



TAMILNADU POLLUTION CONTROL BOARD



Report On Ready Mix Concrete (RMC) Plant

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Report on Ready Mix Concrete (RMC) Plant

Introduction:

The Hon'ble National Green Tribunal (SZ), Chennai in Application No. 24 of 2017 filed by Thiru.Mohan Daniel, Senneerkuppan, Chennai in its order dated 30.03.2017 has directed the Board to formulate guidelines for Ready mix Concrete Plants.

In this regard, the Board has formed a Committee to inspect and prepare draft guidelines for Ready mix Concrete Plants Vide Lr. No. T1/TNPCB/Law/LAIII/NGT/4491/2017 dated 08.08.2017 comprising the following members.

1. Thiru.K.Ravichandran,
District Environmental Engineer,
O/o DEE, Tamilnadu Pollution Control Board,
Namakkal District
2. Thiru.D.Ragupathi,
Assistant Environmental Engineer,
O/o JCEE(M), Tamilnadu Pollution Control Board,
Coimbatore.
3. Thiru.N.Rajkumar,
Assistant Engineer,
O/o DEE, Tamilnadu Pollution Control Board,
Erode District.

The Committee made inspection of Ready mix Plants in Tamil Nadu and prepared a comprehensive report to adopt guidelines for RMC plants.

Ready Mixed Concrete Plant:

Ready Mixed Concrete, popularly known as 'RMC' is playing a vital role in the building construction and Road work. Invention of concrete brought a revolution in the building construction. Same wise invention of RMC now become an integral part in the construction of high raised buildings, Bridges, Pre-stressed concrete beams and Road work.

It is estimated that there are over 300 RMC plants functioning in Tamilnadu and the same is expected to increase in numbers due to developmental activities. The total GFA of the units is about 500 crore and the labor employed in the sector is about 5000. The total water requirement of these RMC is roughly around 6211 KLD.

The major advantage of RMC is; the concrete can be produced at various strength to suit the specific requirements of structural stability. Not like conventional cast in situ concrete, the RMC can be made produced in large quantity at a time and the quality can be monitored closely.

Though these RMC plants are Socio-economically an important sector and the advantages of RMCs are more, these RMC plants gives rise to substantial quantity of "fugitive dust emission" which leads to public complaints.

In order to prevent/control "fugitive dust emission" an attempt is hereby made to frame a specific guidelines to RMC plants.

Raw Materials & Size of the Plant:

The raw materials required for the preparation of RMC are coarse aggregate, fine aggregate (river sand/ m-sand), Cement/fly ash and Water. The coarse aggregate is normally granite stone jelly of various sizes (6 mm to 50 mm) and the fine aggregate is river sand/ m-sand and quarry dust. Water is used for binding of materials and to maintain the required consistency, Vee Bee Seconds and bleeding time.

The Capacity of the RMC Plants in general varies from 20 m³/hr to 100 m³/hr. The small RMC plants are installed for captive purpose within the construction site. Based on the capacity of the plant, the area of land for establishment and operation of the RMC plants required is around 1 acre to 5 acre. The RMC plants are operated with automatic

PLC systems and conventional manual systems. In automatic systems if the grade of concrete is programmed, the required quantity of aggregates are automatically fed into mixer based on computer program. In manual systems, the raw materials are fed into mixer manually by loading hoppers/ wheel loaders.

Process:

The raw materials coarse aggregate and fine aggregate is normally stored in open area and the cement & fly ash is stored in Silos. The concrete mixed machine is generally mounted at the centre and the raw materials are stacked in the surrounding area like a heap. The cement/fly ash is conveyed to the machine by pneumatic conveyors/ screw pumps and the coarse and fine aggregate are loaded into machine using bucket elevators (Scrappers). Water is stored in sump and the same is pumped into the mixer machine through pipes. All the raw materials are loaded in to the machine based upon the strength of the required concrete and allowed for mixing using water. After certain period the homogenized mixture of concrete is loaded into trucks with required consistency. To maintain the slump (consistency and workability) admixtures are added. All these activities are controlled by a centrally located computer aided operating system. In general, the concrete can be transported to a distance of about 3 hr travel time. hence the establishment of new RMC plants within the city limits of major cities cannot be ruled out. 1 m³ of concrete generally requires 150 to 200 litre of water depending up on water/cement ratio.

Environmental Issues:

The RMC plant Industry can be classified as "Air Polluting Industry". Though waste water is also generated from cleaning of mixer, vehicles, the major pollutant is dust. As mentioned earlier, the fine aggregate (sand/m-sand/Quarry dust) and coarse aggregates (Granite stone jelly of size 6 mm to 50 mm) are stored in open area. The

fine dust present in the fine aggregate and coarse aggregate get carried away along with wind and get deposited in the nearby agri lands, pathways, buildings etc. Likewise the fly ash and cement also get carried away during transportation, storage and utility. In addition dust emission is generated from the concrete mixer also.

Environmental Impacts:

In general the RMC plants are located nearer to the work site. The major source of pollution in a RMC plant is "fugitive dust emission". The dust particles deposited on the plants, leaves, stomata affect the plant fertility. The dust particles when got deposited on water sources affects the quality of water. Further when the RMC plant is located near to the work site, the dust got deposited on the nearby buildings, residences etc. The dust emission affects the materials, human health and vegetation to a major extent. Also the dust emission affects the pedestrians, Road users, vehicles etc. AAQ survey conducted in the vicinity of the RMC plant functioning in pollachi Taluk reveals that the parameter PM_{10} in the range of 35-68 PPM. Though the parameters are within the limits, it can be ascertained that there would be a potential dust fall in the nearby area.

The excess water used in the process and water used for cleaning of trucks, machines, platforms generates wastewater. The wastewater contains high TSS and when the waste water is allowed for stagnation in the nearby area, the water got evaporated and a layer of sludge deposited on the ground which is a cause of ground water contamination. Further the dust deposition prevents the rainwater percolation into the ground.

Though the RMC plants produce noise during the operation, the main source of noise pollution is vehicular traffic in the RMC plant. The noise pollution is not a major type of pollutant in RMC plant. However, the same is also to be addressed. The excess

concrete and concrete not meeting the specifications are disposed as solid waste. This issue is also to be addressed.

