IMPLIMENTATION OF SINGRAULI ACTION PLAN

SINGRAULI AREA OF DISTT. SONEBHADRA (U.P.)

UP TO 25.10.2012

U.P. POLLUTION CONTROL BOARD

Industrial Cluster of Sonbhadra

- Sonbhadra is a major power hub in the country.
- Enviromental problems have been reported in the area since last two decades.
- CPCB after detail environmental status in1991 identified it as CPA.
- Singrauli Action Plan was formulated in 1996.
- Implementation of Action Plan reviewed from time to time.

SINGRAULI ACTION PLAN AS ON 25 .10.2012

ISSUES REGARDING NTPC Rihand & Shakti Nagar

S.No.	Action Points	Compliance Status	Time Target
1	An action plan to achieve PM emission of 100mg/NM^3	**Shaktinagar-** Feasibility study compleled. ESP will be retrofitted. Detailed Specification is under preparation for ESP retrofit under R&M. **Rlhandnagar-**Under revised cost estimate & budget approval for ESP modification. Re Tender on 30.09.2012 and Bid opening date 29.10.2012	Dec.,2015
2	Provision of dry ash collection system.	**Shaktinagar-**Dry ash collection system is installed in 2 units of 200MW. Further, work has awarded in June, 2010 for DAES installation in all units of Stage-II (2x500MW).Soil investigation work completed and civil work for compressor house is in progress. **Rihandnagar-** 100% dry ash collection system is in operation for Stage-II(2×500MW) and provision is made for the same in Stage-III.	March, 2014
3	On line opacity meter has been install in stack of all power plants of NTPC. The matter of linking data of CPCB/UPPCB Network will be carried out with in six months.	**Shaktinagar-**The Data have been linked with corporate office for further connection to CPCB Network, further data shall be linked to UPPCB. **Rihandnagar-** possibility of linkage with CPCB network is being examined by our corporate IT department ,keeping in view the feasibility & operational security of thermal power plant.	Complied
4	Five continuous Ambient Air Quality Monitoring Stations (Rihand 3 & Shakti Nagar 2) are commissioned and the same will be linked with CPCB/UPPCB network within six month.	**Shaktinagar-** AAQMS Data have been linked with CPCB Network. Further data shall be linked to UPPCB. **Rihandnagar-** AAQMS data has already been linked with CPCB network from 28.07.2010	Complied

5	Hazardous Waste shall be treated and disposed properly.	HW Waste is being sold to registered recyclers through MSTC.	Complied
6	Proper Management of Bio-Medical Waste generated from Hospital of NTPC Units shall be ensured.	Complied.	Complied
7.	Ensuring of 5 cycle recirculation of cooling water in NTPC Rihand TPP.	Shaktinagar- Not applicable Rihandnagar-Optimized at 2.5.	Complied

ISSUES REGARDING OBRA & ANPARA THERMAL POWER STATION

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Complete recycle of ash pond over flow. The clear time should be given with date of completion regarding recycling of Ash pond overflow under refurbishment package. Details of plan should be provided.	Work is in progress.	March, 2012 Dec., 2013
2.	Provision of dry ash collection system.	Provision of dry ash collection system in 2x50 MW has been made and fly ash is being lifted by M/S J.P. Associates. Similarly provision for the dry fly ash collection system in unit on 9,10,11,12 & 13 of BTPS. Obra has been made. Out of which dry fly ash form unit no. 9 is being lifted by M/s J.P. Associates after R&M work.	April-2014 for unit no.10, 11, 12 & 13 in phase manner per revised schedule of BHEL.
3.	High Oil spillage has been observed in the drain. Up-gradation of ETP shall be completed within 2 years by Obra TPS.	The Tenders have already been opened for installation of ETP by OTPS.	March, 2012
4.	Use of low sulphur auxiliary fuel in Obra TPP	Obra Thermal Power Station has been asked to use low sulphur auxiliary fuel	Switch over to Diesel
5	Installation of Opacity meters	Purchase order has been placed for installation of Opacity meter in unit no. 1 & 2 of ATPS and same shall be installed shortly. Opacity meter has been installed in unit No. 9 after R&M work. In the remaining units i.e. in units no. 10, 11, 12 & 13 of BTPS the opacity meter will be installed with the R&M work in phase.	April-2014 for unit no.10, 11, 12 & 13 in phase manner. Linked with ESPs

To be reduced

ISSUES REGARDING HINDLACO INDUSTRIES LTD. (CAPTIVE POWER PLANT)

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Installation of continuous Ambient Air Quality Monitoring Station in collaboration with M/s. LANCO Anpara Power Co.	Installation & commissioning of online Ambient Air Quality Monitoring Station has been completed by M/s Environment S.A. India Pvt. Limited & instrument is working successfu but its connectivity for data exchange/transmission works are still under progress due to non availability of data transmission facility at BSNL Anpara. And it is applied to head office (BSNL) Mirzapur for availing data transfer facility (WIMAX static IP internet connection) at BSNL Anpara and it is expected to be completed by the end of December 2012.	December 2012
2.	Complete recycle of ash pond over flow.	Ash Water Recovery System (AWRS) has already been installed and effluents after treatment is recycled and reused in the process. There is no discharge.	Complied
3.	Continuous operation and Maintenance of Air & Water Pollution Control System may be done.	All Air and water pollution control system are working well. For its performance results of ESP, STP, & ETP are being sent regularly.	Complied

Use of flyash??
Presently sent

ISSUES REGARDING HINDLACO INDUSTRIES LTD. (ALUMINUM DIVISION)

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Up gradation / retrofitting in baking furnace	Retrofitting Job of Baking Furnaces No.3 & 4 has been completed and stabilized. UPPCB has issued NOC on July 05, 2011, for installation of New Baking furnace in place of old Baking furnace # 1&2, Technical details have been finalized and construction work is in progress at site.	March 2013
2.	To achieve of PM emission (< 50mg/Nm3) should be carried out by March, 2011. Action Plan with clear time line should be chalked out in respect of furnace No. 1, 2 & 3 to achieve the PM emission (< 50mg/Nm3).	Retrofitting Job of Baking Furnaces No.3 & 4 has been completed and stabilized. UPPCB has issued NOC on July 05, 2011, for installation of New Baking furnace in place of old Baking furnace # 1&2, Technical details have been finalized and construction work is in progress at site. Except in case of Furnace # 5 (PM-38-46mg/Nm^3), conc. Of PM in other furnaces (1, 2 & 3) remain in the range of 86-117 mg/Nm^3 . It was proposed by the industry to replace Baking furnace # 1&2 by New Baking Furnace in the meeting on January 10. 2011.	March 2013
3.	Installation of one continuous Ambient Air Quality Monitoring Station should be installed in collaboration with Kanoria Chemicals Limited & Hi- Tech Carbon Limited. Time frame for commissioning of CAAQMS to be submitted.	Continuous Ambient Air monitoring equipment Opsis, Sweden has already been installed at Renukeshwar Mandir, Renukoot jointly with M/s Hi-Tech Carbon and M/s Aditya Birla Chemicals on March 30, 2011. System is operational and data is available at our system. We are ready to upload data on UPPCB/CPCB server through a common vendor.	Complied
4.	Monitoring of Fluoride in all Stack.	On – line monitoring of PM and F performed in all pot – line stacks is in place.	Complied
5.	Monitoring of Fluoride emission in pot room and roof top.	Periodic monitoring by LVS (Low volume sampler) undertaken for fugitive and roof top emission. Fluoride emission monitoring system is already in operation and data is being reported to Regulatory Authorities (Ministry, Central And State) regularly.	Complied

6.	Monitoring of PAH and HC in Anode Baking stack.	PAH and HC monitoring conducted by certified lab once in a year. M/s IITR, Lucknow has done monitoring in the month of December 2012.	Complied
7.	Monitoring of Ground water (at least two locations) near the Red mud Pond, for Fe, F, CN & reporting of data to CPCB & UPPCB. Proper interpretation/ analysis of data pertaining to ground water monitoring, be made and if accordingly Action Plan to be prepared for remediation	Four locations 3 Piezo wells and 1 natural Wells are identified by CGWB Officials at Hindalco establishment. Half yearly monitoring is being done by certified lab regularly. M/s IITR, Lucknow will collect samples in the month of May / June, 2012.	Complied

Red mud storage

ISSUES REGARDING ADITYA BIRLA CHEMICALS (INDIA) LIMITED, RENUKOOT

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Treatment of brine sludge to reduce mercury concentration in the leach ate to less than 0.1 mg/L.	With changeover from mercury cell to membrane cell technology the possibility of mercury brine sludge completely eliminated. w.e.f. from 22 September 2011.	Complied
2.	Quantification of brine sludge generation and submission of reports to CPCB and SPCB.		Complied
3.	Reduction in mercury emission to less than 2 gm/T of the product. Action Plan to achieve the Mercury emission standards (2 gm/T of product) should be submitted in detail with clear time line.	With changeover from mercury cell to membrane cell technology the possibility of mercury brine sludge completely eliminated. w.e.f. from 22 September 2011.	Complied
4.	Installation of online mercury analyzer and individual flow meters for quantification of effluent discharge from cell house, brine plant, chlorine handling and HCL plant. Facts to be verified by UPPCB	With changeover from mercury cell to membrane cell technology the possibility of mercury brine sludge completely eliminated. Accordingly the online Mercury Analyzer is not required. w.e.f. from 22 September 2011.	Complied
5.	Complete recycling of effluent from the plant.	With changeover from mercury cell to membrane cell technology the possibility of mercury brine sludge completely eliminated. Accordingly recycling of mercury bearing effluent are not required. w.e.f. from 22 September 2011.	Complied
6.	Monitoring of groundwater for at least two locations (Hg, Res. Cl, OCPs and general parameters) near sludge/HW disposal area and reporting of data to CPCB and SPCB.	The sampling and analysis of bore wells have been awarded to IITR Lucknow and reports submitted to CPCB & UPPCB.	Complied

7.	Installation of new boilers with adequate APCS.	Boilers of both 25MW power plants are equipped with ESPs. Fly-ash brick plant produces 10 lacs brick/y & rest, ash delivered to cement mfr. New boiler with adequate APCS, commissioned, the old boilers phased out.	Complied
8.	Adequate measures for proper utilization of fly ash to be taken.		Complied
9.	Reduction of Hg conc. In Cell House Ventilation gas to 1 g/T. Clear Action Plan should be given regarding reduction of Mercury concentration in Cell House ventilation gas to 1g/T with proper time line	With changeover from mercury cell to membrane cell technology the treatment of cell room ventilation is not required.	Complied
10.	Monitoring of HCL furnace stack for HCL and send reports to CPCB and SPCB.	With changeover from mercury cell to membrane cell technology the treatment of cell room ventilation is not required.	Complied
11.	Establishment of two AAQMS for Hg, RSPM, SPM, Sox & NOx. Date of completion to be specified. Chlorine monitoring also to be included. Reference of revised AAQM standards notified in 2009 be taken.	On line ambient air monitoring equipment has been installed on 30.03.2011 for parameters PM 10, PM 2.5, SO2. NO2, Chlorine, Mercury & Hydrogen fluoride near Renukeshwar Temple Renukoot in collaboration with M/s Hi-Tech & M/s Hindalco.	Complied
12.	Monitoring ambient air quality as per decision of meeting held on 18.1.10 and reporting data to CPCB and SPCB.	The data is available in our office data transfer to be done jointly with CPCB & SPCB.	Complied

NORTHERN COAL FIELDS LTD. MINE UNITS (BINA, KAKRI, KHADIA, DHUDICHUA & KRISHNASHILA)

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Coal characterization in terms of ash, fluoride and mercury and submission of results to CPCB and SPCB.	The coal samples are regularly analyzed. As per the results submitted of CMPDI Ash – 33%; F-BDL; Hg 0.01 – 0.09 PPM.	Complied
2.	Monitoring of effluent and noise for compliance of standards and reporting of data to CPCB and SPCB.	Monitoring effluent & noise is being done by CMPDI fortnightly.	Complied
3.	Action Plan needs improvement.	The following points are being included in the action plan:- 1. Thick Green belt already made through UP Forest Deptt. 2. All the OB generated dumped in decoaled are in internal dump. 3. All permanent service roads are metalled, temporary haul roads are WBM.	Complied
4.	Recycling plan for achieving zero discharge for NCL should be prepared and submitted by December 2010, and implementation by December 2011.	Time bound Recycling plan for achieving zero discharge for NCL has been prepared, and implemented by December 2011.	Dec.,2011 To be reviewed
5.	Monitoring of effluent, reaching Rihand reservoir should also be done and if found polluted its impact on reservoir should be assessed and remedial measures be taken accordingly.	The monitoring is being carried out by UPPCB. The industry has been directed to submit time bound programmed to achieve Zero discharge. In any case the effluent is being discharged in Rihand reservoir after confirming the prescribed standards.	Dec.,2011
6.	Action plan for bio-remediation of OB dumps should be prepared by March 2011.	Biological reclaimation of OB dump is being done by plantation of plants through U.P.Forest Deptt.	complying

ZLD not achieved

7.	Possibility of installation of coal conveyance system through closed conveyor belts should be assessed to control fugitive emissions due to hauling of coal.	The Coal Handling Plant (CHP) already installed and efficiently having closed conveyor belts to control fugitive emissions due to hauling of coal.	Complying
8.	Establishment of AAQMS (at least 2) for monitoring SOx, NOx, RSPM and SPM and reporting the data to CPCB and SPCB.	Four No. of AAQMS established for monitoring of SOx, NOx, RSPM and SPM and reporting data to CPCB and SPCB	Complying

ISSUES REGARDING HI-TECH CARBON (HC)

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Regular monitoring of Sox, NOx, RSPM, SPM in stack emission and submission of data to CPCB and SPCB.	System for monitoring is in place. Data submission is regular.	Complied
2.	Ambient Air Quality Monitoring.	On line ambient air monitoring equipment has been installed on 30.03.2011 for parameters PM 10, PM 2.5, SO2, NO2, Chlorine, Mercury & Hydrogen fluoride near Renukeshwar Temple Renukoot in collaboration with M/s Aditya Birla Chemical & M/s Hindalco.	Complied
3.	Establishment of AAQMS for RSPM, SPM, SOx & NOx.	As above.	Complied
4.	Monitoring ambient air quality and reporting data to CPCB and SPCB.	As above.	Complied
5.	Monitoring of effluent for compliance of standards and reporting of data to CPCB and SPCB.	As above.	Complied
6.	Operation and maintenance protocol of pollution control devices like Bag filters should also be included in action plan as action plan includes only monitoring part	The industry has been directed to comply operation and maintenance protocol of pollution control devices like Bag filters.	Complied

high SO_x in emission

ISSUES REGARDING STONE CRUSHERS IN SINGRAULI AREA DISTRICT SONEBHADRA

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Installation and proper operation of dry dust collection system, dust containment-cum-suppression system, Wind breaking walls and noise containment system.	To implement the provision of EPA, the UPPCB has taken strict action and issued closure orders to 27 units, show cause notices have been issued to 04 units. Random inspection and air monitoring is being carried out by the UPPCB. The District Magistrate Sonbhadra has sanctioned Rs. 10.00 Lacs through SADA for installation of Dry scrubbing system as model plant and technique, drawing and details will be made available by UPPCB/CPCB as per decision of meeting dt. 10.01.2011. And also Rs. 25 lacs sanctioned and dispersed to DFO obra for green belt development. And linked Road develop by SSADA. **At present all stone crushers are closed due to non availability of raw materials.**	March, 2012
2.	As per the minutes of the review meeting for status of Singrauli Action Plan held on 18.09.10, during summer months (2 months) when water scarcity exists, stone crushing shall be stopped. Only those units having dry scrubbing facilities shall be allowed for operation during the summer months.	Expert committee of members has been established by CPCB. Final comments and suggestion provided from the expert committee is attached in **Annexure**. **At present all stone crushers are closed due to non availability of raw materials.**	March, 2012
3.	UPPCB should ensure compliance of pollution control arrangement guidelines issued by CPCB for stone crushers and time bound action plan should be prepared	UPPCB is ensuring compliance of pollution control arrangement guidelines issued by CPCB for stone crushers and According to direction of CPCB, Member secretary of U.P. Pollution control Board issued notice wide letter no. F02308/C-9/STONE CRUSHER/SA-114/SONBHADRA/2012 on dated 02.04.2012 to, Mining Officer, District Magistrate, SSADA, State Highway Authority and all stone crusher.	March, 2012

ISSUES REGARDING DALLA CEMENT FACTORY, DALLA IN SINGRAULI AREA DISTT. SONEBHADRA

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Installation of continuous Stack and AAQ monitoring stations.	Equipments of On-line ambient Monitoring station are Installed and Commissioned. Generated data to be linked to CPCB website shortly. Opacity meters are installed at all stacks for continuous monitoring of emission of dust concentration. Generated data to be linked to UPPCB/CPCB website shortly.	Complied
2.	Proper implementation of Mine Management Plan.	Are being complied.	Complied
3.	The present plan pertains regarding installation of continuous stack & AAQ monitoring stations only whereas important environmental issues like control of fugitive emissions, stack emissions, efficacy of pollution control devices etc. should also be addressed	To control fugitive emissions, following activities are being carried out as follows:- • Bag filters are installed at all transfer points like Lime Stone crushing plant, Lime stone stock pile. transport gantry, Raw Material Hopper, Raw Mill, Raw Mill Silo, Kiln Feed, Preheater. Clinker Silo, transport, Coal feeding, Coal Storage, transport. Coal Mill Coal Feeding, coal Storage Transport, Cement Silo, packing plant. Fly Ash storage, Cement Mill, Coal Handling plant, Bunker and Fly ash silo. • 100% concrete road has been made. • Automatic Road sweeping machine is deployed. • Treated water of STP is being sprinkling on haul Roads. • Water fogging system on conveyer Belt. • Plantation work is under progress. To control the stack emission, efficient Air Pollution Control System (APCS) devices like ESPs, Reverse Air Bag House and Bag filters has already been installed at all process Duct which is designed for < 50 mg/Nm3. To maintain the efficiency of Pollution Control devices, we carry out manually stack monitoring and installed opacity meter for On-line stack Monitoring. We also check Pollution control devices on regular basis as preventive Measures.	Complied

Issues regarding the Government of U.P. and Central

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	To ban the use of recycled plastic bags.	The State Govt. has imposed ban the use of recycled plastic of below 40 microns in the radius of 2 km from the River bank.	Complied
2.	Safe Drinking Water Supply should be provided in the affected villages Govindpur, Myorepur, Labhari, Kamaridar, Garbandha, Kushmha and Renukoot etc.	U.P. Jal Nigam has been requested to make arrangements for supplying safe drinking water to the Villagers. The work is in progress.	March, 2012

Issues regarding U.P. Pollution Control Board

Short term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Regular monitoring of surface water sources and Ground water.	UPPCB is regularly monitoring of surface water sources and Ground water.	Complied
2.	Regular monitoring of Industrial E.T.P. and APCS.	Quarterly inspection and sampling is being carried out by UPPCB.	Complied
3.	Details of Public awareness and training programme.	UPPCB is organizing the Public awareness programmes with the cooperation of Director Environment of U.P. Govt. under **'District Plan'**. The officials of UPPCB are participating in the Training Programmes organized by CPCB/Other Environmental Agencies/Abroad through MoEF.	Complied
4.	As per letter dt. 20.12.2010 of CPCB regarding Monthly monitoring Committee of Action Plan in Chairmanship of District Magistrate.	The Committee have been notified vide letter No 25/Singrauli Action Plan/2011 dt. 07.01.2011(Copy enclosed as Annexure No. I) in Chairmanship of The District Magistrate, Sonebhadra for critically polluted area Singrauli and the meeting had already been held on 14.01.2011.	Complied

Hg in water
Hg from Kanoria chemicals as well as coal

Fluoride emission
- Gardens + Cattle inside SF & outside

Issues Regarding NTPC Power Plants (Rihand & Shakti Nagar)

Long term action points

S.No.	Action Points	Compliance Status	Time Target
1	Road maps for 100% fly ash utilization by 2014.	NTPC mentioned difficulties 100% utilization by 2014. They stated that studies have shown it can be utilized in active over burden dump in Coal Mines. It was decided that NTPC will submit self contained proposal to MoEF and the Joint Secretary, MoEF will write letter to Ministry of Coal/Power in this regard	Dec.,2014
2	Continuous operation and maintenance of APCS & oil spillage treatment.	Continuous operation & maintenance of APCS & Oil spillage treatment is being carried out regularly	Complying
3	Complete recirculation of new ash pond over flow to achieve zero discharge effluents shall be achieved by NTPC Shakti Nagar.	AWRS installation work of new ash pond in progress. (over flow lagoon work almost completed, pedestal for recirculation pipe, treatment system & pump house work in progress & material received at site) overall 50% work completed on 31.03.2012	Oct.,2012
4	The possibility should also be explored for co-processing of oil bearing sludge in cement kilns.	The industries are carrying out co-processing of oil bearing sludge in their own boilers.	Complying

ISSUES REGARDING UPRVUNL POWER PLANTS (OBRA & ANPARA)

Long term action points

S.No.	Action Points	Compliance Status	Time target
1.	Installation and renovation of ESPs to achieve PM emission of 100 mg/NM^3.	New ESP's in 2x50MW (Unit # 1 & 2) have been installed and commissioned under refurbishment scheme and time bound Action Plan for Unit #9,10,11,12 & 13 has been submitted by OTPS The work order for installation of ESP's has already been placed with BHEL. ATPS has been granted approval by ETS and Tender specification is under progress for renovation of ESP's.	Unit #10 31.08.2011 Unit # 11 30.04.20112 Unit # 12 30.06.2012 Unit # 13 28.02.2013 Dec.,2013
2.	Road map for 100% fly ash utilization by 2014.	M/s. J.P. Associates has already started the work for installation of dry ash extraction system for 5x200MW construction of compressor house/switch gear room. Work of Laying of Pipe Line etc. shall be started as soon as erection of ESP's is completed in Obra TPS. ATPS has already submitted the Action Plan.	Dec.,2014
3.	Very high fugitive emission observed in Obra TPS. To control fugitive emissions from ash dyke area, action plan may be prepared including the possibility of installation of high concentration slurry disposal systems	Process of tendering for construction of ETP and recirculation system of ash slurry has been opened and work order will be placed very soon by OTPS. ATPS has been granted approval by ETS and Tender specification is under progress for installation of dry ash collection. ATPS has submitted the time bound action plan.	Dec.,2012 Dec.,2013

ISSUES REGARDING HINDLACO INDUSTRIES LTD.(CAPTIVE POWER PLANT)

Long term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Road map for 100% flies ash utilization by 2014. Action plan for 100% fly ash utilization to be provided to CPCB	1. In the light of the provisions of ash utilization Notification dated 14.09.1999 amended as on date, HIL-RPD has started proactive approach for utilization of fly ash and developed infrastructure in phased manner. 2. Fly ash off take for cement industries had gone to 21.1% in FY 2006-2007 from 0.5% in FY 2003-2004 due to conversion of wet ash disposal system into dry fly ash collection system and by installation of dry fly ash transportation system in the year 2004. 3. Hindalco persuading the cement industries and transporters by having various meetings with them and also by improving the infrastructure increased the take of fly ash from 38.96% to 50.51% in FY 2009-2010 and its achieved 96% fly ash utilization during April 12 to June 12. And 73% during july12 to September 12. 4. Hindalco has signed long term agreement with cement industries for lifting, disposal and unitization of fly ash for next five years with M/s. J.P. Cement, Prism Cement, Hyderabad Industries Ltd., Birla Corporation and other cement companies. This has resulted into utilization of fly ash for the month of July & August 2010 of about 100%. New fly ash loading point ash silo no. 5 has been started from April 2011. It's achieved 100% fly ash utilization by disposing most of it to cement companies in April 2011 to march 2012. 5. RPD has installed an ash brick manufacturing unit within its premises for its captive consumption. 6. Exhausted coal mines should be made available on compulsory basis to Thermal Power Plant for its refilling by fly ash. 7. The Contractor for road construction should also be compulsory forced to use ash instead of earth soil.	Complied
2.	Provision of dry ash collection system.	Dry Ash collection system has been installed in all the units and sent to Cement manufacturer.	Complied

ISSUES REGARDING HINDLACO INDUSTRY LTD. (ALUMINUM DIVISION)

Long term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Utilization of Red Mud.	There is no economical process for utilization of Red Mud word-wide till date. Currently red-mud is disposed as 60-70% solids and partially utilized in soil conditioning/plantation. Till now the industry is using red mud for reclaiming land by filling and developing plantation called "Sanjeevani Project" in patches on used disposal sites. Proposal from Aluminum Association of India is still awaited.	

