



**BEFORE THE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH,  
NEW DELHI  
OA No. 925/2018**

**INSPECTION REPORT FILED ON BEHALF OF JOINT COMMITTEE AS PER  
ORDER DATED AUGUST 29, 2019.**

**I. PREAMBLE**

In the matter of OA No. 925 of 2018, the Hon'ble National Green Tribunal (NGT), Principal Bench vide its order dated August 29, 2019 has constituted a joint committee comprising representatives from CPCB, Telangana SPCB and the District Magistrate of Vikarabad and directed to ascertain the latest status of pollution caused by the cement factories, construction activities and stone cutting and polishing activities and efficacy of remedial action. The Hon'ble NGT further directed the Joint Committee to furnish a status report within one month i.e. by 28.09.2019. The SPCB will be the Nodal Agency for coordination and compliance.

Accordingly, the respective departments have nominated the following members for the Joint Committee:

1. Mr.G.Hanumantha Reddy, Joint Chief Environmental Engineer(FAC), TSPCB, Zonal Office, Hyderabad.
2. Mr.S.Jeyapaul, Senior Scientist, CPCB, Bangalore.
3. Mr. R.Y.Venumadhav Rao, Revenue Divisional Officer, Tandur Division.

Under these circumstances, in compliance with Hon'ble Tribunal orders, the Joint Committee visited the Tandur area during September 23-28, 2019. The committee had a series of meeting separately with the District Collector, Vikarabad, Roads & Building Department officials (R&B Department), Municipal authorities of Tandur, complainant, the office bearers of Tandur Stone Polishing Association and discussed about the air pollution status in the Tandur town in detail. Then the joint committee has carried out inspections of cement industries located in Tandur area of Telangana State. The committee also visited the area where the stone cutting & polishing units are located in and around Tandur town. The status of roads in the Tandur town was also assessed by the committee.

**II. Meeting with the Complainant:**

The Joint Committee met the complainant Sri Raj Gopal Sarda and discussed the issues related to air pollution in Tandur town. The complainant expressed his views about air

pollution and informed that the main reason for the air pollution is due to continuation of road construction works since for a very long time and improper maintenance of roads. He informed to the Joint Committee that the heavy vehicles of cement industries are passing through the Tandur town which causes air pollution. He is of the opinion that the construction of by-pass road is the only solution to mitigate the air pollution generated due to vehicular movement. He further informed that the Tandur town is lacking sufficient green cover as per the norms and requires development more green belt. The complainant informed that the authorities shall explore the possibility of reuse of the waste generated by stone cutting & polishing units.

The Tandur town is located at an altitude of 17°15'28.96N 77°35'18.18E. It has an average elevation of 450 m. The municipal town is spread over an area of 6 sq. km. There are 36 municipal wards in this municipality. As per report released by Census India 2011, Tandur had a population of 71008. The Google Map showing Tandur Town is shown in Figure 1.



**Figure 1: Google Map showing Tandur Town boundaries**

The Joint Committee carried out the Ambient Air Quality Monitoring (AAQM) at three locations in Tandur town at (i) M/s. Leo-9 Fuel Station (Adjacent M/s. Faiyaz & Co.), Sy.No.50/D/2, Gouthapur (V), Chincholi Road, Tandur (M), Vikarabad Dist., (ii) Tandur Police Station, Shanthinagar colony, Tandur (M), Vikarabad Dist. and (iii) Terrace of Sri SatyaSaiSevaSadan, (Control Station), Patel Garden near Railway gate, Tandur (M), Vikarabad Dist., from 24.09.2019 to 25.09.2019 in 1<sup>st</sup> phase and from 27.09.2019 to

28.09.2019 in 2<sup>nd</sup> phase in order to know the present status of air quality. The results are presented in Table 1 below:

**Table 1: AAQM Results of Tandur Town monitored at M/s. Leo-9 Fuel Station**

Sl. No.	Sampling Location	Date of sampling	Time and duration of sampling	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>x</sub> µg/m <sup>3</sup>
1	Near office room of M/s. Leo-9 Fuel Station (Adjacent M/s. Faiyaz & Co.), Sy.No.50/D/2, Chincholi Road, Gouthapur, Tandur, Vikarabad Dist.	24.09.2019 & 25.09.2019	06:00 am to 02:00 pm	42	71	6	9
						9	17
			02:00 pm to 10:00 pm		67	13	30
					Monitoring was not done due to rain fall.		
			10:00 pm to 06:00 am		Monitoring was not done due to rain fall.		
	<b>Average</b>			42	69	9	19
2	Near office room of M/s. Leo-9 Fuel Station (Adjacent M/s. Faiyaz & Co.), Sy.No.50/D/2, Chincholi Road, Gouthapur, Tandur, Vikarabad Dist.	27.09.2019 & 28.09.2019	06:00 am to 02:00 pm	66	98	6	14
						9	24
			02:00 pm to 10:00 pm		118	12	16
						7	27
			10:00 pm to 06:00 am		104	7	16
					11	13	
	<b>24 Hours Average</b>			66	107	9	18
	<b>National Ambient Air Quality Standards (NAAQS)</b>			60	100	80	80

The above results show that the PM<sub>2.5</sub> & PM<sub>10</sub> are marginally exceeding the NAAQS on 27.09.2019 & 28.09.2019 due to dust emissions as a result of movement of heavy vehicles.

