BHILAI JAYPEE
CEMENT LIMITED

Registered A/D

Date: 02.12.2014

BJCL/ENV/GW/2014-15/02

To,
Regional Director
Central Ground water Board
North Central Region, Block-1, 4th Floor
Paryavas Bhawan
38 Area Hills, Mother Teresa Marg
Bhopal (M.P)-462011

Sub: Submission of Ground water level & Quality monitoring report for the period Monsoon August - 2014.

Ref: Environmental clearance Letter No. J-11011/29/2008-1A-II (I) dated 21st July2009
Consent Letter No. 176,178, 172 &174/TS/MPPCB/Mine/2011 dtd. 05.01.11

Dear Sir,

Please find enclosed herewith the ground water level and quality monitoring reports for the period Monsoon August - 2014 of Bhilai Jaypee Cement Ltd. & Ispat Limestone Quarry (ML-I&II) located at Village- Babupur, District- Satna (MP) for kind information pl.

Regards,

Yours faithfully
For Bhilai Jaypee Cement Ltd.

C..K. Shrivastava
Dy. G.M. (P&QC)

CC:

1. Regional Office - For kind information pl.
   Ministry of Environment &Forests
   Regional Office, (WZ),Kendriya Paryavaran Bhawan
   E-5 , Arera Colony, Link Road -3,
   Ravishankar Nagar, Bhopal (M.P)-462016
2. The Member Secretary - For kind information pl.
   Central Ground Water Authority
   West Block –II, Wing -3,Ground floor, Sector- 1, R.K Puram
   New Delhi – 110066
3. The Member Secretary, MP Pollution Control Board
   Paryavaran Pariser, E-5, Arera Colony , Bhopal (MP)- 462016

JAYPEE

Plant : Post Babupur, Satna (M.P.) Pin - 485112 Ph.:+ 91(7672) 415500,415600
Regd. Office : Bhilai Township, Bhilai , Durg, Chattisgarh - 490 006
Head. Office : 'JA House', 63, Basand Lok, Vasant Vihar, New Delhi-110 057 (India)
Ph. : +91 (11) 26141540, 26147411 Fax : + 91 (11) 26145389, 26143591
website : www.bjcl.co.in, CIN : U26940CT2007PLC020250

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Bhupatal 15/12/14

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BHILAI JAYPEE CEMENT LIMITED

BABUPUR (SATNA) MP-485112

Environmental Compliance Half yearly report for the period October-2014 to March-2015

Compliance report for the period Oct-2014 to March-2015 to the conditions stipulated in the Environmental Clearance granted by MoEF vide letter F. No. J- 11011/29/2008-IA-II (I) Dated 21st July, 2009 for setting up of cement plant [Clinker (1.09 MTPA), Cement grinding (0.6 MTPA) and Mining (2.1 MTPA)], at Village: Babupur, District: Satna (M.P).

SPECIFIC CONDITIONS

Sr. No.	Details of Conditions	Status
I.	The Company shall comply with the conditions stipulated in the mining plan approval letter no. 314(3)/2008-MCCM(C)/MP-46 dated 25th March, 2009 and 314(3)/2008-MCCM(C)/MP-47 dated 26th March, 2009 issued by the Indian Bureau of Mines and conditions of mining leases.	All conditions stipulated in the mining plan are being complied.
II	The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the M.P. Pollution Control Board. At no time, particulate emissions from the cement plant including kiln, coal mill, cement mill and cooler shall not exceed 50 mg/Nm^3. Continuous on-line monitors for particulate emissions shall be installed. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically.	The gaseous and particulate matter stack emissions from various units are being monitored and found well below the limits of 50 mg/Nm^3 prescribed by the MPPCB. Continuous on-line monitors for particulate matter emissions are already installed in all major stacks and CEMS real time data linked with CPCB website. All major pollution control equipments are Interlocked with main process equipments. **Data of stack emission are attached as Annexure – I**
III	Secondary fugitive emissions shall be controlled within the prescribed limits and regularly monitored. Guidelines/Code of Practice issued by the CPCB in this regard shall be followed. The company shall install adequate dust collection and extraction system to control fugitive dust emissions at material transfer points. Atomized water spray system with reclaimer shall be installed in silo used for the storage of ash. Storage of other raw materials shall be in closed roof sheds. Covered conveyer belts shall be used to reduce fugitive emissions. Concreting of all the roads, water sprinkling system at limestone and coal handling area shall be ensured to reduce fugitive emissions.	For controlling the secondary fugitive emission, dust collection and extraction system like Bag filters installed and working efficiently at material transfer points of limestone conveyor belt, coal conveyor belt, Raw material storage hoppers and blending silos, limestone crusher, limestone hoppers, clinker silos and coal crusher to control the dust emission during crushing and transportation of raw materials. Water spray systems are installed and working efficiently at Limestone crusher, belt conveyor and coal belts for controlling the dust emission. Covered conveyer belts are used for transportation of raw material as well as fine product to reduce fugitive emissions. Concreting of roads inside the plant premises has been completed. Raw coal is stored in

		covered shed. Water spray arrangement is provided in belt and hopper for controlling the dust emission. Good housekeeping practices are being followed for controlling the dust emission. **(CPCB Guidelines Annexure -IV)**
IV	The proponent shall upload the status of compliance of the stipulated EC conditions, including monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPC. The criteria pollutant namely; SPM, RSPM, SO_2, NOx (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at the convenient location near the main gate of the Company in the public domain.	Status of compliance of stipulated EC conditions, including monitored data are being uploaded in BJCL website and submitted to Regional office of MoEF, CPCB and SPCB on six monthly basis with monitoring data. The criteria pollutant namely; PM_{10}, $PM_{2.5}$, SO_2, NOx (Ambient levels as well as stack emissions) are monitored and displayed near the main gate of the factory. The six monthly EC compliance reports for the period April-2014 to September-2014 has been submitted vide letter No.BJCL/Env/ECC/2014-15/01 dtd. 24.11.2014.
V	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 shall be carried out regularly in consultation with MPPCB and data for air emissions shall be submitted to the CPCB and MPPCB regularly. The instruments used for ambient air quality monitoring shall be calibrated time to time.	Ambient air quality including ambient noise levels are being monitored regularly as per guidelines of MPPCB .The monitored data of AAQ and ambient noise level are being submitted to the RO, MoEF, CPCB and MPPCB regularly. The instruments used for ambient air quality monitoring are calibrated timely. We have installed two nos. continuous real times A.A.Q. monitoring station in plant premises and its data is linked with CPCB website. Ambient Air Quality Monitoring report is enclosed (Plant & Mines) as **AAQM report Cement Plant Annexure-II** & **AAQM report Mines Annexure-III.**
VI	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land.	Adequate measures such as water spray on the road and avoid overloading to reduce impact of transport of raw materials and end products on the surrounding environment are being taken. Coal and clinker are transported through Railway.
VII	The company shall make the efforts to utilize the high calorific hazardous waste in the cement kiln and necessary provisions shall be made accordingly. The company shall keep the record of the waste utilized and shall submit the details to ministry's Regional Office at Bhopal, CPCB and SPCB.	Proper arrangement to utilize the high calorific hazardous waste in the cement kiln has been made and examined for its technical viability. For the permission of co processing, application has been submitted to MPPCB on 28.02.2013 and after getting permission hazardous waste material to be