ISSUES REGARDING ADITYA BIRLA CHEMICALS (INDIA) LIMITED, RENUKOOT

Long term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Action Plan for complete changeover to Membrane Cell Process. The process should be completed by December, 2011. There are some operational issues. CPCB should study the EIA clearance given by MoEF to the unit and if need be, move for its revision. The CPCB shall take Bank Guarantee of suitable amount from the Unit for the compliance.	Stopped permanently the mercury cell caustic soda plant and NOC for establishment of 145 TPD caustic soda membrane cell plant obtained. It's completed the changeover process well ahead of dead line 2012 as stipulated in environmental clearance letter.	Complied
2.	Reduction in mercury consumption to less than 50 gm/T of the product.	With changeover from mercury cell to membrane cell technology the treatment of cell room ventilation is not required.	Complied
3.	The Industry should ensure removal and safe disposal of Hazardous waste stored in the Industry premises to the TSDF in time bound manner. Clear time bound road map should be given by the industry for removal and safe disposal of Hazardous Waste stored in industrial premises.	Sent entire 632 MT fresh brine sludge to TSDF Ramky Kanpur. Hazardous Used oil being sent to TSDF Bharat Oil & Waste Management Ltd, Kanpur.	Complied

ISSUES REGARDING NORTHERN COAL FIELDS LTD. MINE UNITS (BINA, KAKRI, KHADIA, DHUDICHUA & KRISHNASHILA)

Long term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Ensuring supply of washed coal to the power plant/users away from the pithead.	Pleaded difficulty in terms of cost/economics factor. The issue may be taken up at higher/ corporate level.	
2.	Regarding supply of washed coal to the power plant, NCL mentioned difficulty and referred this case to corporate level. In view of this situation, possibility may be explored for establishment of common washery to be owned by thermal power plants sourcing coal from NCL	The power plants of Singrauli Area situated in District Sonbhacra (U.P.) have been asked to explore the possibility for establishment of common washery to be owned by thermal power plants sourcing coal from NCL. The power plants mentioned problems in using washed coal on the basis of designing of plants.	
3.	Strengthening of Internal Environmental management.	The Industry has been directed to strengthen of Internal Environmental management.	March, 2012

Issues regarding the Government of U.P. and Central

Long term action points

S.No.	Action Points	Compliance Status	Time Target
1.	Construction of Varanasi-Shaktinagar Highway and Roads in the Stone Crusher area of Dala	Under construction and further tender process for 2 to 4/6 line construction under process.	March, 2014
2.	Development of M.S.W. Municipal solid Wastes sites to be done by local bodies.	Project proposal is under preparation and installation of MSW facilities will be carried out after approval of Govt. of India.	March, 2012
3.	Supply of LPG Gas to resident of Villages to avoid the de-forestation.	Concerned agencies have been requested to submit the proposal.	March, 2012
4.	District Sonbhadra of U.P. is power hub of India and the electric supply is in very poor condition. The steps are required to strengthen the electric supply to the residence of Distt. Sonbhadra.	State Govt. has been requested to allow the Distt. Sonbhadra as 24 hour electric supply zone.	March, 2012
5.	Treatment facility for Bio-Medical Waste	The Govt. Hospitals are the members of CBWTF Varanasi (SNG) and Pvt. Hospitals are member of CBWTF (CPC) Varanasi. The Factory's Hospitals have installed their own facility.	Complied.
6.	Remedial Action Plan for de-siltation of Rihand Reservoir and other water bodies.	The State Irrigation department has been asked to submit the detailed project report for de-siltation of Rihand Reservoir.	March, 2012
7.	In-situ bio-remediation of sewage	All the local bodies of the area have been requested to install the STP in their respective area.	March, 2015
8.	Present status and future plan for green belt development as per the norms fixed in the Master Plan of the area.	More than 50% area of Distt. Sonbhadra is covered under Forest, Gardens and shrubs. It has been decided to strengthen Green belt in Stone Crusher Area by Shaktinagar Special Area Development Authority. And Rs. 25 lac has been sanctioned to DFO obra for green belt development of stone crusher area.	March, 2013
9.	Action plan for promotion of Bio-compost and Bio-Fertilizer alongwith the chemical fertilizer to minimize unutilized chemical fertilizer run-off into the natural water resources through Govt. policy.	19,702 MT Chemical fertilizers have been utilized in the financial year 2007-08.The Agriculture Deptt., Govt. of U.P. has been requested to formulate the policy for promotion of Bio-compost and Bio-Fertilizer along with the chemical fertilizer to minimize unutilized chemical fertilizer run-off into the natural water resources.	March, 2013

Issues regarding U.P. Pollution Control Board

Long term action points

S.No.	Action Points	Compliance Status	Time Target
1.	To install Automatic Ambient Air Quality monitoring stations at sensitive places in the area.	The Financial assistance from CPCB has not yet been received as the decided in the Review meeting of Singrauli Action Plan held on 18.01.2010.	March, 2012
2.	Action plan for GIS-GPS system for pollution sources monitoring.	GIS-GPS system for pollution sources monitoring will be installed with financial assistance of CPCB.	March, 2013
3.	GIS-GPS based tracking system for transportation of hazardous waste.	GIS-GPS based tracking system for transportation of hazardous waste will be installed with financial assistance of CPCB.	March, 2013
4.	Action point/strategy for health impact assessment.	The work of detailed health impact study will be awarded to the expert agency by the Board very soon.	March, 2013

IITR Report Code: CNP – 224
Date of Preparation: 02-03-2012
Total no. of pages:26

EVALUATION OF AMBIENT AIR QUALITY, STACK EMISSION, SOLID WASTE, DOMESTIC WATER AND WASTE WATER

OF

M/s. HINDALCO INDUSTRIES LIMITED

Sponsored By

M/s. HINDALCO INDUSTRIES LIMITED
RENUKOOT, DISTT. SONEBHADRA, U.P.

ENVIRONMENTAL MONITORING SECTION
Indian Institute of Toxicology Research
(COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH)
POST BOX – 80, M.G. MARG, LUCKNOW – 226001
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No. of copies 5 (Five)

Name and Address of the Client:	**Mr. Ajay Joshi** **Vice President (F & A)** **M/s. Hindalco Industries Limited** Renukoot, Distt. Sonebhadra, U.P.
Reference No.:	Work Order No. CC/AMC/11-12/097 dated 17/11/2011
Description and Identification of the Test:	Environmental Monitoring for Stack gas, Ambient Air Quality, Effluent and Surface water analysis & Sludge analysis etc. at Hindalco Industries Limited, Renukoot.
ITRC Code No. for the Work:	CNP - 244

Description of Test Site: M/s. Hindalco Industries Limited is located on Varanasi-Shaktinagar State Highway and ~1.5 km from Renukoot Railway station. The area is hill terrain having forest surrounding the area. The plant area lies between latitude 24° 12' N and longitude 83° 03 lying in the foothills of Vindhya range. The climate of the region is generally semi arid to temperate.

Month of Commencement of study: **December, 2011**

Signature:.....

Head

Research, Planning & Business Development

Date : 15-02-2012

Seal :

(B. D. BHATTACHARJI)
Sr. Principal Scientist & Head
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Table-11 : Stack Emission Data and Analytical Results of Baking Furnace

Sl. No.	Particulars		Baking Furnace	
1	Date of sampling		22/12/11	22/12/11
2	Stack attached to		Furnace 1&2	Furnace 3
3	Material of construction of stack		M. S. with B.L.	M. S. with B.L.
4	Stack height from ground (m)		38.5	44.5
5.	Height of sampling point (m)		26.0	26.0
6.	Stack diameter (m)		2.0	2.0
7.	Stack area (m^2)		3.142	3.142
8.	Type of fuel used		F.O.	F.O.
9.	Quantity of Fuel Used (Lit/hr) Max.		386	285
10.	Aluminum Metal production (Mt/day)		1110	1110
11.	Atmospheric pressure (mm Hg)		736	736
12.	Atmospheric temperature (^{0} K)		294.4	294.9
13.	Flue gas temperature (^{0} K)		335.0	330.0
14.	Sampling period (min)		30.0	30.0
15.	Flue gas exit velocity (m/sec)		9.8	10.1
16.	Flue gas exit volume (Nm^3/hr)		103222	94236
16.	Concentration of pollutants	PM (mg/Nm^3)	120.20	47.40
		SO_2 (mg/Nm^3)	283	241
		NOx	17	22
		CO	698	568
		Gaseous Fluoride (mg/Nm^3)	0.87	0.80
		Particulate Fluoride (%)	2.15	2.1
		Total Fluoride (Kg/T of Aluminium)	0.007	0.004
		PAH (µg/Nm^3)	102.3	98.4

Note : Information from 2 to11 provided by Hindalco Industries Ltd.

M. S. = Mild Steel, B.L. = Brick Lining

Table-12: Stack Emission Data and Analytical Results of Baking Furnace

Sl. No.	Particulars		Baking Furnace	
			Furnace –4	Furnace-5
1.	Date of Sampling		23/12/11	23/12/11
2.	Stack attached to		Furnace 4	Furnace 5
3.	Material of construction of stack		M. S. with B.L.	M. S. with B.L.
4.	Stack height from ground (m)		44.5	45
5.	Height of sampling point (m)		32.0	34
6.	Stack diameter (m)		2.0	2.0
7.	Stack area (m^2)		3.142	3.142
8.	Type of Fuel Used		F.O.	F.O.
9.	Quantity of fuel used (Lit/hr) Max.		365	625
10.	Aluminum Metal production (Mt/day)		1110	1110
11.	Atmospheric pressure (mm Hg)		736	736
12.	Atmospheric temperature (° K)		295.1	295.4
13.	Flue gas temperature (° K)		318.4	325.8
14.	Sampling period (min)		30	30
14.	Flue gas exit velocity (m/sec)		9.2	10.6
15.	Flue gas exit volume (Nm^3/hr)		89653	92119
16.	Concentration of pollutants	PM (mg/Nm^3)	43.51	34.60
		SO_2 (mg/Nm^3)	176	192
		NOx	23	43
		CO	343	316
		Gaseous Fluoride (mg/Nm3)	0.67	0.34
		Particulate Fluoride (%)	1.95	1.7
		Total Fluoride (Kg/T of Aluminium)	0.003	0.002
		PAH ($\mu g/Nm^3$)	64.3	87.2

Note : Information from 2 to 11 provided by Hindalco industries Ltd.

M. S. = Mild Steel, B.L.= Break Lining

Table-13 : Stack Emission Data and Analytical Results of DSS in Pot room

Sl. No.	Particulars		DSS Line -I	DSS Line -II	DSS Line -III
1.	Date of sampling		23/12/11	23/12/11	23/12/11
2.	Stack attached to		Line-I	Line-II	Line-III
3.	Material of construction of stack		M. S.	M. S.	M. S
4.	Aluminium production in MT/day		86.0	87.0	87.0
5.	Stack height from ground (m)		34.0	34.0	34.0
6.	Height of sampling point (m)		28.0	28.0	28.0
7.	Stack diameter (m)		3.6	3.6	3.6
8.	Stack area (m^2)		10.1736	10.1736	10.1736
9.	Atmospheric pressure (mm Hg)		736	736	736
10.	Atmospheric temperature (^{o} K)		294.4	295.1	295.2
11.	Flue gas temperature (^{o} K)		351.4	350.2	352.4
12.	Sampling period (min)		30	30	30
13.	Flue gas exit velocity (m/sec)		13.7	13.2	12.6
14.	Flue gas exit volume (Nm^3/hr)		543548	523489	575634
	Concentration of pollutants	PM (mg/Nm^3)	12.6	14.1	16.3
		SO_2 (mg/Nm^3)	13.8	24.1	23.6
		NOx	4	4	8
		CO	323	465	312
		Gaseous Fluoride (mg/Nm^3	0.85	0.73	0.93
		P.F. (%)	1.57	1.41	1.53
		Total F2 (kg/T of Aluminium	0.16	0.13	0.19

Note : Information from 1 to 11 provided by Hindalco industries Ltd.

Table-14: Stack Emission Data and Analytical Results of DSS in Pot room

Sl. No.	Particulars		DSS Line - IV		
1.	Date of sampling		22/12/11	22/12/11	22/12/11
2.	Stack attached to		DSS Line-IV (old)	DSS Line-IV Phase - I	DSS Line-IV Phase -2
3.	Material of construction of stack		M. S.	M. S.	M. S
4.	Aluminium production in MT/day		26.0	29.0	54.0
5.	Stack height from ground (m)		34	34	34
6.	Height of sampling point (m)		28.0	28.0	28.0
7.	Stack diameter (m)		1.8	1.8	3.0
8.	Stack area (m^2)		2.5434	2.5434	7.065
9.	Atmospheric pressure (mm Hg)		736	736	736
10.	Atmospheric temperature (^{o} K)		295.4	296.1	296.2
11.	Flue gas temperature (^{o} K)		339.2	337.1	338.9
12.	Sampling period (min)		30	30	30
13.	Flue gas exit velocity (m/sec)		12.1	9.8	11.8
14.	Flue gas exit volume (Nm^3/hr)		102453	86253	259899
15.	Concentration of Pollutants	PM (mg/Nm^3)	31.4	28.9	23.4
		SO_2 (mg/Nm^3)	10.9	21.8	15.2
		NOx	4	3.0	2.4
		CO	352	468	553
		Gaseous Fluoride (mg/Nm^3	1.20	1.35	1.09
		P.F. (%)	1.68	1.69	1.96
		Total F2 (kg/T of Aluminium	0.16	0.13	0.18

Note : Information from 2 to11 provided by Hindalco industries Ltd.

Table-15: Stack Emission Data and Analytical Results of DSS in Pot room

Sl. No.	Particulars		DSS Line -V	DSS Line -VI	DSS Line -VII	DSS Line -VIII
1.	Date of sampling		24/12/11	24/12/11	24/12/11	24/12/11
2.	Stack attached to		Line- V	Line- VI	Line- VII	Line- VIII
3.	Material of construction of stack		M.S.	M.S.	M.S.	M. S.
4.	Aluminium production in MT/day		106.0	105.0	106.0	106.0
5.	Stack height from ground (m)		34	34	34	34
6.	Height of sampling point (m)		28.0	28.0	28.0	28.0
7.	Stack diameter (m)		4.0	4.0	4.0	4.0
8.	Stack area (m^2)		12.56	12.56	12.56	12.56
9.	Atmospheric pressure (mm Hg)		736	736	736	736
10.	Atmospheric temperature (^{0} K)		295.9	295.2	295.8	295.2
11.	Flue gas temperature (^{0} K)		331.2	340.2	345.2	337.2
12.	Sampling period (min)		30	30	30.0	30
13.	Flue gas exit velocity (m/sec)		13.6	14.1	14.5	15.2
14.	Flue gas exit volume (Nm^3/hr)		612456	689345	624537	607553
15.	Concentration of pollutants	PM (mg/Nm^3)	16.8	21.4	25.2	20.4
		SO_2 (mg/Nm^3)	22.6	25.2	28.1	19.2
		NOx	3	4	3	3
		CO	424	378	283	372
		Gaseous Fluoride (mg/Nm^3	0.98	0.73	0.82	0.87
		P.F. (%)	1.19	1.49	2.04	1.37
		Total F2 (kg/T of Aluminium	0.16	0.17	0.19	0.16

Note : Information from 2 to 11 provided by Hindalco industries Ltd.

Table- 16: Stack Emission Data and Analytical Results of DSS in Pot room

Sl. No.	Particulars		DSS Line -IX	DSS Line-X	DSS Line- XI
1.	Date of sampling		25/12/11	25/12/11	25/12/11
2.	Duct attached to		Line-IX	Line-X	Line-XI
3.	Material of construction of stack		M. S.	M. S.	M.S.
4.	Aluminium production in kg/day		106.0	106.0	106.0
5.	Stack height from ground (m)		34.0	34.0	34.0
6.	Height of sampling point from ground (m)		28.0	28.0	28.0
7.	Stack diameter (m)		4.0	4.0	4.0
8.	Stack area (m^2)		12.56	12.56	12.56
9.	Atmospheric pressure (mm Hg)		736	736	736
10.	Atmospheric temperature (° K)		294.4	294.9	295.2
11.	Flue gas temperature (° K)		345.6	349.6	385.2
12.	Sampling period (min)		30	30	30
13.	Flue gas exit velocity (m/sec)		14.7	14.3	15.0
14.	Flue gas exit volume (Nm^3/hr)		635781	701345	687562
15.	Concentration of pollutants (mg/Nm^3)	PM (mg/Nm^3)	14.6	16.1	11.5
		SO_2 (mg/Nm^3)	26.4	20.8	28.2
		NOx	6	4	9
		CO	292	338	346
		Gaseous Fluoride (mg/Nm^3)	0.94	0.73	0.93
		P.F. (%)	1.6	1.18	1.45
		Total F (kg/T of Aluminium	0.17	0.15	0.17

Note : Information from 2 to 11 provided by Hindalco industries Ltd.

RED MUD ANALYSIS

TOTAL ALUMINA	:	12.5 – 17.9%
SILICON OXIDE	:	6.4 – 8.1 %
IRON OXIDE	:	31.0 – 44.0 %
TITANIUM OXIDE	:	13.0 – 17.9 %
SODIUM OXIDE	:	4.8 – 6.1 %
CALCIUM OXIDE	:	1.12– 2.7 %
L.O.I.	:	7.6 –11.8 %
OTHER OXIDES	:	BALANCE

WORK ZONE MONITORING RESULTS (OCTOBER, 2011 – MARCH, 2012)

Sl. No.	Location	Date	SPM $\mu gm/m^3$	Total Fluoride $\mu gm/m^3$
1.	Center of Line - I (Plant - I)	14.10.11	218.02	434.02
2.	Roof Top Line - I (Plant - I)	14.10.11	309.60	432.68
3.	Center of Line - VI (Plant - II)	18.10.11	384.59	246.15
4.	Roof Top Line - VI (Plant - II)	18.10.11	342.18	447.27
5.	Center of Line - VIII (Plant - II)	21.10.11	358.60	334.07
6.	Roof Top Line - VIII (Plant - II)	21.10.11	319.68	254.44
7.	Center of Line - II (Plant - I)	12.11.11	304.31	333.30
8.	Roof Top Line - II (Plant - I)	12.11.11	219.59	384.40
9.	Center of Line - VIII (Plant - II)	14.11.11	339.79	321.11
10.	Roof Top Line - VIII (Plant - II)	14.11.11	311.39	341.68
11.	Center of Line - X (Plant - II)	17.11.11	404.17	452.27
12.	Roof Top Line - X (Plant - II)	17.11.11	352.53	432.66
13.	Center of Line - III (Plant - I)	06.12.11	339.07	336.71
14.	Roof Top Line - III (Plant - I)	06.12.11	228.77	375.79
15.	Center of Line - IX (Plant - II)	16.12.11	402.15	463.62
16.	Roof Top Line - IX (Plant - II)	16.12.11	359.20	304.48
17.	Center of Line - XI (Plant - II)	26.12.11	406.03	349.42
18.	Roof Top Line - XI (Plant - II)	26.12.11	353.82	235.97
19.	Center of Line - II (Plant - I)	12.01.12	436.25	338.61
20.	Roof Top Line - II (Plant - I)	12.01.12	360.68	337.43
21.	Center of Line - VIII (Plant - II)	16.01.12	463.62	487.58
22.	Roof Top Line - VIII (Plant - II)	16.01.12	358.71	350.93
23.	Center of Line - X (Plant - II)	23.01.12	331.70	266.15
24.	Roof Top Line - X (Plant - II)	23.01.12	391.04	401.45
25.	Center of Line - I (Plant - I)	10.02.12	396.37	430.98
26.	Roof Top Line - I (Plant - I)	10.02.12	350.94	235.44
27.	Center of Line - IX (Plant - II)	14.02.12	375.26	402.27
28.	Roof Top Line - IX (Plant - II)	14.02.12	315.28	429.06
29.	Center of Line - XI (Plant - II)	20.02.12	460.16	396.80
30.	Roof Top Line - XI (Plant - II)	20.02.12	403.75	325.54
31.	Center of Line - II (Plant – I)	27.03.12	407.34	243.83
32.	Roof Top Line - II (Plant – I)	27.03.12	334.87	742.00
33.	Center of Line - IV (Plant - II)	21.03.12	393.11	317.10
34.	Roof Top Line - IV (Plant - II)	21.03.12	338.08	441.10
35.	Center of Line - VI (Plant - II)	13.03.12	435.74	320.63
36.	Roof Top Line - VI (Plant - II)	13.03.12	395.67	379.32

