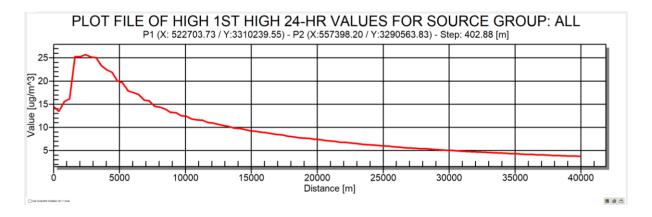


Figure 17 SO<sub>2</sub> 1st Highest Conc. Cross Section towards Delhi

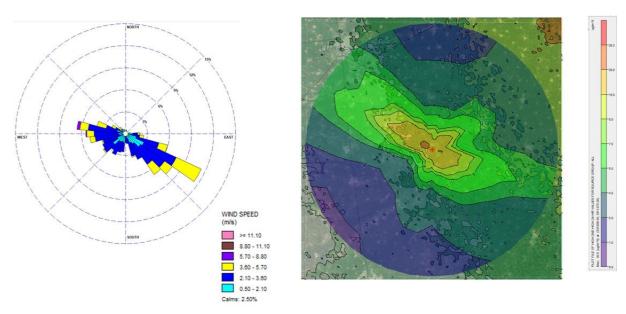


Figure 18 SO<sub>2</sub> 2nd Highest Conc. for January Month

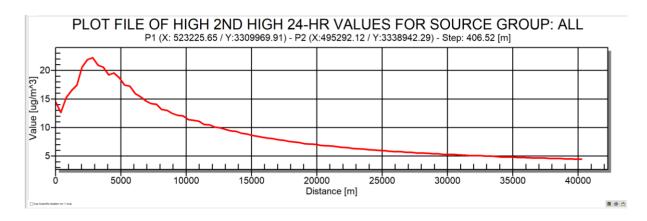


Figure 19 SO<sub>2</sub> 2nd Highest Conc. Cross Section towards Bhatinda

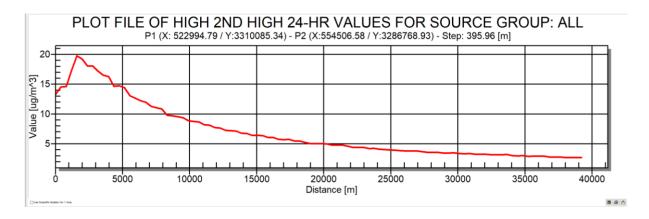


Figure 20 SO<sub>2</sub> 2nd Highest Conc. Cross Section towards Delhi

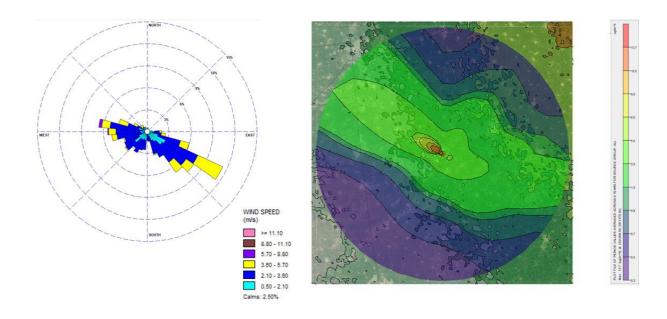


Figure 21 SO<sub>2</sub> Average Conc. for April Month

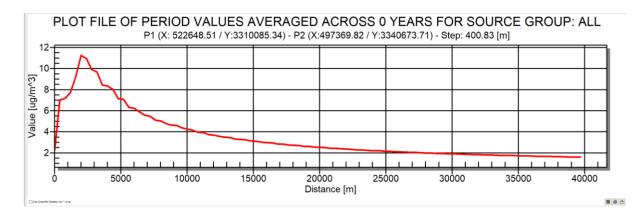


Figure 22 SO<sub>2</sub> Average Conc. Cross Section towards Bhatinda

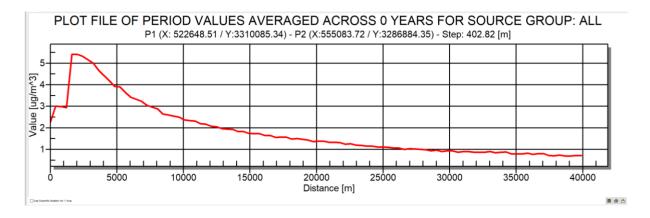


Figure 23 SO<sub>2</sub> Average Conc. Cross Section towards Delhi

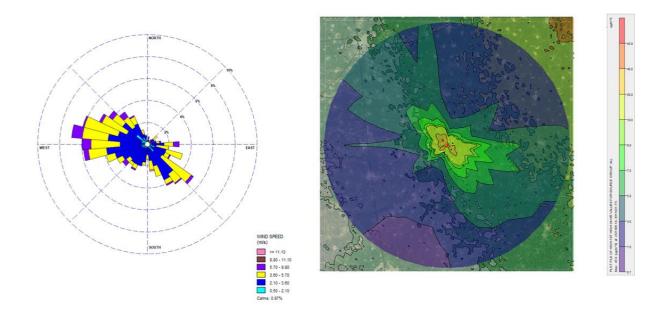
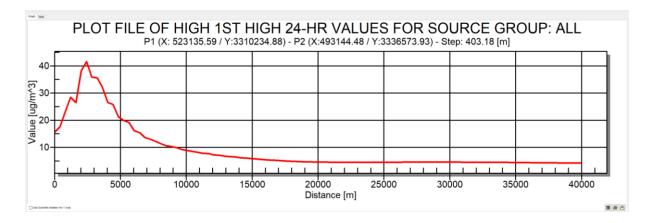
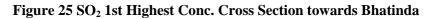