**Table 2: AAQM Results of Tandur Town monitored at Tandur Police Station**

Sl. No.	Sampling Location	Date of sampling	Time and duration of sampling	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>x</sub> µg/m <sup>3</sup>
1	On the terrace	24.09.2019	06:15 am	108	134	9	17

	of Police Station	& 25.09.2019	to 02:15 pm			19	45
			02:15 pm to 10:15 pm		220	19	55
			10:15 pm To 06:15 pm	Monitoring was not done due to rain fall.			
	<b>Average</b>			<b>108</b>	<b>177</b>	<b>16</b>	<b>39</b>
<b>2</b>	On terrace of Police Station	27.09.2019 & 28.09.2019	06:00 am to 02:00 pm	41	65	14	39
			02:00 pm to 10:00 pm			78	9
			10:00 pm to 06:00 am		62		12
							9
	<b>24 Hours Average</b>			41	69	19	48
	<b>National Ambient Air Quality Standards (NAAQS)</b>			<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>

The above results show that the PM<sub>2.5</sub> & PM<sub>10</sub> are exceeding the NAAQS on 24.09.2019 & 25.09.2019 due to the following reasons:

1. The monitoring station was located at the top of the building of the Police Station located beside the road, which is also a junction (meeting point of 4 roads).
2. The movement of heavy vehicles generating dust accumulated on the road side.

**Table 3: AAQM Results of Tandur Town monitored at Terrace of Sri Satya Sai Seva Sadan, (Control Station)**

Sl. No.	Sampling Location	Date of sampling	Time and duration of sampling	PM2.5 µg/m3	PM10 µg/m3	SO2 µg/m3	NOx µg/m3
1	On the terrace of Terrace of Sri Satya Sai Seva	24.09.2019 & 25.09.2019	06:30 am to 02:30 pm	15	28	7	11
			02:30 pm			9	17
					20	15	29

	Sadan		to 10:30 pm			Monitoring was not done due to rain fall.	
			10:30 pm To 06:30 pm	Monitoring was not done due to rain fall.			
	Average			15	24	10	19
2	On the terrace of Terrace of Sri Satya Sai Seva Sadhan	27.09.2019 & 28.09.2019	06:00 am to 02.00 pm	17	21	8	13
02:00 pm to 10:00 pm			38			4	13
10:00 pm to 06:00 am					23	7	14
			6			14	
24 Hours Average			17	27	6	15	
<b>National Ambient Air Quality Standards (NAAQS)</b>				<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>

The monitoring station was located in a residential area where there was no movement of vehicles and the parameters are meeting NAAQ Standards.

The main source of air pollution in Tandur town is due to the following:

1. The undergoing road construction activities.
2. Movement of large no. of heavy vehicles (average 3000 Nos./day) in Tandur town, which are used for the transportation of raw materials and products of cement industries and Stone Cutting & Polishing Units.
3. Unscientific way of disposal of stone cutting & polishing sludge and chips along the road side. The photographs are enclosed as Annexure - I

### **III. Status of Road Works and measures taken to control the dust emissions:**

#### **(i) Meeting with Officials of Roads & Buildings Department:**

The Joint Committee had a meeting with Assistant Executive Engineer (AEE) of Roads & Buildings (R&B) Department Tandur and enquired about the status of road construction activities undergoing in Tandur Town. The AEE of R&B Dept., informed the Joint Committee about the present status of road construction works in Tandur Town, the details of which are given below:

- The Tandur Municipality has outsourced the laying of internal Tandur road works to the R&B Department.
- Out of the total target of 7.45 km, 4.3 km road work is completed and 2.9 km of work is under progress which will be completed in 3 months' time and 0.25 km not started due to court stay order.
- The road construction works were delayed in order to comply the Election Commission's Code of Conduct due to continuous elections being held one after the other in 2018 & 2019 in the Telangana State.
- The present status of the work is detailed in Table 4 below:

**Table 4: Present Status of Road Construction Works in Tandur Town**

Sl. No.	Road details	Distance	Present Completion Status
1	Indra Chowk to Railway Station	0.75 km	0.5 km completed and work stopped due to Hon'ble High Court Stay Order dated 03.07.2019 in W.P.No. 13396 of 2019 filed by affected people.
2	Shivaji Chowk to Panduranga Temple, Sitarampet	1.2 km	1.0 km work completed, remaining 0.2 km under progress.
3	Railway Station to Inspection Bungalow	0.6 km	Completed
4	Police Station to William Moon School	1.0 km	Completed
5	William Moon School to Kanjapur 'X' Road	1.2 km	Completed
6	William Moon School to Kanjapur 'X' Road	2.3 km	Under progress
7	DSP Office to Railway gate	0.4 km	Under progress
		7.45 km	4.3 km work completed, remaining 2.9 km work under progress and 0.25 km work not started

During inspection, the Joint Committee observed that the R&B Department has completed 4.13 km of road work as informed by the authority and lot of fugitive emissions were observed in Tandur on the Chenchol Road due to the movement of heavy vehicles. The photographs are enclosed as Annexure - II.

**(ii). Meeting with Officials of Tandur Municipality:**

The Joint Committee held a meeting with Town Planning Officer (TPO) of Tandur Municipality to know about the arrangements made by the Municipality in order to keep

the roads clean. The action taken by the Municipality as informed by the TPO is highlighted below:

- Municipal authority has engaged about 280 staff members for sweeping the internal roads in Tandur during night times every day.
- One water tanker is engaged by the Municipal Authority for the sprinkling of water twice a day on the internal roads of Tandur to suppress the dust generated due to the vehicular movement.
- Municipal authority has allotted 5 acres of land outside the Tandur town for the disposal of municipal solid waste and engaged in door to door collection of municipal solid waste. The Tandur town is generating municipal solid waste on an average of about 15 tons per day.
- Municipality has sent a proposal to the Government of Telangana for providing bypass road for Tandur town to avoid heavy vehicle movement within the town. Presently, the land acquisition process is completed.

**(iii) Meeting with the office bearers of association of stone cutting and polishing units:**

The Joint Committee had a meeting with the office bearers of association of stone cutting and polishing units, Tandur. The office bearers have informed the Joint Committee about the action taken to mitigate the pollution issues related to stone cutting & polishing units. The action taken and the views expressed by the association are highlighted below:

- The association has issued notices to all the members with a direction that the waste should not be disposed along the road side and it has to be disposed to end users like road construction works, house construction works, filling of low lying areas, gypsum industries etc.
- The office bearers expressed their willingness to shift the stone cutting & polishing units outside the Tandur Town provided the Government allocates sufficient land of 300 acres outside the Tandur town with common infrastructure.
- The association further informed that the stone cutting & polishing units are paying huge amount of royalty to the Government and the amount shall be used for development of Tandur town.
- There are three gypsum manufacturing industries located in and around Tandur town. The Gypsum industries are regularly lifting sludge generated by the stone

cutting and polishing units which is the main raw material for manufacturing of Gypsum.