Hindalco (Alemmam)

IITR

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IITR/PBD-813/CNP-245/2011-12
19-7-2012

Table-1: Results of Ground Water (GW) Quality Date of Sample Collection – May 30, 2012

Sl. No.	Parameters	Unit	*IS:10500 (Desirable limit)	Piezo Well East of ash disposal site	Piezo Well West of ash disposal site	Piezo well near Bus Stop no.-15
1	Depth	Meter	--	13	12	15
2	Color Max.	Hazen	5	1.2	1.0	0.9
3	Odour	--	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
4	Taste	--	Agreeable	Agreeable	Agreeable	Agreeable
5	pH	--	6.5-8.5	7.8	8.1	7.6
6	TSS	mg/l	--	105.1	92.8	120.1
7	TDS	mg/l	500	450	436	264
8	Turbidity	NTU	5	1.1	0.8	1.5
9	Alkalinity	mg/l	600	220	404	84
10	Total Hardness	mg/l	300	154	120	60
11	Chloride	mg/l	250	86.1	66.06	26.02
12	Sulphate as SO4	mg/l	200	58.2	45.6	35.8
13	Calcium as Ca	mg/l	75	115.2	104.1	60
14	Flouride as F	mg/l	1.0	0.96	0.98	0.97
15	Sodium as Na	mg/l	--	12.09	22.56	15.4
16	Potassium as K	mg/l	--	4.14	5.18	3.12
17	Nitrates as NO3	mg/l	45	14.2	18.5	15.6
18	Iron as Fe	mg/l	0.3	0.115	0.127	0.110
19	Zinc as Zn	mg/l	5.0	0.122	0.110	0.089
20	Copper as Cu	mg/l	0.05	0.003	0.008	0.007
21	Manganese (as Mn)	mg/l	0.1	0.005	0.138	0.020
22	Lead as Pb	mg/l	0.05	0.005	0.006	0.004
23	T.Chromium as Cr	mg/l	0.05	0.012	0.010	0.018
24	Nickel (as Ni)	mg/l	0.02	0.004	0.004	0.003
25	Cadmium as Cd	mg/l	0.01	Nil	Nil	Nil
26	Mercury as Hg	mg/l	0.01	<0.005	<0.005	<0.005
27	Arsenic as As	mg/l	0.01	0.008	0.004	0.0002
28	E-Coli	MPN/100ml	< 1.8 (Absent)	<1.8	<1.8	<1.8
29	Total Coliform	MPN/100ml	<10	<1.8	<1.8	<1.8

* IS: 10500, BIS: Drinking water standard

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Ref.: IITR/RPBD/827/2012-13
July 19, 2012

ANALYTICAL REPORT ON GROUND WATER (Bore Well)

Site : M/s. Aditya Birla Chemicals (India) Limited
Source of Sample : Ground Water (Bore Well)
Location of Sampling Site : Sludge Disposal Yard (SDY) at ABCIL, Renukoot
Type of Sample: Grab
Date of Sampling: 22nd June, 2012

Sl. No.	Parameters	Unit	Ground Water from	
			C	D
1	Mercury	µg/l	<0.001	<0.001
2	γ HCH	µg/l	<1.0	<1.0

ND= Not Detected
A = Bore Well, about 10 m away in South of SDY
B = Bore Well, about 50 m away in South East of SDY

(G.C. Kisku)

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Report of the Expert Committee on the environmental problems due to stone crushers and related activities in Sonebhadra district

Background

Member, National Commission for Protection of Child Rights (NCPCR) made a visit to Sonebhadra district, Uttar Pradesh during January 2011 and observed that large number of stone crusher plants have been working in the Dala area, leading to large-scale stone mining and queries and due to running of stone crusher plants and use of machines the entire environment was getting polluted, affecting the human health, especially the children and affecting the air, natural water sources, farm land and habitations of the area and also posing severe health hazards to the workers engaged and the people living nearby. The Member, NCPCR was also informed that the stone crushing activities are not only polluting the available water source but also the water level is going down and as a result the source of potable water is vanishing in the area and in remote areas people have been walking long distance to access water from natural source, which often gets dry up during summer. On the basis of his personal observations and feedback from the local stakeholders, the Member, NCPCR strongly recommended to Central Pollution Control Board (CPCB) to constitute a Committee to look into the matter and suggest measures to prevent the water and air pollution affecting the children and others.

Considering, the concerns shown by National Commission for Protection of Child Rights (NCPCR) regarding the problem of air and water pollution and water resource depletion due to stone crushing and related activities in Sonebhadara District, U.P., CPCB on 16th May 2011 constituted an Expert Committee to study the environmental problems due to stone crushers and related activities in Sonebhadra District, U.P. and to suggest preventive and mitigative measures. Copy of Office Order regarding constitution of the Expert Committee is attached at **Annexure I**.

Terms of Reference of the Expert Committee

Terms of Reference of the Committee are as below:

- To study the problem of air and water pollution and water resource depletion due to stone crushing operation and related activities in Sonebhadra district / Singrauli region.

- To suggest measures to prevent and control air and water pollution and depletion of water sources due to stone crushing and related activities in Sonebhadra Districgt / Singrauli region to minimize impact on humans, especially children, animals and agriculture including better / cleaner production / air pollution control technologies.

Meetings and Field visits of the Expert Committee of the Expert Committee

The Expert Committee held first meeting in CPCB Head Office on 30th May 2011 and decided to make a 2 day visit to the stone crusher area in Sonebhadra district, U.P. The 2 day field visit to the Dalla stone crushers cum mining area was conducted by the Expert Committee conducted on 13th & 14th July 2011. The Expert Committee held second meeting in CPCB Head Office on 12th September 2011 to finalize its findings and recommendations.

General information about the problem / the area visited

As per the information provided by UPPCB, 264 stone crushers are located across various areas of Sonbhadra District, namely Dalla, Billi, Obra, Chopan Bardia, Sundariya Road. The stone is mined from open cast stone mines above and below ground level on lease basis. The stone is of a good quality black Vindhyan lime stone. The Expert Committee visited Dalla stone crusher cum mining area in which more than 70 % of the total stone crushers of Sonbhadra District are located. The Dalla stone crusher cum mining area is spread in about 652 acre and stone from the stone mines of the area are supplied for the stone crushing. The Stone crusher units of the area rely either on ground water wherever possible for operating the (wet) dust suppression system or on the water arranged through tankers which is obtained from near-by sources.

General features of the area

Features	Name / Description	Geographical Location/Distance from Stone crusher cum mining area boundary
Rivers	River Sone	East, 3 km
	River Rihand	West, 8 km
Roads/ Highways	State Highway No. 5/ Varanasi – Shakti Nagar Highway road	East, Along the boundary of stone crusher cum mining area
	Billi-Obra road	Bisecting the Stone crusher cum mining area
Village/ Settlements	Obra	North West, 5 to 6 km
	Around 50 – 60 Settlements on Billi-Obra road	On the either side of the road, Around 0.3 – 0.5 km
	Around 10-15 Settlements of villagers employed in stone crusher units	Scattered between the agricultural fields
Others	Agricultural and empty fields covering reasonable piece of land/ area	At the edge of stone crusher cum mining area.

Specific observations regarding the two stone crusher units visited

M/s Raja Sewa Samiti, Dalla, Sonbhadra (Capacity: 3 ton per hour)

The unit was non-operational due to power cut but the operation was demonstrated with the help of DG set. The plant has installed two jaw crushers (primary and secondary) and a vibrating screen. Dust containment system in the form of metal sheet enclosures are provided at three sides of vibratory screen but one side was found permanently open. No dust

containment system was provided at primary and secondary crusher discharge area. (Wet) Dust suppression system is provided at some places. Wind breaking walls and green belt are present. Sprinkler arrangement all around the premises to spray water from a height of 5 to 7 meters for regular wetting the ground is provided. The road inside the premises are not metalled.

M/s Vijay Express Way Engineering Ltd., Dalla, Sonbhadra (Cap.: 100 tons per hour)
The unit was setup to provide products for the roads being constructed by NHAI and is non-operational since last three months as there was no requirement of stone products. The plant has installed three crushers (primary jaw crusher and secondary and tertiary cone crushers) and two vibrating screens (primary and secondary). The first screen is fed by the secondary crusher and the second screen is fed by either the tertiary crusher or by the first screen. The plant is based on a German design however only the design of stone crusher has been adopted but the dry air pollution control system based on bag filters has not been installed (Fig. 4). The crusher and screens design are almost covered. Spray nozzles for (wet) dust suppression system was provided for all equipments at appropriate places. Wind breaking walls and green belt have not been provided. Sprinkler arrangement to spray water for regular wetting of the ground is not provided. The road inside the premises are not metalled.

Discussion with Stake holders

During detailed interaction / discussion with the stakeholders, various facts were put forward before the Expert Committee by various stake holders - Stone Crusher Association), UPPCB, Mining officer, Forest officer and PWD, and these are as listed below:

1. During the operation of stone crusher units, cloud of dust covering the area can be seen.

2. UPPCB officers informed that production capacity of maximum number of stone crushers present in this region varies between 15 - 30 tonne per hour.

3. Most stone crushers have installed wet dust suppression system and provided bore wells within their premises with submersible pumps to run these systems. Dalla region being a hilly area is associated with scarcity of water and ground water required for the wet dust suppression system in the stone crusher units is not available during three peak summer months: April, May and June. Due to water scarcity during the summer season, most of the units do not operate the water sprinkling system.

4. The wet dust suppression system installed in most of stone crushers are not scientifically designed, rather, the size, type of the nozzle as well as rate of application of water is decided by stone crusher owners themselves.

5. Some stone crushers informed that due to water spraying in the wet dust suppression process the very fine dust becomes sticky and sometimes the products is rejected due to poor quality.

6. Stone Crusher Association expressed that the replacement of dust suppression system with techno-economically feasible dry scrubbing technology is the need of the hour.

7. Stone Crusher Association expressed that wind breaking walls gets damaged because of vibrations originated from blasting operations performed in mines in close vicinity, therefore, other options need to be explored to prevent suspension of dust.

8. UPPCB officers informed that following works are proposed in the area:

   - Supporting installation of one model air pollution control system in one stone crusher for which Rs 10 lakh has been sanctioned Shakti Nagar Area Development Authority (SADA)
   - Construction/development of link roads in the stone crushers cluster area under MNREGA
   - Development of green belt along main road and in stone crushers cluster area by Forest Department for which Rs 25 lakh has been sanctioned by SADA

9. Forest Officer expressed willingness to provide plants at government rate for green belt development and provide guidance regarding species which would be most suited considering the scarcity of water and maximum foliage for entrapment.

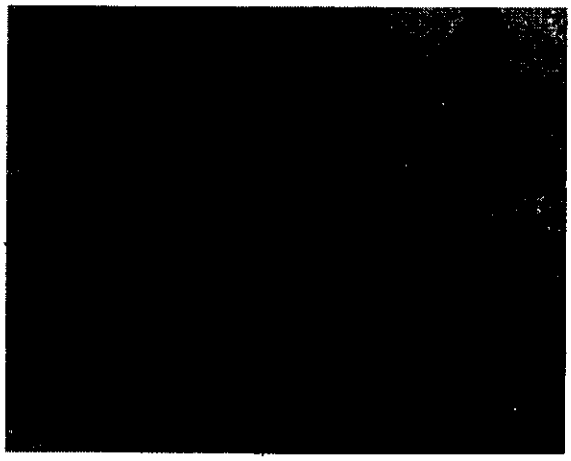
10. Because of a large number of bore wells in the stone crusher cluster, a substantial amount of ground water is extracted and as the natural recharging of the ground water from rain water is not sufficient enough to replenish the ground water levels due to typical terrain, stone crushers might be contributing in depletion of ground water in the area every year.

11. Some of the stone mines are very deep. The ground water from nearby areas might have seeped into the deeper mine pits in the past which might have led to drying of nearby shallow bore wells which were of lesser depth than the depth of mine pits.

Emissions from stone crushers

The emissions could be classified into two types, primary and secondary.

Primary Emissions are emissions of fine dust from crushing process. During operation of stone crushers, fine dust is generated from various points like unloading of raw material, jaw crushers, screens, transfer points wherever crushed stones fall from belt conveyor, and at the points of final discharges to stock piles.

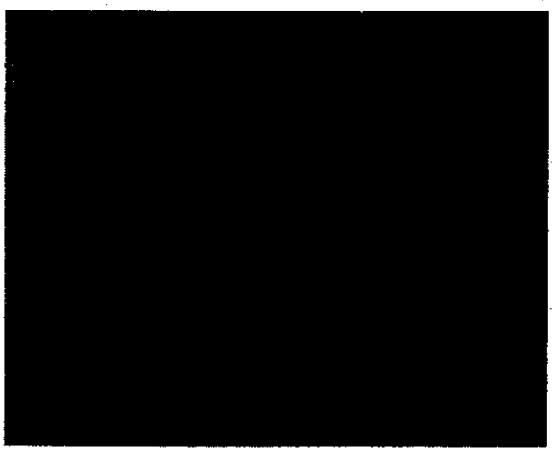


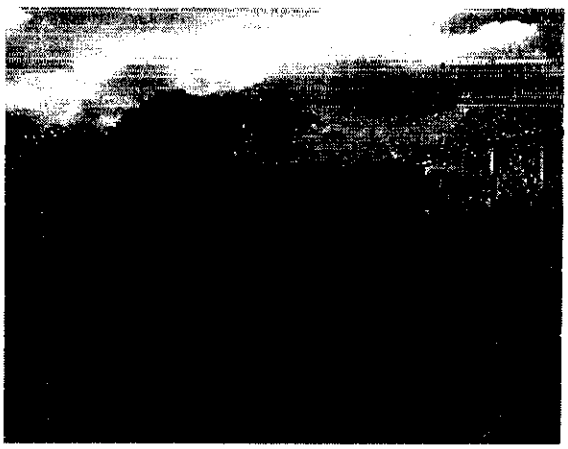
Vibratory screen discharge point without enclosures

Crusher without enclosures

Secondary emissions are those where the fine dust settled on ground or on equipments or from stock piles get air borne due to wind or vehicle movement which remains in suspension for a long time.

Most of the stone crushers in the cluster store their crushed products of different sizes in open stock piles. The 'stone dust' product contains large percentage of fine dust particles. Some fine dust generated during crushing operation also gets along with the crushed stone. As the products are stored in open stock piles, whenever wind blows substantial fine dust gets air borne from these stock piles. Fine dust settled on the road also gets air borne due to movement of vehicles on the unpaved roads.





Uncovered stock piles of stone dust and fine dust and non-metalled road

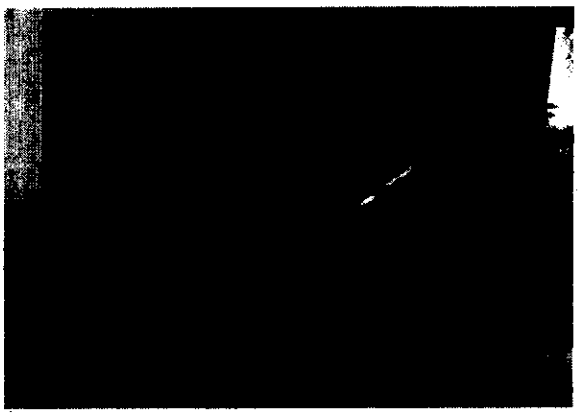
Salient observations regarding Stone crusher cum Mining area

1. None of the stone crusher units were found operational during the visit due to power cut even then substantial dust emissions were observed in the stone crusher cluster area, due to movement of transport vehicles on the dusty roads even when crusher units were not operating.

2. Most stone crushers have installed some sort of water spraying arrangements for dust suppression. However, the water spraying arrangements are not properly designed in terms of type of nozzles deployed, quantity and pressure of water sprayed, locations of the sprays, absence of water meter / totalizer to keep record of quantity of water sprayed etc.


Improperly designed water spraying system

3. Most stone crushers have installed some sort of dust containment in the form of metal sheet enclosures. However, these containment enclosures are only partial in nature. Though metal sheet enclosures are provided for equipments like the vibratory screen, there are a number of large openings in the side walls, especially at the places where belt conveyor enters and leaves the enclosure. Such partial enclosures are ineffective and cannot contain the fine dust within the enclosure and the dust escapes through the openings.



Partial dust containment system / enclosure around vibratory screen

Gaps in the side walls of enclosure / dust containment system

4. Stone crusher units in the area have mostly not provided wind breaking walls or if provided it is of inadequate height.

5. Facilities for regular cleaning and wetting of the ground within the premises and green belt along the periphery of the stone crushers is absent in the stone crushers of the area. However, one unit located at the fringe of the area (M/s Raja Sewa Samiti) shown to the Expert Committee team has facility for sprinkling water all around the premises along with some green belt.

6. Neither the link/approach roads in the stone crushers area nor the roads within the premises of the stone crushers are properly metalled.

7. Blasting activities were not carried out during the visit.

Recommendations

Stone crusher units:

1. All stone crushers should provide the following dust containment equipment/ system:

   a) Closed metal sheet enclosures at dust emitting points i.e. the crushers including their discharge points, screens, and the transfer points of belt conveyers, with arrangements of a door with opening and closing facility for cleaning and maintenance and flexible covers at entrance and exit of the belt conveyors. All opening provided for ventilation in the enclosures should be covered by canvas bag-filter to arrest the escaping dust.
   b) Covering of all belt conveyers.
   c) Silos with telescopic discharge chute for collecting, storing and delivering/truck-loading the product, 'stone dust' and the reject, 'fine dust'.

   The above 'equipment specifications' should be primarily and compulsorily enforced on all stone crushers. SPM standard as prescribed in E (P) Act, 1986 must be complied by every individual stone crusher.

2. A minimum 12 ft high metal sheet barricading or boundary wall should be provided by all stone crushers.

3. Dust suppression by scientifically designed water sprinkling system on raw material/products at the equipments and transfer points should be adopted as an auxiliary air pollution control measure.

4. The roads inside the stone crusher premises should be metalled and the stone crusher premises should be cleaned regularly to avoid re-entrainment of settled dust. Regular wetting of the ground within the premises be adopted as an auxiliary air pollution abatement measure.

5. Green belt along the boundary wall needs to be developed by all stone crushers.

6. The dust extraction system installed by the stone crushers at dust containment enclosures to extract the accumulated dust should be equipped with adequate dust control system such as cyclone and bag filter followed by a stack.

7. The loading, unloading, handling and storage of raw material / products, waste or by-products should be carried out in such a way so as to minimize the generation of dust emissions. Covering should be provided while transportation and storage of final product / material.

Stone crusher area:

1. The stretches of the main highways passing in the vicinity of the stone crushers area needs to be metalled to control re-suspension of settled dust and minimise seasonal damages.

2. The approach and link roads in the stone crushers area should be metalled.

3. Green belt should be developed along the main highways and link roads in the stone crushers area

Mining area:

1. Suitable water conservation measures to preserve ground water resources should be implemented in and around the mining area in consultation with Central Ground Water Board. Maximum permissible depth of mining should be specified and enforced by the Mining Department. The mining activity be restricted well above the static water table so as to ensure that the ground water is not impacted.

2. Measures to augment ground water resources should be implemented in and around the mining area in consultation with Central Ground Water Board. Water recharge structures should be constructed for the closed mines' pits.

Annexure I

Central Pollution Control Board

Parivesh Bhawan, East Arjun Nagar, Delhi-32

B-4002/PCI (SSI)/2011 16.05.2011

OFFICE ORDER

Constitution of the Expert Committee to study the problem of air and water pollution and water resource depletion due to stone crushing and related activities in Singrauli region

An Expert Committee comprising of following officers is constituted to study the environmental problems due to stone crushers and related activities in Sonbhadra district and Singrauli region and suggest preventive and mitigative measures:

1. Mr. U. N. Singh, AD & I/c PCI (SSI), CPCB -Member
2. Mr. M. Q. Ansari, AD & I/c CPCB ZO-North, CPCB -Member
3. Mr. M. J. Parvez, Director/Gr.Head (Env. Man), NPC -Member
4. Mr. M. A Patil, Director, Resource Conservation & Management, FICCI -Member
5. Representative of UPPCB -Member
6. Mr. Nazim uddin, SEE /Sc. D, CPCB - Convener

The Committee will submit a detailed report based on site visits. CPCB North Zonal Office and concerned office of UPPCB will provide necessary assistance to the Committee.

Terms of reference:

- to study the problem of air and water pollution and water resource depletion due to stone crushing operation and related activities in Sonbhadra district and Singrauli region

- to suggest measures to prevent and control air and water pollution and prevent depletion of water sources due to stone crushing and related activities in Sonbhadra district and Singrauli region to minimize impact on humans, especially children, animals and agriculture including better / cleaner production / air pollution control technologies .

Term of the Experts Committee: Four months
TA and honorarium of Rs. 3000/- per day for participating in the visits/meetings will be paid to the representatives from NPC and FICCI.

-sd-
(J. S. Kamyotra)
Member Secretary

To: - All members

Copy to:

P.S. to C.C.B.
P.S. to M.S.