Figure 24 SO<sub>2</sub> 1st Highest Conc. for April Month





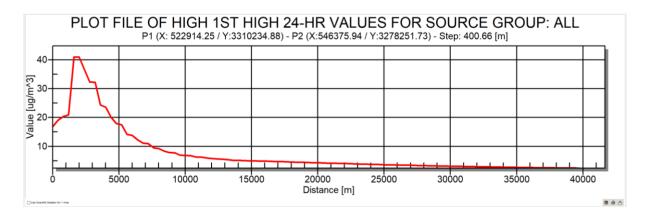


Figure 26 SO<sub>2</sub> 1st Highest Conc. Cross Section towards Delhi

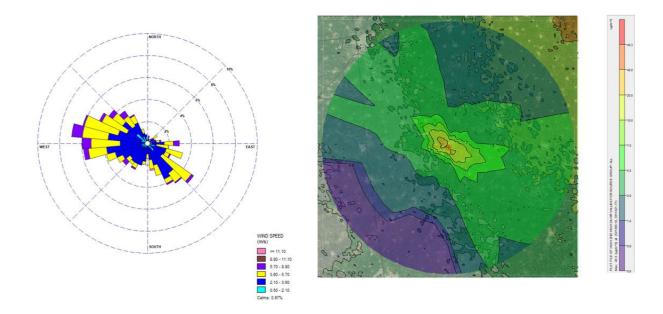


Figure 27 SO<sub>2</sub> 2nd Highest Conc. for April Month

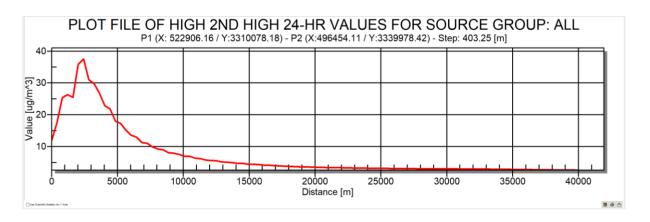


Figure 28 SO<sub>2</sub> 2nd Highest Conc. Cross Section towards Bhatinda

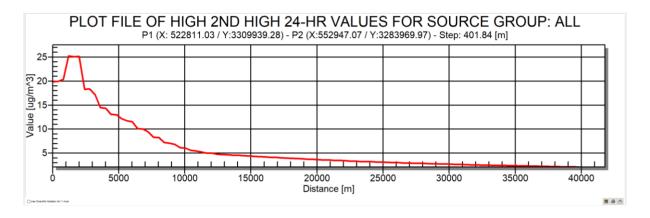


Figure 29 SO<sub>2</sub> 2nd Highest Conc. Cross Section towards Delhi

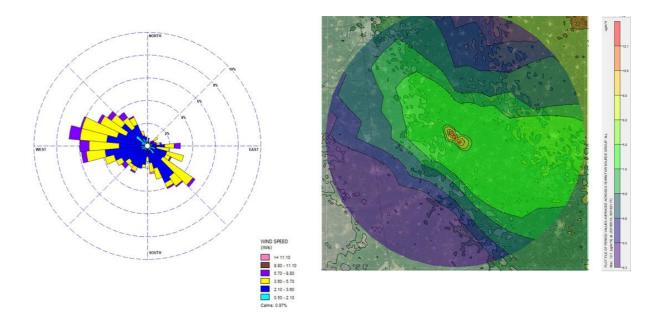


Figure 30 SO<sub>2</sub> Average Conc. for April Month

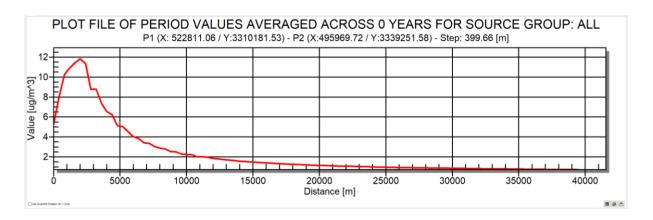


Figure 31 SO<sub>2</sub> Average Conc. Cross Section towards Bhatinda

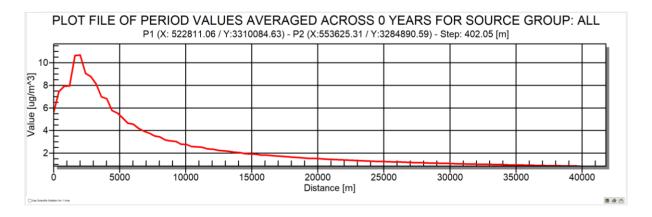


Figure 32 SO<sub>2</sub> Average Conc. Cross Section towards Delhi

The air quality modeling results for NO<sub>2</sub> from Talwandi Sabo Power Plant is presented in Table 3. The peak concentration varies from 29.2 to  $52.1 \,\mu\text{g/m3}$ .

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

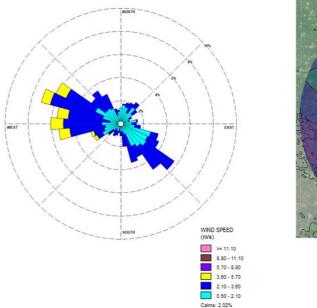
Month	Peak Concentration ( $\mu g/m^3$ )	Average Concentration (µg/m <sup>3</sup> )		
December	29.2	9.31		
January	33.6	14.6		
April	52.1	12.9		

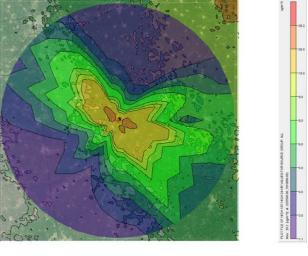
The peak and average concentration at different locations (distance) are presented in Table 4:

Month	$SO_2(\mu g/m^3)$	10km	20km	30km	40km	Beyond 40km	Date
Desember	Peak Concentration	12	8	6	4	<4	12-12-2018
December	Average Concentration	4	3	1.5	1	<1	-
T	Peak Concentration	14	9	6	4	<4	31-01-2018
January	Average Concentration	2.5	1.5	1	0.8	<0.8	-
A	Peak Concentration	10	5	2	0	0	22-04-2018
April	Average Concentration	3	1.5	0.5	0	0	-

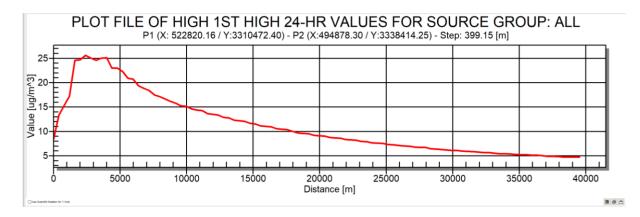
**Table 4** NO2 results at distances towards direction of Delhi of Talwandi Sabo Power Plant

The wind rose & Iso-concentration graph of  $NO_2$  and central line GLC and terrain contour is shown in Figure 33 to 59.