- The association further informed that the wastes (Stone Chips & Slurry) generated by the stone cutting & polishing units consists of more percentage of lime stone and hence the association wanted the cement industries to utilize their waste as raw material.

**(iv) Meeting with Cement Industries:**

The Joint Committee held a meeting with head of 3 cement manufacturing industries located near Tandur in Telangana State and discussed about utilizing the wastes (Stone Chips & Slurry) generated by the stone cutting & polishing units which consists of more percentage of lime stone. The cement industries are ready to utilize this wastes with the following conditions:

- The said wastes to be transported to the cement industry's crushing points by the generator.
- The Government should waive off the royalty on the waste accepted by the cement industry.

The representatives of the cement industries also informed that they will pay the amount for the waste accepted by them from stone cutting & polishing units.

**(v) Inspection of Stone Cutting and Polishing Units:**

The Joint Committee inspected some of the micro level stone cutting and polishing units located in and around Tandur town and made the following observations:

- Most of these units are located along the Tandur - Chenchol road, Tandur - Kokat road, Tandur - Hyderabad road, Tandur - Kodangal road in 2 km radius from the Tandur town. However, few units are located within the Tandur town itself.
- The basic process involves cutting and polishing of stone slabs.
- The units have provided water sprinkling system for dust suppression as well as for cooling purpose. Photographs are enclosed as Annexure - III.
- The units have provided settling tanks in series for the waste water (slurry) generated during cutting and polishing of stones.
- After settling, the water is recycled back into the process for the same purpose.

- The operation of cutting & polishing of stones also generates solid waste i.e., stone chips and sludge accumulated in the settling tank.

During inspection, the Joint Committee inspected (i) M/s. Laxmi Stone Polishing Unit, Goutapur Village, Tandur, (ii) M/s. Yasin Stone Mining & Polishing, Sy.No.95A, Goutapur Village, Tandur, (iii) M/s. Mohamadiya Stone Unit, Goutapur Village, Tandur, (iv) M/s. Anwar Stone Traders, H.No.4-3-14, CCI Road, Tandur & (v) M/s. Sri Ganesh Stone, CCI Road, Tandur. The observations made by the committee are highlighted below:

- The process followed is same in all these units and generating stone chips & sludge as wastes.
- The housekeeping of the units was found poor.
- The wastes i.e., stone chips & sludge, generated from the stone cutting and polishing operations are disposed along the road side which is one of the main sources of air pollution in Tandur town.
- The waste is also disposed to end users like road construction works, house construction works, filling of low lying areas, gypsum industries etc.
- There are some private lands are allocated for disposal of stone chips & sludge. The details are provided in **Table 5** below:

**Table 5: Details of common lands allocated for disposal of stone chips & sludge**

**(The photographs are enclosed as Annexure - IV)**

Sl.No.	Name of the Location	Area allotted for disposal of stone chips in Sq.mtrs	Area allotted for disposal of sludge in Sq. Mtrs
1	Chengole Road	1012	16187
2	Goutapur	1133	647
3	Basaweswar Nagar	809	809
4	Balaji Nagar	486	324
5	Kokat Road	486	728
6	Kodangal Road	243	243

- However, it was found that the entire wastes generated are not reaching to the common point and dumped on road sides too.

**(vi). Meeting with the Collector & District Magistrate, Vikarabad:**

The Joint Committee had a meeting with the Collector & District Magistrate of Vikarabad District. During the meeting, the Joint Committee appraised about the

Hon'ble NGT Directions in O.A.No.925 of 2018 with regard to air pollution in Tandur Town. The points discussed in the meeting are highlighted below:

- The Collector & District Magistrate informed that the District Administration has taken up mass plantation under Government organized harithaharam programme, about one crore plants are planted during this rainy season.
- The Joint Committee has suggested the necessity of having by-pass road in order to avoid the heavy vehicular movement within town, allocation of common land for disposal of stone chips & sludge generated during the operation of stone cutting & polishing and relocation of stone cutting & polishing units outside the Tandur town.
- The Collector & District Magistrate informed the committee about land acquisition for construction of by-pass road and presently the process of land acquisition has been completed.
- The Joint Committee requested the Collector to expedite the process of construction of by-pass road at the earliest.

#### **IV. Inspection of Cement Industries:**

There are three cement industries are located near Tandur, Vikarabad District, Telangana and other 2 cement industries namely M/s. Chettinad Cement, Kallur Plant, Gulbarga District, Karnataka State & M/s. Vicat Bharathi Cements Ltd., Gulbarga District, Karnataka State are located near Tandur at a distance of 16.20 km and 14.02 km respectively and these 2 cement industries are falling under Karnataka State. The Joint Committee inspected the cement industries located near Tandur in Telangana which are given below:

1. M/s. The India Cements Limited, P.B.No.7, Sy.No.51, Malkapur (V), Tandur (M), Vikarabad District.
2. M/s Penna Cement Industries Ltd (Plant), Sy. No. 53, 54, 56, 57 & 62, Belkatur (V), Tandur (M), Vikarabad District.
3. M/s. Cement Corporation Of India Ltd., Tandur Cement Factory, Tandur (PO), Vikarabad District

The individual reports of the above cement industries are provided below:

#### **(i) M/s. The India Cements Limited:**

1. The India Cements Limited is engaged in the manufacture of clinker and Cement (OPC/PPC/PSC).

- It is located at a radial distance of 10.06 Km from boundary of the industry to boundary of the Tandur town. The Google map showing the radial distance between the India Cements and Tandur Town is depicted below:



**Figure 2 Google Map showing the radial distance between the India Cements Ltd., and Tandur Town**

- The industry has obtained CFO from the Telangana SPCB for manufacture of clinker – 2.75 Million TPA and Cement (OPC/PPC/PSC Grades) – 2.90 Million TPA which is valid upto 30.09.2021.
- The industry is having 2 manufacturing lines with Line - I having a kiln of capacity 210 TPH and Line - II with a capacity 220 TPH.
- The cement industry is an air pollution industry and the main sources of air pollution are from raw mill & kiln, coal mill, cooler and cement mill. The industry has provided the following air pollution control equipments to control the air pollution. The details are provided in Table 6 below:

**Table 6 : The details of air pollution control equipments provided**

Sl.No.	Stack Attached To	Control Equipment provided
<b>Line - I</b>		
1.	Raw Mill / Kiln	ESP
2.	Coal mill	Bag filters
3.	Clinker Cooler	ESP
4.	Cement Mill	ESP
<b>Line - II</b>		
1.	Raw Mill / Kiln	ESP

2.	Coal mill	Bag filters
3.	Clinker Cooler	ESP
4.	Cement Mill	ESP

6. During inspection, Ambient Air Quality Monitoring, Fugitive Emission Monitoring and Source Emission Monitoring were carried out and the analysis reports are tabulated below:

**Ambient Air Quality Monitoring (AAQM):** The monitoring was carried out at 2 locations i.e., (i) top of the time office building (Upwind direction) and (ii) top of the mines office building (Downwind direction) for 24 hrs for PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub>. The results are presented in Table 7 below:

**Table 7: AAQM Results of M/s India Cements Ltd., Malkapur**

Sl. No	Sampling Location	Date of sampling	Time and duration of sampling	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>x</sub> µg/m <sup>3</sup>
1	Time office building.	17.10.2019 & 18.10.2019	02:00 pm to 10:00 pm	42	66	7	29
			10:00 pm to 06:00 am			8	28
			06:00 am to 02:00 pm		73	7	34
						7	32
			68		7	26	
					8	28	
<b>24 Hours Average</b>				42	69	7	30
2	Mines office building	17.10.2019 & 18.10.2019	02:10 pm to 10:10 pm	52	103	9	32
			10:10 pm to 06:10 am			9	35
			06:10 am to 02:10 pm		86	8	39
						9	36
			72		8	31	
					10	33	
<b>24 Hours Average</b>				52	87	9	34
<b>National Ambient Air Quality Standards (NAAQS)</b>				<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>

The above monitoring results show that the parameters PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> & NO<sub>x</sub> are meeting NAAQ Standards.

**Fugitive Emission Monitoring (FEM):**

The monitoring was carried out at 5 locations at 10 m distance from the sources namely (i) Between lime stone crusher-1 and lime stone stocker belt-1 (BC2A conveyer belt), (ii) Clinker Stock Piles-II area, (iii) Coal yard area. (iv) Clinker Stock Piles-I area & (v)

Cement mill-I area for Suspended Particulate Matter (SPM). The monitoring results are provided in Table 8 below:

**Table 8: Fugitive Emission Monitoring results**

Sl.No	Sampling Location	Date of sampling	Time and duration of sampling	SPM $\mu\text{g}/\text{m}^3$	Standard $\mu\text{g}/\text{m}^3$
1	Between lime stone crusher-1 and lime stone stocker belt-1 (BC2A conveyer belt).	17.10.2019	05:35 pm to 09:35 pm	712	5000
2	Clinker Stock Pile-II area.	18.10.2019	10:15 am to 02:15 pm	2448	5000
3	Coal yard area.	18.10.2019	03:15 pm to 07:15 pm	1211	2000
4	Clinker Stock Pile-I area.	18.10.2019	10:35 am to 02:35 pm	3538	5000
5	Cement mill-I area.	18.10.2019	03:35 pm to 07:35 pm	2878	5000

The above monitoring results show that the parameter Suspended Particulate Matter (SPM) are meeting the Fugitive Emission Standards.

**Source Emission Monitoring:** The source emission monitoring was carried out in stacks connected to Raw Mill & Kiln, Coal Mill, Clinker Cooler & Cement Mill of Line I & Line II and the monitoring results are presented in Table 9 below:

**Table 9: Source Emission Monitoring results**

Sl.No.	Sample Date	Stack Attached to	Parameter	Concentration ( $\text{mg}/\text{Nm}^3$ )	Standard ( $\text{mg}/\text{Nm}^3$ )
1	17.10.2019	Raw mill-II/Kiln-II	Particulate Matter	17	30
			Sulphur Dioxide (SO <sub>2</sub> )	Nil	100
			Nitrogen Oxides (NO <sub>x</sub> )	376	800
2	17.10.2019	Coal mill-II	Particulate Matter	15	30
3	17.10.2019	Cooler ESP-II	Particulate Matter	22	30

4	17.10.2019	Cement Mill-I	Particulate Matter	19	30
5	17.10.2019	Cement Mill-II	Particulate Matter	21	30
6	17.10.2019	Raw mill-I/Kiln-I	Particulate Matter	18	30
			Sulphur Dioxide (SO <sub>2</sub> )	0.0	100
			Nitrogen Oxides (NO <sub>x</sub> )	364	800
7	18.10.2019	Coal mill-I	Particulate Matter	23	30
8	18.10.2019	Cooler ESP-I	Particulate Matter	18	30

The above source emission monitoring results show that all the parameters are meeting the standards prescribed in the Consent.