		utilized in kiln. Once it's put into operation, record of the waste utilized will be maintained and sent to Ministry Regional Office at Bhopal, CPCB and SPCB.
VIII	Total ground water requirement shall not exceed 1400 m^3/day for plant and mines. A copy of permission letter shall be submitted to Ministry's Regional Office at Bhopal. The treated wastewater from STP and utilities shall be reutilized for green belt development and other plant related activities i.e. cooling and dust suppression in raw material handling area etc. after necessary treatment. 'Zero' discharge shall be strictly adopted and no effluent from the process shall be discharged outside the premises.	Total ground water requirement is not exceeding to the limit of 1400 m^3/day for plant and mines. Permission for use of ground water has already obtained vide letter no.21-4(50)/NCR/CGWA/2009/579 dtd. 09th April 2015.Treated waste water from STP is being used for green belt development and also in water sprinkling for dust suppression and maintaining zero discharge status.

STP Water Analysis Report (2014-15) Location : Plant

Location : Plant Area

Parameters (Treated Water)	MPPCB Limit	Month						Avg.	Min	Max
		Oct	Nov	Dec	Jan	Feb	Mar			
pH	**5.5-9.0**	7.33	7.25	7.32	7.42	7.74	7.65	**7.5**	**7.25**	**7.74**
Temperature (^oC)	**40**	20	18	18	17	18	23	**19.0**	**17**	**23**
Odor	**-**	No Odor	No Odor	No Odor	No Odor	No Odor	No Odor	**-**	**-**	**-**
BOD (mg/ltr)	**30**	10.9	14.8	12.7	12.5	12.1	10.7	**12.3**	**10.7**	**14.8**
COD (mg/ltr)	**250**	63	80	80	71	64	72	**71.7**	**63.0**	**80.0**
Suspended Solids (mg/ltr)	**100**	45.5	54.5	47	50	46	53	**49.3**	**45.5**	**54.5**
Total Solids (mg/ltr)		989.5	1144	1245	1114	1372.5	1267	**1188.7**	**989.5**	**1372.5**

Location : Colony Area

Parameters (Treated Water)	MPPCB Limit	Month						Avg.	Min	Max
		Oct	Nov	Dec	Jan	Feb	Mar			
pH	**5.5-9.0**	7.03	7.43	7.4	7.15	7.39	7.24	**7.3**	**7.03**	**7.43**
Temperature (^oC)	**40**	20	18	19	17	18	23	**19.2**	**17**	**23**
Odor	**-**	No Odor	No Odor	No Odor	No Odor	No Odor	No Odor	**-**	**-**	**-**
BOD (mg/ltr)	**30**	13.2	12.2	14	12.8	13.9	14.3	**13.4**	**12.2**	**14.3**
COD (mg/ltr)	**250**	72.5	73.5	74	69.5	63.5	66	**69.8**	**63.5**	**74.0**
Suspended Solids (mg/ltr)	**100**	51.0	53.5	58.0	52.0	45.0	47	**51.1**	**45.0**	**58.0**
Total Solids (mg/ltr)		983.5	1365	1425	1103	1313.5	1438	**1271.3**	**983.5**	**1438.0**

IX	Rainwater harvesting measures shall be adopted for the augmentation of ground water at cement plant, colony and mine site. Besides, company must also harvest the rainwater from the rooftops and storm water drains to recharge the ground water. The company must also collect rain water in the mined out pits of captive lime stone mine and use the same water for the various activities of the project to conserve fresh water and reduce the water requirement pressure from the river. The Company shall construct the rain water harvesting and groundwater recharge structures outside the plant premises also in consultation with local Gram Panchayat and Village Heads to augment the ground water level. An action plan shall be submitted to Ministry's Regional Office at Bhopal within 3 months from date of issue of this letter.	The Rain water harvesting studies have been carried out for Plant and Mines by M/s Hydro Geosurvey Consultants, Jodhpur, Rajasthan and for Township by M/s Hydrominviron Consultancy Pvt Ltd., Jaipur. The reports have been submitted to Regional Director, MoEF, Bhopal, CGWB, Bhopal, MPPCB and CPCB Bhopal. Based on the recommendation of the consultants, the RWH measures have been adopted at Plant, Mines and Colony. Six water recharge structures have been made at Plant and one at the colony to recharge underground water. Water reservoir has also been made in the mined out area (2 acre approx.) for RWH. The rain water thus collected in reservoir is being used for sprinkling on haul roads for dust suppression and green belt development and accordingly the fresh water is being conserved. The roof top rain water harvesting is carried out by channelizing water through pipe lines in recharging pits. The pit is further advanced

		by puncturing the strata for recharging of ground water as recommended. We have also made a pond outside the plant for rain water harvesting in consultation with local Gram Panchayat and Village Heads.
X	The project proponent shall modify the mine plan of the project at the time of seeking approval for the next mining scheme from the Indian Bureau of Mines so as to reduce the area for external over burden dump 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 28^0.	The overburden will be used for back filling. In next modification of mining scheme, due in March 2016 from Indian Bureau of Mines, the height of the dump will be increased to reduce the dumping area with proper terracing as per EC conditions. The overall slope of the dump will not exceed 28^0.
XI	Topsoil, if any, shall be stacked with proper slope at earmarked site(s) only with adequate measures and shall be used for reclamation and rehabilitation of mined out areas.	Topsoil being stored carefully at earmarked site and will be used for reclamation and plantation. The quantity of top soil removed from the period April– 2014 to March 2015 is given below. ML-I: 4901.897 M^3 ML-II: 32449.539M^3
XII	The project proponent shall ensure that no natural water course shall be obstructed due to any mining and plant operations. The company shall make the plan for protection of the natural water course passing through the plant and mine area premises and submit to the ministry's Regional Office at Bhopal.	No natural water course was obstructed due to mining and plant operation as no natural water course passing through the mining lease area.
XIII	The inter burden and other waste generated shall be stacked at earmarked dump site(s) only and shall not be kept active for long period. The total height of the dumps shall not exceed 30 m in three terraces of 10 m each and the overall slope of the dump shall be maintained to 28^0. The inter burden dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office, Bhopal on six monthly bases.	Presently no Inter burden encountered during mining. However, at a later stage, if any inter burden is encountered, EC condition will be complied. The Overburden and other waste generated are being stacked at earmarked dump site(s) and shall not be kept active for long period. The waste dump site(s) total height of the dump is made in 3x10 m lift each an overall slope 28^0. The interactive benches will be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas will continue until the vegetation becomes self-sustaining. Quantity of overburden generated for the period April 2014 to March-2015 is as below. ML-I : 67871.873 m^3 ML-II : 114896.306 m^3 Compliance report is submitted to the