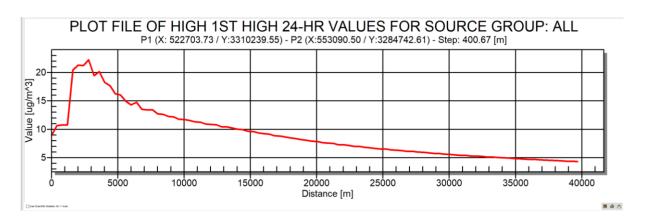














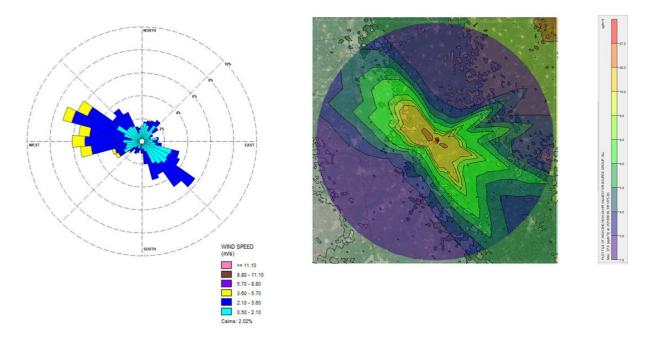


Figure 36 NO<sub>2</sub> 2nd Highest Conc. for December Month

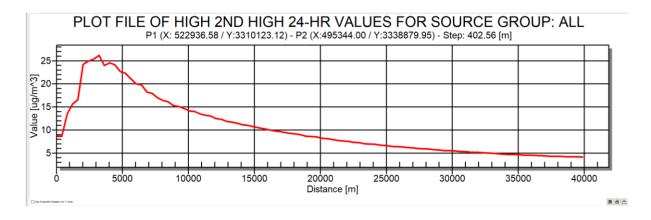


Figure 37 NO<sub>2</sub> 2nd Highest Conc. Cross Section towards Bhatinda

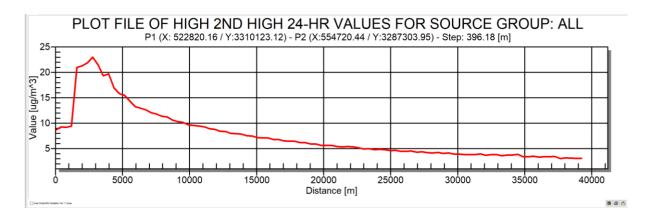
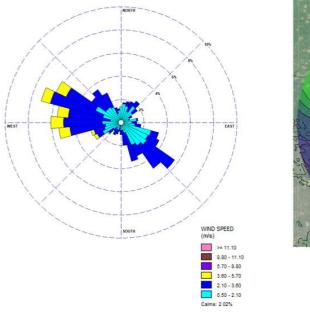