FRAME WORK OF MODEL ACTION PLAN FOR CRITICALLY POLLUTED INDUSTRIAL AREAS/CLUSTERS-SINGRAULI

1. INTRODUCTION:

1.1	Area details including brief history (background information)	:	Singrauli Area consists of the area pertaining to Uttar Pradesh and Madhya Pradesh. The part of Distt. Sonebhadra in Uttar Pradesh is covered under the Singrauli area. In District Sonebhadra the boundary of the area surrounded by Sakti Nagar, Rihand Nagar, Dudhichua, & Dala. and river sone makes the boundary of the area. Aerial extent of the area covers approximate 400 square kilometers. Singrauli area in U.P. Distt. is approximately 4328 square km.. Singrauli area is major power hub in the country. The availability of rich natural resources and raw material caters to the need of the Thermal Power Plants, Aluminium Industry, Chemical Industry, Mining Industries, Cement Plants & Stone Crushers established in Sonebhadra District in Singrauli Area. At present Approx. 12000 MW/day power is being generated by the Thermal Power Plants in Singrauli Area. Due to the industrialization of the area environmental problems have been reported since last two decades. CPCB after detail environmental status study identified it has critically polluted area in the year 1991 and Singrauli action plan was formulated in 1996 .Implementation of action plan is being revised from time to time.
1.2	Location	:	The area in the eastern part of Siddhi District in the state of MP and the adjoining southern part of Sonebhadra District in the state of Uttar Pradesh is collectively known as Singrauli. Singrauli is emerging as India's Energy Capital, the place earlier known as Shringavali, named after the sage Shringi, was once upon a time covered with dense and un-navigable forests and inhabited by wild animals. The place was considered so treacherous that it was used by the Kings of Rewa State, who ruled the area till 1947, as an open air prison for detaining errant civilians and officers. Just two generations ago, small holders were tending their parcels of land here, and the original inhabitants were gathering honey and herbs in the forest. In the late fifties, a large scale dam banked up the water of the River Rihand. The dam known as Govind Vallabh Pant Sagar, was inaugurated by Pt. Jawahar Lal Nehru in 1962. Later, rich coal deposits spread over an area of 2200 km² in the state of M.P. (eastern part of Siddhi District) and U.P. (southern part of Sonebhadra District) were discovered close to the artificial lake that could be used to generate electricity.
1.3	Digitized Map with Demarcation of Geographical boundaries and Impact Zones	:	The map is attached as **Annexure-I**

1.4	CEPI Score (Air, Water, Land and Total)	:	1. Water CEPI – 64.00 2. Air CEPI - 70.50 3. Land CEPI - 59.50 4. Total CEPI - 81.73
1.5	Total population and sensitive receptors (hospitals, educational institutions, courts etc residing in the area comprising of geopraphical area of the cluster and its impact zone (minimum 2 Km.)	:	As of 2001 India census, Singrauli area of U.P. had a population of 657200. Males constitute 54% of the population and females 46%. Estimated floating population is about 20% of the total population and population of engaged in industrial activities is about 50,000.
1.6	Eco-geological features Impact Zones [the area comprising of geographical area of the cluster and its impact zone (minimum 2 Km)]	:	
1.6.1	Major Water Bodies (Rivers, Lakes, ponds, etc.)	:	1. Rihand Reservoir, 2. Sone River 3. Renu River 4. Rihand River 5. Kanhar River 6. Badal River 7. Bagga Nala 8. Murdhawa Nala 9. Dongia Nala 10. Balia Nala 11. Nagua Dam 12. Gaghar Dam 13. Chilka Lake Shaktinagar 14. Rasganda Water Falls 15. Kaanchan Dam 16. Obra Dam
1.6.2	Ecological parks, Sanctuaries, flora and fauna or any eco sensitive zones	:	1. Sone Eco point 2. Fossil Park 3. Dear Park

1.6.3	Buildings or Monuments of Historical/ archaeological/religious importance	:	• Jwalamukhi Devi Temple Shaktinagar, • Hanuman Mandir Jhingurdah, • Tippa Jhariya Jhingurdah, • Lake Park Vindhnagar, • Rose Garden Jayant, • Mada Caves(Prihistoric Rock Paintings) • Nandankanan Rihandnagar • Shiva Temple Rihandnagar • Aanand Vatika,Rihandnagar • Vaishno Devi Temple, Dala • Birla Temple, Renukoot • Radha Krishna Temple, Renukoot • Vijagarh Fort • Shivdwar Temple

1.7 Industry classification and distribution (no. of industries per 10 Sq. Km. area of fraction)

1.7.1	Highly Polluting industries (17 categories)	:	**Annexed as annexure No. II**
1.7.2	Red category industries (54 categories)	:	**Annexed as annexure No. III**
1.7.3	Orange and Green category industries	:	**Annexed as annexure No. IV**
1.7.4	Grossly Polluting industries	:	**Annexed as annexure No. V**

2. WATER ENVIRONMENT:

2.1 Present status of water environment supported with minimum one year analytical data :

2.1.1	Water bodies/effluent receiving drains in the area important for water quality monitoring	:	1. Analysis results of Sone 2. Analysis results of Rihand Reservoir 3. Analysis results of Dongia Nala 4. Analysis results of Murdhawa Nala- 5. Analysis results of Ballia Nala **Annexed as annexure No. VI**

2.1.2	Present levels of pollutants in water bodies/effluent receiving drains/ground water (routine parameters, special parameters and water toxics relevant to the area in three categories- known carcinogens, probable carcinogens and other toxics)	:	Analysis results already enclosed as per Point. No. 2.1.1
2.1.3	Predominant sources contributing to various pollutants	:	Industrial effluent, domestic effluent of Singrauli Area in UP & MP and agricultural run-off of U.P. & M.P.
2.2	**Sources of water pollution**	:	
2.2.1	Industrial	:	Details enclosed as Point No. 1.7
2.2.2	Domestic	:	Domestic effluent of Singrauli Area in U.P. appro. 4000KLD
2.2.3	Others (Agricultural runoff, leachate from MSW dump, illegal dump site etc.)	:	Agricultural run off, leachate of M.S.W. dump & illegal dump.
2.2.4	Impact on surrounding area (outside the CEPI Area) on the water courses/drainage system of the area under consideration	:	Impact on Wild Life, Forest, Agriculture and nearby population.
2.3	Details of Water Polluting Industries in the area/cluster	:	Details enclosed as per Point No. 1.7
2.4	Effluent Disposal Methods-Recipient water bodies etc.	:	Industrial effluent is disposed off after proper treatment into nearby drains.
2.5	Quantification of wastewater pollution load and relative contribution by different sources viz industrial/domestic	:	1. Total Industrial effluent load, 2. Local bodies domestic effluent load.
2.6	**Action Plan for compliance and control of pollution**	:	
2.6.1	Existing infrastructure facilities- water quality monitoring network, ETPs, CETPs, Sewerage Treatment Plant of industry (STPs), surface drainage system, effluent conveyance channels/outfalls etc.	:	Available.

2.6.2	Pollution control measures installed by Industries	:	Details of ETP of each Industry enclosed as per Point No. 1.
2.6.3	Technological Intervention	:	
2.6.3.1	Inventorisation of prominent industries with technological gaps	:	Done & renovation and modernization is in progress in M/S Kanoria Chemicals & Industries Ltd. & HINDALCO Industries Ltd., Renukoot, Sonebhadra.
2.6.3.2	Identification of low cost and advanced cleaner technology for pollution control	:	As per CPCB & MoEF recommendation.
2.6.4	**Infrastructure Renewal**	:	
2.6.4.1	Details of existing infrastructural facilities	:	Roads, Electricity, Drinking Water, Hospitals, Educational Institutes, Police Security.
2.6.4.2	Need of up gradation of existing facilities	:	**Roads** – Roads are in very poor conditions and needs to be repaired/ constructed by UP PWD outside the industrial premises. **Electricity** – Shortage of power **Drinking water** – Scarcity of water due to the drought situation since last 5 years, polluted surface and underground water needs to take steps for supply of drinking water by the State Govt. **Health** - Needs to strengthen the health facilities by the State Govt. **Police Security** – Strengthening of Police as the area is covered under Nexal Belt.
2.6.4.3	De-silting of water tanks, drains, rivulets, etc.	:	Needed
2.6.4.4	Construction of lined drains/ connections	:	Needed
2.6.4.5	Treatment and management of contaminated surface water bodies	:	River Sone, River Renu, Rihand Reservoir & other drains and nalas.

2.6.4.6	Rejuvenation/Management Plan for important eco-geological features	:	Needed
2.6.4.7	Carrying of effluent from industrial units located in non-industrial locations to CETP facilities by lined drains/ pipelines only and prevention of their disposal into city sewerage/surface drains.	:	Not applicable.
2.6.4.8	Installation of Gen sets at CETPs	:	Not applicable.
2.6.5	**Managerial and Financial aspects**	:	
2.6.5.1	Cost and time estimates	:	To be done by concerned Authority/Agency.
2.6.5.2	Identified Private/Public sector potential investors & their contribution/obligation	:	N.A.
2.6.5.3	Government Budgetary support requirement	:	Yes
2.6.5.4	Hierarchical and structured managerial system for efficient implementation	:	Yes
2.6.6	**Self monitoring system in industries (ETPs etc.)**	:	Established.
2.6.7	**Data linkages to SPCB/CPCB (OF MONITORING DEVICES)**	:	Needs to be done.

3. <u>AIR ENVIRONMENT</u>:

3.1	**Present status of Air environment** supported with minimum one year analytical data	:	Status of Air environment in industries and ambient air Quality monitoring data of Anpara & Renusagar is being annexed as **Annexure-VII & VIII respectively.**

3.1.1	Critical locations for air quality monitoring	:	Shaktinagar, Rihand Nagar, Anpara, Renusagar, Renukoot, Dalla & Obra.
3.1.2	Present levels of pollutants in air (routine parameters, special parameters and air toxics relevant to the area in three categories- known carcinogens, probable carcinogens and other toxic)	:	Annexed as at point no.3.1
3.1.3	Predominant sources contributing to various pollutants	:	Mining, Transport & Heavy Earth Movers & domestic fuel.
3.2	**Sources of air Pollution** viz industrial, domestic (Coal & Biomass burning), natural and Transport & Heavy Earth Movers	:	Industrial, domestic (Coal and Biomass burning), natural and Transport and Heavy Earth Movers.
3.3	Air Polluting Industries in the area/Cluster	:	Industrial status annexed on Point No. 3.1
3.4	Impact of activities of nearby area on the CEPI Area	:	Industries and local bodies of M.P.
3.5	Quantification of the air pollution load and relative contribution by different sources	:	Annexed as Annexure of Point No. 3.1
3.6	Action Plan for compliance and control of pollution	:	
3.6.1	Existing infrastructure facilities – Ambient air quality monitoring network	:	Available.
3.6.2	Pollution control measures installed by the individual sources of pollution	:	Pollution control measures installed by the industries is enclosed in the annexure at Point No. 3.1
3.6.3	Technological Intervention	:	As per CPCB & MoEF recommendations.
3.6.3.1	Inventorisation of prominent industries with technological gaps	:	Done & renovation and modernization is in progress in M/s Kanoria Chemicals & Industries Ltd. & HINDALCO Industries Ltd., Renukoot, Sonebhadra.

3.6.3.2	Identification of low cost and advanced cleaner technology for air pollution control	:	As per CPCB & MoEF recommendations.
3.6.3	Introduction and switch over to cleaner fuel	:	As per CPCB & MoEF recommendations.
3.6.4	Need of infrastructure Renovation	:	Needed for repairing/Construction of Roads, Drinking water, Power supply, Health facilities, LPG & Security.
3.6.4.1	Development of roads	:	Needed for repairing & construction of Roads.
3.6.5	Impact on CEPI score after installation/ commissioning of full fledged air pollution control systems	:	CEPI score will decrease.
3.6.6	**Managerial and Financial aspects- Cost and time estimates**	:	
3.6.6.1	Cost and time estimates	:	To be done by concerned/Authorities/Agencies.
3.6.6.2	Identified Private/Public sector potential investors & their contribution/obligation	:	As per Govt. decision.
3.6.6.3	Government Budgetary support requirement	:	Needed.
3.6.6.4	Hierarchical and structured managerial system for efficient implementation	:	Needed.
3.6.7	**Self monitoring system in industries (Stacks, APCDs)**	:	Available in all Large scale Industries. Except Stone Crushing Units.

3.6.8 Data linkages to SPCB/CPCB (of monitoring devices) : In Progress.

4. LAND ENVIRONMENT (Soil and Ground Water) :

4.1 Soil contamination: :

4.1.1 Present status of land environment supported with minimum one year analytical data :

S.No.	Category of Land	Areas of Land (Ha.)
1.	Forest Area	237861
2.	Irrigated Area	2111
3.	Un-irrigated Area	58729
4.	Culturable Waste	57804
5.	Area not available for Agriculture	66658

4.1.2 Critical locations for land/soil pollution assessment and ground water monitoring : Govindpur, Myorepur, Kamaridar, Garbandha, Kusmha & Renukoot.

4.1.3 Present levels of pollutants in land/soil and ground water (routine parameters, special parameters and water toxics relevant to the area in three categories- known carcinogens, probable carcinogens and other toxics) : The analysis results of soil of different villages is annexed at **Annexure No. IX.**

4.1.4 Predominant sources contributing to or posing, danger of pollution of land and ground water such as hazardous/toxic wastes or chemical dumps/storage etc. : Municipal Solid Waste, Chemical Fertilizer and insecticides used by farmers.

4.1.5 Sources of Soil Contamination : Industrial Waste prior to enactment of Environmental Laws, Municipal Solid Waste, Chemical Fertilizer and insecticides used by farmers.

4.1.6	Types of existing pollution	:	Analysis results are enclosed at **Annexure No. X.**
4.1.7	Remedies for abatement, treatment and restoration of normal soil quality	:	Development of Municipal Solid Waste treatment and disposal facilities and to encourage the farmers for using Bio fertilizers.
4.2	**Ground Water contamination:**	:	
4.2.1	Present status/quality of ground water	:	Analysis results of ground water of different places are being annexed at **Annexure No. XI.**
4.2.2	Source Identification (Existing sources of Ground water Pollution)	:	Municipal Solid Waste, Chemical Fertilizer and insecticides used by farmers.
4.2.3	Ground water quality monitoring program	:	Quarterly samples of ground water of Govindpur, Myorepur, Kamaridar, Garbandha, Kusmha & Renukoot.
4.2.4	Action Plan for control of pollution including cost/time aspects	:	As per CPCB & MoEF recommendations.
4.2.5	Treatment and management of contaminated ground water bodies, etc.	:	As per CPCB & MoEF recommendations.
4.2.6	Impact on CEPI score after abatement of pollution	:	CEPI score will dicrease.
4.3	**Solid waste Generation and management:**	:	
4.3.1	**Waste classification and Quantification**		
4.3.1.1	Hazardous waste	:	6514.447 TPA
4.3.1.2	Bio-medical waste	:	Approx. 1860 Kg/day.
4.3.1.3	Electronic Waste	:	None

4.3.1.4	Municipal solid Waste/Domestic Waste/ Sludges from ETPs/ CETPS/ STPs and other industrial sources	:	
4.3.1.5	Plastic waste	:	Approx. 300 Kg/day.
4.3.1.6	Quantification of wastes and relative contribution from different sources	:	Stated as in Point No. 4.3
4.3.2	Identification of waste minimization and waste exchange options	:	Plastic waste may be used in construction of Roads and in Cement manufacturing industry as fuel.
4.3.3	Reduction/Reuse/Recovery/Recycle options in the co-processing of wastes.	:	Stated as Point No. 4.3.2
4.3.4	Infrastructure facilities	:	Hazardous waste of industries is being disposed at TSDF,Kanpur. It is required to install Common Bio-Medical Waste Treatment Facility and Municipal Waste treatment & disposal facilities in local bodies.
4.3.4.1	Existing TSDF/Incineration facilities including capacities	:	Incineration facilities installed in NTPC of 100Kg/ hr. capacity.
4.3.4.2	Present status/performance and need of up gradation of existing facilities including enhancement of capacities	:	It is required to install Common Bio-Medical Waste Treatment Facility and Municipal Waste treatment & disposal facilities in local bodies.
4.3.4.3	Treatment and management of contaminated waste disposal sites, etc.	:	As per CPCB & MoEF recommendationS.
4.3.4.4	Impact on CEPI score after proper management of Solid Wastes.	:	CEPI score will dicrease.

5.	**PPP Model:**	:	
	5.1 Identification of project proposals (for both the options i.e. technology intervention and infrastructure renewal) for implementation under the PPP mode under the Action Plan.	:	Required from concerned Authorities/Agencies.
	5.2 Identification of stakeholders/agencies to be involved and to evolve financial and managerial mechanisms for implementation of PPP projects.	:	Required from concerned Authorities/Agencies.
6.	**Other infrastructural Renewal measures:**	:	
	6.1 Green Belts	:	Strengthening & development of green belt & forestory.
	6.2 Development of Industrial Estate(s)	:	Yes. Bijpur, Dalla, Obra area.
	6.3 Development/shifting of industries located in the non-industrial areas to the existing/new industrial estates.	:	Yes.
7.	**Specific Schemes:**	:	
	7.1 GIS-GPS system for pollution sources monitoring	:	Required.
	7.2 Hydro-geological fracturing for water bodies rejuvenation	:	Required.
	7.3 In-situ remediation of sewage	:	Required.
	7.4 Utilization of MSW inert by gas based brick kilns	:	Required.
	7.5 Co-processing of wastes in cement industries	:	Required.
8.	**Public awareness and training Programmes**	:	Being done by different NGOs & related Departments.
9.	**Overall Impact of installation/commissioning of pollution control equipments/measure on the CEPI score**	:	CEPI score will decrease.

10. **Assessment of Techno-economical feasibility of pollution control systems in clusters of small/ medium scale industries.** : Required for Stone Crushing Units.

11. **Efforts shall be made to encourage use of Bio-compost and Bio-Fertilizer alongwith the chemical fertilizer in the state to minimize the unutilized chemical fertilizer run-off into the natural water resources from agriculture fields (through Govt. policy)** : Required.

12. **Summary of proposed action points:** :

12.1 Short Term Action Points (upto 1 year, including continuous Activities) : Annexed as **Annexure No. XII.**

S.No.	Action Points (including source & mitigation measures)	Responsible Stake Holders	Time limit	Cost	Remarks

12.2 Long Term Action points (more than 1 year) : Annexed as **Annexure No. XIII.**

S.No.	Action Points (including source & mitigation measures)	Responsible Stake Holders	Time limit	Cost	Remarks

ANNEXURE NO.IV

Issues regarding the State Government of U.P. and Central Government

Short Term Action Points:

1. To ban the use of recycled plastic bags.
2. Safe Drinking Water Supply should be provided in the affected villages Govindpur, Myorepur, Labhari, Kamaridar, Garbandha, Kushmha and Renukoot etc.

Long Term Action Points:

1. Construction of Varanasi-Shaktinagar Highway and Roads in the Stone Crusher area of Dala.
2. Development of M.S.W. Municipal solid Wastes sites to be done by local bodies.
3. Supply of LPG Gas to resident of Villages to avoid the de-forestation.
4. District Sonbhadra of U.P. is power hub of India and the electric supply is in very poor condition. The steps are required to strengthen the electric supply to the residence of Distt. Sonbhadra.
5. To shift the Stone Crusher Units situated along Road side in Dala, Distt. Sonbhdra to suitable site.

Issues regarding U.P. Poilution Control Board

Short Term Action Points:

1. Regular monitoring of surface water sources and Ground water.
2. Regular monitoring of Industrial E.T.P. and APCS.

Long Term Action Points:

1. To install automatic ambient Quality monitoring stations at sensitive places in the area.
2. To shift the Stone Crusher Units situated along Road side in Dala, Distt. Sonbhdra to suitable site with the help of State Govt./Central Govt.

Other suggestions and their status of compliance:

S.No.	Suggestions	Status of compliance
1.	*On thorough review of this plan, it appears that the various action points are derived from previous Action Plans without any field verification thus lacking with current status of compliance of previous action plans and futuristic requirements. Field verification of action plan pertaining to highly polluting industries is also needed.*	*The previous Action Plan points have been included to show the progress made in implementation of Action Plan. All the Action Points have been taken pertains with field verification of highly polluting industries.*
2.	*CEPI should be evaluated for same criteria pollutants considered by CPCB on the basis of the real time data after implementation of short term and long term action plans.*	*CEPI has been evaluated as per norms.*
3.	*Detailed health impact study should be carried out through a expert agency.*	*The work of detailed health impact study will be awarded to the expert agency by the Board very soon.*
4.	*Present status and future plan for greenbelt development should be incorporated as per the norms fixed in the master plan of the area with respect to area under greenbelt, no. and type of saplings.*	*Strengthening of greenbelt is under progress by the concerned local bodies and also by industries. The Shaktinagar Special Area Development Authority has been asked to develop the green belt in an around stone crushing units clusters.*
5.	*Demographic details and water drainage pattern and road networks in 2 km buffer zone should be incorporated.*	*The Demographic details and water drainage pattern and road networks in 2 km buffer zone is being enclosed herewith as* ***Annexure no. I***
6.	*Sector-wise action points should also be incorporated including managerial and financial plans.*	*As the implementation work have to be done by other concerned departments/Agencies therefore it is not possible to incorporate as suggested.*
7.	*Online monitoring system linked with regionai office and head office should be included in plan.*	*The proposal for on line monitoring system linked with regional office and head office for the following places is proposed:* *1. Obra* *2. Dala* *3. Shaktinagar*

8.	*Action Plan for industries undergoing expansion and those which obtained Environmental Clearance and yet to be commissioned also need to be incorporated.*	*In future the following industries have proposed the modernization/renovation/expansion/new projects:-* 1. *M/s. Hindalco Industries Ltd. (Aluminium) Renukoot, Sonbhadra.* 2. *M/s. Hindalco Industries Ltd. (Power) Renusagar, Sonbhadra.* 3. *M/s. NTPC, Shaktinagar* 4. *M/s. Lanco Anpara Power Private Limited (expected date of commissioning last week of Decemebr, 2010 – Unit of 600MW).* 5. *M/s. J.P. Associates Ltd. (Dolomite Mines), Dala, Sonbhadra.* 6. *M/s. UPPCL, Obra, Sonbhadra.* *The proceedings of Public hearing of the above industries except NTPC-Shaktinagar have been forwarded by the Board to MoEF.*
9.	*Concept type approach towards various issues is included. However, there is a need to provide specific steps/ actions for effective implementation.*	*The issues have been not been pointed out. The detailed ETP, APCS Units, Pollution load & latest analysis results are being annexed as* ***Annexure No. II.***
10.	*Digitized map is not clear and needs to incorporate impact zones, scale of map and boundaries of industrial settlements.*	*The map of Singrauli Area has already been provided to the CPCB.*
11.	*Health study of 'Vanvasi Sewa Ashram' should be referred and suitable corrective measures should be incorporated in action plan.*	*Health study of 'Vanvasi Sewa Ashram' is in preparing stage and it was not available with Vanvasi Sewa Ashram after completion of the study the report will be made available.*
12.	*In Annexure XI, the ground water monitoring results show very low pH and also mercury contamination. Such ground water sources should be sealed as they are harmful for general public and subsequently preventive and remedial measures should be suggested in plan.*	*In Annexure XI, the ground water monitoring results show very low pH as the samples were preserved for testing of heavy metals. The concerned agency has been asked to seal/dismantle the mercury contaminated ground water sources.*
13.	*In Air quality monitoring results of UPPCL (Obra), stack emission are not covered, need to be incorporated.* *Water quality monitoring of Dongia Nalla to be done for all relevant parameters.*	*The closure orders have already been issued by CPCB U/s 5 of the EPA and the directions have already been issued to UPPCL (Obra) Unit B vide letter dated 16.08.2010. The stack emission reports of UPPCL Obra are being annexed as* ***Annexure no. III.***

14.	*Water quality monitoring of Dongia Nalla to be done for all relevant parameters.*	*Regular monitoring of Dongia nalla is being carried out by the Board.*
15.	*Some important action points from previous action plan are omitted in the present Action Plan like- ensuring of 5 cycle recirculation of cooling water in NTPC Rihand TPP and use of low sulphur auxiliary fuel in Obra TPP.*	*NTPC Rihand is carrying out 4 cycle recirculation of colling water and the industry is being directed for 5 cycle recirculation of cooling water. UPPCL Obra has already been directed by the Board to use low sulphur auxiliary fuel.*
16.	*Various issues pertaining to State Government, Central Government and UPPCB should also be addressed in the form of Short Term/Long Term Action Plan with clear time schedule.*	*Various issues pertaining to State Government, Central Government and UPPCB are being addressed in form of Short Term/Long Term Action Plan and the same is being annexed as* ***Annexure no. iV.***

ANNEXURE – II

REGIONAL OFFICE: U.P. POLLUTION CONTROL BOARD, SONEBHADRA.

