

ANDHRA CEMENTS LIMITED
DURGA CEMENT WORKS

REGISTERED POST

NO. JGMMCEFF/2015-16/

Date: 01.12.2015

The Additional Principal Chief Conservator of Forests
Ministry of Environment, Forests and Climate Change
Regional Office - South Eastern Zone
4th and 2nd Floor III PC Building
34 Cathedral Garden Road
Nungambakam, Chennai-600034

**Sub: Six monthly Environment Clearance Compliance report (April 2015 to September 2015)
granted by MoEF vide letter no.F.No.-J 11011/719/2007- A II (I) dated 29th December 2007.**

Dear Sir,

With Reference to above, please find enclosed half yearly Environment Clearance compliance report of
Durga Cement Works, a unit of Andhra Cements Limited for the period of April 2015 to September 2015
for your kind information and record please.

Thanking You

Yours faithfully
For DURGA CEMENT WORKS
A unit of Andhra Cement Limited

(Anjan Kumar)
Sr. DM (ES&C)

Enc: As above
Copy to:

The Member secretary,
AP Pollution Control Board
Parvathan Bhavan A-III IE, Sarath Nagar
Hyderabad-500018

The Director,
Regional Office (South Zone)
Mudli Govt. India, Kanarya Sadan 4th Floor, E&F Wing
2nd Block Kormangala
Bengaluru.-560034

Scientist & Incharge
Central Pollution Control Board, 1st & 2nd floor, Nisarga Bhawan
A-Block Thimmarah Main Road 7th D Cross, Shivnagar cop
Rushpanjali Theatre, Bengaluru, Karnataka

The Environment Engineer
Regional office, AP Pollution Control Board
102 Raghava Apartment, Brundavan garem
G.JNTLR-522007, Andhra Pradesh



Regd. Office & :
Factory

ANDHRA CEMENTS LIMITED
Durga Cement Works, Durgapuram, Srinagar (P.O),
Dachepalli - 522 414, Guntur Dt. Andhra Pradesh
Ph : +91-8649-257428-29, Fax : +91-8649-257449

Name of the Project: Durga Cement Works.
 A Unit of Andhra Cements Limited
 Gamalapadu (V), Dachepalli (M)
 Guntur District, Andhra Pradesh
 Pin- 522414

Project Code: 02TS282

Clearance Letter No.: J-11011/719/2007-IA II (I) dated 20.12.2007.

Period of Compliance Report: April 2015 to September 2015

Specific Conditions:																																																					
S.No	Conditions	Compliance Statue																																																			
i	Continuous monitoring system to monitor gaseous emissions shall be provided and limit of SPM shall be controlled within 50 mg/Nm ³ by installing adequate air pollution control system and data submitted to the Ministry's Regional Office at Bangalore, A.P. Pollution Control Board (APPCB) and CPCB regularly.	Continuous monitoring system to monitor gaseous emissions through stacks has been working and online real time monitoring data is being transmitted to APPCB & CPCB Server & Display board at factory gate regularly. Air pollution control equipments like RABH installed in Kiln & Raw mill, Bag filter installed in coal mill, ESP installed in Cooler. Bag filters installed in cement mills. PM level is maintained below 30 mg/Nm ³ . Data is being submitted to Ministry's Regional Office at Chennai, A.P. Pollution Control Board (APPCB) and CPCB regularly. Stack monitoring report from April 2015 to September 2015 given below <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="6">STACK MONITORING REPORT mg/Nm³</th> </tr> <tr> <th></th> <th>RABH</th> <th>COOLER ESP</th> <th>COAL MILL</th> <th>CEMENT MILL-1</th> <th>CEMENT MILL-2</th> </tr> </thead> <tbody> <tr> <td>MAX.</td> <td>20.45</td> <td>15.27</td> <td>22.60</td> <td>20.37</td> <td>25.43</td> </tr> <tr> <td>MIN.</td> <td>10.16</td> <td>5.13</td> <td>12.64</td> <td>10.45</td> <td>15.16</td> </tr> <tr> <td>AVG.</td> <td>14.96</td> <td>7.84</td> <td>17.15</td> <td>14.48</td> <td>19.60</td> </tr> <tr> <td>STD DEV.</td> <td>2.91</td> <td>2.47</td> <td>2.34</td> <td>2.75</td> <td>3.42</td> </tr> <tr> <td>COFF. OF VARIATION</td> <td>0.19</td> <td>0.32</td> <td>0.14</td> <td>0.19</td> <td>0.17</td> </tr> <tr> <td>98 PERCENTILE</td> <td>20.04</td> <td>14.52</td> <td>22.14</td> <td>20.09</td> <td>24.98</td> </tr> </tbody> </table>				STACK MONITORING REPORT mg/Nm ³							RABH	COOLER ESP	COAL MILL	CEMENT MILL-1	CEMENT MILL-2	MAX.	20.45	15.27	22.60	20.37	25.43	MIN.	10.16	5.13	12.64	10.45	15.16	AVG.	14.96	7.84	17.15	14.48	19.60	STD DEV.	2.91	2.47	2.34	2.75	3.42	COFF. OF VARIATION	0.19	0.32	0.14	0.19	0.17	98 PERCENTILE	20.04	14.52	22.14	20.09	24.98
STACK MONITORING REPORT mg/Nm ³																																																					
	RABH	COOLER ESP	COAL MILL	CEMENT MILL-1	CEMENT MILL-2																																																
MAX.	20.45	15.27	22.60	20.37	25.43																																																
MIN.	10.16	5.13	12.64	10.45	15.16																																																
AVG.	14.96	7.84	17.15	14.48	19.60																																																
STD DEV.	2.91	2.47	2.34	2.75	3.42																																																
COFF. OF VARIATION	0.19	0.32	0.14	0.19	0.17																																																
98 PERCENTILE	20.04	14.52	22.14	20.09	24.98																																																
ii	The company shall install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points, raw mill handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing areas etc. Crusher shall be operated with high efficiency bag filters. All conveyers shall be covered with GI sheets. Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials shall be provided besides coal, cement, fly ash and clinker shall be stored in silos. Pneumatic system shall be used for fly ash handling.	34 Nos. of Dust collection and extraction system (Bag filters) have been installed to control fugitive dust emissions at various transfer points i.e raw mill handling (unloading, conveying, transporting stacking) bagging and packing areas etc. Crusher has been provided with 99.9% high efficiency bag filters. All conveyers are covered. Covered sheds are provided for storage of raw material such as laterite, coal, gypsum. Cement, Clinker and Fly ash are stored in silos. Pneumatic system being used for fly ash handling.																																																			
iii	Secondary fugitive emissions shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed and data submitted to the Ministry's Regional Office at Bangalore, CPCB and APPCB.	The secondary fugitive emission is being controlled by providing dust collectors at transfer points, water spray, covered storage and silo etc as per the guidelines of CPCB and is being regularly monitored. The ambient air monitoring data is being submitted to APPCB, CPCB and MOEF regularly.																																																			
iv	Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bangalore.	We are committed for doing digital processing of the entire lease area using remote sensing technique. Consultation with State Mining Department is being done Report will be submitted to Ministry of Environment and Forests and its Regional Office at Bangalore.																																																			
v	Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM such as haul road, loading and unloading points, transfer points and other vulnerable areas. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	Regular water sprinkling is being carried out at all pollution prone areas, conforming the air quality norms as prescribed by the CPCB/APPCB. Average AAQ monitoring data from April 2015 to September 2015 is given Below:																																																			