Figure 38 NO<sub>2</sub> 2nd Highest Conc. Cross Section towards Delhi



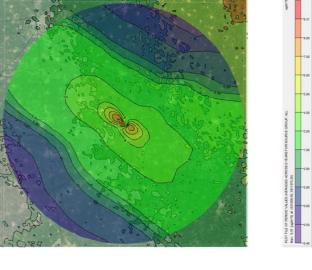


Figure 39 NO<sub>2</sub> Average Conc. for December Month

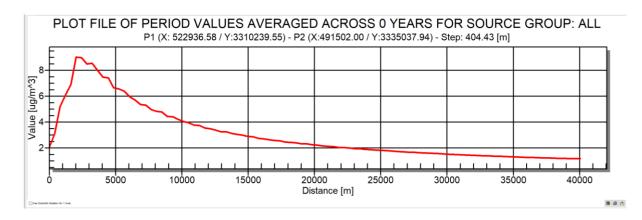


Figure 40 NO<sub>2</sub> Average Conc. Cross Section towards Bhatinda

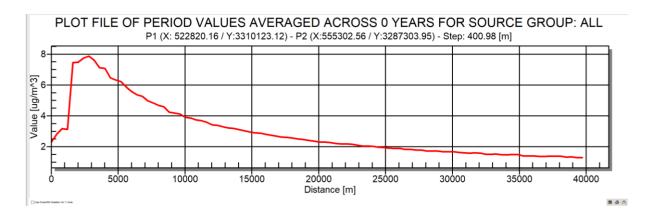


Figure 41 NO<sub>2</sub> Average Conc. Cross Section towards Delhi

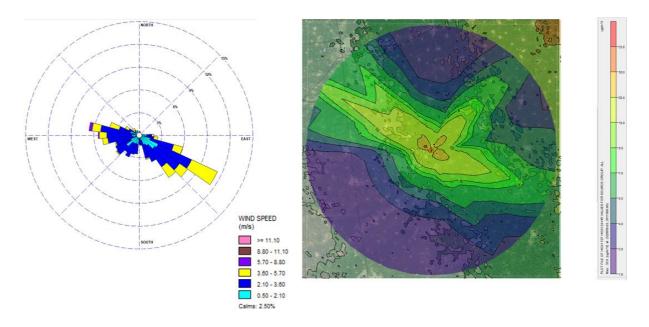


Figure 42 NO<sub>2</sub> 1st Highest Conc. for January Month

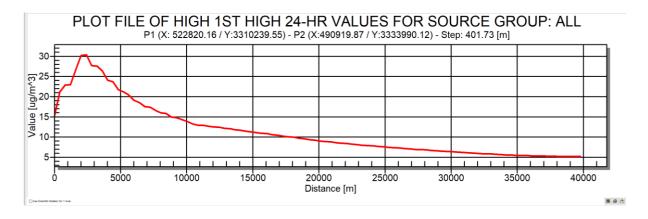


Figure 43 NO<sub>2</sub> 1st Highest Conc. Cross Section towards Bhatinda

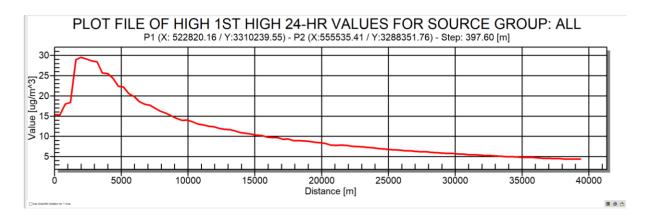
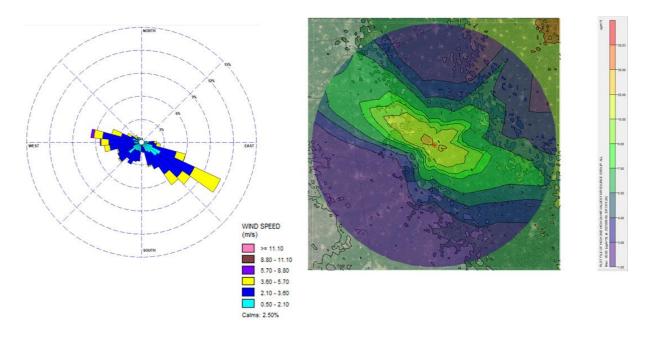


Figure 44 NO<sub>2</sub> 1st Highest Conc. Cross Section towards Delhi





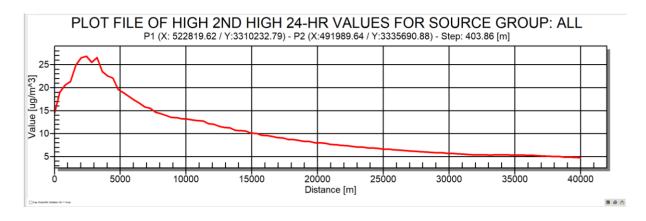


Figure 46 NO<sub>2</sub> 2nd Highest Conc. Cross Section towards Bhatinda

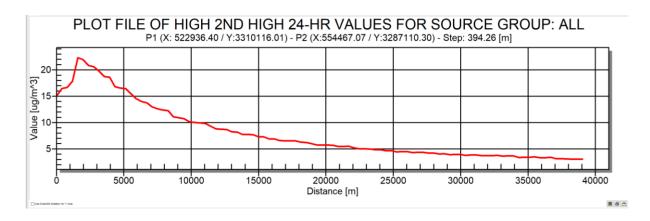
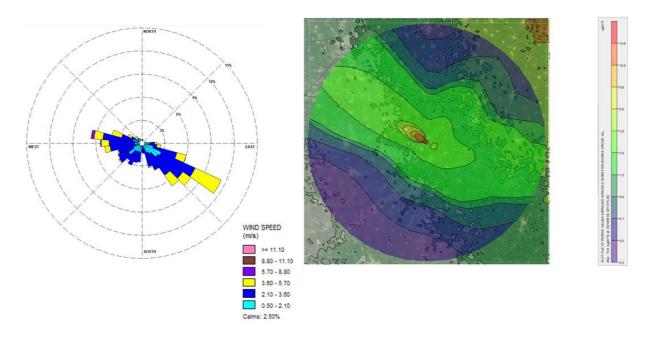