		Ministry of Environment & Forests and its Regional Office, Bhopal on six monthly bases.
XIV	The void left unfilled shall be converted into water body. The higher benches of excavated void/mining pit shall be terraced and plantation to be 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.	The void left at the end of mining shall be converted into water body. The mining activities have been started from 1.1.2010.
XV	Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, inter burden and mineral dumps to arrest flow of silt and sediment. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted, particularly after monsoon, and maintained properly.	All garland drains are well maintained and de silted before rainy season. The collected water in sump used for water spray on haul roads and loading points for dust suppression.
XVI	Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and inter burden dumps and sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.	Garland drain of appropriate size, gradient and length is constructed all around the mine pit and sump of sufficient storage capacity made by taking all safety measures. **Photograph of Garland Drain at Mines:** 
XVII	Dimension of the retaining wall at the toe of inter burden dumps and inter burden benches within the mine to check run-off and siltation shall be based on the rain fall data.	At present there is no inter burden strata within the mines, hence inter burden benches are not required within the working quarries. Toe bund shall be constructed at the dump site to check the run-off and siltation, wherever required.
XVIII	Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers at suitable locations by the project proponent in and around project area in consultation with Regional Director, Central Ground Water Board. The frequency of monitoring shall be four times a year- pre-monsoon (April / May), monsoon (August), post-monsoon (November), and	The ground water monitoring is being carried out by M/s Hydrominviron Consultancy Pvt Ltd., Jaipur, through 32 dug wells located within the 10 Km buffer zone around Mines and Plant, hence it was not found necessary to install the piezometers because the purpose of ground water level monitoring is fulfilled as per condition. Regular monitoring of the Ground water level and quality

	winter (January). Data thus collected shall be sent at regular intervals to Ministry of Environment and Forests and its Regional Office at Bhopal, Central Ground Water Authority and Central Ground Water Board.	monitoring work is being done and its latest report for post monsoon period submitted to Regional Director, CGWB and Regional Director, MoEF and MPPCB Bhopal vide our letter dtd.12.02.2015.
XIX	Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders shall be implemented.	Controlled blasting is in practice. Blasting operation is being done only during daytime. Mitigation measures have been adopted to control ground vibrations and fly rocks.
XX	The project proponent shall adopt wet drilling.	All the drilling machines are fitted with wet drilling system.
XXI	As proposed, green belt shall be developed in 33 % in and around the plant as per the CPCB guidelines.	Green belt has been planned to be developed in 33 % area in and around the plant as per the CPCB guidelines. As per Green Belt Development Plan. Total 70750 nos. of sapling have been planted upto FY 2014-15 in Cement Plant & Mines Area. The total area covered under plantation in Cement Plant area is about 25.2 ha and in Mines the area covered is about 9.7 ha. Further plantation in Plant and Mines area is ongoing process. 
XXII	All the recommendations of the Corporate Responsibility or Environmental Protection (CREP) for cement plant shall be strictly followed.	Recommendations of Corporate Responsibility for Environmental Protection (CREP) for cement plant are followed.

Charter on Corporate Responsibility for Environmental Protection (CREP)

Sr. No.	CREP Conditions	Status of Compliance
1	Cement Plant which are not complying with notified standard, shall do the following to meet the standard : • Augmentation of existing Air Pollution Control Device -By July 2003. • Replacement of Air Pollution Control Device –by 2004	BJCL plant has been working since Jan 2010. We have adopted and installed latest air pollution control technology like Bag house, ESP & Bag filters in Cement plant and the emission level monitored are found well within the prescribe limits of 50 mg/Nm3.
2.	Cement Plants located in critically polluted or urban areas	We are complying standard of particulate matter of

	(including 5 km distance outside urban boundary) will meet 100 mg/Nm3 limit of particulate matter by December 2004 and continue working to reduce the emission of particulate matter to 50 mg/Nm3.	50 mg/Nm3 as prescribed by the MPPCB.
3.	The new cement kilns to be accorded NOC/ Environmental Clearance w.e.f. 01.04.2003 will meet the limit of 50 mg/Nm3 for particulate matter emissions.	Environment Clearance is obtained and meeting the prescribed norms 50 mg/Nm3.
4.	CPCB will evolve load based standards by December 2003.	Not Applicable.
5.	CPCB and NCBM will evolve SO2 and NOx emission standards by June 2004.	CPCB is prescribed the SO2 and NOx emission standards for cement plant.
6.	The Cement Industries will control fugitive emission from all the raw material and products storage and transfer points by Dec- 2003. However, the feasibility for the control of fugitive emission from limestone and coal storage areas will be decided by the National Task Force (NTF).The NTF shall submit its recommendations within three months.	For controlling the dust emission from cement plant, we have installed adequate capacity of bag house for Kiln & Raw mill, one Electro Static Precipitators for Clinker cooler, one bag house for coal mill and 25 Nos. Bag dust collectors in various raw material transfer points and storage silos such as raw meal, coal meal and various material transfer points, Clinker being stored in 24000Ts. Capacity Clinker silo. Clinker silo also equipped with adequate capacity of bag filter to control the dust emission. Water is spraying on roads and other area for controlling the fugitive dust emission. Fugitive emission is controlled by implementing CPCB guidelines.
7.	CPCB, NCBM, BIS and Oil refineries will jointly prepare the policy on use of petroleum coke as fuel in cement kiln by July 2003.	Being followed.
8.	After performance evaluation of various types of continuous monitoring equipment and feedback from the industries and equipment manufacturers, NTF will decide feasible unit operation/sections for installation of continuous monitoring equipment. The industry will install the continuous monitoring systems (CMS) by December 2003.	The continuous Emission monitoring systems are installed at Kiln & Raw mill Bag House, Cooler ESP and coal mill stacks and working efficiently. The Real time data of CEMS is uploaded in CPCB and Company web site.
9.	Tripping in kiln ESP to be minimized by July 2003 as per the recommendation of NTF.	We have installed bag house for the Kiln & Raw Mill and Coal mill .Trippings is not applicable.
10.	Industries will submit the target date to enhance the utilization of waste material by April 2003.	As, we are manufacturing clinker only. Therefore, solid waste material such as fly ash is not generated/ consumed. We have submitted application to getting permission for the utilization of hazardous/ plastic waste in cement Kiln. After getting permission same to be followed.
11.	NCBM will carry out a study on hazardous waste utilization in cement kiln by December 2003.	Noted and to be followed.
12.	Cement industries will carry out feasibility study and submit target dates to CPCB for co-generation of power by July 2003.	Feasibility study will be carried out for co-generation of power.