STATUS OF POLLUTION CONTROL IN THE LARGE AND MEDIUM INDUSTRIES OF 17 CATEGORIES:

Sl. No.	Name of Industries with complete Address	17 Category type	Sector whether CU/SU/ PU/CP	Pollution Control System		Pollution Control Status			ISO 14001 Certification (Yes/No)	Last date of Inspection	Remarks
				ETP Unit	Emission Control System	ETP Status	ECU Status	Hazardous Waste Management provision			
1	2	3	4	5	6	7	8	9	10	11	12
1.	NTPC, Shaktinagar, Sonebhadra	Thermal Power 5x200 MW 2X500 MW	CU	Ash Slurry discharges into dyke and finally after proper settling discharges into Rihand Dam. For coal handling plant effluent treatment plant is installed and also STP installed for domestic waste water treatment.	With each units ESP is installed and emissions are as per board norms.	OPRS	OPRS	ADQ	YES	17.10.12	Consent Air & Water Granted upto 2012.
2.	NTPC, Rihand Nagar, Sonebhadra	Power Generation- 2x500 MW 2x500 MW	CU	Ash Slurry after proper treatment through ashdyke, total effluent is being recycled into plant for different purposes, Industry has septic Tank/Oxidation Pond for domestic wastewater treatment. For coal handling plant effluent passes through settling pond. Only in case of flood effluent may be discharged into Rihand reservoir.	With each units ESP is installed and emission are being emit as per board norms.	OPRS	OPRS	ADQ	YES	23.08.12	No. effluent is being discharge into Rihand reservoir (Zero discharge) consent Air & Water Granted upto 2012 Stage-I Stage-II U/C.
3.	Anpara Thermal Power Station **Unit-A,** Anpara, Sonebhadra	Power Generation- 3x210 MW	SU	Ash slurry effluent discharge into ash dyke after proper settling finally goes into Rihand reservoir. Industry has installed sewage treatment plant for domestic wastewater.	With each units ESP is installed and due to less capacity emission are not being as per board norms.	OPRS	OPRNS	ADQ	NO	16.10.12	Consent- Water Applied for Air – Applied for Directions issued by CPCB u/s 5 of EPA vide letter dated 17.08.10.

Contd...p/2.

1	2	3	4	5	6	7	8	9	10	11	12
4.	Anpara Thermal Power Station **Unit-B,** Anpara, Sonebhadra	Power Generation- 2x500 MW	SU	Ash slurry discharges into dykes after proper settling finally goes into Rihand reservoir. Effluents are not being treated as per board norms.	With each units ESP is installed and due to less capacity emission are not being as per board norms.	OPRS	OPRNS	ADQ	NO	**16.10.12**	Consent – Water Granted & Consent Air Granted. Directions issued by CPCB u/s 5 of EPA vide letter dated 17.08.10.
5.	Obra Thermal Power Station **Unit-A,** Obra, Sonebhadra	Power Generation- 5x50 MW 3x100 MW	SU	Ash slurry discharges into dykes. Domestic effluent are being treated in septic tank. Effluents are not being treated as per board norms.	In 3x100MW unit mechanical precipitator and ESP are being installed and wit 5x50 MW unit mechanical dust collectors are being installed. Emissions are much more as compare with board norms.	OPRNS	OPRNS	ADQ	NO	**06.08.12**	Consent Water & Air Refused closure orders issued by CPCB u/s 5 of EPA vide letter dated 16.08.10.
6.	Obra Thermal Power Station **Unit-B,** Obra, Sonebhadra	Power Generation- 5x50 MW 5x200 MW	SU	Ash slurry discharges into dykes and rest quantity is being passed by Jhariya Nala. Domestic effluent is being treated in septic tank. Effluents are not being treated as per board norms.	In all units less capacity ESP's are being installed which are failed to work as board norms.	OPRNS	OPRNS	ADQ	NO	**06.08.12**	Consent Water & Air Refused Directions issued by CPCB u/s 5 of EPA vide letter dated 16.08.10d.
7.	M/s. Chunar Cement Factory, Chunar, Mirzapur (U.P)	Cement 16.8 Lacs/ Annum. Present capacity 45000MT/ Month.	PU	ETP not required only domestic effluent. Sufficient capacity of Septic tank and soak pit already existing.	Two Bag filter installed. Four No. Nuisance bag filter installed. New bag filter two no. installed for CM1 & CM2 4 Nos. Nuisance bag filter for fugitive dust.	OPRS	OPRS	ADQ	NO	**25.10.12**	Consent Air & Water Granted up to 2012.

Contd...p/3.

1	2	3	4	5	6	7	8	9	10	11	12
8.	M/s. Dalla Cement Factory, (A Unit of Jai Prakash Associates) Dalla, Sonebhadra.	Cement Clinker-66000MT/M PPC-30000MT/M	PU	Only domestic Septic Tanks Soak Pit – STP –Proposed.	ESP – Kiln ESP – Coller Bag Filters – Coal Mill & Transfer Point	OPRS	OPRS	ADQ	Not received	**19.10.12**	Consent Air & Water Granted up to 2012.
9.	M/s. Churk Cement Factory, Churk, Sonebhadra.	Cement	PU	----------Not operational----------							
10.	Hindalco Industries Ltd. (Renusagar Power Division) Renusagar.	Thermal Power Cop. 741.5 MW.	PU	Ash slurry effluent discharged into ash dykes and finally after proper treatment total effluent is being reused in industrial process. Effluent generated from floor washing after neutralizing kept in pit and then finally by pipt into ash dyke. Industry has STP for domestic wastewater treatment.	With each units ESP is installed and emission are being emit as per board norms.	OPRS	OPRS	ADQ	YES	**17.10.12**	Consent Air & Water Granted up to 2012.
11.	Hindalco Industries Ltd. Renukoot, Sonebhadra	Aluminium metal	PU	ETP & STP both has been upgraded and treated effluent is recycled back for process use and etc. Industrial effluent treated by collection pit, neutralization tank, HRSCC, Centrifuge and sludge drying bed. Domestic effluent is being treated by Fludised Aerobic Bio-reactor.	Air pollution control unit consist ESP, DSS, FTP, Computerized Oil Firing system and emission are as per well below PCB norms.	OPRS	OPRS	ADQ	YES	**18.10.12**	Consent Water & Air Granted up to 2012.

Contd...p/4.

1	2	3	4	5	6	7	8	9	10	11	12
12.	M/s. Aditya Birla Chemicals (India) Ltd. Renukoot, Sonbhadra.	Chemical Industry	PU	Treatment unit for Industrial effluent. Mercury effluent is being totally recycled. Effluent is being treated as per PCB norms. Domestic effluent treated by septic tank/Soak pit.	Proper system for air pollution control unit. Chlorine neutralization plant, hypo plant and fume scrubber are there. MCDC & Bag Filter are installed in Boiler.	OPRS	OPRS	ADQ	YES	**19.10.12**	Consent Air & Water granted upto 2012.
13.	M/s. Aditya Birla Chemicals (India) Ltd. (Power Generation Unit) Renukoot, Sonbhadra.	Thermal Power 2x25MW	PU	Dry as disposal for brick manufacturing.	ESP & Bag filter.	OPRS	OPRS	ADQ	YES	**19.10.12**	Consent Air & Water granted upto 2012.
14.	M/s. Hitech Carbon Renukoot, Sonbhadra	Carbon Black 170T/Y	PU	Industrial effluent treated by primary treatment pit oil skimmer, oil separator imhoff clarifier settling tank pH adjustment tank Sludge drying bed. Domestic effluent is being treated by septic tank/soak pit tank.	Plume consist Bag filter purge bag filter. Emission are being emit as per board norms.	OPRS	OPRS	ADQ	YES	**18.10.12**	Consent Air & Water granted upto 2012.
15.	M/s. LANCO Anpara Ltd., Anpara, Sonbhadra.	Power Generati-on 2x600 M.W.	PU	Ash slurry effluent discharged into ash dykes, After proper setling finly goes into Rihand reservior. Industries has installed STP for domestic waste water. .	With each units ESP is installed & emissions are being emit as per board norms.	OPRS	OPRS	ADQ	YES	**16.10.12**	Consent Air & Water granted upto 31.07.2011

REGIONAL OFFICE: U.P. POLLUTION CONTROL BOARD, SONBHADRA

Status of Industrial Pollution Control (45 Categories of Industry administered by Head Office)

S. No.	Name of the Industry and Address	Category (S.M.L.)	Product & Capacity (annual)	Water			Air	Compliance Status	
				Water Consumption	Waste Water Discharged	Treatment Facility Type	Air Pollution Control Device	Water	Air
1	2	3	4	5	6	7	8	9	10
1	Anpara Thermal power Station U-A Anpara.	Large	Electricity 3 x 210 MW	1735000 KLD	Domestic-200 KLD	Ash slurry effluent discharge into ash dyke after proper settling finally goes into Rihand reservoir. Industry has installed sewage treatment plant for domestic wastewater.	With each units ESP is installed and due to less capacity emission are not being as per board norms	Complying	Directions issued by CPCB u/s 5 of EPA vide letter dated 17.08.10
2	Anpara Thermal power Station U-B, Anpara.	Large	Electricity 2 x 500 MW	3753600 KLD	Industrial - 3728640 KLD	Ash slurry discharges into dykes after proper settling finally goes into Rihand reservoir. Effluents are not being treated as per board norms.	With each units ESP is installed and due to less capacity emission are not being as per board norms.	Complying	Directions issued by CPCB u/s 5 of EPA vide letter dated 17.08.10
3	Hindalco Industries Ltd. Renukoot.	Large	Aluminium metal 32429.33 MT/Month	88171 KLD	Domestic-5500 KLD Industrial - 5000KLD	ETP & STP both has been upgraded and treated effluent is recycled back for process use and etc. Industrial effluent treated by collection pit, neutralization tank, HRSCC, Centrifuge and sludge drying bed. Domestic effluent is being treated by Fludised Aerobic Bio-reactor.	Air pollution control unit consist ESP, DSS, FTP, Computerized Oil Firing system and emission are as per well below PCB norms.	Complying	Complying

Contd...p/2.

1	2	3	4	5	6	7	8	9	10
4	Hindalco Industries Ltd. Power Divn. Renusagar.	Large	Thermal Power Cop. 741.7 MW	Domestic-144 KLD Industrial - 1857KLD	Domestic-300 KLD Industrial - 868KLD	Ash slurry effluent discharged into ash dykes and finally after proper treatment total effluent is being reused in industrial process. Effluent generated from floor washing after neutralizing kept in pit and then finally by pipt into ash dyke. Industry has STP for domestic wastewater treatment	With each units ESP is installed and emission are being emit as per board norms	Complying	Complying
5	Aditya Birla Chemicals (India) Limited (Power Div). Renukoot.	Large	Electricity 2 x 25 MW	1991 KLD	723 KLD	Dry as disposal for brick manufacturing.	ESP & Bag filter.	Complying	Complying
6	Aditya Birla Chemicals (India) Limited, Renukoot.	Large	Caustic Soda = 9616.164 MT/Month Liquid Cl= 7169.61MT/ Month Stable bleaching powder =19074 MT/Annum	Domestic-880 KLD Industrial - 2640 KLD	Domestic-350 KLD Industrial – 1100 KLD	Treatment unit for Industrial effluent. Mercury effluent is being totally recycled. Effluent is being treated as per PCB norms. Domestic effluent treated by septic tank/Soak pit.	Proper system for air pollution control unit. Chlorine neutralization plant, hypo plant and fume scrubber are there. MCDC & Bag Filter are installed in Boiler	Complying	Complying
7	Aditya Birla Chemicals (India) Limited (Alumn Ch.), Renukoot.	Large	Aluminium Chloride = 1201.62 MT/Month	240 KLD	Domestic-6 KLD Industrial – 144 KLD	ETP & STP installed	ESP installed	Complying	Complying

Contd...p/3.

1	2	3	4	5	6	7	8	9	10
8	N.T.P.C. Rihand Nagar.	Large	Electricity 2 x 500 MW 2 x 500 MW	3232732 KLD	Domestic-100 KL/H Industrial - 1350 KL/H	Ash Slurry after proper treatment through ashdyke, total effluent is being recycled into plant for different purposes, Industry has septic Tank/Oxidation Pond for domestic wastewater treatment. For coal handling plant effluent passes through settling pond. Only in case of flood effluent may be discharged into Rihand reservoir.	With each units ESP is installed and emission are being emit as per board norms.	Complying	Complying
9	N.T.P.C. Shakti-Nagar.	Large	Electricity 2x500 MW 5x200 MW	3600000 KLD	Domestic-2000 KLD Industrial – 3300000 KLD	Ash Slurry discharges into dyke and finally after proper settling discharges into Rihand Dam. For coal handling plant effluent treatment plant is installed and also STP installed for domestic waste water treatment.	With each units ESP is installed and emissions are as per board norms.	Complying	Complying
10	Northern Coal Field Ltd. Dudhichuwa.	Large	Open cast Coal Mine 40370000T/A	4860KLD	Domestic-1580 KLD Industrial – 3000 KLD	ETP & STP installed	Multi cyclone, covered conveyer belt, water sprinkling	Complying	Complying
11	Northern Coal Field Ltd. Beena Unit.	Large	Open Cast Coal Mine 4.05 Mill. T/A	7478KLD	Domestic: 1000 MLD Industrial 6100KLD	ETP & STP installed	Multi cyclone, covered conveyer belt, water sprinkling	Complying	Complying
12	Northern Coal Field Ltd. Kakari Unit.	Large	Open Cast coal Mine 3 million Ton/A	5784 KLD	Domestic-432 KLD Industrial – 4388 KLD	ETP & STP installed	Multi cyclone, covered conveyer belt, water sprinkling	Complying	Complying

Contd...p/4.

1	2	3	4	5	6	7	8	9	10
13	Northern Coal Field Ltd. Khadia Unit.	Large	Open Cast Coal Mine 4 Mi. T/A	4248 KLD	Dornestic: 1584 KLD. Industrial 2568 KLD.	ETP & STP installed	Multi cyclone, covered conveyer belt, water sprinkling	Complying	Complying
14	Northern Coal Field Ltd. Krishnashila Unit.	Large	Open Cast Coal Mine 4 Mi. T/A	6476 KLD	Domestic- 605 KLD Industrial – 4792 KLD	STP installed	Multi cyclone, covered conveyer belt, water sprinkling	Complying	Complying
15	Obra Thermal Power Station U-A, Obra.	Large	Power Generation- 5x50 MW 3x100 MW	480000 KLD	20000MT/D	Ash slurry discharges into dykes. Domestic effluents are being treated in septic tank. Effluents are not being treated as per board norms.	In 3x100MW unit rnechanical precipitator and ESP are being installed and wit 5x50 MW unit mechanical dust collectors are being installed. Emissions are much rnore as compare with board norms.	Not Complying	Closure orders issued by CPCB under section 5 of EPA vide lt. dt. 16.8.2010
16	Obra Thermal Power Station U-B, Obra.	Large	Power Generation- 5x50 MW 5x200 MW	15671 KLD	7171MT/D	Ash slurry discharges into dykes and rest quantity is being passed by Jhariya Nala. Domestic effluent is being treated in septic tank. Effluents are not being treated as per board norms.	In all units less capacity ESP's are being installed which are failed to work as board norms.	Not Complying	Directions issued by CPCB under section 5 of EPA vide lt. dt. 16.8.2010
17	Orient Micro Abresives Ltd. Renukoot.	Small	CPW 16.66 MT/day	1KLD	500L/D	ETP installed	Double line Scrubber Hypo plant	Complying	Complying

Contd..p/5.

1	2	3	4	5	6	7	8	9	10
18	M/s. Dalla Cement Factory, (A Unit of Jai Prakash Associates) Dalla, Sonebhadra.	Large	Cement Clinker-66000MT/M PPC-30000MT/M	4008 KLD	Domestic-675 KLD Industrial - 370 KLD	ETP & STP installed & under commissioning.	ESP – Kiln ESP – Coller Bag Filters – Coal Mill & Transfer Point	Complying	Complying
19	M/s. Dalla Cement Factory (A Unit of Jai Prakash Associates) Kajarahat (Dala) Bhalua, Julgul & Padarach Mines	Large	Lime Stone Mining 266665-66MT/Month	3238M^3/D	30KLD	STP installed	Mechanical Dust Collector	Complying	Complying
20	M/s. Hi-Tech Carbon, Renukoot, Sonebhadra.	Large	Carbon Black 5100MT/Month	3458 KLD	565 KLD	Industrial effluent treated by primary treatment pit oil skimmer, oil separator imhoff clarifier settling tank pH adjustment tank Sludge drying bed. Domestic effluent is being treated by septic tank/soak pit tank.	Plume consist Bag filter purge bag filter. Emission are being emit as per board norms.	Complying	Complying
21	M/s. Jai Beer Cement, Markundi,Sonbhadra	Small	Cement bagging	----------Industry Closed----------					
22	M/s. LANCO Anpara Power Limited, Anpara	Large	Power Generation 1200 M.W. (2x600M.W.)		650M^3/hour	Ash slurry effluent discharged into ash dykes, After proper setling finly goes into Rihand reservior. Industries has installed STP for domestic waste water.	With each units ESP is installed & emissions are being emit as per board norms.	Complying	Complying

(A) TOTAL AIR POLLUTING INDUSTRIES = 21
INDUSTRY CLOSED = 01
APCS INSTALLED = 20
OPRS = 16
OPRNS = 04

(B) TOTAL WATER POLLUTING INDUSTRIES = 20
INDUSTRY CLOSED = 01
ETP INSTALLED = 17
ETP NOT INSTALLED = 02
OPRS = 17

LIST OF INDUSTRIES WHICH ARE ACHIEVING NORMS (OPRS)

क्षेत्रीय कार्यालय, सोनभद्र में स्थित प्रमुख प्रदूषणकारी उद्योगों, जो कि अपना उत्प्रवाह किसी नदी या झील में निस्तारित करते हैं, के प्रदूषण नियंत्रण की दिनांक 25–10–2012 तक की स्थिति–

STATUS OF GROSSLY POLLUTING INDUSTRIES DISCHARGING EFFLUENTS INTO WATER COURSE INCLUDING RIVERS AND LAKES AND THE EFFLUENTS HAVING A BOD LOAD OF 100 KG/DAY OR MORE

(OPERS-ETP Installed & Achieving Standards, OPRNS-ETP Installed But Not Achieving Standards, UCL-Unit Closed, NES-ETP Not Installed, PU-Private Sector, CU-Central Unit, SU State Unit, CP-Co-operative Unit)

Sl. No.	Name and address of Industry	Sector	Type	Date of Inspection	Date of commencement of Industry	Effluent Recipient Water Body or lakes		Concerned Recipient River Effluent				BOD and other pollution load		ETP Status
						Name	Distance from Industry	Name	Distance from the discharge point of the Recipient Water Body	Quality	Quantity in KLD	Before treatment Kg./D.	After treatment Kg./D.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	M/s. Hindalco Industries Ltd., Renukoot, Sonebhadra	PU	Metallurgy Al. Ingotts	18.10.12	1962	Rihand	12 Kms	Rihand	8 Kms	Sample dtd. 19.07.2012 pH - 8.0 BOD – 14.8 mg./L COD – 84.0 mg./L S.S. – 27.0 T.D.S - 289.0 Fluoride – 1.79	5060	5920	153.9	OPRS
2.	M/s. Aditya Birla Chemicals (India) Ltd. Renukoot, Sonebhadra	PU	Caustic Soda stable bleaching powder Aluminium Chloride CPW	19.10.12	1964	Rihand	4 Kms	Rihand	3 Kms	Sample dtd. 19.07.2012 pH - 7.72 BOD - 13.2 mg./L COD - 56.0 mg./L S.S. – 30.0 T.D.S. – 286.0 Fluoride – 0.98	650	1360	40.8	OPRS

Contd....p/2.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3.	M/s. NTPC, Shaktinagar Sonebhadra	CU	Thermal Power	17.10.12	1982	Rihand Reservoir	2.5 Kms	Rihand	6 Kms	Sample dtd. 26.04.12 pH - 6.97 BOD – 14.4 mg./L COD - 72.0 mg./L S.S. – 39.0 T.D.S. – 293.0 Fluoride – 1.45	3302000	2000	60	OPRS
4.	M/s. NTPC, Rihand Nagar Sonebhadra	CU	Thermal Power	23.08.12	1988	Rihand Reservoir	5 Kms	Rihand	4.5 Kms	Sample dtd. 19.12.11 pH - 7.37 BOD – 8.0 mg./L COD - 32.0 mg./L S.S. – 28.0 T.D.S. – 246.0 Fluoride – 2.10	-	-	-	OPRS
5.	M/s. Hindalco Industries, (Power Division), Renusagar, Sonebhadra	PU	Thermal Power	16.10.12	1968	Rihand Reservoir	0.5 Kms	Rihand	Recycling inside premises	Sample dtd. 26.04.12 pH - 7.34 BOD - 4.7 mg./L COD - 36.0 mg./L S.S. - 48.0 mg./L T.D.S. – 306.0 Fluoride – 1.05	Recycling and Reuse	900	27	OPRS
6.	M/s Anpara Thermal Power Station, (A & B), Anpara, Sonebhadra	SU	Thermal Power	16.10.12	1987	Rihand Reservoir	1 Km	Rihand	10 Kms	Sample dtd. 26.04.12 pH - 6.72 BOD - 13.9 mg./L COD - 64.08 mg./L S.S. - 44.0 mg./L T.D.S. – 301.0 Fluoride – 1.59	3728640	3542.4	232.03	STP, OPRS, ETP Partial

Contd....p/3.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
7.	M/s Obra Thermal Power Station (A & B), Sonbhadra	SU	Thermal Power	06.08.12	1968	Renu/Sone River	1 Km	1 Km	1 Km	Sample dtd. 19.12.11 pH - 7.52 BOD - 4.0 mg./L COD - 20.0 mg./L S.S. - 24.0 mg./L T.D.S. – 272.0 Fluoride – 1.04	2796480	----	No Treat-ment	No STP & ETP
8.	M/s. Hitech Carbon Renukoot, Sonbhadra	PU	Carbon Black	18.10.12		Rihand	7 Kms	Rihand	7 Kms	Sample dtd. 19.07.12 pH - 7.80 BOD - 21.0 mg./L COD - 75.0 mg./L S.S. - 34.0 T.D.S. – 298.0 Fluoride – 1.41				OPRS
9.	M/s. LANCO Anpara Power Ltd., Anpara, Sonbhadra	PU	Thermal Power	16.10.12	March 2011	Rihand	1 Km.	Rihand	1 Km.	Sample dtd. 26.04.12 pH - 6.69 BOD - 12.2 mg./L COD - 59.4 mg./L S.S. - 43.0 T.D.S. – 296.0 Fluoride – 2.12		—	No Treat-ment	No STP & ETP

REGIONAL OFFICE : U.P. POLLUTION CONTROL BOARD, SONEBHADRA - ANNEXURE NO.V

CURRENT STATUS OF GROSSLY POLLUTING INDUSTRIES COVERED UNDER SINGRAULI ACTION PLAN IN DISTT. SONEBHADRA AS ON 25.10.2012

Sl. No.	Name & Address of Industry	Industrial Sector	Name of Product	Status of Water Pollution Control Unit	Status of Air Pollution Control Unit	Performance		Recent Analysis Results/Monitoring Report	Remarks
						Water Pollution Control Unit	Air Pollution Control Unit		
1	2	3	4	5	6	7	8	9	10
1.	NTPC, Shaktinagar, Sonebhadra	CU	T.P.P. 2000 MW, (2x500 MW 5X200 MW)	Ash Slurry discharges into dyke and finally after proper settling discharges into Rihand Dam. For coal handling plant effluent treatment plant is installed and also STP installed for domestic waste water treatment.	With each units ESP is installed and emissions are as per board norms.	Satisfactory	Satisfactory	Sample dtd. **09.07.12** pH - 7.80 BOD – 12.0 mg./L COD - 80.0 mg./L S.S. - 28.0 mg./L Floride- 3.6	
2.	NTPC, Rihand Nagar, Sonebhadra	CU	T.P.P. (2x500 MW 2x500 MW) = 2000 MW	Ash Slurry after proper treatment through ashdyke, total effluent is being recycled into plant for different purposes, Industry has septic Tank/Oxidation Pond for domestic wastewater treatment. For coal handling plant effluent passes through settling pond. Only in case of flood effluent may be discharged into Rihand reservoir.	With each units ESP is installed and emission are being emit as per board norms.	Satisfactory	Satisfactory	Treated Effluent Recycled	Treated effluent re-cycled. Consent (Water/Air) granted upto 2012.