		AMBIENT AIR QUALITY MONITORING REPORT DCW PLANT & MINES				
		LOCATION -1 NEAR MINE PIT-1, (CROSS WIND)				
		PM-2.5 µg/m ³	PM-10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	
		MAX.	29.76	64.24	8.08	14.79
		MIN.	16.37	45	4.04	8.56
		AVG.	24.14	53.69	5.94	11.68
		STD DEV.	2.99	4.75	1.03	1.43
		COFF. OF VARIATION	0.12	0.09	0.17	0.12
		98 PERCENTILE	29.06	62.88	7.85	14.04
		LOCATION -2 NEAR NAGULERU RIVER PUMP HOUSE, (CROSS WIND)				
		MAX.	26.21	61.35	8.73	15.16
		MIN.	14.76	40.38	3.84	8.27
		AVG.	21.87	50.08	5.91	11.13
		STD DEV.	2.69	5.23	0.89	1.64
		COFF. OF VARIATION	0.12	0.10	0.15	0.15
		98 PERCENTILE	25.89	59.32	7.93	15.03
		LOCATION -3 NEAR CPP (TOWARDS GAMALAPADU VILLAGE), (UP WIND)				
		MAX.	32.8	66.6	8.08	16.63
		MIN.	18.74	46.8	4.65	8.26
		AVG.	26.81	56.75	6.20	12.20
		STD DEV.	2.73	4.82	0.86	1.66
		COFF. OF VARIATION	0.10	0.08	0.14	0.14
		98 PERCENTILE	31.25	65.44	8.06	15.60
		LOCATION -4 COLONY AREA (TOWARDS SRI NAGAR VILLAGE),(DOWN WIND)				
		MAX.	24.45	60.23	7.41	15.54
		MIN.	13.63	38.16	3.40	6.69
		AVG.	19.57	46.54	5.45	10.62
		STD DEV.	2.53	4.21	0.80	1.58
		COFF. OF VARIATION	0.13	0.09	0.15	0.15
		98 PERCENTILE	23.51	56.57	7.01	13.65
vi	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles shall be covered with a tarpaulin and shall not be overloaded.	Being complied by taking suitable measures for maintenance of Mine's vehicles. The vehicles are not overloaded and are covered with tarpaulin.				
vii	Asphalting/concreting of roads and water spray all around the stockyard and loading/unloading areas in the cement plant shall be carried out to control fugitive emissions.	Asphalting / concreting of roads all around the plants are carried out as a continuous process. Water spray is regularly done on the roads through water tankers.				
viii	Total ground water requirement for cement plant and mining shall not exceed 420 and 60 m ³ /day (including 56 m ³ /day mine water) respectively. All the treated wastewater shall be recycled and reused in the process and/or for ash quenching, dust suppression, green belt development and other plant related activities etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge shall be adopted.	Water consumption is maintained as per the APCCB limits. No process waste water is discharged outside the factory premises and 'zero' discharge is maintained.				
ix	'Permission' for the drawl of ground water from SGWB / CGWA shall be obtained. Mined out area shall be developed as artificial reservoir. The water stored in the artificial reservoir made in the mine pit shall be used maximum to reduce ground water consumption.	Permission for the drawl of ground water obtained from Andhra Pradesh Ground Water Department Vide Letter no.Lr.No.2 /ACL/HO/2007- Dated 01.09.2007. Water collected in artificial reservoir in the Mine's pit is being used to minimize ground water consumption.				
x	Sewage treatment plant (STP) shall be installed for the colony. Treated domestic effluent shall be used for green belt development within the plant premises. Domestic waste from colony and STP shall be segregated into bio-degradable and non-biodegradable. Bio-degradable waste shall be composted and non-biodegradable waste shall be land filled at identified sites. ETP should also be provided for workshop and mineral separation plant wastewater.	Sewage Treatment Plant of capacity 300 KLD has been working for the treatment of sewage water of colony and plant. Quality of treated water is within the norms. Treated water is being used in gardening and dust suppression. Sludge of STP is being used as manure. Bio-degradable and non bio-degradable waste is being treated as directed.				
xi	The project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations.	It is ensured that no natural course of water get obstructed due to any mining operation.				
xii	All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used	Systems have been designed and installed for recycling and re-use of the dust collected through pollution control devices. Similarly sludge from domestic sources is being				