Environmental Management Plan:

As discussed in the previous paras, the main source of Air pollution is "fugitive dust emission". The same is due to the storage of raw material in open area, loading of raw materials from the aggregate piles to the mixer machine and unloading of raw materials from trucks. Likewise main source of water pollution is disposing the water used for cleaning of trucks and machines.

The mitigative measures to control the "fugitive dust emission" can be dealt in two ways.

- (1) By adopting a siting criteria and
- (2) By providing suitable Air pollution control measures

The "fugitive dust emission" occurs in RMC plant is similar to the one in solid/Hollow block manufacturing units and hot mix plants. Hence the guidelines/recommendations prepared by the TNPCB for the said type of industries is considered while preparing guidelines/recommendations for RMC plant.

Comparison of Guidelines evolved by other State Pollution Control Boards:

Maharashtra Pollution Control Board and Haryana Pollution Control Board have evolved guideline for RMC plant and the salient features of the guidelines are as follows.

Maharashtra Pollution Control Board	Haryana Pollution Control Board
1. For Commercial Plant, a buffer zone of approximate 100 meter distance from Human habitation of 1000 Souls or more and major road (National/State Highway, MDRs, main roads in city area), shall be maintained.	No siting criteria specified. Guideline specified for APC and ETP measures.

<ol style="list-style-type: none">2. RMC should not be located within 200 meter from sensitive places such as School, College, Hospital and Court.3. For captive plant for the specific project the location of RMC can be inside the project premises.4. Conditions imposed for control measures.	
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Based on the above available information and the visit made to the RMC plants in operation, the following draft guidelines of RMC plant is evolved.

Draft Guidelines for RMC Plants in Tamil Nadu

(With regard to NGT order in Application No. 24 of 2017 dated: 30.03.2017)

The Ready Mix Concrete plant is placed under Green category as per CPCB Pollution Index irrespective of the size of the plant (3037 – Ready Mix Concrete Plant).

A. Proposed Ready Mix Concrete Plants:

I. Siting criteria:

- (i) No RMC plant shall be permitted within 250 m from the nearby residential area, layouts, NH/SH, educational institutions, Religious places and human settlements with population more than 500.
- (ii) No RMC plant shall be permitted within 5 km radius from the wild life sanctuary/reserve forest/national monuments.
- (iii) The RMC Plant for captive use should be located within the project site.
- (iv) The minimum land area required for a RMC plant for better operating conditions is specified as below.
 - (a) Plant capacity <math> < 50 \text{ m}^3/\text{hr} < /math> – 1 acre
 - (b) Plant capacity 50 to 100 m^3/hr – 2 acre
 - (c) Plant capacity > 100 m^3/hr – 1 hectare
- (v) There should be atleast 250 m distance between the two RMC plants.

II. Air Pollution control measures:

1. Storage silos of cement & fly-ash shall be equipped with adequate capacity of dust Collection system such as bag filters followed by bag house assembly for the collection, control and suppression of dust emission during loading and unloading of the silo.
2. The cement and fly ash shall be loaded into silos only using pneumatic conveyor system.

3. Handling of cement, sand, m-sand, fly ash and aggregates shall be carried out covered conveyor system.
4. Weigh bins and hoppers shall be covered on three sides and top where front end loader is used.
5. Raw materials are to be wetted with water frequently to avoid flying of fine dust.
6. The raw materials like quarry dust shall be stored in an enclosed shed/containment.
7. Aggregates of various sizes shall be stored in such a manner that the fine aggregates are stored in between the coarser aggregates to control dust emanation.
8. All aggregates stored within the premises shall not be stacked beyond the height of 3m from ground level.
9. Water sprinkling systems shall be provided in all possible dust emanating area for suppression.
10. All roads/vehicular movement areas at site of RMC should be well paved and cleaned regularly to mitigate dust.
11. National Ambient Air Quality Standards – CPCB Notification No.- B-29016/90/PCI – I Dated 18.11.2009 to be followed.
12. The industry should plant green belt not less than 3 m width of thick canopy in all direction at the periphery of the unit to attenuate noise and dust pollution.
13. The Noise Pollution (Regulation and Control) Rules, 2000 as Notified by MOEF S.O.123 (E) dated 14.02.2000 to be followed.

III. Water Pollution Control:

1. The RMC plant shall ensure that the water required for its process is obtained from the sources as approved by the Competent Authority and as per the standing Rules.
(Hint: Water required for 1 m³ of concrete is 200 litre and weight of 1 m³ of concrete is 2.4MT)

2. An adequate capacity of collection cum settling tank shall be provided to collect the wastewater generated from the machine washing, truck washing etc.
3. Garland drains with appropriate bunds shall be provided connecting all potential sources of wastewater and rainwater and the same shall be directed to a collection cum settling tank.
4. The waste water generated from the sources like Batching, Plant washing, Transit Mixer washing, Vehicle tyre washing and floor washing area shall be collected in the collection tank and the same shall be treated by providing comprehensive treatment system so as to meet the disposal standards.
5. The treated water shall be recycled for wetting the raw materials so as to conserve water.

IV. Solid Waste Management

1. Solid waste generated from transit mixture washing, debris/sludge/waste or rejected concrete generated from RMC shall either be reused through recovery /Reclaiming system or disposed off at a designated approved site by local body for debris construction waste.

V. Other Requirements:

1. Maintain good housekeeping practices wherever possible within the unit premises to control fugitive dust emission.
2. Wherever possible, day time operation is to be preferred rather than night time operation to take advantage of favorable metrological condition prevailing during day time.
3. Adequate measures of safety for workers working in RMC plant shall be taken. Personal protective devices such as goggles, mask, helmet and safety shoes shall be provided to workers.

B. Existing Ready Mix Concrete Plants:

I. Siting criteria:

1. All existing RMC plants shall not undertake expansion activity without prior consent of the Board. If the unit apply for consent of the Board for expansion activity, it is to be considered as a proposed industry and recommended siting criteria to be adhered with.
2. The existing RMC plants which are not meeting the siting criteria shall provide a compound wall/ Tin sheet coverage/Barricades to a height of 20 feet all around the periphery of the unit premises.