7. The fugitive emission of fine dust particles through the feed point area at the top of Clinker Stock Pile (CSP) as well as from CSP entry gate of CSPs 1 & 2 was observed.
8. During inspection it was observed that deposits of cement dust on the plant leaves were observed inside the premises.
9. The industry has manufactured 1.83 Million TPA of clinker as against the permitted quantity of 2.75 Million TPA and 1.89 Million TPA of cement (OPC/PPC/PSC) as against the permitted quantity of 2.9 Million TPA during the financial period 2018 - 19.
10. More noise was observed near the pneumatic Conveyors of Raw Mill 1 & 2 and also between Ball Mill and Poldos System of Coal Mills 1 & 2.
11. The industry has installed 2 CAAQM stations and online analysers in stacks to monitor source emissions. The online data of 2 CAAQM stations are connected to SPCB Server and stack emissions are connected to CPCB & SPCB Servers.
12. The industry has provided closed shed for storage of coal and laterite. The industry has provided 2 nos. of Clinker Stock Pile (CSP) to store the clinker.
13. The industry is having lime stone mines at a distance of 0.5 km from the industry and the lime stone is transported through dedicated dumpers from mine to crusher point. Fugitive emission of dust particles was observed in this stretch due to Kutcha road. The industry should lay RCC road in this stretch. However, the industry has laid RCC roads in other parts of the industry premises. The industry should increase the frequency of sweeping roads using sweeping machines for keeping the road clean.

14. The industry has developed green belt covering an area of 67 Acres out of total area 183 Acres (plant & colony) i.e., 37%.

**(ii) M/s Penna Cement Industries Ltd.,:**

1. M/s Penna Cement Industries Ltd., is engaged in the manufacture of clinker and Cement (OPC/PPC/PSC Grades).
2. The industry has obtained CFO from Telangana SPCB for manufacture of clinker – 1.5 Million TPA and Cement (OPC/PPC/PSC Grades) – 2.0 Million TPA which is valid upto 28.02.2022.
3. The radial distance from the boundary of the industry to the boundary of the Tandur town is 6.46 Km. The Google map showing the radial distance between the Penna Cement Industries Ltd., and Tandur Town is depicted below:



**Figure 3 Google Map showing the radial distance between the Penna Cement Industries Ltd., and Tandur Town**

4. The industry is having one manufacturing line with 200 TPH capacity kiln.
5. The cement industry is an air pollution industry and the main sources of air pollution are from raw mill & kiln, Coal mill, Cooler and Cement mill. The industry has provided the air pollution control equipments to control the air pollution and the details are provided in Table 10 below:

**Table 10 : The details of air pollution control equipments provided**

Sl. No.	Stack Attached To	Control Equipment Provided
1	Raw mill/Kiln	Reverse Air Bag House (RABH)
2	Clinker Cooler	ESP
3	Coal mill	Bag filters

4	Cement Mill - 1	Bag filters
5	Cement Mill - 2	Bag filter

6. During inspection, Ambient Air Quality Monitoring, Fugitive Emission Monitoring and Source Emission Monitoring were carried out and the analysis reports are tabulated below:

**Ambient Air Quality Monitoring (AAQM):** The monitoring was carried out at 2 locations i.e., (i) lime stone stock area (near compound wall) (Upwind direction) and (ii) top of the mines office building (Downwind direction) for 24 hrs for PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub>. The results are presented in Table 11 below:

**Table 11: AAQM Results of M/s Penna Cement Industries Ltd.,**

Sl. No.	Sampling Location	Date of sampling	Time and duration of sampling	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>x</sub> µg/m <sup>3</sup>
1	Lime stone stock area	24.09.2019 & 25.09.2019	10:30 am to 06:30 pm	77	71	7	16
			06:30 pm to 02:30 pm		185	9	22
			02:30 pm to 10:30 am	The monitoring was not carried out due to rain.			
			Average				77
2	Mines office building	24.09.2019 & 25.09.2019	10:30 am to 06:30 pm	89	101	9	11
			06:30 pm to 02:30 pm		199	14	35
			02:30 pm to 10:30 am	The monitoring was not carried out due to rain.			
			Average				89
<b>National Ambient Air Quality Standards (NAAQS)</b>				<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>

The above monitoring results show that the parameters PM<sub>2.5</sub> & PM<sub>10</sub> are not meeting the NAAQ Standards.

**Fugitive Emission Monitoring (FEM):** The monitoring was carried out at 2 locations at about 10 m distance from the source namely (i) Lime stone feed transfer point & (ii) In between laterite feeding area & coal feeding area for Suspended Particulate Matter (SPM). The monitoring results are provided in Table 12 below:

**Table 12: Fugitive Emission Monitoring results**

Sl. No.	Sampling Location	Date of sampling	Time and duration of sampling	SPM $\mu\text{g}/\text{m}^3$	Standard $\mu\text{g}/\text{m}^3$
1	Lime stone feed transfer point.	24.09.2019	12:00 noon to 04:00 pm	1090	5000
2	In between laterite feeding area & coal feeding area.	24.09.2019	04:15 pm to 08:15 pm	1266	2000

The above monitoring results show that the parameter Suspended Particulate Matter (SPM) are meeting the Fugitive Emission Standards.

**Source Emission Monitoring:** The source emission monitoring was carried out in stacks connected to Raw Mill & Kiln, Coal Mill, Clinker Cooler & Cement Mill of Line I & Line II and the monitoring results are presented in Table 13 below:

**Table 13: Source Emission Monitoring results**

Sl. No.	Sample Date	Stack Attached to	Parameter	Concentration ( $\text{mg}/\text{Nm}^3$ )	Standard ( $\text{mg}/\text{Nm}^3$ )
1	24.09.2019	Raw mill & kiln	Particulate Matter	26	30
			Sulphur Dioxide ( $\text{SO}_2$ )	0.0	100
			Nitrogen Oxides ( $\text{NO}_x$ )	328	800
2	24.09.2019	Clinker cooler	Particulate Matter	27	30
3	24.09.2019	Coal mill	Particulate Matter	63	30
4	24.09.2019	Cement mill-I	Particulate Matter	36	30
5	24.09.2019	Cement mill-II	Particulate Matter	47	30

The Particulate Matter emissions from the stacks attached to Coal Mill, Cement Mill I & II are not meeting the standards prescribed in the Consent.

- The industry has manufactured 1.18 Million TPA of clinker as against the permitted quantity of 1.5 Million TPA and 1.14 Million TPA of cement (OPC / PPC/PSC) as against the permitted quantity of 2.0 Million TPA during the financial period 2018-19.