	for cement manufacturing. Sludge from domestic sources shall be used as manure for green belt development. Waste oil shall be sold to authorized recyclers / preprocessors only.	used for green belt development. Waste oil being sold to authorized recyclers / pre-processors.
xiii	An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.	System shall be made to use high calorific hazardous waste in cement kiln.
xiv	Efforts shall be made to use low grade lime, more fly ash and solid waste in the cement manufacturing.	We are mixing low and high grade Limestone to conserve the natural resources. Fly ash is being used for manufacturing PPC.
xv	Action plan for the mining, management of over burden (removal, storage, disposal etc.), reclamation of the mined out area and mine closure shall be submitted to the Ministry and its Regional Office at Bangalore.	Not applicable, as there is no overburden present in our mine, as limestone is exposed on the surface.
xvi	The top soil and solid waste shall be stacked separately at specified dumping site with proper safeguards. Top soil shall be used for the plantation / green belt development during reclamation and solid waste for backfilling.	Not applicable, as there is no top soil and solid waste in our mine.
xvii	The over burden (OB), inter burden and other waste generated from mines, if any, shall be stacked at the earmarked dump sites only and should not be kept active for long period. Backfilled OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of reclaimed areas shall continue until the vegetation becomes self-sustaining. Regular compliance shall be submitted to the Ministry and its Regional Office at Bangalore on six monthly basis.	There is no overburden, inter burden and other waste generated in our mine.100% limestone being used for cement manufacturing.
xviii	The area for external over burden dump shall be reduced by suitably increasing the height of the dumps with proper terracing. It shall be ensured that the overall slope of the dump does not exceed 28°.	Not applicable, as there is no over burden in our mine.
xix	Garland drains shall be constructed to arrest silt and sediment flows from soil. The water so collected shall be used for watering the mine area, haul roads, green belt development etc. The drains shall be regularly de-silted and maintained properly.	Shall be complied. Rain water is being collected into Mine's pit and used for watering the mine area, haul roads, green belt development etc
xx	Suitable rainwater harvesting and conservation measures to augment groundwater resources in the area on long term basis shall be planned and implemented in consultation with Regional Director, Central Ground Water Board in cement plant and mining area to augment ground water resources and use for dust suppression and horticulture.	Being complied. Rain water is being collected into Mine's pit for further use in the plant.
xxi	Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and new peizometers at suitable locations by the project proponent in and around project area in consultation with Regional Director, Central Ground Water Board during the mining operation. The ground water monitoring shall be carried out 4 times in a year i.e. pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and data thus collected shall be regularly sent to the Ministry, its Regional Office at Bangalore, Central Ground Water Authority and State Ground Water Board, Bangalore.	Ground water level monitoring has been regularly carried out 4 times in a year and water quality analyzed. Abstract of the same is given in below. Peizometer is also being installed.