II. Air Pollution control measures:

1. Storage silos of cement & fly-ash shall be equipped with adequate capacity of dust Collection system such as bag filters followed by bag house assembly for the collection, control and suppression of dust emission during loading and unloading of the silo.
2. The cement and fly ash shall be loaded into silos only using pneumatic conveyor system.
3. Handling of cement, sand, m-sand, fly ash and aggregates shall be carried out covered conveyor system.
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6. The raw materials like quarry dust shall be stored in an enclosed shed/containment.
7. Aggregates of various sizes shall be stored in such a manner that the fine aggregates are stored in between the coarser aggregates to control dust emanation.

8. All aggregates stored within the premises shall not be stacked beyond the height of 3m from ground level.
9. Water sprinkling systems shall be provided in all possible dust emanating area for suppression.
10. All roads/vehicular movement areas at site of RMC should be well paved and cleaned regularly to mitigate dust.
11. National Ambient Air Quality Standards – CPCB Notification No.- B-29016/90/PCI – I Dated 18.11.2009 to be followed.
12. The industry should plant green belt not less than 3 m width of thick canopy in all direction at the periphery of the unit to attenuate noise and dust pollution.
13. The Noise Pollution (Regulation and Control) Rules, 2000 as Notified by MOEF S.O.123 (E) dated 14.02.2000 to be followed.

III. Water Pollution Control:

1. The RMC plant shall ensure that the water required for its process is obtained from the sources as approved by the Competent Authority and as per the standing Rules of TNPCB.
(Hint: Water required for 1 m³ of concrete is 200 litre and weight of 1 m³ of concrete is 2.4MT)
2. An adequate capacity of collection cum settling tank shall be provided to collect the wastewater generated from the machine washing, truck washing etc.
3. Garland drains with appropriate bunds shall be provided connecting all potential sources of wastewater and rainwater and the same shall be directed to a collection cum settling tank.
4. The waste water generated from the sources like Batching, Plant washing, Transit Mixer washing, Vehicle tyre washing and floor washing area shall be collected in

the collection tank and the same shall be treated by providing comprehensive treatment system so as to meet the disposal standards.

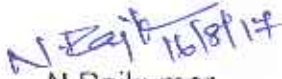
5. The treated water shall be recycled for wetting the raw materials so as to conserve water.


IV. Solid Waste Management

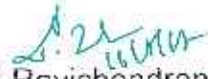
1. Solid waste generated from transit mixture washing, debris/sludge/waste or rejected concrete generated from RMC shall either be reused through recovery /Reclaiming system or disposed off at a designated approved site by local body for debris construction waste.

V. Other Requirements:

1. Maintain good housekeeping practices wherever possible within the unit premises to control fugitive dust emission.
2. Wherever possible, day time operation is to be preferred rather than night time operation to take advantage of favorable metrological condition prevailing during day time.
3. Adequate measures of safety for workers working in RMC plant shall be taken. Personal protective devices such as goggles, mask, helmet and safety shoes shall be provided to workers.


N. Rajkumar,
AE, O/o DEE, TNPCB,
Erode


D. Ragupathi
AEE, O/o JCEE (M),
TNPCB, Coimbatore


K. Ravichandran
DEE, TNPCB,
Namakka District

PHOTOS SHOWING THE PRESENT SCENARIO IN RMC PLANTS



Ramp for Loading Fine Aggregates - 30 m³/hr Plant



Ramp for Loading Coarse Aggregates - 30 m³/hr Plant



Green Belt and paved Roads



Paved Roads within RMC Plant



View of Mixer



Vehicle Movement Area



Bag Filter for Silos



Visit made to M/s Ultra Ready Mix, Coimbatore (Capacity 60 m³/hr)



Raw Material Storage



Conveyors without covering



TAMILNADU POLLUTION CONTROL BOARD
Advanced Environmental Laboratory
Coimbatore - 600 001.



From

To

N.A. Sekar, M.Sc.,
Assistant Director (Lab),
Advanced Environmental Laboratory,
Tamilnadu Pollution Control Board,
171, Swaney Iyer New Street,
Coimbatore - 641 001.

The District Environmental Engineer,
Tamilnadu Pollution Control Board,
Coimbatore South,
42-D, S.N.R. College Road,
Peelamedu,
Coimbatore - 641 004.

Lr.No.TNPC Bd/AD(L)/AEL-CBE/Air Survey/F.P - 43/16 -17, Dated 22.08.2016.

Sir,

Sub: Furnishing of Report of Analysis of Ambient Air Quality / Ambient Noise Level Survey - Reg.

- Ref: 1. Letter No. DEE/CBS/F, Complaint/2016 dated 07.03.2016 & 29.06.2016.
2. This office Lr.No.TNPC Board/AD(L)/AEL-CBE/Air Survey/F.P - 43/16 - 17, Dated 28.07.2016.

With reference to the letter cited above, I am sending herewith the Report of Analysis of Ambient Air Quality / Ambient Noise Level Survey conducted in the vicinity of M/S. Ultra Ready Mix Concrete Pvt. Ltd, S.F No. 123/1, Kapilpalayam, Kovilpalayam (POST), Pollachi Taluk, Coimbatore - 642 110 on 28.07.2016 with invoice for Rs. 24,200/- (Rupees Twenty four thousand and two hundred only) towards the above survey / analysis charges, at Board's Cost.

Kindly acknowledge the receipt of the above without fail.

Encl: As above.

Copy submitted to:

1. The Director (Labs) - TNPC Bd, Chennai for favour of kind information Please.

Copy to:-

1. The District Environmental Engineer, TNPC Bd, Coimbatore (South) for favour of kind information please.

2. Copy to file.

Assistant Director (Lab)
Advanced Environmental Laboratory
TNPCB-Coimbatore

9/8/16
13/08/16

F.0683-



TAMILNADU POLLUTION CONTROL BOARD
Advanced Environmental Laboratory
Coimbatore - 600 001

INFERENCE REPORT NO.31/AEL - CBE/A.A.Q.S./S.M. Dated 22.08.2016.