XXIII	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.	Noted. All the vehicles operating in mining area have valid PUC certificate. The vehicles are used for transportation of mineral are avoided overloading The vehicles are maintained regularly.

XXIV	Digital processing of the entire lease area using remote sensing technique shall 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, Bhopal.	The digital processing of entire lease area using remote sensing technique has been carried out by M/s Bhagavathi Ana labs, Hyderabad, as a part of CEIA report which has been submitted to Regional office, MoEF Bhopal, Member Secretary, MPPCB, Bhopal and Zonal Officer, CPCB. Bhopal.
XXV	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.	The progressive mine closure plan along with Corpus fund of ML-I & ML-II has been submitted to IBM dated 02.05.2011.
XXVI	Necessary permission and recommendation of the State Forests department shall be obtained regarding impact of the proposed cement plant and mining on the surrounding reserve and protected forests and suggested conservation plan shall be implemented.	District forest officer, Satna vide letter No. DM/955 dtd. 11.02.2009 has certified that plant complex (Area 101.71 hect.) including two Mining lease (ML-I area 590.22 hect. and ML-II area 1033.99) does not have any National Park , Wild life Sanctuaries, Biospheres reserves, wild life corridors, Tiger/Elephant reserves and migratory paths /roots within 10 KM radius.
XX VII	The company shall comply with all the commitments made during public hearing on 21.12.2008	Commitments made during public hearing have been complied. We have provided compensation as per rules and jobs provided to related land users according to their qualifications as additional benefits.
XXVIII	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project	Provision was made for the housing of construction labour within the plant site with all necessary infrastructure and facilities such as fuel for cooking, toilets, Safe drinking water, medical health care facilities etc. Now, all temporary structure has removed.
GENERAL CONDITIONS		
	Details of Conditions	**Status**
I	The project authority shall adhere to the stipulations made by State Pollution Control Board (SPCB) 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	At least four ambient air quality monitoring stations shall be established in the down wind direction as well as where maximum ground level concentration of SPM, SO_2 and NO_X are anticipated in consultation with the SPCB. Data on ambient air quality and stack emissions shall be regularly submitted to this Ministry including its Regional Office and SPCB / CPCB once in six months.	Eight ambient air quality monitoring stations (4 each at Plant & Mines) have been established. Monthly, quarterly and six monthly monitoring data is being submitted to all concerned authorities and also uploaded on company website. Monitoring report has been submitted regularly on monthly and six monthly to all concerned authorities (Please refer Annexure-II & III).
IV	Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	The treated waste water is used for plantation purpose. However no industrial wastewater is generated from the cement plant.
V	The overall noise levels in and around the plant area 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).	Noise level within the plant is maintained within the norms. Monitoring of noise level is carried out periodically as per MPPCB guidelines and reports being submitted regularly. Monitoring data of ambient noise in day and night hours are enclosed as **Annexure –II & III.**
VI	Proper housekeeping and adequate occupational health program shall be taken up. Occupational Health Surveillance program shall be done on a regular basis and records maintained properly for at least 30-40 years. The program shall include lung function and sputum analysis tests once in six months. Sufficient preventive measures shall be adopted to avoid direct exposure to dust etc.	Good housekeeping practice has been followed. Mechanized Road sweeping machine is used for cleaning of roads in Plant area. Occupational Health Surveillance program are regularly carried out and record is maintained.
VII	The company shall undertake eco-development measures including community welfare measures in the project area.	The eco-development and community welfare measures are being taken by the company. The Group is committed towards the safety, health and environment of employees and public of surrounding villages. The financial assistance to nearby educational, social and religious organization is being provided. Medical facilities are extended to nearby villagers. The total expenditure of Rs. 8.90 Lacs has been incurred in the financial year 2014-15 towards CSR and Eco development activities such as sports promotion, Construction and renovation of temple at Phutaundha and Batkhar Village, Organizing Eye Camp in Kotar Village, Part Construction of Kamadgiri Parikrama at Kamta Nath Mandir at

		Chitrakoot and house-keeping annual expenditure etc.
VIII	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/ EMP.	Noted and Agreed
IX	A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	The Environment protection measures and safeguards as recommended in EIA/ EMP report have been implemented. A separate Env. Management cell has been working with full fledged laboratory facilities to carry out various Env. Management and monitoring functions.
X	Adequate fund shall be allocated to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Time bound implementation schedule for implementing all the conditions stipulated herein shall be submitted. The funds so provided shall not be diverted for any other purpose.	A separate fund has been created for the exclusive use for the Environmental protection and Pollution control activities.
XI	The Regional Office of this Ministry / CPCB / SPCB shall monitor the stipulated conditions. The project authorities shall extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Full cooperation is extended to the visiting officials. Six monthly compliance report and along with the monitored data is regularly submitted to the Regional Office of this Ministry / CPCB / SPCB.
XII	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both on hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Noted and Agreed.
XIII	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests. No change in the calendar plan including excavation, quantum of limestone and waste shall be made.	Noted and Agreed.
XIV	Measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM etc. shall be provided with ear pluggs/ muffs.	Noise level is controlled within the stipulated norms by adopting adequate noise control measures. Personnel protective equipment has been provided to the workers engaged in operations of HEMM etc. Awareness/ training program are being organized regularly.