		<p style="text-align: center;">GROUND WATER LEVEL REPORT PREMANSOON SEASON 10.05.2015</p> <table border="1"> <thead> <tr> <th>S.N</th> <th>Location</th> <th>Direction</th> <th>Distance from Plant</th> <th>Bore Well/Open well</th> <th>Depth of Water from ground Level (Meter)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Plant site (Near Security man Gate)</td> <td>S</td> <td>-</td> <td>Bore Well</td> <td>12.5</td> </tr> <tr> <td>2.</td> <td>Srinagar Village</td> <td>SW</td> <td>1.5 Km</td> <td>Bore Well</td> <td>19.5</td> </tr> <tr> <td>3.</td> <td>Ramapuram Village</td> <td>NW</td> <td>6.0 KM</td> <td>Bore Well</td> <td>23.0</td> </tr> <tr> <td>4.</td> <td>Gamalapadu Village</td> <td>SE</td> <td>5.0 KM</td> <td>Bore Well</td> <td>6.5</td> </tr> </tbody> </table> <p style="text-align: center;">MANSOON SEASON 22.08.2015</p> <table border="1"> <thead> <tr> <th>S.N</th> <th>Location</th> <th>Direction</th> <th>Distance from Plant</th> <th>Bore Well/Open well</th> <th>Depth of Water from ground Level (Meter)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Plant site (Near Security man Gate)</td> <td>S</td> <td>-</td> <td>Bore Well</td> <td>12.0</td> </tr> <tr> <td>2.</td> <td>Srinagar Village</td> <td>SW</td> <td>1.5 Km</td> <td>Bore Well</td> <td>19.0</td> </tr> <tr> <td>3.</td> <td>Ramapuram Village</td> <td>NW</td> <td>6.0 KM</td> <td>Open Well</td> <td>22.5</td> </tr> <tr> <td>4.</td> <td>Gamalapadu Village</td> <td>SE</td> <td>5.0 KM</td> <td>Bore Well</td> <td>6.0</td> </tr> </tbody> </table> <p style="text-align: center;">WATER TESTING REPORT OF DURGA CEMENT WORKS A Unit of Andhra Cements Limited</p> <p>Sample received: 19.07. 2015 Sample analyzed by: Environment Lab JSC</p> <table border="1"> <thead> <tr> <th>S.No</th> <th>Parameter</th> <th>Location</th> <th>Sri nagar Village</th> <th>Gamalapadu village</th> <th>Colony</th> <th>Club</th> <th>Krishnan</th> <th>DCW</th> <th>River</th> <th>Drinking Water</th> <th>Desirable Limit</th> <th>Permissible limit</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>Type of Water</td> <td colspan="4">Bore</td> <td colspan="2">River</td> <td>Drinking Water</td> <td></td> <td>Desirable Limit</td> <td>Permissible limit</td> </tr> <tr> <td>1.</td> <td>pH</td> <td></td> <td>7.8</td> <td>7.3</td> <td>8.1</td> <td>7.8</td> <td>7.6</td> <td>7.35</td> <td></td> <td></td> <td>6.5 to 8.5</td> <td>6.5 to 8.5</td> </tr> <tr> <td>2.</td> <td>Conductivity (µS)</td> <td></td> <td>926</td> <td>873</td> <td>1012</td> <td>1036</td> <td>473</td> <td>74.8</td> <td></td> <td></td> <td>NA</td> <td>NA</td> </tr> <tr> <td>3.</td> <td>Turbidity(NTU)</td> <td></td> <td>1.4</td> <td>1.6</td> <td>1.7</td> <td>1.4</td> <td>1.5</td> <td>0.88</td> <td></td> <td></td> <td>5-10</td> <td>5-10</td> </tr> <tr> <td>4.</td> <td>Total Hardness (mg/l)</td> <td></td> <td>477</td> <td>548</td> <td>483</td> <td>372</td> <td>182</td> <td>85</td> <td></td> <td></td> <td>300</td> <td>600</td> </tr> <tr> <td>5.</td> <td>Calcium Hardness (mg/l)</td> <td></td> <td>441</td> <td>475</td> <td>435</td> <td>345</td> <td>173</td> <td>67</td> <td></td> <td></td> <td>75</td> <td>200</td> </tr> <tr> <td>6.</td> <td>Magnesium Hardness (mg/l)</td> <td></td> <td>36</td> <td>73</td> <td>48</td> <td>27</td> <td>9</td> <td>18</td> <td></td> <td></td> <td>30</td> <td>100</td> </tr> <tr> <td>7.</td> <td>TDS (mg/l)</td> <td></td> <td>826</td> <td>951</td> <td>782</td> <td>973</td> <td>0</td> <td>65</td> <td></td> <td></td> <td>200</td> <td>2000</td> </tr> <tr> <td>8.</td> <td>TSS (mg/l)</td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>17</td> <td>-</td> <td></td> <td></td> <td>100</td> <td>100</td> </tr> <tr> <td>9.</td> <td>Alkalinity (mg/l)</td> <td></td> <td>157</td> <td>168</td> <td>151</td> <td>187</td> <td>68</td> <td>30</td> <td></td> <td></td> <td>200</td> <td>600</td> </tr> <tr> <td>10.</td> <td>Chloride(mg/l)</td> <td></td> <td>23</td> <td>34</td> <td>37</td> <td>39</td> <td>42</td> <td>21</td> <td></td> <td></td> <td>250</td> <td>1000</td> </tr> <tr> <td>11.</td> <td>Fluorides (mg/l)</td> <td></td> <td>0.2</td> <td>0.1</td> <td>0.2</td> <td>0.3</td> <td>0.4</td> <td>0.3</td> <td></td> <td></td> <td>0.5</td> <td>1.5</td> </tr> <tr> <td>12.</td> <td>Arsenic (mg/l)</td> <td></td> <td>0.002</td> <td>0.003</td> <td>0.001</td> <td>0.002</td> <td>0.001</td> <td><0.005</td> <td></td> <td></td> <td>0.05</td> <td>0.05</td> </tr> </tbody> </table>	S.N	Location	Direction	Distance from Plant	Bore Well/Open well	Depth of Water from ground Level (Meter)	1.	Plant site (Near Security man Gate)	S	-	Bore Well	12.5	2.	Srinagar Village	SW	1.5 Km	Bore Well	19.5	3.	Ramapuram Village	NW	6.0 KM	Bore Well	23.0	4.	Gamalapadu Village	SE	5.0 KM	Bore Well	6.5	S.N	Location	Direction	Distance from Plant	Bore Well/Open well	Depth of Water from ground Level (Meter)	1.	Plant site (Near Security man Gate)	S	-	Bore Well	12.0	2.	Srinagar Village	SW	1.5 Km	Bore Well	19.0	3.	Ramapuram Village	NW	6.0 KM	Open Well	22.5	4.	Gamalapadu Village	SE	5.0 KM	Bore Well	6.0	S.No	Parameter	Location	Sri nagar Village	Gamalapadu village	Colony	Club	Krishnan	DCW	River	Drinking Water	Desirable Limit	Permissible limit			Type of Water	Bore				River		Drinking Water		Desirable Limit	Permissible limit	1.	pH		7.8	7.3	8.1	7.8	7.6	7.35			6.5 to 8.5	6.5 to 8.5	2.	Conductivity (µS)		926	873	1012	1036	473	74.8			NA	NA	3.	Turbidity(NTU)		1.4	1.6	1.7	1.4	1.5	0.88			5-10	5-10	4.	Total Hardness (mg/l)		477	548	483	372	182	85			300	600	5.	Calcium Hardness (mg/l)		441	475	435	345	173	67			75	200	6.	Magnesium Hardness (mg/l)		36	73	48	27	9	18			30	100	7.	TDS (mg/l)		826	951	782	973	0	65			200	2000	8.	TSS (mg/l)		-	-	-	-	17	-			100	100	9.	Alkalinity (mg/l)		157	168	151	187	68	30			200	600	10.	Chloride(mg/l)		23	34	37	39	42	21			250	1000	11.	Fluorides (mg/l)		0.2	0.1	0.2	0.3	0.4	0.3			0.5	1.5	12.	Arsenic (mg/l)		0.002	0.003	0.001	0.002	0.001	<0.005			0.05	0.05
S.N	Location	Direction	Distance from Plant	Bore Well/Open well	Depth of Water from ground Level (Meter)																																																																																																																																																																																																																																															
1.	Plant site (Near Security man Gate)	S	-	Bore Well	12.5																																																																																																																																																																																																																																															
2.	Srinagar Village	SW	1.5 Km	Bore Well	19.5																																																																																																																																																																																																																																															
3.	Ramapuram Village	NW	6.0 KM	Bore Well	23.0																																																																																																																																																																																																																																															
4.	Gamalapadu Village	SE	5.0 KM	Bore Well	6.5																																																																																																																																																																																																																																															
S.N	Location	Direction	Distance from Plant	Bore Well/Open well	Depth of Water from ground Level (Meter)																																																																																																																																																																																																																																															
1.	Plant site (Near Security man Gate)	S	-	Bore Well	12.0																																																																																																																																																																																																																																															
2.	Srinagar Village	SW	1.5 Km	Bore Well	19.0																																																																																																																																																																																																																																															