- | | |
|-------------------------------|---|
| 1. Name of Industry | M/s.Ultra Ready mix concrete Pvt. Ltd.,
S.F.No. 123/1, Kabilipalayam,
KovilPalayam (POST), Pollachi Taluk,
Coimbatore - 642 130. |
| 2. Pollution Category | Green/Small |
| 3. Date of A.A.Q. Survey | 28.07.2016 |
| 4. Predominant Wind Direction | South West → North East |
| 5. Weather condition | Clear Sky |

STATUS OF POLLUTANTS LEVEL

I. AMBIENT AIR QUALITY:

- Total No. of A.A.Q. stations monitored : 5
- No. of A.A.Q. stations in which Pollutants Level exceeded the Boards standards : Nil

Maximum and Minimum values of Pollutants Level observed:

Sl. No	POLLUTANT	Values in microgram/m ³		BOARD'S STANDARD (As per consent order)
		Maximum	Minimum	
1.	Respirable Suspended particulate Matter: PM ₁₀	68.0	35.0	100
2.	<u>GASEOUS POLLUTANTS:</u>			
	(i) SO ₂	11.0	<4.00	80
	(ii) NO ₂	19.0	12.0	80

A.S.
21/8/16
E.S.

[Signature]
D.C.S.O

[Signature]
22/8/16
Authorised Signatory,
(Assistant Director (Lab))

No.171, Swamy Iyyer New Street, Ganga Garden, Coimbatore - 641 001.
Telephone: 0422 - 2340174, Email: deltnpcbe@gmail.com, deltnpcbe@gmail.com

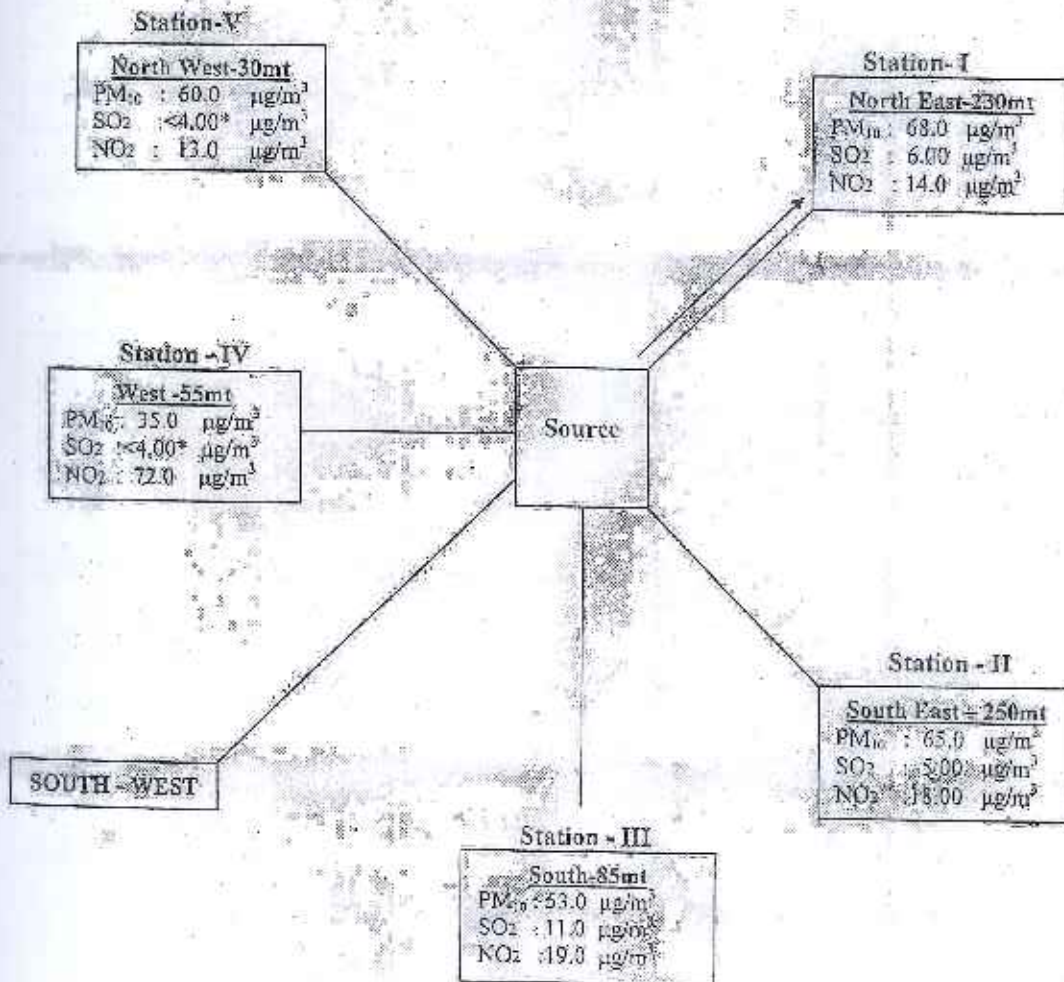


TAMILNADU POLLUTION CONTROL BOARD
Advanced Environmental Laboratory
Coimbatore - 600 001
AMBIENT AIR QUALITY SURVEY

Schematic Diagram Showing Location of Sampling

Report No.31/AEL - CBE/AAO/SM/2016 - 2017 Dated 22.08.2016.

1. Name and Address of the Industry : M/s Ultra Readymix concrete Pvt. Ltd.,
S.F.No. 123/1, Kabilipalayam,
Kovilpalayam (POST), Pollachi Taluk,
Coimbatore - 642 110.
2. Date of Survey : 28.07.2016.
3. Predominant Wind Direction : South West → North East
4. Weather condition : Clear Sky



* Indicates Less than minimum detectable limit.

Note:- All the values are expressed in $\mu\text{g}/\text{m}^3$ and restricted to the sampling period of 8 hours.

(Signature)
E.S.

(Signature)
D.C.S.O

(Signature)
Authorized Signatory,
Assistant Director (Lab)



AMBIENT/SOURCE NOISE LEVEL SURVEY - Report of Analysis

Report No.31/ARL - CBE/NLS/2016 - 2017 Dated 22.08.2016.

1. Name of the Industry	M/s. Ultra Ready mix concrete Pvt. Ltd.,		
2. Address of the Industry	S.F.No. 123/1, Kabilpalayam, Kovilpalayam (POST), Pollachi Taluk, Coimbatore - 642410.		
3. Date of Survey	28.07.2016.		
Category	Green/Small	Land use Classification	
Type of Survey	Ambient/Source	Time of Survey	Day
Meteorological conditions	CALM		

Logging Parameters

Instrument Used	Larson & Davis	Serial No	824 A 2030
Logging Interval	10 Minutes each point	Measuring Range	50-110 dB(A)
Weighting	"A"	Peak Weighting	"C"
Sound Incidence	RANDOM	Time Weighting	FAST
		Time in hrs	11.55 - 13.00 Hrs.