XV	Industrial waste water (workshop and waste water from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.	Zero discharge of water is maintained. Oil and grease trap is installed for workshop effluents.
XVI	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Personnel working in mines/ dusty areas have been provided personnel protective equipment/ respiratory devices and providing adequate training and information on safety and health aspects. Occupational health surveillance program of the employees are undertaken periodically.
XVII	The project authorities shall inform to the Regional Office located regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	The Clinker production unit's financial closure booked in A/c is 15.12.2009 at a cost of Rs. 445 Crores. The commercial production of clinker was started from 03.01.2010 as communicated to RO, MoEF Bhopal vide our letter No. BJCL/COORD/DG/2010-11 dtd. 17Th July 2010 , Regional Officer, MPPCB, Satna and Member Secretary, MPPCB, Bhopal on 27.04.2010 . Further, we would like to submit that the installation of Grinding unit for which EC has been granted, is approved by JAL Board and now under consideration by the Board of Directors of SAIL, as this unit is a joint venture of JAL & SAIL. After due approval from SAIL Board, the installation of Cement grinding unit will be taken up and accordingly financial closure will be intimated to MoEF.
XVIII	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad /Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations if any, were received while processing the proposal. The clearance letter shall also put up on the website of the Company by the proponent.	EC letter sent to concerned authorities and receipt is taken.
XIX	The project authorities shall advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State	Advertised in the News paper "The Desh Bandhu, The Nav Bharat & The Dainik Bhaskar" on Dt. 28.07.2009.

	Pollution Control Board and also at web site of the Ministry of Environment and Forests at "http://envfor.nic.in" and a copy of the same shall be forwarded to the Regional Office of this Ministry.	
XX	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the Company along with the status of compliance of EC conditions and shall also be sent to the respective regional Office of the MoEF by e-mail.	Environmental statement of last year 2013-14 was submitted on dated 08.09.2014
XXI	The Ministry or any other competent authority may stipulate any further condition(s) on receiving reports from the project authorities. The above conditions shall be monitored by the Regional Office of this Ministry.	Noted and agreed.
XXII	The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.	Noted and Agreed.
XXIII	Any other conditions or alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.	Noted and Agreed
XXIV	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, Second Floor, Trikoot-I, Bhikaji Cama Place, New Delhi-110066, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.	Noted and Agreed.
XXV	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Noted and Agreed.

S. R JHA
Dy. Manager (Env)

For Bhilai Jaypee Cement Ltd.
(Babupur) Satna

B.K. Agrawal
Joint President (Tech)
(Authorized Signatory)

Annexure

Annexure - I

BHILAI JAYPEE CEMENT LIMITED

BABUPUR, SATNA (MP)

HALF YEARLY REPORT OF PARTICULATE MATTER EMISSION FROM POINT SOURCE (STACK)

Period : (October-2014 to March-2015)

Unit Stack Attached With PCE (Pollution Control Equipment)	Dust Conc. (mg/Nm^3)					
	Oct	Nov	Dec	Jan	Feb	Mar
Kiln & Raw Mill BH Stack	13.63	19.22	18.66	22.89	18.59	16.89
Cooler ESP Stack	16.78	21.55	25.10	20.24	22.98	18.66
Coal Mill BH Stack	21.24	15.27	17.66	13.34	21.02	21.57
Limestone Crusher BDC	20.68	24.93	15.59	17.81	20.10	24.77

For Bhilai Jaypee Cement Ltd.

Authorized Signatory

Annexure - II

BHILAI JAYPEE CEMENT LIMITED
BABUPUR (SATNA) MP- 485112

AMBIENT AIR QUALITY MONITORING RESULTS OF SIX MONTH FROM : OCT – Mar – 2014-15

UNIT: Cement plant & DG set

Date of Sampling	Particulars		SO2 (µg/M³)	NOX (µg/M³)	Noise dB (A) Day time	Noise dB (A) Night Time	PM 2.5 (µg/M³)	PM- 10 (µg/M³)	Remarks
	Side	Place							
Oct-14	East	Near Substation	4.21	14.48	63.4	53.4	26.91	51.65	
	West	Infront of FH-2	4.50	12.38	67.0	56.7	24.91	54.76	
	North	Near Annapurna	3.80	13.72	66.0	55.0	16.26	42.18	
	South	Near Scrape Yard	4.69	12.03	61.7	52.9	19.37	41.15	
Nov-14	East	Near Substation	4.69	12.54	64.9	55.7	31.13	72.41	
	West	Infront of FH-2	4.23	13.36	64.0	55.2	30.50	71.14	
	North	Near Annapurna	5.07	12.89	64.7	53.3	24.35	63.70	
	South	Near Scrape Yard	4.38	13.61	65.9	52.9	22.94	65.52	
Dec-14	East	Near Substation	5.13	14.40	67.5	57.8	22.24	66.86	
	West	Infront of FH-2	4.19	13.43	62.6	55.7	28.07	71.61	
	North	Near Annapurna	3.81	11.91	64.5	53.9	20.44	51.81	
	South	Near Scrape Yard	4.58	12.72	66.2	52.1	17.65	60.36	
Jan-15	East	Near Substation	4.64	13.71	64.4	53.2	21.93	64.34	
	West	Infront of FH-2	4.10	11.44	63.9	55.1	18.51	61.37	
	North	Near Annapurna	3.71	11.61	66.5	55.0	12.29	49.42	
	South	Near Scrape Yard	5.13	12.26	63.3	53.1	13.21	50.42	
Feb-15	East	Near Substation	4.98	12.41	67.0	56.4	26.42	68.04	
	West	Infront of FH-2	3.96	12.10	64.1	53.8	28.73	73.50	
	North	Near Annapurna	4.43	11.93	65.2	54.4	18.99	52.84	
	South	Near Scrape Yard	4.68	13.09	63.8	56.0	17.17	49.61	
Mar-15	East	Near Substation	4.36	12.88	64.0	52.9	34.87	65.04	
	West	Infront of FH-2	4.89	13.18	65.4	53.9	32.32	61.44	
	North	Near Annapurna	4.60	13.37	66.8	56.6	24.71	54.25	
	South	Near Scrape Yard	4.26	12.59	63.3	54.8	26.47	51.97	
	Average	East	4.67	13.40	65.18	54.85	27.25	64.72	
		West	4.31	12.65	64.48	55.04	27.17	65.64	
		North	4.24	12.57	65.58	54.66	19.51	52.36	
		South	4.62	12.72	64.02	53.61	19.47	53.17	
	Minimum	East	4.21	12.41	63.40	52.85	21.93	51.65	
		West	3.96	11.44	62.60	53.80	18.51	54.76	
		North	3.71	11.61	64.45	53.25	12.29	42.18	
		South	4.26	12.03	61.70	52.10	13.21	41.15	
	Maximum	East	5.13	14.48	67.45	57.75	34.87	72.41	
		West	4.89	13.43	66.95	56.65	32.32	73.50	
		North	5.07	13.72	66.75	56.60	24.71	63.70	
		South	5.13	13.61	66.15	55.95	26.47	65.52	

S.R.JHA
Dy. Manager (Environment)

C.K Shrivastav
Dy.G M (P&QC)

Annexure - III

BHILAI JAYPEE CEMENT LIMITED
BABUPUR (SATNA) MP- 485112

AMBIENT AIR QUALITY MONITORING DATA OF SIX MONTHLY FROM: OCT - MAR 2014-15

UNIT: ISPAT LIMESTONE QUARRY (ML-I&II)