3.	Ramapuram Village	NW	6.0 KM	Open Well	22.5																																																																																																																																																																																																																																															
4.	Gamalapadu Village	SE	5.0 KM	Bore Well	6.0																																																																																																																																																																																																																																															
S.No	Parameter	Location	Sri nagar Village	Gamalapadu village	Colony	Club	Krishnan	DCW	River	Drinking Water	Desirable Limit	Permissible limit																																																																																																																																																																																																																																								
		Type of Water	Bore				River		Drinking Water		Desirable Limit	Permissible limit																																																																																																																																																																																																																																								
1.	pH		7.8	7.3	8.1	7.8	7.6	7.35			6.5 to 8.5	6.5 to 8.5																																																																																																																																																																																																																																								
2.	Conductivity (µS)		926	873	1012	1036	473	74.8			NA	NA																																																																																																																																																																																																																																								
3.	Turbidity(NTU)		1.4	1.6	1.7	1.4	1.5	0.88			5-10	5-10																																																																																																																																																																																																																																								
4.	Total Hardness (mg/l)		477	548	483	372	182	85			300	600																																																																																																																																																																																																																																								
5.	Calcium Hardness (mg/l)		441	475	435	345	173	67			75	200																																																																																																																																																																																																																																								
6.	Magnesium Hardness (mg/l)		36	73	48	27	9	18			30	100																																																																																																																																																																																																																																								
7.	TDS (mg/l)		826	951	782	973	0	65			200	2000																																																																																																																																																																																																																																								
8.	TSS (mg/l)		-	-	-	-	17	-			100	100																																																																																																																																																																																																																																								
9.	Alkalinity (mg/l)		157	168	151	187	68	30			200	600																																																																																																																																																																																																																																								
10.	Chloride(mg/l)		23	34	37	39	42	21			250	1000																																																																																																																																																																																																																																								
11.	Fluorides (mg/l)		0.2	0.1	0.2	0.3	0.4	0.3			0.5	1.5																																																																																																																																																																																																																																								
12.	Arsenic (mg/l)		0.002	0.003	0.001	0.002	0.001	<0.005			0.05	0.05																																																																																																																																																																																																																																								
xxii	The project proponent shall take appropriate mitigative measures to prevent pollutions of nearby River and other surface water body, if any.	Not applicable, as no waste water generated in our process/plant & mines. Zero discharge is adopted.																																																																																																																																																																																																																																																		
xxiii	Deep hole wet drilling sequential blasting method shall be adopted and provision for the control air emissions during blasting using dust collectors/ extractors etc. shall be made. Blasting operation shall be carried out during the daytime only and one bench at a time shall be blasted. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders shall be implemented. 'No objection certificate' from the Chief Controller of Explosives shall be obtained.	Wet drilling and sequential blasting methods are being applied. The charge per hole is also adjusted to minimize ground vibration and to control fly rocks. We are monitoring Ground vibration and air blast with the help of 'Minimate' instrument and keeping records of the same. The results are well within the permissible limits specified by DGMS. The Minimate report is given below. We have obtained no objection certificate from Chief controller of explosives, in form LE-3 for Explosive Possession and Use. License No.E/HQ/AP/22/93(E1673).																																																																																																																																																																																																																																																		
xxiv	Out of total 141.574 ha., green belt shall be developed in at least 36 ha. (25 %) in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO. In mining, out of 170.22 ha., plantation shall be raised in an area of 46.72 ha. By planting the native species around mining lease area, over burden dumps, around water body, roads etc. in consultation with the local DFO / Agriculture Department. At least, 1,500 trees per year shall be planted with a tree density of 2,000 trees per ha. An action plan shall be submitted in this regard.	Cement plant and mines are running since 1984 and already have 48 ha of green belt. Tree plantation work in additional area including Mines is under progress, as per details given below: 1. Name of Tree planted : Dubai Plant 2.Total no. of Tree planted (April-15 to September 15) : 250 No 3. Area planted during April-15 to Sept.2015 : 0.25Ha 4. Total area planted up to September 2015 : 8.16 Ha.																																																																																																																																																																																																																																																		
xxv	The void left unfilled shall be converted into water body. The higher benches of excavated void/mining pit shall	Shall be complied in accordance with the mine closure plan, after completion of mining operation.																																																																																																																																																																																																																																																		