Report of Noise Level Monitoring

Sl No	Location	Distance (M)	Direction	Sound Level - dB (A)					
				L _{eq}	L ₉₀	L ₅₀	L ₁₀	Min	Max
At Ambient									
1	Main entrance of the unit - North West.	25	North West	55.3	54.8	55.1	55.5	53.3	57.0
2	North East boundary of the unit.	25	North East	52.4	52.2	53.4	55.1	51.3	53.7
3	Boundary of the unit - Near Kitchen.	15	South East	45.0	45.1	52.1	59.6	44.3	46.6
4	Near SAP + Broad band Tower.	15	South West	51.9	50.5	51.5	52.8	50.0	55.6
5	Near Thiru. Chinnappan's Thottam, Sollappampalayam, Kovilpalayam (POST), Pollachi Taluk - 642 110.	230	North East	44.2	42.0	43.4	45.3	42.2	50.0
6	Near Thiru. R.K. Vishwanathan's House, Kabilpalayam, Kovilpalayam (POST), Pollachi Taluk, Coimbatore District.	250	South East	45.3	44.2	45.9	47.2	42.9	50.8
7	Near Dr. Makendran's Horse farm House. Source:-	85	South	46.6	46.0	49.7	80.1	45.2	48.4
8	Generator - 125KVA [Powerica Cummins 1 No Running] (With acoustic measures)	-	-	72.6	72.1	72.4	72.7	71.9	73.6
9	Near mixing plant [White loading] (Without cement compressor running)	-	-	78.1	74.6	77.5	80.4	71.2	85.2

Note: L₉₀ Value refers to background noise; L₅₀ Value refers to mean noise.
L₁₀ value refers to nuisance or annoyance level; L_{eq} value is the average energy for the measured period.

Test Performed	Test Method
Sound Level (L _{eq})	IS: 9989 - 1981 (RA 2001)

E.S.

D.C.S.O.

Authorized Signatory,
[Assistant Director (Lab)]



TAMILNADU POLLUTION CONTROL BOARD
Advanced Environmental Laboratory
Coimbatore - 600 001

GENERAL PARTICULARS

Report No. 31/AEL - CBE/AAO/SM/2016 - 17 Dated 22.08.2016.

Name and Address of the Industry : M/s. Jiffa Readymix concrete Pvt. Ltd.,
S.F.No. 123/1, Kabilipalayam,
Kovilpallyam (POST), Pollachi Taluk,
Coimbatore - 642 110.

Date of Survey : 28.07.2016.

Sl. No.	Particulars			
1.	Process Description	Ready mix Concrete Manufacturing		
2.	Emission Sources			
3.	Fugitive Emission Sources	Frequent vehicle movement.		
4.	Raw Material Consumptions	Sl. No.	Name of the raw material	Quantity
		1	Cement	20.00Mts
		2	Flyash	5.50Mts
		3	Riversand	8.00Cft
		4	M.Sand	11.00Cft
		5	20mm	1936.00Cft
		6	12.5mm	1067.00Cft
7	Admixture	135.00Mts		
5.	Production Capacity as per Air Consent order No. & Date	80 m ³ /day Air Consent Order No.15081677505 Dated 07.05.2015.		
6.	Production on the day of Survey	Ready - mix Concrete - 104 m ³ /day		
7.	Air Consent Order No. Validity up to 31 st Dec 2019.	Air Consent Order No.15081677505 Dated 07.05.2015 Validity up to 31.12.2019.		
8.	Details of APC measures	Water sprinklers were provided.		
9.	Functional Status of APC measures	Working		
10.	Compliance with Consent Conditions	Complied		
11.	Field Observations			

E.S.
E.S.

D.C.S.O
D.C.S.O

[Signature]
Authorised Signatory,
Assistant Director (Lab)

No.171, Swamy Jyyer New Street, Ganga Garden, Coimbatore - 641 003,
Telephone: 0422 - 2340174, Email: deltapcbce@gmail.com, uelnpcbcbce@gmail.com.



AMBIENT AIR QUALITY SURVEY - Report of Analysis

Report No.31/AEL - CBE/AAQS/2016 - 2017 Dated 22.08.2016.

1. Name of the Industry : M/s.Ultra Readymix concrete Pvt. Ltd.,
2. Address of the Industry : S.F.No. 123/1, Kabilipalayam,
KovilPalayam (POST), Pollachi Taluk,
Coimbatore - 642 110.
3. Date of Survey : 28.07.2016
4. Duration of Survey : 8 Hours
5. Category : Green/Small

Meteorological Conditions

Ambient Temperature (°C)	Min	Max	Relative Humidity (%)	Min	Max
	29.5	34.2		48.0	69
Weather Condition	Clear Sky		Rain Fall (mm)	Nil	
Predominant Wind Direction	South West → North East		Mean Wind Speed (km / hr)		

Ambient Air Quality Survey Results

St. No.	Location	Direction	Distance (m)	Height From GL (m)	Pollutants Concentration (microgram / m ³)		
					PM ₁₀	SO ₂	NO ₂
1	On top of Scaffolding in the Open field of Thiru.Chinnappan's Thottam, Sellappampalayam, Kovilpalayam (POST), Pollachi Taluk - 642 110.	North-East	250	3.0	68.0	6.00	14.0
2	On top of Scaffolding adjacent to Thiru.R.K.Vishwanathan's House, Kabilipalayam, KovilPalayam (POST), Pollachi Taluk, Coimbatore District.	South-East	250	3.0	65.0	5.00	18.00
3	On top of Scaffolding Opposite to North side entry of Dr.Makendran's Horse farm House.	South	85	3.0	53.0	11.0	19.0
4	In the coconut farm scaffolding of Thiru.Sandhalingam.	West	55	3.0	35.0	<4.00	17.0
5	On top of Scaffolding near koiil Opposite to Main entrance of the unit.	North-West	30	3.00	69.0	<4.00	13.0

Note: * With respect to major emission sources.
The Values are restricted to the sampling period of 08.00.Hrs.