Contd....p/2.

1	2	3	4	5	6	7	8	9	10
3.	Anpara Thermal Power Station **Unit-A,** Anpara, Sonebhadra	SU	T.P.P. (3x210 MW) 630 MW	Ash slurry effluent discharge into ash dyke after proper settling finally goes into Rihand reservoir. Industry has installed sewage treatment plant for domestic wastewater.	With each units ESP is installed and due to less capacity emission are not being as per board norms.	Satisfactory	Unsatisfactory	Sample dtd. **09.07.12** pH - 7.85 BOD - 14.1 mg./L COD - 104.0 mg./L S.S. - 32.0 mg./L Floride- 5.9	
4.	Anpara Thermal Power Station **Unit-B,** Anpara, Sonebhadra	SU	TPP (3x500 MW) 1500 MW	Ash slurry discharges into dykes after proper settling finally goes into Rihand reservoir. Effluents are not being treated as per board norms.	With each units ESP is installed and due to less capacity emission are not being as per board norms.	Satisfactory	Unsatisfactory	Sample dtd. **09.07.12** pH - 7.85 BOD - 14.7 mg./L COD - 104.0 mg./L S.S. - 32.0 mg./L Floride- 5.9	
5.	Obra Thermal Power Station **Unit-A,** Obra, Sonebhadra	SU	TPP (5x50 MW 3x100 MW) 550 MW	Ash slurry discharges into dykes. Domestic effluent are being treated in septic tank. Effluents are not being treated as per board norms.	In 3x100MW unit mechanical precipitator and ESP are being installed and wit 5x50 MW unit mechanical dust collectors are being installed. Emissions are much more as compare with board norms.	Unsatisfactory	Unsatisfactory	Sample dtd. **19.12.11** pH - 7.52 BOD - 4.0 mg./L COD - 20.0 mg./L S.S. - 24.0 mg./L Floride- 1.04	No EPP - APCS Partial.
6.	Obra Thermal Power Station **Unit-B,** Obra, Sonebhadra	SU	TPP (5x200 MW) 1000 MW	Ash slurry discharges into dykes and rest quantity is being passed by Jhariya Nala. Domestic effluent is being treated in septic tank. Effluents are not being treated as per board norms.	In all units less capacity ESP's are being installed which are failed to work as board norms.	Unsatisfactory	Unsatisfactory	Sample dtd. **19.12.11** pH - 7.52 BOD - 4.0 mg./L COD - 20.0 mg./L S.S. - 24.0 mg./L Floride- 1.04	. No ETP & APCS Partial.

Contd....p/3.

1	2	3	4	5	6	7	8	9	10
6.	Obra Thermal Power Station **Unit-B**, Obra, Sonebhadra	SU	TPP (5x200 MW) 1000 MW	Ash slurry discharges into dykes and rest quantity is being passed by Jhariya Nala. Domestic effluent is being treated in septic tank. Effluents are not being treated as per board norms.	In all units less capacity ESP's are being installed which are failed to work as board norms.	Unsatisfactory	Unsatisfactory	Sample dtd. **19.12.11** pH - 7.52 BOD - 4.0 mg./L COD - 20.0 mg./L S.S. - 24.0 mg./L Floride- 1.04	. No ETP & APCS Partial.
7.	M/s. Dalla Cement Factory, (A Unit of Jai Prakash Associates) Dalla, Sonebhadra.	PU	Cement Clinker-66000MT/M PPC-30000MT/M	Only domestic Septic Tanks Soak Pit – STP under Construction.	ESP – Kiln ESP – Coller Bag Filters - Coal Mill & Transfer Point	Satisfactory	Satisfactory	–	-
8.	M/s. Churk Cement Factory. Churk, Sonebhadra.	PU	Cement	---------- Industry Closed ----------					
9.	Hindalco Industries Ltd. (Renusagar Power Division) Renusagar.	PU	T.P.P. 741.7MW.	Ash slurry effluent discharged into ash dykes and finally after proper treatment total effluent is being reused in industrial process. Effluent generated from floor washing after neutralizing kept in pit and then finally by pipt into ash dyke. Industry has STP for domestic wastewater treatment.	With each units ESP is installed and emission are being emit as per board norms.	Satisfactory	Satisfactory	Sample dtd. **09.07.12** pH - 8.23 BOD - 15.2 mg./L COD - 60.0 mg./L S.S. - 28.0 mg./L Floride - 4.3	
10.	Hindalco Industries Ltd. Renukoot, Sonebhadra	PU	Aluminium metal	ETP & STP both has been upgraded and treated effluent is recycled back for process use and etc. Industrial effluent treated by collection pit, neutralization tank, HRSCC, Centrifuge and sludge drying bed. Domestic effluent is being treated by Fludised Aerobic Bio-reactor.	Air pollution control unit consist ESP, DSS, FTP, Computerized Oil Firing system and emission are as per well below PCB	Satisfactory	Satisfactory	Sample dtd. **19.07.12** pH - 8.00 BOD – 14.8 mg./L COD – 84.0 mg./L S.S. – 27.0 mg./L Floride- 1.79	

Contd....p/4.

1	2	3	4	5	6	7	8	9	10
11.	Aditya Birla Chemicals & Industries Ltd. Renukoot, Sonebhadra.	PU	Chemical Industry	Treatment unit for Industrial effluent. Mercury effluent is being totally recycled. Effluent is being treated as per PCB norms. Domestic effluent treated by septic tank/Soak pit.	Proper system for air pollution control unit. Chlorine neutralization plant, hypo plant and fume scrubber are there. MCDC & Bag Filter are installed in Boiler.	Satisfactory	Satisfactory	Sample dtd. **19.07.12** pH - 7.72 BOD – 13.2 mg./L COD - 56.0 mg./L S.S. – 30.0 mg./L Floride- 0.98	
12.	Aditya Birla Chemicals (Power Generation Unit) Renukoot, Sonebhadra.	PU	T.P.P. 2x25MW 50 MW	Dry as disposal for brick manufacturing.	ESP & Bag filter.	Satisfactory	Satisfactory	--	
13.	M/s. Hitech Carbon Renukoot, Sonebhadra	PU	Carbon Black 170T/Y	Industrial effluent treated by primary treatment pit oil skimmer, oil separator imhoff clarifier settling tank pH adjustment tank Sludge drying bed. Domestic effluent is being treated by septic tank/soak pit tank.	Plume consist Bag filter purge bag filter. Emission are being emit as per board norms.	Satisfactory	Satisfactory	Sample dtd. **19.07.12** pH - 7.80 BOD - 21.0 mg./L COD - 75.0 mg./L S.S. - 34.0 mg./L Flouride- 1.41mg./L	
14.	M/s. Lanco Anpara Power Ltd., Anpara, Sonbhadra	PU	Thermal Power 2x600 MW	Ash slurry effluent discharge into ash dyke after proper settling finally goes into Rihand reservoir. Industry has installed sewage treatment plant for domestic wastewater.	With each units ESP is installed and due to less capacity emission are not being as per board norms.	Satisfactory	Satisfactory	**Sample Collected dtd. 26.04.12** BOD – 6.69 mg/L COD - 12.2 mg/L pH - 59.4 S.S. - 43.0 TDS - 296.0 Flouride - 2.12	
15.	M/s. NCL, Bina Project, Bina, Sonebhadra.	CU	Coal 4.5MT/Y	ETP is installed for industrial effluent and STP for domestic effluent treatment.	Hall road, CHP water spray, CHP dust suppression system for air pollution control and for effluent STP is there.	Satisfactory	Satisfactory	**Sample Collected dtd. 09.07.12** BOD – 3.2 mg/L COD - 32.0 mg/L pH - 7. 69 S.S. - 25.0 TDS - 271.0 TS - 296.0 Fe - 6.5	

Contd....p/5.

1	2	3	4	5	6	7	8	9	10
16.	M/s. NCL, Kakri, Project Kakri, Sonebhadra.	CU	Coal 4.0MT/Y	ETP is installed for industrial effluent Treated effluent are being discharge by nala and Domestic effluent is being treated by septic tank/soak pit tank.	Hall road, CHP water spray, system for air pollution control and dust extraction installed at collection pit.	Satisfactory	Satisfactory	**Sample Collected dtd. 09.07.12** BOD – 6.0 mg/L COD - 44.0 mg/L pH - 7.72 S.S. - 24.0 TDS - 272.0 Flouride - 0.63	
17.	M/s. NCL, Khadia, Project Khadia, Sonebhadra.	CU	Coal 3.0MT/Y	ETP is installed for industrial effluent Treated effluent are being discharge by nala and Domestic effluent is being treated by STP but not working well.	Hall road, CHP water spray, system for air pollution control.	satisfactory	Satisfactory	**Sample Collected dtd. 26.04.12** BOD – 12.3 mg/L COD - 72 mg/L pH - 7.19 S.S. - 68.0 TDS – 282.0 Flouride - 1.03	
18.	M/s. NCL, Dhudhichwa, Project Dhudhichuwa, Sonebhadra.	CU	Coal 3.0MT/Y	ETP is installed for industrial effluent Domestic effluent is being treated by septic tank/soak pit tank.	Hall road, CHP water spray, system for air pollution control and dust extraction installed at collection pit.	Satisfactory	Satisfactory	**Sample Collected dtd. 26.04.12** BOD – 11.2 mg/L COD - 68.4 mg/L pH - 6.95 S.S. - 29.0 TDS - 288 TS - 317.0 Re - 0.94	
19.	M/s. NCL, Krishnshila Project, PO. Bina, Distt. Sonebhara.	CU	Coal 4.0 Million Ton/ Annum	No ETP	Hall road, CHP water spray, system for air pollution control and dust extraction installed at collection pit.	Unsatisfactory	Unsatisfactory	**New Project**	
20.	M/s. Orient Micro-Abrasives Ltd., Renukoot, Distt. Sonebhadra.	PU	CPW	Neutralization Tank, Settling Tank	Wet Scrubber	satisfactory	satisfactory	-	-

Contd....p/6.

1	2	3	4	5	6	7	8	9	10
21.	M/s. Prajapati Chemical Industries Ltd., Renukoot.	PU	CPW	Neutralization Tank, Settling Tank	Wet Scrubber	satisfactory	–	--	Merged in M/S Kanoria chemicals & Inds.
22.	M/s. Vikas Industrial Gases, Renukoot, Sonebhadra.	PU	---------- Closed its own						--

(A) **TOTAL AIR POLLUTING INDUSTRIES = 22**
INDUSTRY CLOSED = 01
APCS INSTALLED = 20
OPRS = 16
OPRNS = 04

(B) **TOTAL WATER POLLUTING INDUSTRIES = 21**
INDUSTRY CLOSED = 01
ETP INSTALLED = 19
ETP NOT INSTALLED = 02
OPRS = 18

क्षेत्रीय कार्यालय: उ०प्र० प्रदूषण नियंत्रण बोर्ड, सोनभद्र में स्थित स्टोन क्रशर्स में वायु प्रदूषण नियंत्रण का विवरण: जनपद-सोनभद्र (संशोधित)

क्र० सं०	स्टोन क्रशर का नाम एवं पता	जिला उद्योग केन्द्र/व्यापार कर/ख. ग. बोर्ड के पंजियन प्रमाण–पत्र के अनुसार उत्पादन प्रारम्भ करने का वर्ष	जिला उद्योग केन्द्र का पंजियन संख्या	वायु प्रदूषण नियंत्रण व्यवस्था	अनुपालन स्थिति		टिप्पणी
					अनुपालन	अनुपालन नहीं	
1	2	3	4	5	6	7	8
1.	मे० शशांक स्टोन वर्क्स, बिल्ली, ओबरा, सोनभद्र	1999	09070120992	स्थापित	Complying	--	
2.	मे० माँ दुर्गा इण्डस्ट्रीज, बिल्ली, लंगड़ा मोड़, मारकुण्डी, सोनभद्र	1999	0070409	स्थापित	Complying	--	
3.	मे० प्रवीन स्टोन वर्क्स, बारी–डाला, सोनभद्र	1994	203801774	स्थापित	Complying	--	
4.	मे० बलिया सीता स्टोन प्रोडक्ट, बिल्ली, ओबरा, सोनभद्र	1998	090701201051	स्थापित	Complying	--	
5.	मे० अंकिता इण्टरप्राइजेज, रासपहाड़ी रोड, बग्गा नाला बिल्ली	1999	09070120788	स्कूल के पास बोर्ड द्वारा बंदी आदेश जारी।			
6.	मे० महामाया स्टोन क्रसिंग के डाला कोठा, सोनभद्र	1999	09070120924	स्थापित	Complying	--	
7.	मे० तेज स्टोन वर्क्स, यूनिट–2, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070120990	स्थापित	Complying	--	
8.	मे० आराधना स्टोन क्रसिंग कं०, वर्दिया, चोपन, सोनभद्र	1999	09070121033	स्थापित	Complying	--	
9.	मे० कमला स्टोन वर्क्स, वर्दिया, चोपन, सोनभद्र	1999	09070121034	स्थापित	Complying	--	
10.	मे० न्यू महावीर स्टोन क्रसिंग कं०, बिल्ली–मारकुण्डी, सोनभद्र	1997	09070120932	स्थापित	Complying	--	
11.	मे० शंकर स्टोन प्रोडक्ट, डाला, सोनभद्र	1984	203801700	स्थापित	Complying	--	
12.	मे० कैमूर स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1999	09615200857	स्थापित	Complying	--	
13.	मे० रासपहाड़ी क्रशर स्टोन, बिल्ली–ओबरा, सोनभद्र	1999	09215106239	.....	दिसम्बर, 2009 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
14.	मे० वैभव स्टोन प्रोडक्ट बिल्ली–ओबरा, सोनभद्र	1997	09070120993	स्थापित	Complying	--	
15.	मे० माँ शीतला इण्डस्ट्रीज, बिल्ली–मारकुण्डी, सोनभद्र	1999	09115106348	.....	दिसम्बर, 2011 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
16.	मे० जय माँ शीतला देवी इण्डस्ट्रीज, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070121010	स्थापित	Complying	--	
17.	मे० माँ शेरावाली स्टोन, बिल्ली–मारकुण्डी, सोनभद्र	1999	प्रथम आवेदन प्राप्त(सी०एस०ए०) 08.06.2009	स्थापित	Complying	--	
18.	मे० तुषार स्टोन प्रोडक्ट, लंगड़ा मोड़, डाला, सोनभद्र	1999	09070120995	स्थापित	Complying	--	
19.	मे० आर०सी०एम० स्टोन वर्क्स, बिल्ली–ओबरा, सोनभद्र	1999	09315706093	स्थापित	Complying	--	
20.	मे० शिवा कन्स्ट्रक्शन, बिल्ली–मारकुण्डी, सोनभद्र	1997	090701201001	स्कूल के पास बोर्ड द्वारा बंदी आदेश जारी।			

1	2	3	4	5	6	7	8
21.	मे0 बलिया इण्टरप्राइजेज, डाला, जनपद–सोनभद्र	1999	09070201050	बोर्ड मुख्यालय द्वारा दिनांक 29.06.2012 को बन्दी आदेश जारी।			
22.	मे0 फौजदार सिंह स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1983	203801596	स्थापित	Complying	--	
23.	मे0 साई स्टोन प्रोडक्ट, डाला, बिल्ली–सोनभद्र	1993	09115703581	स्थापित	Complying	--	
24.	मे0 आदर्श स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070120959	स्थापित	Complying	--	
25.	मे0 वैष्णो एसोसिएट्स, बिल्ली–मारकुण्डी, सोनभद्र	1995	09070120980	स्थापित	Complying	--	
26.	मे0 ओम स्टोन क्रसिंग कं0, पटेल नगर, डाला, सोनभद्र	1995	0049349	स्थापित	Complying	--	
27.	मे0 रूद्राक्ष स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1991	0039021	स्थापित	Complying	--	
28.	मे0 वैभव स्टोन ट्रेडर्स, डाला, सोनभद्र	1997	09070120993	स्थापित	Complying	--	
29.	मे0 भारत स्टोन क्रसिंग कं0, बिल्ली–ओबरा, सोनभद्र	1999	0077324	स्थापित	Complying	--	
30.	मे0 बी0 अग्रवाल स्टोन प्रोडक्ट्स, यूनिट–4, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070120977	स्थापित	Complying	--	
31.	मे0 बी0 अग्रवाल स्टोन प्रोडक्ट्स, यूनिट–1, बिल्ली–सोनभद्र	1999	09215100040	स्थापित	Complying	--	
32.	मे0 बी0 अग्रवाल स्टोन प्रोडक्ट्स, यूनिट–3, बिल्ली–मारकुण्डी, सोनभद्र	1992	NOC प्राप्त 19.05.2008	स्थापित	Complying	--	1992 में एन.ओ.सी. जारी
33.	मे0 बी0 अग्रवाल स्टोन प्रोडक्ट्स, यूनिट–2, बिल्ली–मारकुण्डी, सोनभद्र	1990	NOC प्राप्त 19.05.2008	स्थापित	Complying	--	1990 में एन.ओ.सी. जारी
34.	मे0 जे0के0 स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	11.02.00	0065759	स्थापित	Complying	--	
35.	मे0 सिंह स्टोन इण्डस्ट्रीज, वारी–डाला, सोनभद्र	1996	206701492	स्थापित	Complying	--	
36.	मे0 माँ थावे देवी स्टोन प्रोडक्ट, बिल्ली–ओबरा, सोनभद्र	1999	09070120971	स्थापित	Complying	--	
37.	मे0 ओम स्टोन क्रसिंग कं0, पटेल नगर, डाला, सोनभद्र	1999	09070120003	स्थापित	Complying	--	
38.	मे0 शीला इण्टरप्राइजेज, बिल्ली–मारकुण्डी, ओबरा, सोनभद्र	1991	0040973	स्थापित	Complying	--	
39.	मे0 जय माँ अम्बे इण्टरप्राइजेज, बिल्ली–ओबरा, सोनभद्र	1999	09070120933	स्थापित	Complying	--	
40.	मे0 कामधेनु इण्टरप्राइजेज, बारी–डाला, सोनभद्र	1999	09070120889	स्थापित	Complying	--	
41.	मे0 रमेश स्टोन प्रोडक्ट, बिल्ली–ओबरा, सोनभद्र	1990	20620308	स्थापित	Complying	--	
42.	मे0 माँ स्टोन प्रोडक्ट, बिल्ली–ओबरा, सोनभद्र	1999	09070120973	स्थापित	Complying	--	
43.	मे0 शुभम स्टोन कं0, बिल्ली–मारकुण्डी, सोनभद्र	1998	0941520099	बोर्ड मुख्यालय द्वारा दिनांक 29.06.2012 को बन्दी आदेश जारी।			
44.	मे0 माँ सरस्वती स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1982	203801559	स्थापित	Complying	--	
45.	मे0 माँ मैहर देवी इण्डस्ट्रीज, यूनिट–2, बिल्ली–ओबरा, सोनभद्र	1995	0108673	स्थापित	Complying	--	
46.	मे0 जय निर्मल बाबा इण्डस्ट्रीज, बिल्ली–ओबरा, सोनभद्र	1995	0284943	स्थापित	Complying	--	
47.	मे0 गणपति एसोसिएट्स, बिल्ली–ओबरा, सोनभद्र	1996	09070120981	स्थापित	Complying	--	