Figure 47 NO<sub>2</sub> 2nd Highest Conc. Cross Section towards Delhi



#### Figure 48 NO<sub>2</sub> Average Conc. for April Month

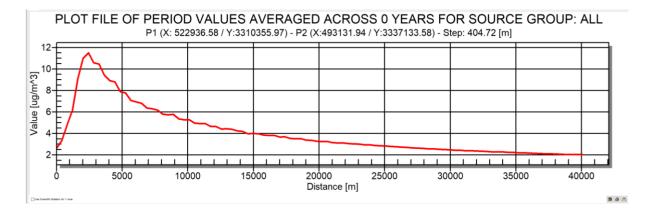


Figure 49 NO<sub>2</sub> Average Conc. Cross Section towards Bhatinda

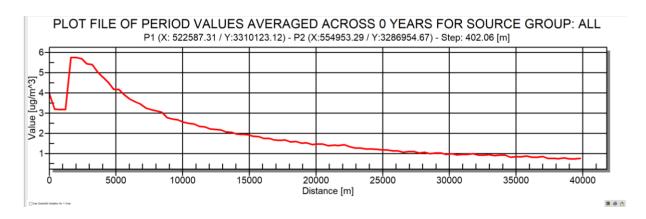


Figure 50 NO<sub>2</sub> Average Conc. Cross Section towards Delhi

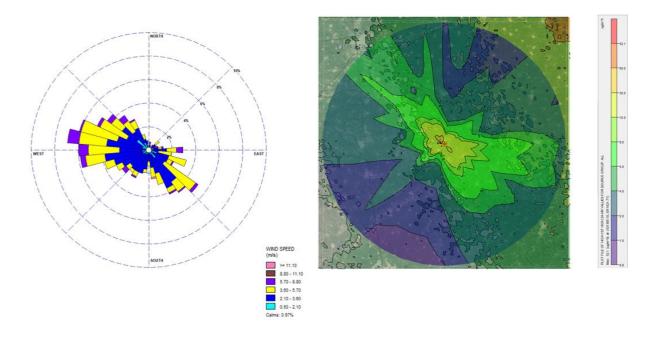


Figure 51 NO<sub>2</sub> 1st Highest Conc. for April Month

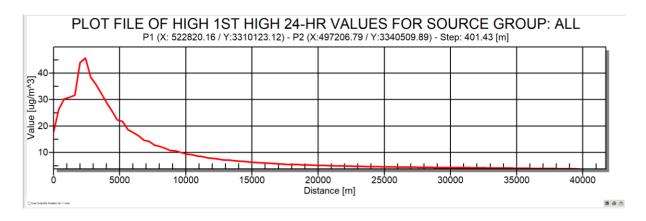


Figure 52 NO<sub>2</sub> 1st Highest Conc. Cross Section towards Bhatinda

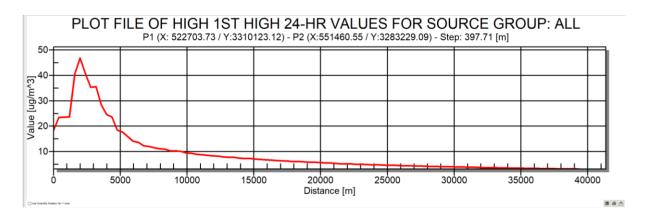


Figure 53 NO<sub>2</sub> 1st Highest Conc. Cross Section towards Delhi

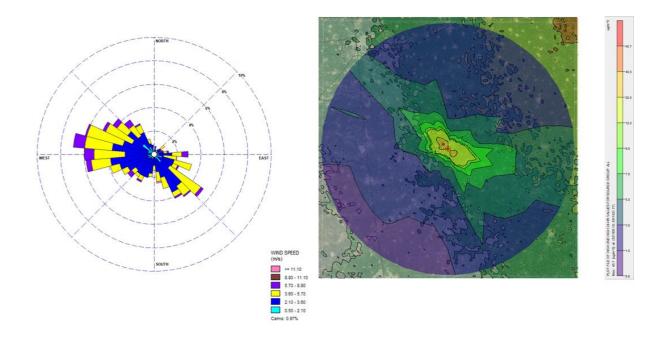


Figure 54 NO<sub>2</sub> 2nd Highest Conc. for April Month

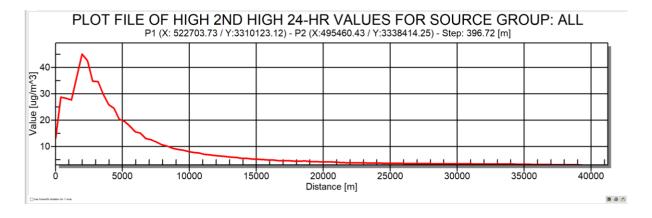


Figure 55 NO<sub>2</sub> 2nd Highest Conc. Cross Section towards Bhatinda

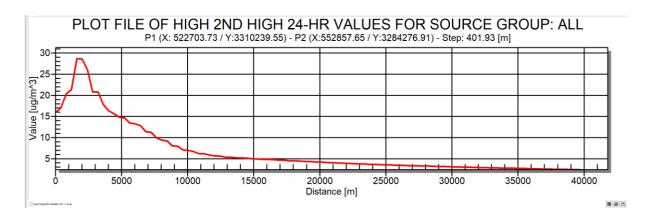


Figure 56 NO<sub>2</sub> 2nd Highest Conc. Cross Section towards Delhi

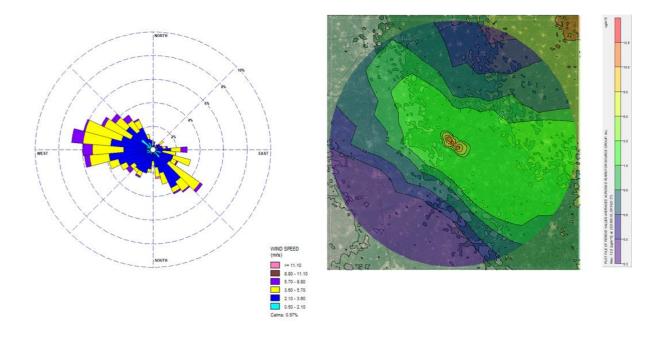


Figure 57 NO<sub>2</sub> Average Conc. for April Month

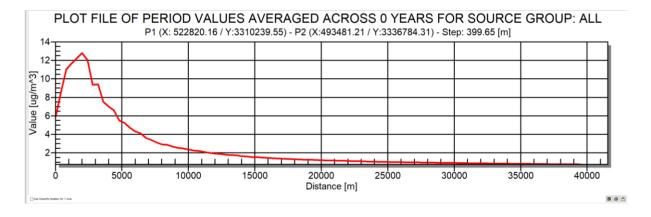


Figure 58 NO<sub>2</sub> Average Conc. Cross Section towards Bhatinda

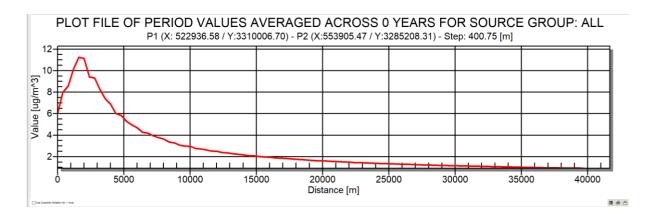


Figure 59 NO<sub>2</sub> Average Conc. Cross Section towards Delhi

### 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  $4km \times 4km$  (domain size is 400 km×400km).

To analyses the formation of  $SO_4$  (sulfates), and  $NO_3$  (Nitrates), anthropogenic emissions from the plant were considered. The plant emissions for  $SO_2$  and  $NO_2$  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  $SO_4$  (sulfates) and  $NO_3$  (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.

#### SO<sub>4</sub> and NO<sub>3</sub> 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  $SO_4$  and  $NO_3$  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  $\mu$ g/m<sup>3</sup>. 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  $\mu$ g/m<sup>3</sup>. 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  $\mu$ g/m<sup>3</sup>) 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  $\mu$ g/m<sup>3</sup>. The levels are insignificant at 250 km.