	be terraced and plantation done to stabilize the slopes. The slope of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out along the excavated area.	
xxvi	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional office within 3 months from the date of issue of this letter.	As per the study made, there is no endangered fauna around the Plant and Mines area. We are in touch with State Forest and Wild life department, vide our letter No. DCW/P&QC/2015/5744 Dated 20.05.2015 in this regard.
xxvii	A final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Agreed. Shall be complied.
xxviii	Mechanized open casting shall be adopted and no change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.	Agreed. Mechanized open cast mining is adopted and we will take prior approval of MOEF for any change in technology or scope.
xxix	Consent to Operate shall be obtained from APPCB before starting enhanced production from the mine.	Consent to Operate the mining operation for enhanced production has been obtained vide consent order no. APPCB/VJA/GTR/16829/HO/CFO 2014 Date 23.01.2014. Mines CFO validity is up to 30 June 2016.
xxx	'Permission' of the State Forest Department shall be obtained regarding impact of cement plant and mining activities on the surrounding 6 reserve forests viz. Gamalapadu RF (0.1-0.4 km.), Madinapadu RF (1.2-1.8 km.), Daida RF (4.7-4.9 km.), Saidulnam RF (3.8-5.0 km.), Ravipahad RF (5.3-6.6 km.) and Warivabad RF (6.2-6.8 km) and all the recommendations shall be followed.	There is no adverse impact of cement plant operation and mining activities on the surrounding 6 reserve forests. The plant and Mines have been running since 1984. State Forest Department have been requested vide our letter No.DCW/P&QC/2015,5573 Dated 23.04.2015 for NOC.
xxxi	The company shall obtain necessary clearances / approval from the concerned Departments i.e. Indian Bureau of Mines, State Government, MoEF etc. for the linked mining component before undertaking any construction activity at the project site.	Necessary permissions obtained from IBM. Vide letter No. AP /GNR/MP/LST-9/Hyd, Date 23 March 2015.
xxxii	Rehabilitation and Resettlement Plan for the project affected population as per the policy of the State Govt. shall be prepared and implemented.	This is an old plant working since 1984, hence no Rehabilitation and Resettlement involved in this Project.
xxxiii	Acoustic enclosures shall be provided to control noise wherever necessary. Mine machine shall be provided with silencers. Noise shall also be controlled from cooler fans, compressor house, cement mill and raw mill, cement plant and drilling machines, excavator, blasting at mine site using appropriate noise control measures.	All Mining machineries provided with silencers. Sharp bits are being used with wet drilling to reduce noise of drilling machine. Drill operators are provided ear plug. Bottom initiation with the help of shock tubes and use of millisecond delay to reduce noise by blasting. Acoustic enclosures in the plant area are used where ever applicable.
xxxiv	All the safety norms stipulated by the Director General, Mine & Safety (DGMS) should be implemented.	We are implementing all the safety norms stipulated by DGMS
B General Conditions :		
i	The project authority shall adhere to the stipulations made by Andhra Pradesh Pollution Control Board (APPCB) and State Government.	Noted and Agreed.
ii	No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.	Noted and Agreed.
iii	The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the A.P. Pollution Control Board. At no time, the particulate emissions from the cement plant shall exceed APPCB limit. Interlocking facility shall be provided in the pollution control equipment so that in the	Being complied. Stack emissions are within the norms and inter locking facility also provided.