Test Performed	Test Method
PM ₁₀	IS 5182: (Part 31)- 2006
SO ₂	Modified West-Gaeke / IS 5182: (Part 2) - 2001 RA: 2012
NO ₂	Jacobs - Hochheiser / IS 5182: (Part 6) - 2006 RA: 2012

[Signature]
E.S

[Signature]
D.C.S.O

[Signature]
Authorised Signatory,
[Assistant Director (Lab)]



TAMILNADU POLLUTION CONTROL BOARD
Advanced Environmental Laboratory
Coimbatore - 600 001

BILL

Report No.31/AEL - CBE/AAO/SM/2016 - 2017 Dated 22.08.2016.

Bill No.	31/2016-2017
Date	22.08.2016.

To

The District Environmental Engineer,
Tamilnadu Pollution Control Board,
Coimbatore South,
42-D, S.N.R.College Road, Peclamedu,
Coimbatore - 641 004.

- Ref: 1. B.PMs.No.6 Dt.31.03.2009.
2. This office Lr.No.TNPC Board/AD(L)/AEL-CBE/Air.Survey/F.P - 43/16 - 17,
Dated 28.07.2016.

Sl. No.	Description	No. of Stations	Rate (Rs)	Amount (Rs)
1.	Ambient Air Quality Survey	5	2,000.00	10,000.00
2.	Analysis Charges - PM ₁₀	5	600.00	3,000.00
3.	Analysis Charges - Sulphur dioxides	5	600.00	3,000.00
4.	Analysis Charges - Nitrogen Oxides	5	600.00	3,000.00
5.	Ambient Noise Level testing charges (First 5 Points)	1 st 5 points	4,000.00	4,000.00
6.	Additional Noise Level points	4	300.00	1,200.00
Total				24,200.00

The Survey has been conducted at "Board's Cost".

AS
22/8/16
E.S

AS
22/8/16
D.C.S.O

AS
23/8/16
Authorised Signatory
[Assistant Director (Lab)]

No.171, Swamy Eyer New Street, Ganga Garden, Coimbatore - 641 001.
Telephone: 0422 - 2340174; Email: deltnpcbce@gmail.com, aeltnpcbce@gmail.com.



தமிழ்நாடு மாசு கட்டுப்பாடு வாரியம்

From

The Member Secretary,
Tamil Nadu Pollution Control Board,
76, Mount Salai, Guindy,
Chennai - 600 032.

To

1. Thiru. K. Ravichandran,
District Environmental Engineer,
O/o. DEE, Tamil Nadu Pollution Control
Board, Namakkal District.
2. Thiru. D. Raghupathy,
Assistant Environmental Engineer,
O/o. JCEE (M), Tamil Nadu Pollution
Control Board, Coimbatore District.
3. Thiru. N. Rajkumar,
Assistant Engineer,
O/o. DEE, Tamil Nadu Pollution Control
Board, Erode District.

Lr. No. T1/TNPCB/LAW/LA III/NGT/4491/2017, dated: 08.08.2017

Sir,

Sub: TNPCB - Industries - Ready mix units - Application No.24 of 2017 filed by Thiru. Mohan Daniel, Senneerkuppam, Chennai before Hon'ble NGT, SZ, Chennai against ready mix plants regarding the air pollution - Hon'ble NGT order dated 30.03.2017- Formation of committee- Inspect and prepare draft guide lines for ready mix plants-to be Submitted-Reg.

Ref: Hon'ble NGT order dated 30.03.2017(copy enclosed).

I am to inform that, a case has been filed by Thiru. Mohan Daniel, Senneerkuppam, Chennai against the Ready mix units of M/s. Raymix Concrete India Pvt.Ltd, No.49, Sakthi Garden Phase -I, Senneerkuppam, Chennai, M/s.RDC Concrete (India)Pvt. Ltd,No.2/129,Avadi Road, Senneerkuppam, Chennai and M/s.RMC Ready mix India Pvt. Ltd Sakthi Garden Phase -I, Senneerkuppam, Chennai regarding the air pollution before Hon'ble NGT (SZ)in the application No.24 of 2017.In this regard District Environmental Engineer, Tamil Nadu Pollution Control Board, Tiruvallur has filed reply affidavit of the Board during March,2017.

Hon'ble NGT in its orders dated 30.3.2017 has directed Board to file inspection report and to state whether a guide lines have been prepared for Ready mix plants.

In this regard it has been decided to form a committee comprising of the following Tamil Nadu Pollution Control Board officials to inspect and prepare draft guide lines for ready mix plants:

Hence, the committee is requested to inspect the ready mix plants and attend the Board on 17.08.2017 with draft guidelines for ready mix plants.

S. Srinivasan
For Member Secretary
9-8-2017

76, மவுண்ட் சாலைய, கிண்டி, சென்னை - 600 032.

பேரன் : 22353134 / 22353135 / 22353136 / 22353137 / 22353138 / 22353139 / 22353140 / 22353141

தெலி கிராம : 'சிஞ்சள்பிஞ்சல்' பேக்ஸ் : 044-22353068

79

BEFORE THE NATIONAL GREEN TRIBUNAL

SOUTHERN ZONE, CHENNAI
Application No.24 of 2017 (SZ)

Applicant(s)

Mr. S. Mohan Daniel
Seneerkuppam, Chennai

Respondent(s)

Vs. The District Environmental Engineer
Tamil Nadu Pollution Control Board,
Plot No. 41, 1st Street, Judges Colony,
Periyakuppam, Thiruvallur and others

Legal Practitioners for Applicant(s)

M/s. B. Manoharan, B. Dhanasekaran
& Sumathi Selvataj

Legal practitioners for respondent(s)

Mrs. H. Yasmeen Ali for R1
M/s. Dua Associates, R. Senthilkumar,
Iqbal Tahir, Syed, S. Arjunsuresh,
B. Kishore, Raghavendra Ross Divakar
R. Sinduja for R4
M/s. M. Krishnamoorthy, R. Hari for R2
M/s. King & Partridge for R3

Note of the Registry	Orders of the Tribunal
Item No.25	<p>Date: 19th May, 2017</p> <p>In spite of our direction against the State Pollution Control Board to file latest inspection report and also guidelines regarding Ready Mix Plant, such guidelines have not been filed so far. The learned counsel appearing for the applicant is present.</p> <p>We make it clear that the private respondents shall adhere to and strictly comply with the conditions imposed by 1st respondent Pollution Control Board.</p> <p>Post this application on 10/08/2017.</p> <p style="text-align: right;">.....JM (Justice Dr. P. Jyothimani)</p> <p style="text-align: right;">.....EM (Shri P.S. Rap)</p>

MAHARASHTRA POLLUTION CONTROL BOARD

Phone : 4010437/4020781
/4037124/4035273
Fax : 24044532/4024068
/4023516
Email : ast@mpcb.gov.in
Visit At : <http://mpcb.gov.in>



Kalpataru Point, 3rd & 4th floor, Sion- Matunga
Scheme Road No. 8, Opp. Cine Planet Cinema,
Near Sion Circle, Sion (E),
Mumbai - 400 022

DRAFT NOTIFICATION

No.