#### SO<sub>4</sub> and NO<sub>3</sub> 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  $\mu$ g/m<sup>3</sup> (somewhat lower than peak weekly concentration). Nitrates show monthly peak concentration is 0.06  $\mu$ g/m<sup>3</sup> towards S-E to as low as 0.01  $\mu$ g/m<sup>3</sup> 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<sub>4</sub> was 2.18  $\mu$ g/m<sup>3</sup> in the S-E direction at 12 km which drops to 0.73  $\mu$ g/m<sup>3</sup> in S-E direction at a distance of about 250 km (Table 5). The 24-hourly mean peak concentration of NO<sub>3</sub> was 0.41  $\mu$ g/m<sup>3</sup> in S-E direction at a distance of about 12 km and it drops to less than 0.002  $\mu$ g/m<sup>3</sup> 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  $\mu$ g/m<sup>3</sup> of PM<sub>2.5</sub>. Considering that 24-hr sulfate concentration contributed by plant at a distance of about 250 km(i.e. near Delhi) is 0.73  $\mu$ g/m<sup>3</sup>, that is about 0.2%.

Averaging time	Sulfate concentration ( $\mu$ g/m <sup>3</sup> ) in a 4 km × 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 5: Sulfate concentration with distance towards S-E

Table 6: Nitrate concentration with distance towards S-E

Averaging time	Nitrate concentration ( $\mu$ g/m <sup>3</sup> ) in a 4 km × 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) <u>Weekly Mean SO<sub>4</sub>Concentration:-</u>

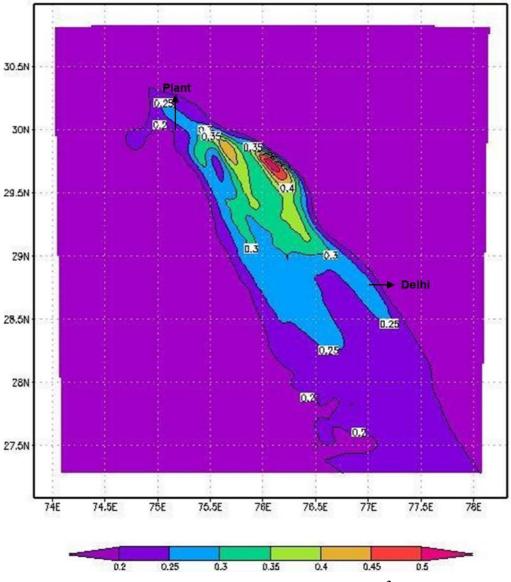


Figure 60: Weekly Mean SO<sub>4</sub> Concentration (µg/m<sup>3</sup>) [1-7 Nov2018]

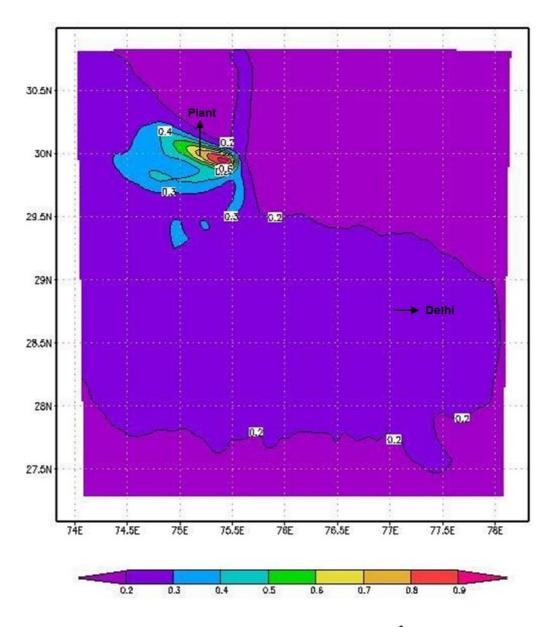


Figure 61:Weekly Mean SO<sub>4</sub> Concentration (µg/m<sup>3</sup>) [8-15Nov2018]

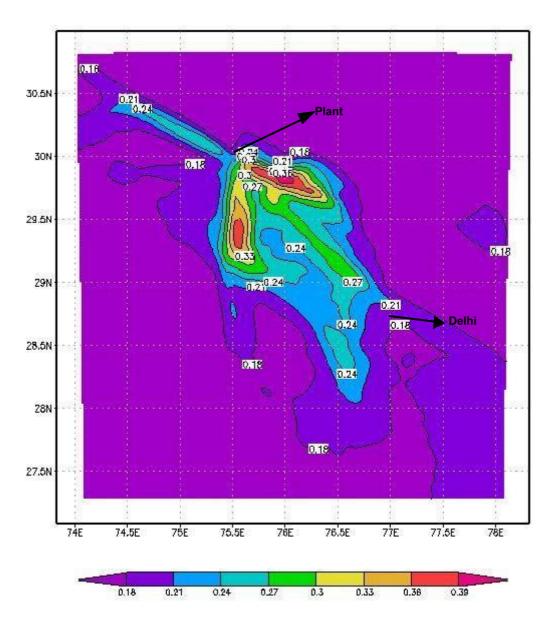


Figure 62: Weekly Mean SO<sub>4</sub> Concentration (µg/m<sup>3</sup>) [16-23Nov2018]

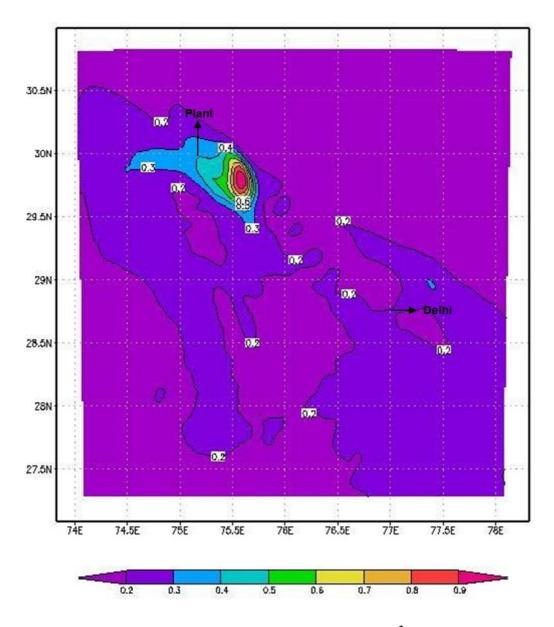


Figure 63: Weekly Mean SO<sub>4</sub> Concentration (µg/m<sup>3</sup>) [24-30Nov2018]