1	2	3	4	5	6	7	8
48.	मे0 वैष्णो स्टोन प्रोडक्ट, सुकृत, सोनभद्र	1999	09070110015	स्थापित	Complying	--	बंदी आदेश जारी तथा अनुपालन के उपरान्त निलम्बित।
49.	मे0 आदर्श स्टोन वर्क्स, बिल्ली, सोनभद्र	1999	000001423	स्थापित	Complying	--	
50.	मे0 माँ वैष्णो स्टोन वर्क्स, रासपहाड़ी, बिल्ली, सोनभद्र	1999	09115701049	स्थापित	Complying	--	
51.	मे0 सत्यम स्टोन वर्क्स, बिल्ली, ओबरा, सोनभद्र	मई, 2000	09815103115	स्थापित	Complying	--	
52.	मे0 महामाया स्टोन, बिल्ली–मारकुण्डी, सोनभद्र	1999	09715106227	स्थापित	Complying	--	
53.	मे0 श्री बालेश्वर जी स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1999	R.G. 0067764	स्थापित	Complying	--	
54.	मे0 राज लक्ष्मी स्टोन प्रोडक्ट, बिल्ली, ओबरा, सोनभद्र	1996	09415702641	स्थापित	Complying	--	
55.	मे0 ओम स्टोन क्रसिंग कं0, रासपहाड़ी, बिल्ली–मारकुण्डी, सोनभद्र	1999	09815706175	स्थापित	Complying	--	
56.	मे0 शिवम स्टोन क्रसिंग कं0, बिल्ली, ओबरा, सोनभद्र	1997	0057662	स्थापित	Complying	--	
57.	मे0 प्रकाश स्टोन क्रसिंग कं0, बारी, डाला, सोनभद्र	1987	0030138	स्थापित	Complying	--	
58.	मे0 आरती स्टोन वर्क्स, बिल्ली, डाला, सोनभद्र	1982	203601336	स्थापित	Complying	--	
59.	मे0 प्रताप स्टोन वर्क्स, बारी, डाला, सोनभद्र	1999	0088155	स्थापित	Complying	--	
60.	मे0 पाण्डेय इण्टरप्राइजेज, सिन्दुरिया, चोपन, सोनभद्र	1992	206200669	स्थापित	Complying	--	
61.	मे0 वर्दिया स्टोन प्रोडक्ट, वर्दिया, चोपन, सोनभद्र	1999	09070121031	स्थापित	Complying	--	
62.	मे0 पंचतंत्र स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1999	09615706115	स्थापित	Complying	--	
63.	मे0 राजहंस इण्टरप्राइजेज, डाला, सोनभद्र	1997	09615700461	स्थापित	Complying	--	
64.	मे0 नारायण इण्टरप्राइजेज, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070120987	स्थापित	Complying	--	
65.	मे0 राम नारायण सिंह, बारी–डाला, सोनभद्र	1995	206201441	.....	दिसम्बर, 2011 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
66.	मे0 अमरेन्द्र बहादुर सिंह, वरदिया, चोपन, सोनभद्र	1999	09215200958	स्थापित	Complying	--	
67.	मे0 शारदा लक्ष्मी स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1987	09070120918	स्थापित	Complying	--	
68.	मे0 पटेल स्टोन वर्क्स, डाला, सोनभद्र	1996	09215200360	स्थापित	Complying	--	
69.	मे0 विन्ध्यवासिनी स्टोन वर्क्स, बिल्ली, डाला, सोनभद्र	1983	203801880	स्थापित	Complying	--	
70.	मे0 विनोद स्टोन प्रोडक्ट्स, वारी–डाला, सोनभद्र	1982	000001528	.....	दिसम्बर, 2007 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
71.	मे0 अगोरी ग्रामोद्योग विकास संस्थान, बिल्ली–मारकुण्डी, सोनभद्र	2000	426	स्थापित	Complying	--	
72.	मे0 साक्षी ग्रामोद्योग विकास संस्थान, प्रीतिनगर, चोपन, सोनभद्र	1997	299	स्थापित	Complying	--	
73.	मे0 माँ सिद्धेश्वरी सेवा समिति, बिल्ली–ओबरा, सोनभद्र	1981	0019067	स्थापित	Complying	--	
74.	मे0 विन्ध्य स्टोन प्रोडक्ट, बिल्ली–ओबरा, सोनभद्र	1999	09815104911	स्थापित	Complying	--	

1	2	3	4	5	6	7	8
75.	मे0 जय माँ वैष्णो स्टोन प्रोडक्ट, बिल्ली–ओबरा, सोनभद्र	1999	09070120972	स्थापित	Complying	--	
76.	मे0 माँ विन्ध्यवासिनी इण्टरप्राइजेज, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070120931	स्थापित	Complying	--	
77.	मे0 माँ वैष्णो इण्टरप्राइजेज, बारी–डाला, सोनभद्र	1999	09115201303	स्थापित	Complying	--	
78.	मे0 कामाख्या इण्टरप्राइजेज, चोपन, सोनभद्र	1999	09415105894	स्थापित	Complying	--	
79.	मे0 आर0एस0 इण्टरप्राइजेज, पटेल नगर, डाला, सोनभद्र	1999	17.08.06	स्थापित	Complying	--	
80.	मे0 बाबा सेवा समिति, सुकृत, सोनभद्र	2000	376	स्थापित नहीं है।	--	Not Complying	नोटिस जारी
81.	मे0 मिश्रा स्टोन क्रसिंग कं0, बिल्ली, सोनभद्र	1991	206200266	स्थापित	Complying		
82.	मे0 अग्रवाल स्टोन, बिल्ली, ओबरा, सोनभद्र	1981	23.08.09	स्थापित	Complying	--	
83.	मे0 सुनील कुमार सिंह, बिल्ली–मारकुण्डी, सोनभद्र	1999	09115201666	स्थापित	Complying	--	
84.	मे0 राजा स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1999	09115706334	स्थापित	Complying	--	
85.	मे0 सिद्धि विनायक स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1996	09415700496	स्थापित	Complying	--	
86.	मे0 माँ मैहर देवी इण्डस्ट्री, बिल्ली–ओबरा, सोनभद्र	1984	2342	स्थापित	Complying	--	
87.	मे0 विवेक स्टोन चिप्स कारपोरेशन, बिल्ली–मारकुण्डी, सोनभद्र	1978	1527	Partial	Complying	--	
88.	मे0 विन्ध्य स्टोन क्रसिंग कं0, बिल्ली–मारकुण्डी, सोनभद्र	1994	206200372	स्थापित	Complying	--	
89.	मे0 शिव स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1996	0054808	स्थापित	Complying	--	
90.	मे0 साम्भवी स्टोन वर्क्स, लंगड़ा मोड़, बिल्ली–बारी, डाला, सोनभद्र	1995	090701101583	स्थापित	Complying	--	
91.	मे0 जय श्रीकृष्णा स्टोन, बिल्ली–ओबरा, सोनभद्र	10.05.00	090701201000	स्थापित	Complying	--	
92.	मे0 माँ जगदम्बा इण्डस्ट्रीज, बिल्ली–डाला, सोनभद्र	1999	09915705528	स्थापित	Complying	--	
93.	मे0 आर0के0 इण्टरप्राइजेज, बिल्ली–मारकुण्डी, ओबरा, सोनभद्र	1995	09715200277	स्थापित	Complying	--	
94.	मे0 मुन्नी लाल एण्ड कं0, बिल्ली–मारकुण्डी, सोनभद्र	1990	09070120884	स्थापित	Complying	--	
95.	मे0 राधेश्याम इण्टरप्राइजेज, डाला कोठा, सोनभद्र	1998	09070110845	स्थापित	Complying	--	
96.	मे0 सुशील ग्रिट्स कारपोरेशन, बारी–डाला, सोनभद्र	1996	09070120551	स्थापित	Complying	--	
97.	मे0 लक्ष्मी स्टोन वर्क्स, बिल्ली–मारकुण्डी, रासपहाड़ी, सोनभद्र	1994	203801709	स्थापित	Complying	--	
98.	मे0 जय माँ चित्तपूर्णी स्टोन वर्क्स, बिल्ली–ओबरा, सोनभद्र	1999	09115701049	बोर्ड मुख्यालय द्वारा दिनांक 29.06.2012 को बन्दी आदेश जारी।			
99.	मे0 आर0के0 इण्डस्ट्रीज, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070120929	स्थापित	Complying	--	
100.	मे0 मनोज स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1983	205801576	स्थापित	Complying	--	
101.	मे0 मौर्या स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1984	0034194	स्थापित	Complying	--	

1	2	3	4	5	6	7	8
102.	मे0 रमेश सिंह स्टोन वर्क्स, डाला, सोनभद्र	1989	0035097	स्थापित नहीं है।	Complying	--	
103.	मे0 माँ वैष्णो इण्डस्ट्रीज, बिल्ली–मारकुण्डी, सोनभद्र	19.02.2000	0070409	स्थापित	Complying	--	
104.	मे0 जय सियाराम इण्टरप्राइजेज, डाला कोठा, सोनभद्र	1998	09070110846	स्थापित	Complying	--	
105.	मे0 अवधेश कुमार सिंह, बारी–डाला, सोनभद्र	1993	09215200105	स्थापित	Complying	--	
106.	मे0 मक्खन स्टोन वर्क्स, बिल्ली–मारकुण्डी, ओबरा, सोनभद्र	1990	206200311	स्थापित	Complying	--	
107.	मे0 अग्रहरी स्टोन प्रोडक्ट, यूनिट–1, बारी–डाला, सोनभद्र	1997	206203873	स्थापित	Complying	--	
108.	मे0 अग्रहरी स्टोन प्रोडक्ट, यूनिट–2, बारी–डाला, सोनभद्र	1997	R.G.0055532	स्थापित	Complying	--	
109.	मे0 बिरेन्द्र बहादुर सिंह, पटेल नगर, डाला, सोनभद्र	28.01.00	प्रथम आवेदन प्राप्त 16.06.2001	स्थापित	Complying		
110.	मे0 बन्टी स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1998	206201915	स्थापित	Complying	--	
111.	मे0 शोभा इण्डस्ट्रीज(शिव इण्टरप्राइजेज) बारी, ओबरा, सोनभद्र	1992	As per CSA प्रथम आवेदन प्राप्त 13.05.2003	स्थापित	Complying	--	
112.	मे0 रमेश स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1993	206200335	स्थापित	Complying	--	
113.	मे0 सत्यम स्टोन ग्रामोद्योग सेवा समिति, बारी–डाला, सोनभद्र	15.05.00	2062	स्थापित	Complying	--	
114.	मे0 गनेश सिंह स्टोन कं0, बारी–डाला, सोनभद्र	1999	112511	स्थापित	Complying	--	
115.	मे0 बंशीधर स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1988	09915105599	स्थापित	Complying	--	
116.	मे0 सुपर स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1992	0042067	स्थापित	Complying	--	
117.	मे0 प्रसाद इण्डस्ट्रीज, बिल्ली–ओबरा, सोनभद्र	1999	प्रथम आवेदन प्राप्त 25.02.97	स्थापित	Complying		
118.	मे0 सोवरन इण्टरप्राइजेज, बिल्ली, सोनभद्र	1999	203801219	स्थापित	Complying	--	
119.	मे0 हिन्दुस्तान कन्स्ट्रक्शन कं0 लि0, बिल्ली–मारकुण्डी, सोनभद्र	2005	अस्थाई स्टोन क्रशर वर्तमान में बन्द 24.06.2005				
120.	मे0 रजा सेवा समिति, बारी–डाला, सोनभद्र	01.04.00	45	स्थापित	Complying	--	
121.	मे0 यूनिवर्सल स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1994	206201427	स्थापित	Complying	--	
122.	मे0 जय भवानी इण्टरप्राइजेज, बारी–डाला, सोनभद्र	1996	206201433	स्थापित	Complying	--	
123.	मे0 राजकुमार स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1999	09515101066	स्थापित	Complying	--	
124.	मे0 पाण्डेय इण्टरप्राइजेज, सिन्दुरिया, चोपन, सोनभद्र	1992	206200669	स्थापित	Complying	--	
125.	मे0 स्टोन ग्रिड ग्रामोद्योग संस्था, बारी–डाला, सोनभद्र	1997	2062003	स्थापित	Complying	--	
126.	मे0 हरियाणा स्टोन क्रसिंग कं0, डाला, सोनभद्र	1990	206200454	स्थापित	Complying	--	
127.	मे0 बलिया स्टोन प्रोडक्ट, बिल्ली, ओबरा, सोनभद्र	1999	RG-0064895	स्थापित	Complying	--	
128.	मे0 शिवम स्टोन सेवा समिति, बारी–डाला, सोनभद्र	1999	25/62/ग्रामोद्योग/ 124/99-2000	स्थापित	Complying	--	

1	2	3	4	5	6	7	8
129.	मे0 विक्रम स्टोन वर्क्स, कोठा, डाला, सोनभद्र	1991	20620064	स्थापित	Complying	--	
130.	मे0 न्यू प्रकाश स्टोन प्रोडक्ट (पारस स्टोन वर्क्स), लंगड़ा मोड, डाला, सोनभद्र	1998	20000494	स्थापित	Complying	--	
131.	मे0 मैहर लक्ष्मी स्टोन प्रोडक्ट, चूड़ी गली, बिल्ली–ओबरा, सोनभद्र	1998	R-O-0063464	स्थापित	Complying	--	
132.	मे0 विन्ध्य स्टोन, रासपहाड़ी, डाला, सोनभद्र	1998	09415200627	स्थापित	Complying	--	
133.	मे0 कुमार स्टोन वर्क्स, पटेल नगर, डाला, सोनभद्र	1995	205801542	स्थापित	Complying	--	
134.	मे0 शनी विकास समिति, बारी--डाला, सोनभद्र	1999	887/उ0प्र0खा0ग्रा0बो0	स्थापित	Complying	--	
135.	मे0 शनी स्टोन क्रसिंग कं0, बारी--डाला, सोनभद्र	1999	206200373	स्थापित	Complying	--	
136.	मे0 माँ भगवती देवी इण्डस्ट्रीज, बिल्ली–ओबरा, सोनभद्र	1999	09815106255	स्थापित	Complying	--	
137.	मे0 जय माँ पंचरूखा देवी, बिल्ली--मारकुण्डी, सोनभद्र	1999	RG-0061496	स्थापित	Complying	--	
138.	मे0 बाला जी स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1995	206201414	स्थापित	Complying	--	
139.	मे0 अवधेश स्टोन वर्क्स, बारी--डाला, सोनभद्र	1995	R.G.0051846	स्थापित	Complying	--	
140.	मे0 नन्दलाल स्टोन क्रसिंग कं0, बारी--डाला, सोनभद्र	1993	206200282	स्थापित	Complying	--	
141.	मे0 दुर्गा इण्डस्ट्रीज (पूर्व में बलिया स्टोन क्रसिंग कं0) बिल्ली–ओबरा, सोनभद्र	1997	As per CSA प्रथम आवेदन प्राप्त 02.06.2002	स्थापित	Complying	--	
142.	मे0 ओम स्टोन क्रसिंग कं0, बिल्ली–ओबरा, सोनभद्र	1993	203801885	स्थापित	Complying	--	
143.	मे0 यूनाइटेड क्रशर्स, बारी--डाला, सोनभद्र	1996	20620492	स्थापित	Complying	--	
144.	मे0 श्याम इण्टरप्राइजेज, बारी--डाला, सोनभद्र	1998	RG-0062195	स्थापित	Complying	--	
145.	मे0 गणेश इण्डस्ट्रीज, बिल्ली–ओबरा, सोनभद्र	1993	RG-0019067	स्थापित	Complying	--	
146.	मे0 यशवन्त स्टोन वर्क्स, बारी--डाला, सोनभद्र	1995	206200419	--	Complying	--	
147.	मे0 काशी ग्रामोद्योग सेवा समिति, बिल्ली--मारकुण्डी, ओबरा, सोनभद	1999	RG-5016422	स्थापित	Complying		
148.	मे0 व्रजवासी स्टोन, बारी--डाला, सोनभद्र	1998	RG-0062830	स्थापित	Complying	--	
149.	मे0 अवध स्टोन क्रसिंग समिति, बारी--डाला, सोनभद्र	1998	6500	स्थापित	Complying	--	
150.	मे0 शक्ति स्टोन वर्क्स, बिल्ली–ओबरा, सोनभद्र	1991	20620613	स्थापित	Complying	--	
151.	मे0 अवधेश सेवा समिति, बारी--डाला, सोनभद्र	1998	RG-0047559	स्थापित	Complying	--	
152.	मे0 जगदम्बा इण्टरप्राइजेज, बारी--डाला, सोनभद्र	1995	206201422	स्थापित	Complying	--	
153.	मे0 लक्ष्मी ट्रेडिंग, डाला, सोनभद्र	1999	RG-0066774	स्थापित	Complying	--	
154.	मे0 ज्वाला स्टोन क्रशर्स, बारी–डाला, सोनभद्र	1996	01.12.2007	--	Complying	--	
155.	मे0 नन्दी स्टोन प्रोडक्ट्स, बारी–डाला, सोनभद्र	1999	RG-0065190	स्थापित	Complying	--	

1	2	3	4	5	6	7	8
156.	मे0 कलसी स्टोन सप्लायर्स, बारी–डाला, सोनभद्र	1997	20600486	स्थापित	Complying	--	
157.	मे0 जय इण्टरप्राइजेज, बारी–डाला, सोनभद्र	1997	206201413	स्थापित	Complying	--	
158.	मे0 प्रवेश स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1991	25.07.97	स्थापित	Complying	--	
159.	मे0 रघुबंशी स्टोन प्रोडक्ट, बिल्ली–ओबरा, सोनभद्र	1988	U.PT.T.V.N. 0484625	स्थापित	Complying	--	
160.	मे0 चोपन स्टोन प्रोडक्ट, बारी–डाला, सोनभद्र	1994	206200355	स्थापित	Complying	--	
161.	मे0 अमित स्टोन प्रोडक्ट, बिल्ली–ओबरा, सोनभद्र	1998	RG-5018184	स्थापित	Complying	--	
162.	मे0 सोनांचल स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1999	20620493	.....	दिसम्बर, 2010 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
163.	मे0 एन0आर0वी0 कम्पनी, डाला, सोनभद्र	1992	NOC प्राप्त 1990	स्थापित	Complying	--	
164.	मे0 गुप्ता स्टोन वर्क्स, बिल्ली–ओबरा, सोनभद्र	1999	RG-0062552	.....	दिसम्बर, 2011 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
165.	मे0 बाबा स्टोन, बारी, डाला, सोनभद्र	1997	206201659	स्थापित	Complying	--	
166.	मे0 प्रशान्त स्टोन क्रशर कं0, डाला, सोनभद्र	1999	22.09.2000	स्थापित	Complying	--	
167.	मे0 एकता विकास संस्थान, बारी–डाला, सोनभद्र	1997	RG-0051624	स्थापित	Complying	--	
168.	मे0 प्रिया विकास समिति, पटेल नगर, डाला, सोनभद्र	1999	RG-0066042	स्थापित	Complying	--	
169.	मे0 नर्मदा स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1994	206201433	स्थापित	Complying	--	
170.	मे0 प्रवीण स्टोन कं0, बारी–डाला, सोनभद्र	1999	20/62/ग्रा0उ0/136	स्थापित	Complying	--	
171.	मे0 संदीप स्टोन प्रोडक्ट, बारी–डाला, सोनभद्र	1999	206201493	स्थापित	Complying	--	
172.	मे0 पंकज स्टोन वर्क्स, बारी–डाला, सोनभद्र	1994	206200339	स्थापित	Complying	--	
173.	मे0 सरोज विकास समिति, बारी–डाला, सोनभद्र	2000	219/सो0/रजि0/ V-21747	.....	दिसम्बर, 2009 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
174.	मे0 कृष्णा स्टोन प्रोडक्ट्स, बिल्ली–ओबरा, सोनभद्र	2000	VL-0081324	स्थापित	Complying	--	
175.	मे0 श्याम स्टोन क्रसिंग कं0, बिल्ली–मारकुण्डी, सोनभद्र	1992	RG-0047333	स्थापित	Complying	--	
176.	मे0 अग्रवाल स्टोन ट्रेडर्स, बिल्ली–ओबरा, सोनभद्र	1992	206200278	स्थापित	Complying	--	
177.	मे0 शंकर स्टोन सेवा समिति, बारी–डाला, सोनभद्र	1998	RG-0062450	स्थापित	Complying	--	
178.	मे0 मार्डर्न स्टोन क्रसिंग कं0, बिल्ली, सोनभद्र	1987	RG-0015843	.....	दिसम्बर, 2009 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
179.	मे0 महाबीर स्टोन क्रसिंग कं0, बिल्ली–बारी–डाला, सोनभद्र	1999	प्रथम आवेदन प्राप्त 21.07.97	स्थापित	Complying	--	
180.	मे0 प्रकाश स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1992	206200165	स्थापित	Complying	--	
181.	मे0 शिव शक्ति स्टोन वर्क्स, बारी–डाला, सोनभद्र	1996	RG-0052068	स्थापित	Complying	--	