Date:

In exercise of the powers conferred under sub-section (1) of section 54 read with clause (z) of sub-section (2) of the said section and sub-section (1) of section 21 of the water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981, the State Govt. after consultation with the Maharashtra Pollution Control Board hereby notifies the Guidelines for Ready Mix Concrete Plant (RMC) in the State of Maharashtra for siting criteria of RMC's, Environmental Standards to be imposed on RMC's, additional control measures to be imposed to abate/mitigate pollution & any other recommendations.

All the suggestions / comments / improvement plan are invited from all concerns on e-mail address of ast@mpcb.gov.in within 15 days from the date of publication so as to formulate the policy.

A. DEFINITION:

- i) **RMC Plant :** Ready-mix concrete is concrete that is manufactured in a factory or batching plant, according to a set recipe, and then delivered to a work site, by truck mounted in-transit mixers.
- ii) **Commercial Plant :** A concrete batching plant set up for the purpose of supply of RMC to customers who require this for their construction.
- iii) **Captive Plant :** A Concrete Batching Plant which has been set up for the sole purpose to supply RMC to a dedicated project site.

B. APPLICABILITY -

- i) The RMC Plants are covered under the consent management regime of the Board.
- ii) The permissions / grant of NOC shall be issued by the concern local body.

C. SITING CRITERIA.

The following siting criteria shall be considered for establishment of RMC Plant.

1. For commercial plant a buffer zone of approximate 100 mtr distance from human habitation of 1000 souls or more and major road (National / State Highway, MDRs, main roads in city areas) shall be maintained.
2. For captive plant for the specific project, the location of RMC can be inside the project premises.
3. RMC should not be located within 200 m from sensitive places such as school, college, hospital and court.
4. The project proponent should comply with other locational statutory requirements including conditions imposed in the 'No Development zone' through various Notifications such as DC Rules, MMR Policy & any other Sensitive Locations like Antop Hill etc, while granting Consent to Establish. The condition for such compliance along with affidavit shall be imposed. While granting Consent to operate, it will be subject to the compliance of affidavit & the project proponent will be responsible for compliance.

D. ENVIRONMENTAL ASSESSMENT.

The following factors shall be taken into consideration for environmental assessment.

- i) Material handling and Storage capacity shall be specified.
- ii) To carry out meteorological study specifically wind directions and accordingly prepare plan to control of fugitive emissions / dust particles and suppression system.

E. Pollution control measures:

a) Air Pollution Control;

(i) In-house measures;

1. All material transfer points should be covered
2. The dust containment system shall be provided incorporating either of the following
 - Barricading all around the periphery of the plot boundary of height minimum 20 feet or 5 feet above free fall air emission area, whichever is higher with tin sheets. Same may extend above with netting clothing whenever required

- Water sprinkling/Chemical dust stabilizing agent spraying system along the periphery inside the premises of RMC.
 - Tree plantation along the periphery inside boundary of the RMC premises having minimum width of 5 meters, on all sides. The foliage of the trees shall adequately cover area upto about 20m height.
3. Internal work area shall be cement concreted/Asphalted.
 4. Daily cleaning / Removal of dust accumulation inside the plant (dry/wet) shall be carry out with industrial vacuum cleaner.
 5. Two level tyre washing facility shall be provided at entry and exit points, for transit mixture vehicle.

(ii) Raw material storage & handling:

1. Storage silos of cement & fly-ash shall be equipped with adequate capacity of dust Collection system such as multi-cyclone followed by bag house assembly.
2. Handling of Cement, sand, fly ash and aggregates shall be carried out with mechanical closed system only.
3. Manual operations shall be permitted only in a closed shed, equipped with dust control system at the loading point as well as roof top secondary dust control system.
4. All Conveyor belts of Sand, aggregate shall be covered with tin sheets and at transfer points dust collection system to be installed to avoid secondary fugitive emissions.
5. Mixing section of cement, aggregate & sand shall be equipped with adequate capacity dust collection system, such as multi-cyclone followed by bag house, so as to limit dust emissions.
6. Storage area of sand & aggregate shall be equipped with roof top water sprinkler system.
7. The production plant shall be interlocked with air pollution control devices.
8. Alternative power supply system, should cover both the production and Air pollution control system.

(iv) Ambient air quality at a distance of 10 mtr from source OR the plant Boundary, whichever is nearer, shall meet the following standards

Particulate Matter PM 10 Not to Exceed	100	µg/m ³
Particulate Matter PM 2.5 Not to Exceed	60	µg/m ³

b) Water pollution control measures;

- i) The waste water generated from the sources like Batching Plant washing, Transit Mixer washing, Vehicle tyre washing and floor washing area shall be collected through well designed drainage system in a collection tank and the same shall be treated by providing comprehensive treatment system as is warranted to meet the disposal standard mentioned below.

Standards of the treated effluent Quality

Sr. No.	Parameter	Standards
1	pH	Between 5.5 to 9.0
2	Oil & Grease	Not to exceed 10 mg/l
3	Suspended Solids	Not to exceed 100 mg/l
4	BOD3 days	Not to exceed 30 mg/l
5	COD	Not to exceed 150 mg/l
6	TDS	Not to exceed 2100 mg/l

- ii) The treated effluent shall be reused in the process, water sprinkling system or gardening / plantation only. There should not any discharge of effluent from the plant.

c) Solid waste treatment and disposal;

- i) Solid waste from transit mixture washing, muck (debris/sludge) generated from RMC shall either be reused through recovery unit/ Reclaiming system OR disposed off at a designated approved site by local body, for debris / construction waste.