Date of Sampling	Particulars		SO2	NOX	Noise dB (A)	Noise dB (A)	PM 2.5	PM- 10	Remarks
	Side	Place	($\mu g/M^3$)	($\mu g/M^3$)	Day time	Night Time	($\mu g/M^3$)	($\mu g/M^3$)	
Oct-14	East	Near Magazine Khamaria village (East)	5.65	14.34	65.8	58.4	26.83	59.98	
	West	Near Weigh bridge (West)	5.65	12.51	63.1	54.0	22.02	64.35	
	North	Near Office Babupur (North)	3.90	13.54	63.6	55.5	32.43	68.57	
	South	Near Mines Office (South)	5.22	14.26	64.1	58.2	24.94	56.70	
Nov-14	East	Near Magazine Khamaria village (East)	4.70	13.27	65.8	58.4	30.16	72.15	
	West	Near Weigh bridge (West)	4.65	13.68	63.1	54.0	35.40	79.32	
	North	Near Office Babupur (North)	5.02	14.56	63.6	55.5	31.36	82.55	
	South	Near Mines Office (South)	5.19	15.78	64.1	58.2	26.99	75.05	
Dec-14	East	Near Magazine Khamaria village (East)	4.06	12.24	64.2	55.3	25.93	78.52	
	West	Near Weigh bridge (West)	4.21	14.11	65.4	56.9	26.95	83.44	
	North	Near Office Babupur (North)	4.58	13.87	61.1	54.2	31.93	82.76	
	South	Near Mines Office (South)	4.25	13.73	65.6	56.8	24.03	71.20	
Jan-15	East	Near Magazine Khamaria village (East)	3.70	13.64	65.7	54.3	23.01	62.85	
	West	Near Weigh bridge (West)	5.31	12.36	64.6	54.1	27.02	72.38	
	North	Near Office Babupur (North)	4.12	12.75	62.0	56.9	32.20	77.42	
	South	Near Mines Office (South)	4.65	10.73	62.5	53.9	19.42	65.75	
Feb-15	East	Near Magazine Khamaria village (East)	4.41	12.29	66.5	56.1	21.04	73.68	
	West	Near Weigh bridge (West)	3.95	11.91	65.4	52.8	35.26	79.83	
	North	Near Office Babupur (North)	4.21	13.49	64.0	50.8	37.51	85.29	
	South	Near Mines Office (South)	4.08	10.88	65.3	53.5	27.25	74.87	
Mar-15	East	Near Magazine Khamaria village (East)	4.84	13.40	66.5	56.1	29.12	74.60	
	West	Near Weigh bridge (West)	4.24	12.85	65.4	52.8	36.53	85.23	
	North	Near Office Babupur (North)	3.84	12.42	64.0	50.8	44.85	87.94	
	South	Near Mines Office (South)	4.69	13.56	65.3	53.5	38.86	78.68	
	Average	East	**4.56**	**13.20**	**65.75**	**56.39**	**26.01**	**70.30**	
		West	**4.67**	**12.90**	**64.47**	**54.08**	**30.53**	**77.42**	
		North	**4.28**	**13.44**	**63.04**	**53.91**	**35.05**	**80.75**	
		South	**4.68**	**13.16**	**64.45**	**55.66**	**26.92**	**70.37**	
	Minimum	East	**3.70**	**12.24**	**64.20**	**54.30**	**21.04**	**59.98**	
		West	**3.95**	**11.91**	**63.10**	**52.80**	**22.02**	**64.35**	
		North	**3.84**	**12.42**	**61.05**	**50.75**	**31.36**	**68.57**	
		South	**4.08**	**10.73**	**62.45**	**53.50**	**19.42**	**56.70**	
	Maximum	East	**5.65**	**14.34**	**66.50**	**58.35**	**30.16**	**78.52**	
		West	**5.65**	**14.11**	**65.35**	**56.90**	**36.53**	**85.23**	
		North	**5.02**	**14.56**	**64.00**	**56.85**	**44.85**	**87.94**	
		South	**5.22**	**15.78**	**65.55**	**58.15**	**38.86**	**78.68**	

S R JHA
Dy. Manager (Environment)

C K Shrivastav
Dy.G M (Process&QC)

Bhilai Jaypee Cement Limited

Babupur (Satna) MP-485112

GUIDELINES FOR PREVENTION AND CONTROL OF FUGITIVE EMISSIONS IN CEMENT PLANTS

For achieving effective prevention and control of potential fugitive emission sources in cement manufacturing plants, specific requirements along with guidelines have been evolved.

1. Unloading Section (Limestone, Coal & other relevant material)

The Bhilai Jaypee Cement is a clinkerisation unit and adopted most modern available technology to manufacture the clinker and controlling the dust emission for maintain the clean and green Environment .

Sr. No.	Control Measures to be Provided	ACTION TAKEN
1.	Enclosure should be provided for all unloading operations, except wet materials like gypsum	√
2.	Water shall be sprayed on the material during unloading	√

1.Material Handling Section (Including Transfer Points)

Sr. No.	Control Measures to be Provided	ACTION TAKEN
1.	All transfer point locations should be fully enclosed.	√
2.	Airborne dust at all transfer operations/ points should be controlled either by spraying water or by extracting to bag filter.	Limestone, Laterite and coal belt transfer points and storage silos equipped with adequate capacity of Pollution control equipments such as bag filters to control the dust emission and the equipments are working efficiently. The stacker boom height is operated at optimum level to reduce the dust nuisance.
3.	Belt conveyors should preferably be closed.	Raw materials conveying belts are covered with G.I sheet to avoid fine dust emission during wind blowing and fine/finish material conveyed through fully closed air slides /screw conveyors.

2.Coal Storage Section

Sr. No.	Control Measures to be Provided	ACTION TAKEN
1.	Coal yard / storage area should be clearly earmarked.	Covered coal shed has been provided with earmarked.
2.	The pathways in coal yard for vehicle movement should be paved.	√
3.	Accumulated dust shall be removed/ swept regularly and watering the area after sweeping.	All roads around the factory premises has been cleaned regularly by a mechanized vacuum sweeping machine and good housekeeping practices followed to avoid dust accumulation on roads. Water is being sprayed on roads regularly by tanker to avoid dust emission.
4.	Coal other than coal stock pile should preferably be stored under covered shed.	Covered coal shed has been provided.