2) <u>Weekly Mean NO<sub>3</sub> Concentration:-</u>

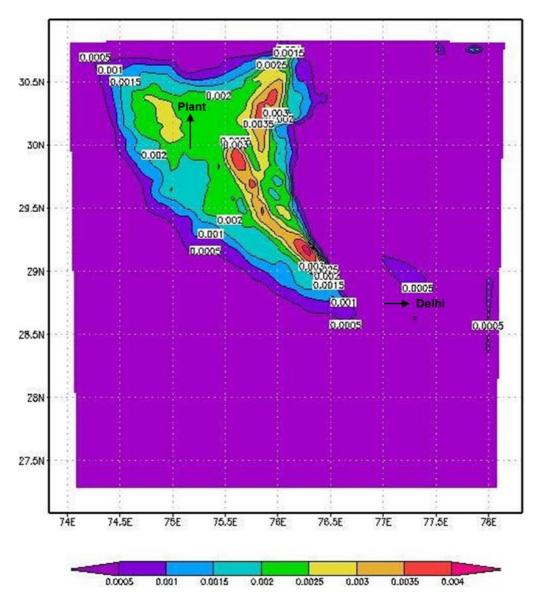


Figure 64: Weekly Mean NO<sub>3</sub> Concentration ( $\mu g/m^3$ ) [1-7Nov2018]; use a multiplying factor of 16 for corrected concentrations

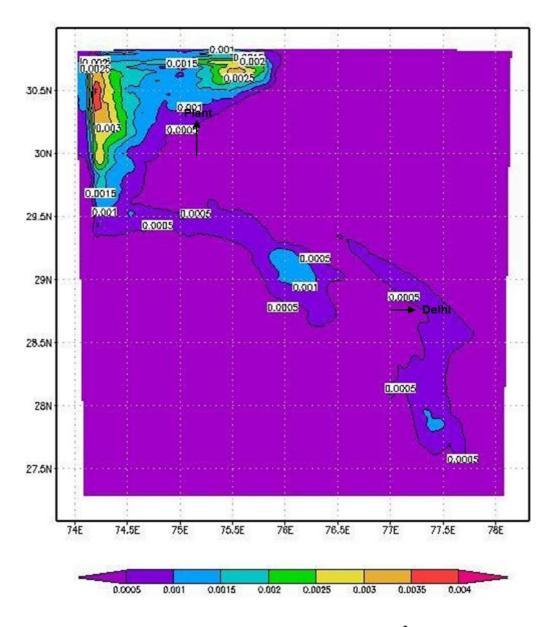


Figure 65: Weekly Mean NO<sub>3</sub> Concentration ( $\mu$ g/m<sup>3</sup>) [8-15Nov2018]; use a multiplying factor of 16 for corrected concentrations

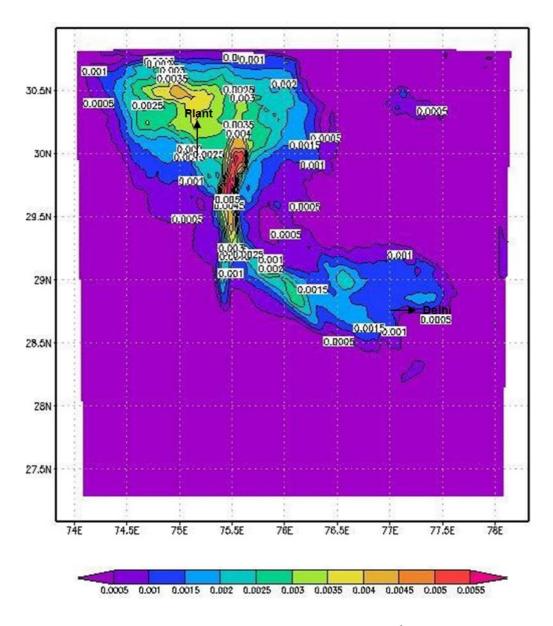


Figure 66: Weekly Mean NO<sub>3</sub> Concentration ( $\mu$ g/m<sup>3</sup>) [16-23Nov2018]; use a multiplying factor of 16 for corrected concentrations

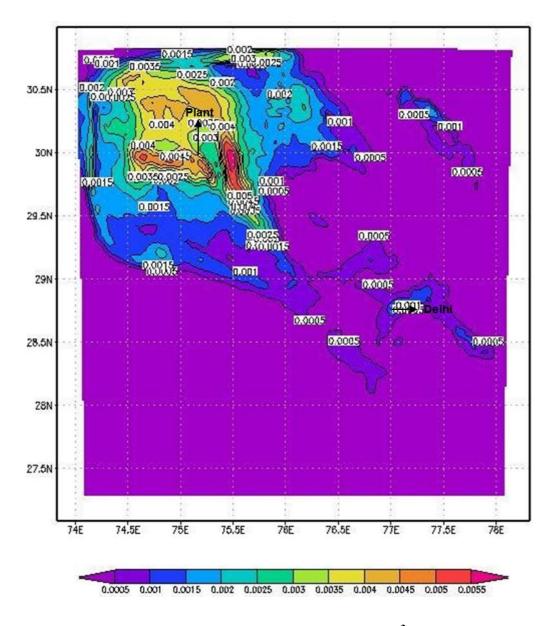


Figure 67: Weekly Mean NO<sub>3</sub> Concentration ( $\mu$ g/m<sup>3</sup>) [24-30Nov2018]; use a multiplying factor of 16 for corrected concentrations