- 8. The industry has installed 3 CAAQM stations and online analysers in stacks to monitor source emissions. The online data of 2 CAAQM stations are connected to SPCB Server and connection of 3<sup>rd</sup> CAAQM station is under progress. The online analyser data of stack emissions are connected to CPCB & SPCB Servers.
- 9. The industry has provided closed shed for storage of coal and laterite. The industry has provided silos to store the clinker.
- 10. The industry is having lime stone mines at a distance of 5km from the industry and the lime stone is transported through dedicated dumpers from mine to crushing point. But, the Telangana SPCB has directed to transport the lime stone by using belt conveyor. The industry has not complied the same.
- 11. The industry has developed green belt covering an area of 30.67 Acres out of total area 57 Acres (plant & colony) i.e., 53%.

**(iii) M/s. Cement Corporation Of India Ltd.,**

- 1. Cement Corporation Of India Ltd., is engaged in the manufacture of Ordinary Portland Cement.
- 2. The radial distance from the boundary of the industry to boundary of the Tandur town is 9.98 Km. The Google map showing the radial distance between the Cement Corporation of India Ltd., and Tandur Town is depicted below:



**Figure 4 Google Map showing the radial distance between the Cement Corporation of India Ltd., and Tandur Town**

3. The industry has obtained CFO of the Board for manufacture of Ordinary Portland Cement - 3150 TPD which was expired on 17.05.2019. The industry has applied for renewal of CFO that is under process.
4. The industry is having one manufacturing line with Raw Mill & kiln having capacity of 83,333 T/month.
5. The cement industry is an air pollution industry and the main sources of air pollution are from Raw mill & kiln, Cooler and cement mill. The industry has provided the following air pollution control equipments to control the air pollution. The details are provided in Table 14 below:

**Table 14 : The details of air pollution control equipments provided**

Sl.No.	Source of Pollution	Control equipment provided
1.	Raw mill & Rotary kiln	Electro Static Precipitator(ESP)
2.	Clinker Cooler	ESP
3.	Cement Mill – I	ESP
4.	Cement Mill – II	ESP
5.	Coal mill –I & 2	ESP

**Fugitive Emission Monitoring (FEM):** The monitoring was carried out at one location at cement mill-I (At about 10 m away from bottom side of Hopper floor area) for Suspended Particulate Matter (SPM). The monitoring results are provided in Table 15 below:

**Table 15: Fugitive Emission Monitoring results**

Sl. No.	Sampling Location	Date of sampling	Time and duration of sampling	SPM $\mu\text{g}/\text{m}^3$	Standard $\mu\text{g}/\text{m}^3$
1	Cement mill-I	26.09.2019	01:10 pm to 05:10 pm	13288	5000

Lot of fugitive emission was observed near Cement Mill - I area and the above monitoring result of SPM - 13288  $\mu\text{g}/\text{m}^3$  against standard of 5000  $\mu\text{g}/\text{m}^3$  justifies the

observations of the Joint Committee during inspection. It shows that the industry has not taken any measures to control the fugitive emissions.

**Source Emission Monitoring:** The source emission monitoring was carried out in stack connected to Cement Mill - I and the monitoring results are presented in Table 15 below:

**Table 15: Source Emission Monitoring results**

Sl. No.	Sample Date	Stack Attached to	Parameter	Concentration (mg/Nm <sup>3</sup> )	Standard (mg/Nm <sup>3</sup> )
1	26.09.2019	Cement Mill-I	Particulate Matter	128	50

The Particulate Matter emission (128 mg/Nm<sup>3</sup>) from the stack attached to Cement Mill-I is not meeting the standard prescribed in the Consent of 50 mg/Nm<sup>3</sup>.

6. During inspection, accumulation of fine dust particles on the plant leaves, road side, production block, surroundings areas of clinker silos were observed.
7. The industry has manufactured 1115 TPD(average) of Ordinary Portland Cementas against the permitted quantity of 3150 TPD and 1150 TPD (average) of Clinker during the financial period 2018-19.
8. The industry has installed 2 CAAQM stations and online analysers in 5 stacks to monitor source emissions. The online data of 2 CAAQM stations are connected to SPCB Server and stack emissions are connected to CPCB & SPCB Servers.
9. The industry has provided closed shed for storage of coal and laterite. The industry has provided a silo of capacity 20000 Tons to store the clinker.
10. The industry is having lime stone mines at a distance of 0.5 km from the industry and the lime stone is transported through dedicated dumpers from mine to crushing point.
11. M/s Cement Corporation of India (CCI), Karankote Village, Tandur was in operation partially during inspection as only Cement Mill – 1 was in operation. The Raw Mill & Kiln, Cooler, Coal Mill and Cement Mill-2 have not been in operation since August 16, 2019 due to break down of main drive Gear Box of Raw Mill. However, Fugitive Emission Monitoring and Source Emission Monitoring were carried out in CCI as Cement Mill-1 was in operation.

12. It was observed during inspection that the housekeeping of the industry was very poor.
13. Lot of fugitive emissions were observed during the ball mill operations of Cement Mill-1.
14. The industry has developed green belt covering an area of 60 Acres out of total area 200 Acres (plant & colony) i.e., 30%. But, as per the consent condition, the industry has to develop 33% of green belt.