5	The coal stock pile should preferably be under covered shed for new plants.	Not Applicable.
6.	Instead of dust extraction cum bag filter system. If dust suppression measure is used, following additional control measures should be provided.	
a	Wetting before unloading.	During the unloading of raw coal, water is sprayed on coal to avoid dust emission. 3 nos. Fog type water sprinklers is provided
b	Spray water at crusher discharge and transfer points.	Water spray system is installed at Crusher hopper & conveying belt for suppresses the dust emission.

4. Clinker Cooler Section

Sr. No.	Control Measures to be Provided	Guidelines /ACTION TAKEN
1.	Air borne fines extracted from clinker cooler shall be separated and sent to last possible destination directly, if possible.	The Clinker cooling system is provided with adequate capacity of Electrostatic Precipitator and ESP dust stored in clinker silo by pane conveyor/ belts conveyor. Clinker silo is equipped with adequate capacity of Bag filter to control the dust emission.

5. Clinker Stock Piles Section

Sr. No.	Control Measures to be Provided	Guidelines / ACTION TAKEN
1.	In new cement plant, clinker should be stored preferably in silo.	Clinker is stored in closed silo for controlling the dust emission. A Bag filters of adequate capacity is installed and working satisfactory for controlling the dust emission.
2.	Clinker should be stored in closed enclosure covered from all sides and should have a venting arrangement along with a bag filter.	For clinker storage, we have constructed a clinker silo of capacity 24000 T with adequate capacity of Bag Dust collector connected directly to clinker silo to avoid fugitive dust emission.
3.	The dust extracted and captured in bag filter should be avoided to feed back / recycled to the clinker stockpile, if possible.	There is no clinker stock pile in the process of this plant.
	Generally open storage of clinker should be avoided. Only in case of emergency clinker should be stored in open with following control measures.	
1.	Area for open storage of clinker should be clearly earmarked.	Clinker is not stored at open places.
2.	Provide cover on openly stored clinker.	√
3.	Provide windbreak walls or greenbelt on three sides of open stock piles.	No open stock pile
4.	Provide partial enclosure for retrieving area.	No open stock pile
5.	The travel path of pay loaders should be paved and frequently swept.	Travel path of pay loader is paved. It has been swiped by mechanized sweeping machine regularly to avoid dust accumulation on roads.
6.	Provide loading of clinker by pay loaders into trucks trailers be carried out in an enclosure vented to a bag filter.	Not applicable. Clinker loading in wagon/ trucks is done by silo through telescopic chute.

6. Storage of Limestone, Gypsum, Flyash and other additives:

Sr. No.	Control Measures to be Provided	Guidelines / ACTION TAKEN
1.	The storage should be done under covered shed.	Being followed
2.	Dry fly ash shall be transported by closed tankers. In case of wet fly ash trucks may be used for transportation.	Not applicable.
3.	Dry Fly ash shall be stored in silos only.	Not applicable.
4.	Fly ash in the dry form should be encouraged an in wet form should be discouraged. In case we fly ash is to be used, it may be stored in open temporarily for the purpose of drying with necessary wind break arrangement to avoid wind carryover of fly ash. The fly ash should be removed immediately after drying.	Not applicable.

7. Cement Packing Section:

Sr. No.	Control Measures to be Provided	Guidelines / ACTION TAKEN
1.	Provide dust extraction arrangement for packing machines.	Not applicable.
2.	Provide adequate ventilation for the packing hall.	Not applicable.
3.	Spillage of cement on floor shall be minimized and cleared daily to prevent fugitive emissions.	Not Applicable.
4.	Prevent emissions from the recycling screen by installing appropriate dust extraction system	Not applicable.

8. Silo Section:

Sr. No.	Control Measures to be Provided	Guidelines / ACTION TAKEN
1.	The silo vent to be provided with a bag filter type system to vent out the air borne fines.	All silos/ hoppers has provided with adequate capacity of bag filters for controlling the dust emission.

9. Roads:

Sr. No.	Control Measures to be Provided	Guidelines / ACTION TAKEN
1.	All roads on which vehicle movement of raw materials or products take place should be paved.	The all approach roads within the factory premises are concreted and maintained properly to avoid dust deposition.
2.	Limit the speed of vehicles to 10 Km/h for heavy vehicles with in the plant premises to prevent the road dust emissions.	Being Followed.

3.	Employ preventive measures to minimize dust build up on roads.	The following preventive measure shall be adopted to avoid dust build up on roads. 1. The Telcos and other vehicles should not be over loaded. 2. Telco /dumpers should be leakage free and doors are tightened properly. 3. Housekeeping practices being followed strictly to avoid dust accumulation.
4.	Carry out regular sweeping of roads to minimize emissions.	Housekeeping practices are being strictly followed. Mechanized sweeping machine are used regularly for sweeping on road Water is being sprayed regularly on roads by Tanker to prevent dust emission.

1.2 Requirement of Maintaining Documentation and Records:

The industry shall maintain records to document the specific dust control actions taken and maintain such records for a period of not less than two years and make such records available to the regulatory authorities upon request. In addition documents of technical specifications of the control system and O&M guidelines should also be maintained. (Refer Appendix AI for details of documents and records to be maintained). **All maintenance records are available with maintenance dept.**

1.3 Requirement of trained Manpower :

- The industry shall employ or contract a "dust control officer" who shall be available on site during working hours and should have authority to expeditiously employ sufficient dust mitigation measures to ensure control of fugitive emissions especially in abnormal circumstances. A suitably qualified person could be designated to operate as dust control officer. But, he should be provided necessary training and should be aware of operational, maintenance aspects. He should be responsible for proper control of fugitive emissions. Environmental Officer may act as a Dust Control Officer**. Being followed.**

- Regular training should be given to the personnel operating and maintaining fugitive emissions control systems on the operational and maintenance aspects and record keeping responsibility.

  M/s Bhilai Jaypee Cement Limited has setup fully equipped Environmental Laboratory for monitoring of Air emission/ Water & Waste water analysis with suitable qualified technical personnel. The Environmental Cell is functioning under control of Joint President(Technical) who is having keen interest to look after the all pollution control related works required for pollution control in cement Industry.

1.4 <u>Operation and Maintenance Requirement for all Dust Extraction cum Bag filter Systems:</u>

- A "U" tube manometer (of minimum 400 mm length) shall be fixed at all bag filters. It shall be connected with inlet and outlet side of the bag filter through flexible rubber tubes. Colored water should be filled to zero level mark for proper visibility of the pressure drop across bag filter. **Being followed.**

- The minimum dust extraction volume should be based on the guidelines for ventilating various sources as per industrial ventilation hand book guidelines. **Being followed.**

- Un-interrupted supply of dry compressed air at desired pressure should be always ensured for pulsejet cleaning type bag filter. **Being followed.**

- The flow rate and static pressure at the bag filter inlet should be monitored at least quarterly and recorded to ensure appropriate functioning of the bag filter installed. Followed.