	event of the pollution control equipment not working, the respective unit(s) is shut down automatically.	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="6">STACK MONITORING REPORT mg/Nm³</th> </tr> <tr> <th></th> <th>RABH</th> <th>COOLER ESP</th> <th>COAL MILL</th> <th>CEMENT MILL-1</th> <th>CEMENT MILL-2</th> </tr> </thead> <tbody> <tr> <td>MAX.</td> <td>20.45</td> <td>15.27</td> <td>22.60</td> <td>20.37</td> <td>25.43</td> </tr> <tr> <td>MIN.</td> <td>10.16</td> <td>5.13</td> <td>12.64</td> <td>10.45</td> <td>15.16</td> </tr> <tr> <td>AVG.</td> <td>14.96</td> <td>7.84</td> <td>17.15</td> <td>14.48</td> <td>19.60</td> </tr> <tr> <td>STD DEV.</td> <td>2.91</td> <td>2.47</td> <td>2.34</td> <td>2.75</td> <td>3.42</td> </tr> <tr> <td>COFF. OF VARIATION</td> <td>0.19</td> <td>0.32</td> <td>0.14</td> <td>0.19</td> <td>0.17</td> </tr> <tr> <td>98 PERCENTILE</td> <td>20.04</td> <td>14.52</td> <td>22.14</td> <td>20.09</td> <td>24.98</td> </tr> </tbody> </table>	STACK MONITORING REPORT mg/Nm ³							RABH	COOLER ESP	COAL MILL	CEMENT MILL-1	CEMENT MILL-2	MAX.	20.45	15.27	22.60	20.37	25.43	MIN.	10.16	5.13	12.64	10.45	15.16	AVG.	14.96	7.84	17.15	14.48	19.60	STD DEV.	2.91	2.47	2.34	2.75	3.42	COFF. OF VARIATION	0.19	0.32	0.14	0.19	0.17	98 PERCENTILE	20.04	14.52	22.14	20.09	24.98
STACK MONITORING REPORT mg/Nm ³																																																		
	RABH	COOLER ESP	COAL MILL	CEMENT MILL-1	CEMENT MILL-2																																													
MAX.	20.45	15.27	22.60	20.37	25.43																																													
MIN.	10.16	5.13	12.64	10.45	15.16																																													
AVG.	14.96	7.84	17.15	14.48	19.60																																													
STD DEV.	2.91	2.47	2.34	2.75	3.42																																													
COFF. OF VARIATION	0.19	0.32	0.14	0.19	0.17																																													
98 PERCENTILE	20.04	14.52	22.14	20.09	24.98																																													
iv	One ambient air quality monitoring station shall be installed in downwind direction. Ambient air quality including ambient noise levels shall not exceed the standards stipulated under EPA or by the State authorities. Monitoring of ambient air quality and stack emissions shall be carried out regularly in consultation with APPCB and report submitted to the APPCB quarterly and to the Ministry's Regional Office at Bangalore half-yearly.	Three (3) nos on line real time CAAQM stations have been installed in upwind, downwind and crosswind directions. 3 rd CAAQM Station is at Mines area, Online real time monitoring data is transmitted to APPCB & CPCB server & display board at factory gate continuously. Four (4) nos AAQM stations installed at different locations & regular ambient air quality monitoring done. Ambient air, Stack emission & noise level monitoring data is regularly submitted to APPCB, CPCB & MoEF. Monitoring data are within the stipulated norms of MoEF, CPCB & APPCB. (Ref. No.ACL/DCW/ MoEF/2015-16/22 date 01.06.2015)																																																
v	The company must harvest the rainwater from the rooftops and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.	All the water from the roof tops, storm water drains lead to main drains connecting to the mines water reservoir. The water thus collected is used for sprinkling and greenbelt development.																																																
vi	The company shall undertake eco development measures including community welfare measures in the project area.	<p>DCW has taken following initiative for Eco development measures including community welfare:</p> <ol style="list-style-type: none"> 1. Green Belt Development : Green belt developed in Plant area, Mines area, colony, plant boundary and both side of all the roads area. 2. Water Conservation : <ol style="list-style-type: none"> a. Construction of STP to Maintain Zero Waste Water Discharge.Treated water is being utilized for specific purposes such as Plantation, dust suppression etc b. Installation of air cooled condenser for CPP, in place of conventional large size Cooling towers c. Rain water harvesting done in Mine Pits. 3. Solid Waste Management : <ol style="list-style-type: none"> a. Practicing principle of 2 Rs i.e. Reduce & Reuse b. All the waste is segregated on the basis on degradability/recyclability, than accordingly is disposed. Bio degradable waste from township & plant area is composted and the manure is used for horticulture purpose. c. All the hazarded waste is disposed through the authorized recyclers. d. Maximum possible utilization of Fly ash to manufacture PPC. 4. SOIL CONSERVATION Entire cement plant has been constructed on infertile land purchased from "patta lands" of the nearby residents, which is outside the reserved forest. For construction of plant and facilities in no case top fertile soil has been scarified. Rocky terrain had been leveled off for foundations for P& M, Offices & Buildings without any extraneous matter, with the help of excavator /grader only. 5. SOCIO-ECONOMIC BENEFITS <ol style="list-style-type: none"> 1. Indirect employment to entrepreneurs 2. Direct employment to local resident 3. Growth of local market in terms of consumables (Domestic&Industrial). 4. Fulfilling CSR & commitment made. 5. Preference to local people for employment. 6. Rise in living standards 																																																
vii	The overall noise levels in and around the plant area	Noise control measures including acoustic hoods,																																																

shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

silencers. Enclosures have been provided. April 2015 to September 2015 Noise level monitoring data given below :

NOISE LEVEL REPORT OF DCW PLANT				
APRIL 2015 TO SEPTEMBER 2015				
	1.Colony area		2. Near time office	
	Day Time dBA (6AM-10PM)	Night Time dBA (10PM-6AM)	Day Time dBA (6AM-10PM)	Night Time dBA (10PM-6AM)
Max.	44.7	44.2	52.4	48.2
Min.	42.5	41.9	43.50	42.1
Avg.	43.85	42.87	46.52	43.72
Std.Dev	0.59	0.63	3.13	1.22
Coff.of Variation	0.01	0.01	0.07	0.03
98 percentile	44.66	44.02	52.36	46.70
	3.Crusher area		4.Raw mill area	
Max.	72.8	70.6	72.10	70.10
Min.	67.9	65.7	67.30	65.70
Avg.	70.37	68.75	69.78	68.27
Std.Dev.	1.57	1.22	1.11	1.20
Coff.of Variation	0.02	0.02	0.02	0.02
98 percentile	72.71	70.56	71.84	69.88
	5. Kiln & Cooler area		6.Coal mill area	
Max.	72.80	70.60	72.60	71.60
Min.	68.3	67.3	67.3	65.8
Avg.	70.96	69.15	69.45	68.38
Std.Dev.	1.34	0.97	1.55	1.33
Coff.of Variation	0.02	0.01	0.02	0.02
98 percentile	72.67	70.60	72.25	71.12
	7.Cement mill area		8.Packing plant area	
Max.	73.9	72.4	68.7	65.8
Min.	69.7	67.3	63.1	62.3
Avg.	71.95	70.24	65.78	64.00
Std.Dev.	1.20	1.25	1.63	1.09
Coff.of Variation	0.02	0.02	0.02	0.02
98 percentile	73.77	72.27	68.66	65.62

NOISE LEVEL REPORT OF DCW MINES				
APRIL 2015 TO MARCH 2015				
	1.Haulage road		2.Drilling point	
	Day Time dBA (6AM-10PM)	Night Time dBA (10PM-6AM)	Day Time dBA (6AM-10PM)	Night Time dBA (10PM-6AM)
Max.	68.60	44.60	73.90	43.80
Min.	52.30	41.60	70.30	40.90
Avg.	62.81	43.28	72.37	42.63
Std.Dev	1.20	1.04	1.03	1.04
Coff.of Variation	0.02	0.02	0.01	0.02
98 percentile	68.54	44.54	73.84	43.74
	3.Loading Polint		4.Mines office	
Max.	73.50	44.20	55.70	43.50
Min.	63.60	39.70	43.30	40.30
Avg.	68.79	42.34	46.96	42.33
Std.Dev.	1.08	1.07	1.08	1.05
Coff.of Variation	0.02	0.03	0.02	0.02
98 percentile	73.09	43.97	55.24	43.50

viii.	All recommendations made in the Corporate Responsibility for Environment Protection (CREP) for cement plants shall be implemented.	All applicable recommendations made in the CREP for cement plants are being implemented.
ix.	Proper housekeeping shall be taken up. Regular annual medical examination of all the employees shall be carried out from the occupational health point of view and records maintained.	Being complied. Occupational health check up is carried out for all the employees and record is being maintained.
x.	A separate environmental management cell to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	Environment Management Cell to carry out various environment related activities has been set up under the control of plant head.
xi.	As proposed in EIA/EMP. Rs. 28.00 Crores and Rs. 0.95 Crores earmarked towards the capital cost and recurring cost/annum respectively for environment pollution control measures for the cement plant and Rs. 35.00 Lakhs and Rs. 23.2 Lakhs earmarked towards the capital cost and recurring cost/annum respectively for environment pollution control measures for the mine shall be suitably used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	As on date, about Rs. 52.42 crores already invested on the air pollution equipments which were installed for expansion (ie RABH, ESP, Bag House and nuisance bag filters). Funds provided for the maintenance of the above equipment shall not be diverted for any other purpose.
xii.	The Regional Office of this Ministry at Bangalore / CPCB / APPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical Interpretation shall be submitted to them regularly.	Agreed. Six monthly compliance reports are regularly being submitted. (Ref our letter No.ACL/ DCW/ MoEF/ 2015-16/22 date 01.06.2015)
xiii.	The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Already Complied.
xiv.	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the A. P. Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in . This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office at Bangalore.	Already Complied.