Note:

1. The star type RMC plants shall be discarded within 1 year. For old plant the period of 1 year shall be allow for implementing the suggested guidelines. The renewal shall be consider only after implementation of new guidelines. The RMC's having valid consent, they shall amend their consent in compliance with guideline within a year.
2. Operation of RMC plant shall be in day time only. The Day time is reckoned in between 6 a.m. and 6 p.m. i.e from sun rise to sunset.
3. The Board may make the standards stringent for the RMC / batching plants located within Corporation areas.
4. New permission will be granted by imposing conditions & unless and until above arrangement provided consent to operate will not be considered/granted

E. The following conditions shall be incorporated in the consent:

1. The authority shall provide adequate water treatment and disposal facility for generated effluent from their activity. They shall comply with provisions under the Water (Prevention and Control of Pollution) Act, 1974.
2. The authority shall provide adequate Air pollution control arrangement at the source. They shall comply with the provisions under the Air (Prevention and Control of Pollution) Act, 1981 and conditions prescribed in E.

sd/-

(Rajeev Kumar Mital, IAS)

Member Secretary



HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR-6, PANCHKULA

Website - www.hspcb.gov.in E-Mail- hspcb.pkl@sifymail.com
 Tele No. - 0172-2577870-73

Order

Whereas on the recommendation in TAC (Policy) the Board in its 171st meeting held on 20.05.2014 vide resolution no. 171.10 has approved the proposal for granting the exemption to the Ready Mix Concrete Plants having investment cost less than Rs. 1 crore from consent management provided that these units will provide the required pollution control measures and will follow the guidelines of the Board already issued in this regard to comply with the standards prescribed in Environment Protection Rules, 1986 for discharge of Environmental pollutants.

In view of above, it is hereby ordered that the Ready Mix Concrete Plants having investment cost less than Rs. 1 crore will not require to obtain the Consent to Establish and Consent to Operate from the Board under Water (Prevention & Control of Pollution) Act 1974 and Air Prevention & Control of Pollution) Act 1981 till further orders subject to the condition that these units will provide the required pollution control measures and will follow the guidelines issued by the Board in this regard for Ready Mix Concrete Plants vide letter no. 267-278 dated 24.12.2013 to comply with the standards prescribed in Environment Protection Rules, 1986 for discharge of Environmental pollutants.

The above orders shall come into force with immediate effect.

Dated Panchkula, the
 6th June, 2014

Dr. Mahavir Singh, IAS
 Chairman

Endst. No. HSPCB/2014/ 1804-1812

Dated: 11/6/14

A copy of the above is forwarded to the following for information and necessary action.

1. All Branch Incharges in Head Office.
2. The Regional Officers, in field office
3. PA to Chairman/ PS to M. S for information of the officers.
4. Nodal Officer (IT) for uploading the orders on the website on the Board.

Sandeep Sharma

umal
 Sr. Environmental Engineer-I (HQ)
 For Chairman



HSPCB

HARYANA STATE POLLUTION CONTROL BOARD

C-11 Sector-6, Panchkula

Ph - 0172- 577870-73, Fax No. 2581201

No. HSPCB/2013/267-278

Dated: 24/12/13

To

All the Regional Officer.

Sub: Issue regarding requirement of air sampling in the Ready Mix Concrete Plants.

The issue regarding the requirement of stack and air sampling in the Ready Mix Concrete Plants was raised by some Regional Officers in the ROs meeting held on 20.11.2013. As decided in the RO meeting the two Ready Mix Concrete Plants has been inspected by the two members of the TAC(Policy) and submitted following observations and recommendation which has been discussed in the meeting of TAC(Policy) held on 18.12.2013 :-

1. These units requires Air Pollution Control Measures (APCM) i.e. cyclone followed by Bag House alongwith a stack of proper height with sampling arrangement to control the air emissions from storage bins silos used for storage of cement, fly ash and cement feeding section.
2. Concrete / metalled floor within the premises and sprinklers are required for suppression of dust due to the movement of vehicles.
3. Sprinkler system is also required for wetting of ground and aggregate material storage yard for suppression of dust.
4. The conveyer belt and feeding Hopper for the aggregates should be properly covered.
5. In order to check the process emission, Ambient Air Quality sampling is required, to check the SPM level at process site.
6. Proper and adequate size of settling tanks with stirrer to homogenize the effluent before recirculation, is required.
7. For washing of vehicle, proper and metaled platform with the appropriate slope is required to avoid the discharge of waste water and it should be connected with settling and recirculation tanks.
8. Effluent is generated from washing of vehicles as well as from washing of mixures after an interval of every four hours which is of polluting nature and can not be recycled without proper treatment and accordingly proper effluent treatment plant is required as only settling tanks does not serve the purpose of proper and complete treatment of effluent.
9. Sludge separation system is needed to be installed alongwith the ETP.

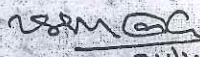
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After examining the above said observations and recommendations, the TAC(Policy) has recommended that the Ready Mix Concrete Plants requires the Air Pollution Control Measures attached with the stacks of proper height and the effluent treatment plant alongwith other arrangements mentioned in the above report and these units may be asked to provide the same and to submit the proper designs scheme for installation of pollution control measures mentioned above with the application of Consent to Establish and to submit the analysis reports of air emissions from the stacks attached with all the sources of air emissions and trade effluent in case it is discharged outside the recirculation system, while submitting the application for CTO. The general standards for discharge of Environmental Pollutants prescribed under Rule 3A of EP Rules, 1986 as per schedule -VI, appended with these Rules, are also applicable for Ready Mix Concrete Plants.

The above recommendation of TAC(Policy) has been approved by the Competent Authority.


You are therefore asked to process all the cases of consent to establish and consent to operate as per above recommendations of the TAC(Policy).

Endst. No. HSPCB/2013/ 279-284

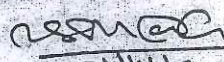

Sr. EE-I (HQ)
For Chairman
Dated: 24/12/13

A copy of the above is forwarded to all the consent branch Incharges in Head Office for information and further necessary action

En/ Ist. No. HSPCB/2013/ 285-286


Sr. EE-I (HQ)
For Chairman
Dated: 24/12/13

- A copy of the above is forwarded to following for information :-
1. P.A. to Chairman.
 2. P.S. To Member Secretary.


Sr. EE-I (HQ)
For Chairman