- A sampling platform, portable and access ladder shall be provided at the all major stack to carry out stack monitoring. Final emission should not exceed the prescribed standard. **We are complying all prescribed norms laid down by MPPCB.**

- In systems where water is also spread, it should be ensured that water does not get carried over/sucked to the bag filter. The details such as bag house specifications, layout drawing, operation and maintenance guidelines are to be maintained. **Being Followed.**

- The details such as bag house specifications, layout drawing, operation and maintenance guidelines are to be maintained. **Being followed.**

1.3 Operation and maintenance Requirements for all Dust Suppression Systems:

- Basic details/specifications of the dust suppression systems installed at various locations should be maintained. The information should contain the quantity of water sprayed in LPH, number of nozzles, type of nozzles, desired water pressure, details of suppliers of spares, pipeline diagram, system layout etc.

Details of dust suppression system installed in our plant.

LOCATION	Capacity of pump	No. of nozzle
1. Lime stone crusher hopper	500 LPH	4 Nozzles
2. Coal Unloading/Handling	2000 LPH	Manual Spray / Fog type water sprinkler

- A fine mesh micro filter should be installed for filtering suspended solids from water prior to pumping to the nozzles to prevent choking of nozzles thereby ensuring proper sprays. **Followed.**

- A pressure gauge and water flow meter shall be installed at major source for online measurements and a record be maintained for quantity of water sprayed. **Followed**.

1.4 SPM Concentration Standard for Assessing Effectiveness of Control Measures Adopted **:**

- The effectiveness of prevention cum control measures provided for controlling fugitive emissions from any source shall be said to be satisfactory, provided the SPM concentration, measured at 10 metre distance (from the enclosure wall housing the emission source or from the edge of the stockpiles/pavement area) in downwind direction shall not exceed 2000 microgram per cubic metre and 5000 microgram per cubic metre for coal yard /coal stock pile and rest other area respectively. These standards are for one year period and will be reviewed after one year. In cases where SPM concentrations exceed the prescribed limit, necessary corrective measures in terms of improving the controls shall be taken and action taken records of improvements carried out be maintained. **Being Followed.**

- The measurement shall be carried out by High Volume / Respirable type samples as per standard method prescribed by CPCB/BIS, covering at least 4 hours duration (240 minutes) during normal working hours with normal production rate of the operation / source being monitored on quarterly basis. : Being Followed.

1.5 General Guidelines (For areas not otherwise specified):

Apart from the specific guidelines provided above for some specific sections/areas, for all other fugitive dust emitting areas, following general guidelines would apply.

- The industry should prevent fugitive emission from all active operation and storage piles such that the emissions are not visible in the atmosphere beyond the boundary line of the emission source. To be followed.

- The Industry shall conduct active operations by utilizing the applicable best available control measures to minimize the fugitive dust emission from each fugitive dust source type within active operation. : Advance available technology is being adopted.

- Except for Gypsum and Clinker, all storage piles should be kept in moist condition by spraying water at regular intervals for controlling fugitive emission, wherever possible. To be followed.

- The operation of the pay loaders shall be slow down whenever the average wind speed is high exceeding 50 km/h. which may cause fugitive emission. Being followed.

- All storage silos shall be vented to bag filters, which should have proper bag cleaning arrangement so as to avoid choking of filter bags, thereby to avoid pressurization of silos. Being followed.

- Regular inspection at a pre-determined frequency be carried out of all fugitive dust control system and records be maintained of such inspection and corrective action taken if any**.** Being followed.

Appendix A.I

A 1: List of Documents & records to be maintained for fugitive dust control

Title of Record to be maintained	**Frequency of Recording**	**Information to be recorded**
Documents :		
List of Fugitive Emission Management Systems (FEMS) installed	To be up-dated once in a year.	Location of FEMS, marked on process flow diagram, Identity Number. Type of FEMS, Year of installation. Operating Status. **To be followed**.
Technical Specifications of FEMS installed		
Specification of Dust suppression system	Available with Maintenance dept.	Locations of controlling emissions, Identity Number, Supplier Name, Date of Commissioning, Pump HP, flow rate in LPM, Pressure in kg/cm^2, Nozzles type, numbers, LPM, O&M instruction from supplier.
Specification of Dust Extraction cum APCD	Available in Env. Cell	Location of system installed, Identity Number, Name of system supplier, date of commissioning, flow rate in m3/hr, Time, flow m^3/hr. static pressure mm Wc, velocity m/sec, Current Drawn by ID fan motor, operation & maintenance instruction from supplier. *All pollution control equipments systems are supplied in our plant by reputed suppliers.* *The supplier guidelines/ technical specification to be followed strictly by us during the operation of A.P.C.D. for getting the optimum efficiency of equipments.*
Capacities of Closed Storages	Annually/Monthly Coal - 10000 Ts Clinker - 24000 Ts	For coal, limestone, clinker, gypsum, cement, additives, fly ash, Dimensions, bulk density.

Capacities of Open Storages	Annually/Monthly (TS) Limestone -15000 (Pile) Laterite - 2000 Ts.	For coal, limestone, clinker, gypsum, additives, fly ash, Dimensions, bulk density,
Records		
Replacement of Damaged filter bags	As per requirement	Number of bags replaced, Date, bag filter Identification number.
Measurement of flow rate static pressure at bag filter inlet	As per requirement	Bag filter Number, Date of monitoring, Time, flow m^3/hr. static pressure mmwg, velocity m/sec. Current Drawn by ID fan motor Name of the person Followed**.**
Stack Monitoring of bag filters stack, where ever monitoring is feasible	Monthly	Bag filter Number, Date of monitoring, Time, Measured Data in m^3/hr and mmwg. Dust concentration in mg/Nm^3. *If dust emission visible from chimney damage filters to be replaced as per requirement.*
Operational Details of Dust Suppression System	Once in a month	Quantity of material handled. Quantity of water sprayed, number of operational nozzles water pressure at filter inlet and outlet. Details of damaged nozzles and replacements. *Spares being replaced as per requirements*.
Road Sweeping record	Daily (Manually)	Road location swept, date, running hours of sweeping machines To be followed**.**
Quantity of coal in open storage, if any	Quarterly	Inventory of Existing storage, add on retrieved on quarterly basis, Date
Quantity of clinker in open storage, if any	As per requirement	Inventory of Existing storage, add on retrieved on quarterly basis, Date (To be *Covered with Tarpaulin*.)
Corrective actions taken for improving controls	As per requirement	Details of modifications carried out, level of reduction in SPM achieved. Presently not required.