#### **V CONCLUSION:**

1. As per the monitoring reports, it is concluded that the concentration of PM<sub>2.5</sub> and PM<sub>10</sub> are exceeding the National Ambient Air Quality standards at two commercial locations namely (i) At Police Station, Tandur Circle & (ii) M/s. Leo-9 Fuel Station, Chincholi Road. The gaseous parameters SO<sub>2</sub> & NO<sub>x</sub> are meeting the Standards in these two commercial locations. However, the parameters PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> & NO<sub>x</sub> monitored in the residential area at Sri Satya Sai Seva Sadan are meeting the National Ambient Air Quality standards.
2. The main sources of air pollution in Tandur town are dust generation due to large movement of vehicles especially heavy vehicles carrying raw materials/products for cement industries and stone cutting & polishing units, road construction activities, improper sweeping of the roads and unauthorized disposal of stone chips & sludge by stone cutting and polishing units.
3. The stone cutting & polishing units are allotted private lands for disposal of wastes i.e., stone chips & sludge, generated from the stone cutting and polishing operations. However, it was found that the entire wastes generated are not reaching to the common point and dumped on road sides which causes air pollution during the vehicular movement.
4. As per the Monitoring reports of M/s. Penna Cement Industries Limited, the PM<sub>2.5</sub> & PM<sub>10</sub> are not meeting the National Ambient Air Quality Standards and Particulate Matter exceeding the standards prescribed in the consent for the stack attached to Coal Mill and Cement Mill - I & II.
5. As per the Monitoring reports of M/s. Cement Corporation of India Ltd., the fugitive emissions are not meeting the Standards and Particulate Matter exceeding the prescribed standards for the stack attached to Cement Mill - I. Accumulation of fine

dust on the plant leaves, road side, production block, surroundings areas of clinker silos were observed and it causes air pollution during the vehicular movement.

6. M/s. The India Cements Limited meets the prescribed standards for Ambient Air Quality, fugitive emission and source emission. However, during inspection it was noticed that deposits of fine dust on the plant leaves inside the premises.
7. As regards to green belt development by the cement industries, M/s. Penna Cement Industries Ltd., and M/s. The India Cements Ltd., have developed 53% & 37% of green belt respectively as against the prescribed standard of 33%. But M/s. Cement Corporation of India Ltd., has developed only 30% of green belt.
8. The cement industries are not directly causing air pollution to Tandur Town as these industries are located at a radial distance from 6.46 km to 10.06 km. However, these industries are indirectly responsible for air pollution in Tandur town as these industries are transporting raw materials and products using heavy vehicles, about 3000 trucks every day (It includes 2 cement industries being operated outside the state i.e., in Karnataka State), through Tandur town causing severe dust generation during the vehicular movement.
9. The Telangana SPCB should initiate necessary action against the cement industries for non compliances observed during inspection and monitoring of these units by the Joint Committee.

#### **VI RECOMMENDATIONS OF THE JOINT COMMITTEE:**

1. The Government should hasten the process of constructing by-pass road in Tandur town to avoid the large movement of heavy vehicles, which is one of the main sources of air pollution in Tandur town.
2. The Government should allocate common lands of minimum 2 acres in each of the four areas namely Chencholi Road, Kokat Road, Hyderabad Road & Kodangal Road for the disposal of stone chips & sludge, where the cluster of stone cutting and polishing units are present as a short term measures.
3. The Government should explore the possibility of allocation of about 300 acres land for relocation of all stone cutting & polishing units outside the Tandur town as a long term measures to prevent the air pollution in the town.

4. An efficient marketplace should be created for the sale & purchase of stone chips & sludge for the small scale units to sell their wastes to the cement industries. This will provide an incentive for the various stakeholders to systemically handle the dust generating wastes in the area. For this, the cement industries should be directed to accept the stone chips & sludge and utilize them in their process as a raw material. The Government may waive off the royalty on the waste accepted by the cement industry.
5. The Government should direct the concerned Departments to complete the ongoing road construction works within Tandur Town in a time bound manner as it is one of the main sources of air pollution.
6. The Municipal Authorities should take up regular sweeping of roads by using sweeping machines, sprinkling of water on the roads and development of green belt along the road side as a mitigate measures to control the air pollution.

  
**G.Hanumantha Reddy,**  
**JCEE(FAC), TSPCB,**  
**Zonal Office, Hyderabad,**  
**Telangana**

  
**R.Y.Venumadhav Rao,**  
**Revenue Divisional Officer**  
**(Nominee of District Magistrate),**  
**Tandur, Vikarabad District,**  
**Telangana**