3) Monthly Mean Concentration :-

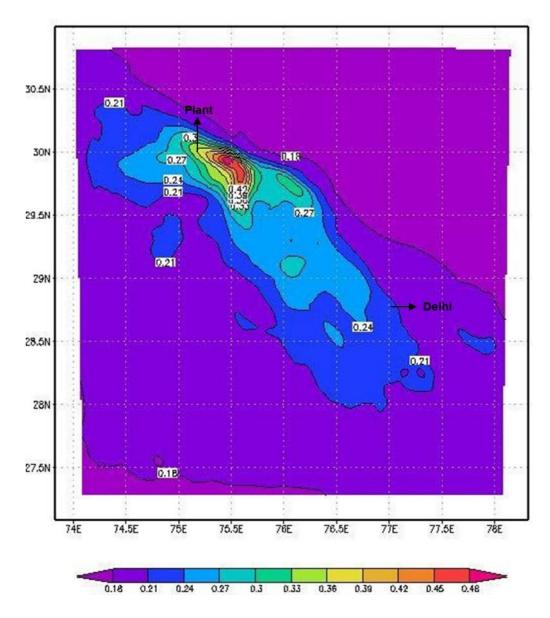


Figure 68: Monthly Mean SO<sub>4</sub> Concentration(µg/m<sup>3</sup>)

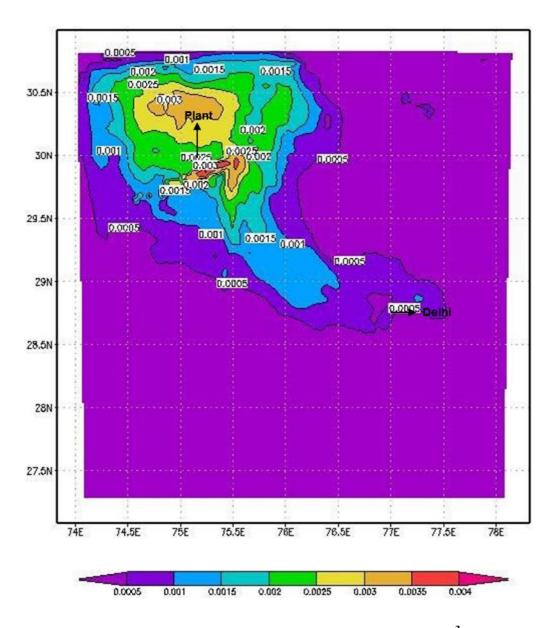


Figure 69: Monthly Mean NO<sub>3</sub> Concentration(µg/m<sup>3</sup>); use a multiplying factor of 16 for corrected concentrations

### 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 SO<sub>2</sub> peak concentration is in the month of April 45.9  $\mu$ g/m<sup>3</sup>. It may be noted that the peak contribution towards S-E direction (towards Delhi) was 40  $\mu$ g/m<sup>3</sup> (in April) at a distance of about 2.0 km and drops sharply to less than 1  $\mu$ g/m<sup>3</sup> at a distance of 40 km from the plant. Thus, beyond 40 km the impact of SO<sub>2</sub> becomes insignificant.
- 3. The peak concentration of SO<sub>2</sub> in other months (December and January) ranges from 25.5 to 29.8  $\mu$ g/m<sup>3</sup> at about 3.0 km. The peak concentration beyond 40 km drops to less than 5  $\mu$ g/m<sup>3</sup> in December and January towards S-E direction.
- 4. The NO<sub>2</sub> modelled-peak concentration was in April at 52  $\mu$ g/m<sup>3</sup>. It may be noted that the peak contribution towards S-E direction was 45  $\mu$ g/m<sup>3</sup> at a distance of 2.5 km and drops sharply to less than 1  $\mu$ g/m<sup>3</sup> at a 40 km distance from the plant. Thus, beyond 40 km the impact of NO<sub>2</sub> becomes insignificant.
- 5. The peak concentration of NO<sub>2</sub> in the month of December and January was  $29 34 \mu g/m^3$  at a distance of 2-3 km. The peak concentration beyond 40 km drops to less than 5  $\mu g/m^3$  in December and January towards S-E direction
- 6. It may be concluded that the peak concentration of SO<sub>2</sub> and NO<sub>2</sub> 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  $\mu$ g/m<sup>3</sup>. However, at a distance of about 250 km (in S-E) the levels are dropped by nearly 60% to 0.18 0.30  $\mu$ g/m<sup>3</sup>. 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  $\mu$ g/m<sup>3</sup>) 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  $\mu$ g/m<sup>3</sup>.
- 9. The mean monthly peak concentration of sulfate, 0.48  $\mu$ g/m<sup>3</sup> (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  $\mu$ g/m<sup>3</sup> towards S-E to as low as 0.01  $\mu$ g/m<sup>3</sup> in the S-E.
- 10. The 24-hourly mean peak concentration of SO<sub>4</sub> was 2.18  $\mu$ g/m<sup>3</sup> in the S-E direction at 12 km which drops to 0.73  $\mu$ g/m<sup>3</sup> in S-E direction at a distance of about 250 km (Table 1). The 24-hourly mean peak concentration of NO<sub>3</sub> was 0.41  $\mu$ g/m<sup>3</sup> in S-E direction at a distance of about 12 km and it drops to less than 0.002  $\mu$ g/m<sup>3</sup> 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:  $0.40 - 0.90 \ \mu g/m^3$ ), it extends well beyond 50 km and up to 250 km with smaller concentrations in the range 0.18- 0.30  $\mu g/m^3$ .

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

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

#### References

Barrero, V. F. and Ollero, P. (2001) 'A kinetic study of the oxidation of S(IV) in seawater', *Environmental science & technology*, 35, pp. 2792–2796.

Mittal, M.L. "Estimates of Emissions from Coal Fired Thermal Power Plants in India." USEPA Conference.

Sohn, H. Y. and Kim, B.-S. (2002) 'A new process for converting SO<sub>2</sub> to sulfur without generating secondary pollutants through reactions involving CaS and CaSO<sub>4</sub>', *Environmental Science & Technology*, 36(13), pp. 3020–3024.

Srivastava, R. K. and Jozewicz, W. (2001) 'Flue gas desulfurization: The state of the art', *Journal of the Air and Waste Management Association*, 51(12), pp. 1676–1688.

Grell, G.A., Peckham, S.E., Schmitz, R., McKeen, S.A., Frost, G., Skamarock, W.C., Eder, B. (2005) Fully coupled chemistry within the WRF model. *Atmos. Environ.* 39, 6957–6975. https://doi.org/DOI: 10.1016/j.atmosenv.2005.04.027