  
**S.Jeyapaul,**  
**Senior Scientist,**  
**CPCB, RDS, Bangalore**



**Photo1: Stone disposal outside the Tandur Town**



**Photo 2: Stone Disposal along the road side**



**Photo 3: Road works under progress**



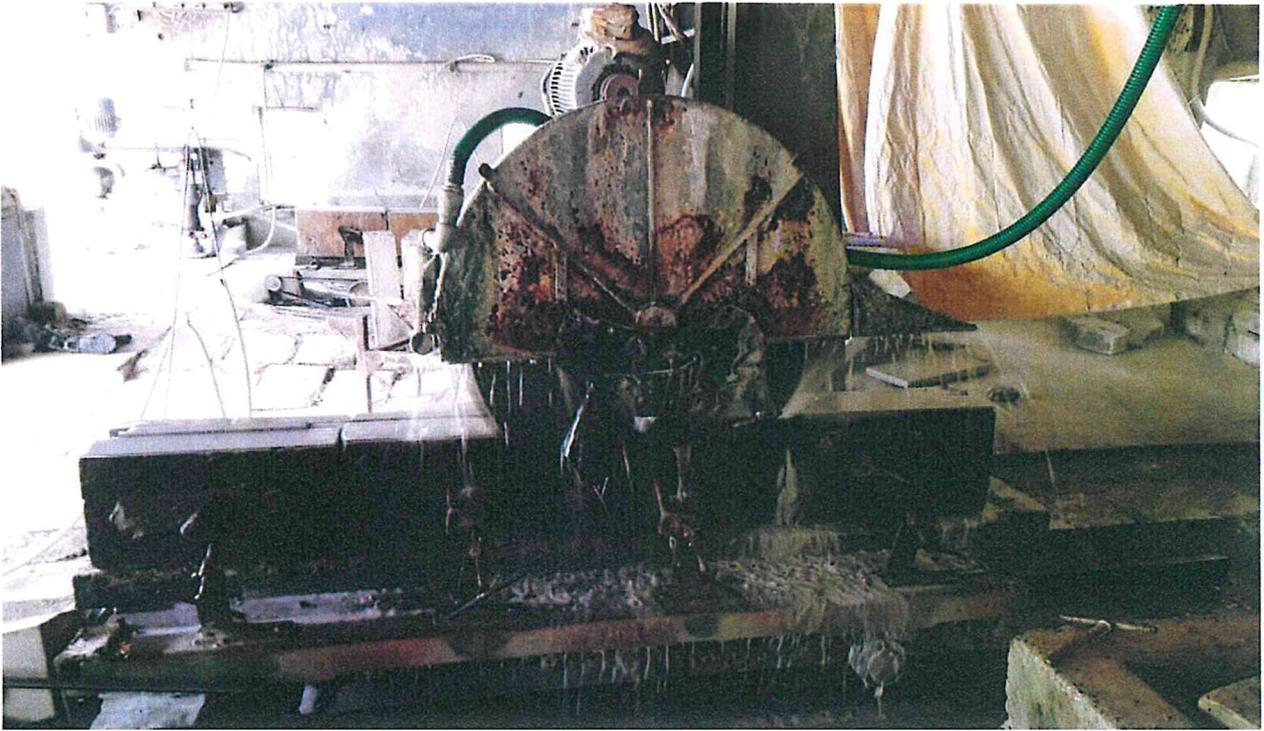
**Photo 4: Road works under progress**



**Photo 5: Road works under progress**



**Photo 6: Road Works completed**



**Photo 7: Water sprinkling during stone cutting operation**



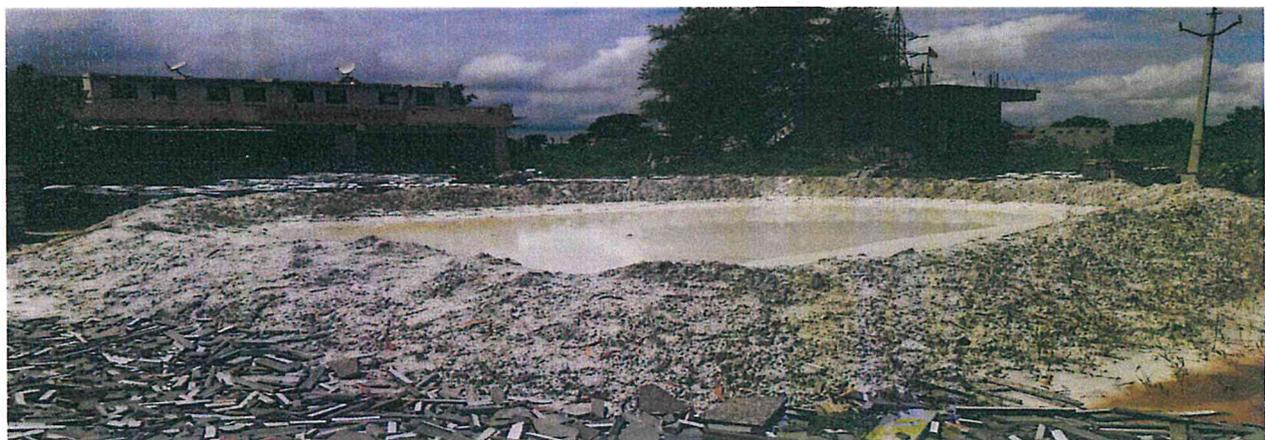
**Photo 8: Water sprinkling during stone polishing operation**



**Photo 9: Common sludge disposal point outside the Tandur Town**



**Photo 10: Common stone chips disposal point outside the Tandur Town**



**Photo 11: Storage of sludge in one of the stone polishing unit**

Item No. 01

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 925/2018

Tendur Citizens Welfare Society

Applicant(s)

Versus

State of Hyderabad

Respondent(s)

(Report filed in O.A. No. 925/2018)

Date of hearing: 29.08.2019

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For Applicant(s): None

For Respondent(s): Mr. Dhananjay Baijal, Advocate for TSPCB

**ORDER**

1. The complaint before this Tribunal is against high level air pollution in Tandur Town, District Vikarabad, Telangana. This Tribunal, vide order dated 21.12.2018, sought a factual and action taken report from the State Pollution Control Board (SPCB).
2. According to the report dated 16.02.2019 which was considered by this Tribunal vide order dated 29.03.2019, the SPCB stated that one of the causes of air pollution was micro stone cutting and polishing units and open burning of municipal solid waste apart from construction activities without requisite safeguards. A task force was constituted which has taken steps against open burning of solid

waste, apart from mitigation measures during the road construction. The Tribunal directed that remedial measures be taken against air pollution caused by micro stone cutting and polishing units and a further report filed.

3. Accordingly, report dated 11.07.2019 has been put up for consideration today to the effect that Association of stone cutting and polishing units have acquired a common land for disposal of stone chips and sludge. They have also engaged workers for sprinkling of water to suppress the dust. Gypsum industries are lifting the sludge. A rejoinder has been sent by the applicant on 04.07.2019 by registered post pointing out that heavy cement industries are emitting carbon dioxide which is also a source of air pollution. Cement plants are located very close to the town and not adopting requisite safeguards. Road and building constructions continue to be unregulated. Stone industries are throwing slurry on the roads.
4. In view of the grievance of the applicant, it appears to be necessary to ascertain the latest status of pollution caused by the cement factories, construction activities and stone cutting and polishing activities and efficacy of remedial action.
5. Let a joint Committee comprising representatives of Central Pollution Control Board (CPCB), SPCB and the District Magistrate, Vikarabad furnish a status report within one month by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in). The SPCB will be the nodal agency for coordination and compliance.

A copy of this order, alongwith a copy of the complaint and rejoinder, be sent to the CPCB, SPCB and the District Magistrate, Vikarabad by e-mail for compliance.

List for further consideration on 14.11.2019.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

Dr. Nagin Nanda, EM

August 29, 2019  
Original Application No. 925/2018  
DV