1	2	3	4	5	6	7	8
182.	मे0 यूनाइटेड स्टोन क्रशर्स, बारी–डाला, सोनभद्र	1999	As per CSA प्रथम आवेदन प्राप्त 02.06.2002	स्थापित	Complying	--	
183.	मे0 के0पी0 स्टोन वर्क्स, बारी–डाला, सोनभद्र	1999	25.07.97	स्थापित	Complying	--	
184.	मे0 राधा स्वामी सेवा समिति, बारी–डाला, सोनभद्र	2000	RG-0083579	स्थापित	Complying	--	
185.	मे0 गनेश स्टोन प्रोडक्ट्स, बिल्ली–ओबरा, सोनभद्र	1997	BL-0066802	स्थापित	Complying	--	
186.	मे0 जय माता दी इण्टरप्राइजेज, बिल्ली–ओबरा, सोनभद्र	1999	RG-0069643	स्थापित	Complying	--	
187.	मे0 श्री योगी बाबा स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1999	09215106258	स्थापित	Complying	--	
188.	मे0 कृष्णा स्टोन वर्क्स (पूर्व नाम–दारा ग्रामोद्योग सेवा समिति), बिल्ली–ओबरा, सोनभद्र	1999	61	स्थापित	Complying	--	
189.	मे0 आदिशक्ति स्टोन वर्क्स, डाला कोठा टोला, सोनभद्र	1997	RG-0028611	स्थापित	Complying	--	
190.	मे0 विन्ध्यवासिनी ग्रामोद्योग सेवा समिति, बिल्ली–मारकुण्डी, सोनभद्र	1999	20/62/खा0बो0/ 0107/99	स्थापित	Complying	--	
191.	मे0 एस0एस0 कन्स्ट्रक्शन वर्क्स, वर्दिया, चोपन, सोनभद्र	1997	09070120920	.....	दिसम्बर, 2011 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद।		
192.	मे0 शुभम इण्डस्ट्रीज, बिल्ली–मारकुण्डी, सोनभद्र	1999	09715106307	स्थापित	Complying	--	
193.	मे0 ग्रिड्स को, बिल्ली–ओबरा, सोनभद्र	1985	RG-0027128	स्थापित	Complying	--	
194.	मे0 अवधेश स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1995	09115200247	स्थापित	Complying	--	
195.	मे0 जयश्री बाला जी स्टोन क्रसिंग कं0, बिल्ली–मारकुण्डी, सोनभद्र	2000	09315106248	स्कूल के पास बोर्ड द्वारा बंदी आदेश जारी।			
196.	मे0 सरोज स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1999	09070120955	.....	दिसम्बर, 2009 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद।		
197.	मे0 आर0के0 स्टोन, बिल्ली–मारकुण्डी, सोनभद्र	1998	0970110935	स्थापित	Complying	--	
198.	मे0 ओम साई स्टोन, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070120958	स्थापित	Complying	--	
199.	मे0 जय माँ वैष्णो स्टोन क्रसिंग कं0, बिल्ली–मारकुण्डी, सोनभद्र	1999	09515106247	स्कूल के पास बोर्ड द्वारा बंदी आदेश जारी।			
200.	मे0 शारदा सेवा समिति, बिल्ली–मारकुण्डी, सोनभद्र	1998	RG-5031805	.....	दिसम्बर, 2011 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद।		
201.	मे0 प्रकाश स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1991	RG-0028422	स्थापित	Complying	--	
202.	मे0 शारदा इण्डस्ट्रीज, बिल्ली–मारकुण्डी, सोनभद्र	1987	R.G.0029764	स्थापित	Complying	--	
203.	मे0 नीलकण्ठ स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र	1999	206201865	स्थापित	Complying	--	
204.	मे0 स्वामी जी महाराज स्टोन प्रोडक्ट्स, बिल्ली–ओबरा, सोनभद्र	1998	090701201052	स्थापित	Complying	--	
205.	मे0 वैभव इण्टरप्राइजेज, बिल्ली–मारकुण्डी, सोनभद्र	1997	09070120956	स्थापित	Complying	--	
206.	मे0 विशाल सेवा समिति, सिन्दुरिया, चोपन, सोनभद्र	1999	2062 खा0ग्रा0बो0/ 09/99	स्थापित	Complying	--	
207.	मे0 सूर्या क्रशर, बिल्ली–मारकुण्डी, ओबरा, सोनभद्र	1996	0051697	स्थापित	Complying	--	
208.	मे0 विन्ध्य ग्रामोद्योग विकास संस्थान, बिल्ली–ओबरा, सोनभद्र	1997	1099	स्थापित	Complying	--	
209.	मे0 वैभव ग्रुप, बिल्ली–मारकुण्डी, सोनभद्र	1998	09070120957	स्थापित	Complying	--	

1	2	3	4	5	6	7	8
210.	मे0 मक्खन स्टोन वर्क्स, बिल्ली–ओबरा, सोनभद्र	1999	09070120936	स्थापित	Complying	--	
211.	मे0 ओम इण्डस्ट्री, बिल्ली–मारकुण्डी, सोनभद्र	1999	09615106256	स्थापित	Complying	--	
212.	मे0 बाबा वर्फानी स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070121009	स्थापित	Complying	--	
213.	मे0 तिरुपति बालाजी स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र	1999	090701201002	स्थापित	Complying	--	
214.	मे0 विजय एक्सप्रेस वे इंजीनियरिंग लि0, डाला, सोनभद्र	2006	27.12.2007	स्थापित	Complying	--	एन0ओ0सी0 मुख्यालय द्वारा जारी
215.	मे0 प्रेम स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1999	09070120938	.....	दिसम्बर, 2011 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
216.	मे0 लक्ष्मी स्टोन प्रोडक्ट वर्क्स, बारी–डाला, सोनभद्र	2000	14.06.07	स्थापित	Complying	--	
217.	मे0 डायमण्ड स्टोन वर्क्स, बारी–डाला, सोनभद्र	1998	090701201048	स्थापित	Complying	--	
218.	मे0 जय शक्ति स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र	1999	090701200966	स्थापित	Complying	--	
219.	मे0 देवी स्टोन वर्क्स, रासपहाड़ी, चोपन, सोनभद्र	1999	090701201039	.....	दिसम्बर, 2011 तक सहमति निर्गत, वर्तमान में स्वयं के कारणों से बंद		
220.	मे0 श्री बजरंग स्टोन, वरदिया, चोपन, सोनभद्र	1993	09115100097	स्थापित	Complying	--	
221.	मे0 जे0एम0वी0 इण्टरप्राइजेज, बघमनवा, बिल्ली, सोनभद्र	1999	09070120970	स्कूल के पास बोर्ड द्वारा बंदी आदेश जारी।			
222.	मे0 पूजा स्टोन क्रसिंग कं0, पटेल नगर, सोनभद्र।	1999	Not Applied	स्थापित नहीं	--	Not Complying	जारी बंदी आदेश के विरुद्धमा0उच्चन्यायाा0 द्वारा स्थगनादेश।
223.	मे0 हनुमन्त स्टोन क्रसिंग कं0 (मुकुन्द सेठ), बिल्ली–ओबरा, सोनभद्र।	1998	प्रथम आवेदन प्राप्त 09.07.2007	स्थापित नहीं	--	Not Complying	बंदी आदेश जारी
224.	मे0 वैष्णवी इण्टरप्राइजेज, बारी–डाला, जनपद–सोनभद्र।	1998	Not Applied	स्थापित नहीं	--	Not Complying	नोटिस जारी
225.	मे0 सिहोरी स्टोन ग्रामोद्योग संस्थान, वारी–डाला, सोनभद्र।	1999	प्रथम आवेदन प्राप्त 08.07.97	स्थापित नहीं	--	Not Complying	नोटिस जारी
226.	मे0 विनोद सिंधी स्टोन वर्क्स, बिल्ली–मारकुण्डी, सोनभद्र।	1999	797	स्थापित नहीं	--	Not Complying	नोटिस जारी
227.	मे0 विन्ध्य विकास सेवा समिति, वारी–डाला, सोनभद्र।	1999	Not Applied	स्थापित नहीं	--	Not Complying	नोटिस जारी
228.	मे0 पशुपति सेवा संस्थान, डाला, सोनभद्र।	1997	012-2000-2001	स्थापित नहीं	--	Not Complying	नोटिस जारी
229.	मे0 ग्रामीण आदिवासी सेवा संस्थान, वारी–डाला, सोनभद्र।	1998	Not Applied	स्थापित नहीं	--	Not Complying	बंदी आदेश जारी
230.	मे0 भारद्वाज ग्रामोद्योग विकास सेवा समिति, वारी–डाला, सोनभद्र।	1999	R.G.0084040	स्थापित	Complying		
231.	मे0 भारत स्टोन (बलिया स्टोन क्रसिंग कं0), बिल्ली–ओबरा, सोनभद्र।	1996	Rb0077324	स्थापित	Complying	–	
232.	मे0 अतुल स्टोन प्रोडक्ट, वारी–डाला, सोनभद्र।	1998	Not Applied	स्थापित नहीं	--	Not Complying	कारण बताओ नोटिस जारी
233.	मे0 पी0एन0एस0एस0 (सौरभ स्टोन), कोठा टोला, डाला, सोनभद्र।	1999	R.G.0073000	स्थापित	Complying		
234.	मे0 माँ पिताम्बरा सेवा समिति, कोठा टोला, डाला, सोनभद्र।	1999	Not Applied	स्थापित नहीं	--	Not Complying	बंदी आदेश जारी

1	2	3	4	5	6	7	8
235.	मे0 लक्ष्मी देवी स्टोन क्रशर, वारी–डाला, सोनभद्र।	1999	Not Applied	स्थापित	Complying	–	–
236.	मे0 जय माँ जयंती (गायत्री) कंक्रीट उद्योग, वारी–डाला, सोनभद्र।	1999	220605	स्थापित नहीं	--	Not Complying	कारण बताओ नोटिस जारी
237.	मे0 सर्वहित स्टोन वर्क्स, बिल्ली–ओबरा, सोनभद्र।	1998	Not Applied	स्थापित नहीं	--	Not Complying	कारण बताओ नोटिस जारी
238.	मे0 ए0के0 इण्टरप्राइजेज, बिल्ली–मारकुण्डी, सोनभद्र।	1999	2369	स्थापित नहीं	--	Not Complying	बंदी आदेश जारी
239.	मे0 सिंह स्टोन वर्क्स, वरदिया, चोपन, सोनभद्र।	1999	Not applied	स्थापित नहीं	--	Not Complying	नोटिस जारी
240.	मे0 आशीष इण्टरप्राइजेज, बिल्ली–मारकुण्डी, सोनभद्र।	1999	206201494	स्थापित नहीं	--	Not Complying	बंदी आदेश जारी
241.	मे0 शंकर स्टोन क्रसिंग कं0, बारी–डाला, सोनभद्र।	1999	02.01.99	स्थापित नहीं	--	Not Complying	बंदी आदेश जारी
242.	मे0 नरायन स्टोन वर्क्स, वरदिया, चोपन, सोनभद्र।	1999	R.G.0062726	स्थापित नहीं	--	Not Complying	कारण बताओ नोटिस जारी
243.	मे0 निषाद स्टोन क्रसिंग कं0, वारी–डाला, सोनभद्र।	1986	वी–2038 02050	स्थापित नहीं	--	Not Complying	कारण बताओ नोटिस जारी
244.	मे0 शुभम स्टोन प्रोडक्ट्स, सुकृत, सोनभद्र	1999	Not applied	स्थापित नहीं	--	--	बंदी आदेश जारी
245.	मे0 रमेश गर्ग निखिल गर्ग स्टोन क्रेशर्स, सुकृत, सोनभद्र	1999	09070121036	स्थापित	Complying	--	
246.	मे0 बजाज स्टोन क्रशर सुकृत, सोनभद्र	1999	Not Applied	स्थापित नहीं	--	--	बंदी आदेश जारी
247.	मे0 सज्जन गर्ग स्टोन क्रशर्स, सुकृत, सोनभद्र	1999	Not Applied	स्थापित नहीं	--	--	बंदी आदेश जारी
248.	मे0 अल्का ग्रामोद्योग समिति, बिल्ली–ओबरा, सोनभद्र	1999	Not applied	स्थापित नहीं	--	--	बंदी आदेश जारी
249.	मे0 अवध इंजीनियरिंग वर्क्स एसोसिएशन, काशी मोड़, सोनभद्र	1991	प्रथम आवेदन प्राप्त 18.09.1998	स्थापित नहीं	--	--	बंदी आदेश जारी
250.	मे0 सर्वहित सेवा संस्थान, बिल्ली–मारकुण्डी, सोनभद्र	1999	Not applied	स्थापित नहीं	--	--	बंदी आदेश जारी
251.	मे0 सुबास स्टोन प्रोडक्ट, बारी–डाला, सोनभद्र	1999	206201840	स्थापित नहीं	--	--	बंदी आदेश जारी
252.	मे0 केशरी स्टोन वर्क्स, मारकुण्डी, गुर्मा, सोनभद्र	1998	Not Applied	स्थापित नहीं	--	--	बंदी आदेश जारी
253.	मे0 कीर्ति ग्रामोद्योग विकास संस्थान, डाला, सोनभद्र	1999	प्रथम आवेदन प्राप्त 14.02.2006	स्थापित नहीं	--	--	बंदी आदेश जारी
254	मे0 वन्दना स्टोन, वारी–डाला, सोनभद्र।	1999	R.G.0063492	स्थापित नहीं	--	--	बंदी आदेश जारी
255.	मे0 शंकर स्टोन वर्क्स, पटेल नगर, डाला, सोनभद्र	1998	Not Applied	स्थापित नहीं	--	Not Complying	बंदी आदेश जारी
256.	मे0 सुनील स्टोन इण्डस्ट्रीज, बारी–डाला, सोनभद्र	1999	प्रथम आवेदन प्राप्त 10.02.2003	स्थापित	Complying		

1	2	3	4	5	6	7	8
257.	मे0 सिहोरी ग्रामोद्योग संस्थान बारी डाला, सोनभद्र	1999	प्रथम आवेदन प्राप्त 24.01.03	स्थापित	--	Not Complying	कारण बताओ नोटिस निक्षेप
258.	मे0 विजय कन्स्ट्रक्शन, बिल्ली–ओबरा, सोनभद्र	1999	Not Applied	स्थापित	--	Not Complying	कारण बताओ नोटिस जारी
259.	मे0 बजरंग स्टोन, बारी--डाला, सोनभद्र	1993	206201085	स्थापित	complying	--	
260.	मे0 के0के0 इण्डस्ट्रीज, डाला, सोनभद्र	1993	206201126	स्थापित नहीं	--	Not Complying	बंदी आदेश जारी
261.	मे0 गैमन इण्डिया लि0, डाला, सोनभद्र	जुलाई, 2008	वर्तमान में उद्योग में उत्पादन बन्द। (परियोजना अवधि समाप्त होने के कारण)		Complying	--	सीमित अवधि हेतु अनापत्ति प्रमाण–पत्र/सहमति आदेश निर्गत।
262.	मे0 सिम्प्लेक्स इन्फ्रास्ट्रक्चर लि0, बिल्ली, ओबरा, सोनभद्र	सितम्बर, 2008	वर्तमान में उद्योग में उत्पादन बन्द। (परियोजना अवधि समाप्त होने के कारण)		Complying	--	--तदैव--
263.	मे0 नागार्जुन कन्स्ट्रक्शन कं0, सिन्दुरिया, चोपन, सोनभद्र	अप्रैल, 2006	वर्तमान में उद्योग में उत्पादन बन्द। (परियोजना अवधि समाप्त होने के कारण)		Complying	--	--तदैव--
264.	मे0 विजय एक्सप्रेस वे कन्स्ट्रक्शन कं0, डाला/सुकृत, सोनभद्र	अक्टूबर, 2006	वर्तमान में उद्योग में उत्पादन बन्द। (परियोजना अवधि समाप्त होने के कारण)		Complying	--	–तदैव–

1. बोर्ड द्वारा बंदी आदेश जारी – 27
2. कारण बताओ नोटिस जारी – 04
3. मानकों की पूर्ति करने वाले स्टोन क्रशर्स – 208
4. राष्ट्रीय राजमार्ग निर्माण हेतु प्राप्त कार्य पूर्ण होने के उपरान्त बन्द स्टोन क्रशर्स – 05
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6. **कुल योग** – **264**

टिप्पणी:– 06 स्टोन क्रशर्स जो कि उपरोक्त सूची 264 के अतिरिक्त हैं एवं उनके द्वारा प्रेषित जिला उद्योग केन्द्र का स्थायी प्रमाण–पत्र वर्ष, 2000 के पूर्व का है। इनको बोर्ड मुख्यालय द्वारा दिनांक 29–06–2012 को बन्दी आदेश जारी किया गया है।

1. मे0 श्री सारादह स्टोन वर्क्स (यूनिट–I), बिल्ली–ओबरा, सोनभद्र,
2. मे0 श्री सारादह स्टोन वर्क्स (यूनिट–II), बिल्ली–ओबरा, सोनभद्र,
3. मे0 सतगुरू स्टोन प्रोडक्ट, बिल्ली–मारकुण्डी, सोनभद्र,
4. मे0 बोल बम स्टोन क्रशिंग कम्पनी, बारी--डाला, सोनभद्र,
5. मे0 प्रिंस स्टोन, वरदिया, चोपन, सोनभद्र,
6. मे0 सहस्त्राब्दी स्टोन प्रोडक्ट्स (एस0एस0सी0), सुकृत, जनपद–सोनभद्र।

DONGIYA NALA, RENUKOOT, SONBHADRA

Sl. No.	Month	Analysed Parameters											
		pH	BOD (mg/L)	COD (mg/L)	TSS (mg/L)	TDS (mg/L)	TS (mg/L)	F (mg/L)	Ni (mg/L)	Cl (mg/L)	Zn (mg/L)	Fe (mg/L)	Pb (mg/L)
Standard		6.5-8.5	30.0mg/L	250.0mg/L	100mg/L	500mg/L	600mg/L	1.0-2.0	0.02mg/L	250mg/L	5.0mg/L	0.3mg/L	0.05mg/L
1.	Jan., 2012	7.62	40	180	-	344	358	1.03	-	-	-	-	-
2.	Feb., 2012	7.18	24	160	-	355	560	BDL	-	-	-	-	-
3.	Mar., 2012	7.73	17	72	56	272	-	1.46	-	-	-	-	-
4.	Apr., 2012	7.47	11.6	50.4	-	314	352	1.46	-	-	-	-	-
5.	May, 2012	7.9	15.4	77.6	-	276	322	1.23	-	-	-	-	-
6.	June, 2012	8.1	16.7	79.4	-	282	334	1.26	-	-	-	-	-
7.	July, 2012	7.78	10.6	60	28	260	-	1.31	-	-	-	-	-
8.	Aug., 2012	7.05	10.2	58	-	-	-	1.01	-	-	-	-	-

MURDHAWA NALA, RENUKOOT, SONBHADRA

Sl. No.	Month	Analysed Parameters											
		pH	BOD (mg/L)	COD (mg/L)	TSS (mg/L)	TDS (mg/L)	TS (mg/L)	F (mg/L)	Ni (mg/L)	Cl (mg/L)	Zn (mg/L)	Fe (mg/L)	Pb (mg/L)
Standard		6.5-8.5	30.0mg/L	250.0mg/L	100mg/L	500mg/L	600mg/L	1.0-2.0	0.02mg/L	250mg/L	5.0mg/L	0.3mg/L	0.05mg/L
1.	Jan., 2012	7.79	20	120	351	437	-	BDL	-	-	-	-	-
2.	Feb., 2012	7.01	16	152	384	560	-	BDL	-	-	-	-	-
3.	Mar., 2012	7.16	22.2	78.8	68	286	-	1.1	-	-	-	-	-
4.	Apr., 2012	7.02	42	224	-	396	488	1.13	-	-	-	-	-
5.	May, 2012	7.25	16.6	106.4	-	286	364	5.0	-	-	-	-	-
6.	June, 2012	7.64	17.8	110.6	-	294	376	2.9	-	-	-	-	-
7.	July, 2012	9.62	16.4	80	40	290	-	NIL	-	-	-	-	-
8.	Aug., 2012	6.94	16.3	88	-	-	-	NIL					

BALIA NALA, SHAKTINAGAR, SONBHADRA

Sl. No.	Month	Analysed Parameters											
		pH	BOD (mg/L)	COD (mg/L)	TSS (mg/L)	TDS (mg/L)	TS (mg/L)	F (mg/L)	Cu (mg/L)	Cl (mg/L)	Zn (mg/L)	Fe (mg/L)	Pb (mg/L)
Standard		6.5-8.5	30.0mg/L	250.0mg/L	100mg/L	500mg/L	600mg/L	1.0-2.0	0.02mg/L	250mg/L	5.0mg/L	0.3mg/L	0.05mg/L
1.	Jan., 2012	-	-	-	-	-	-	-	-	-	-	-	-
2.	Feb., 2012	7.31	40	224	-	360	515	2.01	-	-	-	-	-
3.	Mar., 2012	7.65	11.8	104	74	308	-	1.46	-	-	-	-	-
4.	Apr., 2012	6.88	31.2	101.2	-	372	452	0.50	0.035	-	0.042	2.856	ND
5.	May, 2012	7.65	32.6	162.4	-	362	508	1.35	-	-	-	-	-
6.	June, 2012	7.68	33.4	165	-	366	512	1.57	-	-	-	-	-

U.P. Pollution Control Board is also monitoring the River Sone in Distt. Sonebhadra. The analysis report of the river quality is as follows:-

Sl. No.	Month	Sampling Points*	Analysed Parameters						
			pH	SS (mg/L)	TDS (mg/L)	TS (mg/L)	BOD (mg/L)	COD (mg/L)	Floride (mg/L)
Standard			6.5-8.5	100 mg/L	500 mg/L	600 mg/L	4.0 mg/L	-	1.0-1.5
1.	Jan., 12	U/S	8.08	-	283.0	310.0	4.1	18.0	0.80
		D/S	7.65	-	296.0	326.0	5.7	24.0	0.96
2.	Feb., 12	U/S	7.64	-	288.0	322.0	3.8	17.6	0.80
		D/S	7.38	-	296.0	334.0	4.6	21.2	0.86
3.	Mar, 12	U/S	7.78	26.0	288.0	-	4.0	18.8	0.83
		D/S	7.22	32.0	304.0	-	5.4	25.6	0.90
4.	Apr, 12	U/S	7.46	-	286.0	310.0	3.9	18.4	-
		D/S	7.30	-	290.0	318.0	5.3	24.8	-
5.	May, 12	U/S	7.56	-	292.0	318.0	3.8	18.2	1.07
		D/S	7.35	-	312.0	344.0	5.6	26.2	1.27
6.	June, 12	U/S	7.57	-	298.0	321.0	3.9	20.0	1.02
		D/S	7.12	-	317.0	348.0	5.7	26.0	1.29
7.	July, 12	U/S	7.46	32.0	292.0	-	6.0	32.4	-
		D/S	7.24	26.0	284.0	-	4.2	24.8	-
8.	August, 12	U/S	6.94	46.0	254.0	-	4.2	22.0	1.58
		D/S	7.06	52.0	268.0	-	4.8	24.8	1.74

Annexure No. IX & X

The analysis result of soil testing of Village Renukoot, Govindpur, Myorpur, Hathinala, Murdhua and Pipri.

SOIL ANALYSIS RESULTS

Sr. No.	Parameter	UOM	S1	S2	S3	S4	S5
1	pH (1:5 Aq. Extract)	---	7.8	7.6	7.2	6.6	7.5
2	Condutivity (1:5 Aq. Extract)	uS/cm	156	143	297	208	163
3	Texture	---	Sandy clay	Sandy clay	Sandy clay	Sandy clay	Sandy clay
4	Sand	%	62	52	56	46	46
5	Silt	%	18	12	08	12	06
6	Clay	%	20	36	36	42	48
7	Bulk Density	mg/cc	1.1	1.1	1.2	1.1	1.2
8	Exchangeable Calcium as Ca	mg/kg	953	598	2150	2594	1710
9	Exchangeable Magnesium as Mg	mg/kg	579	242	1838	1819	918
10	Exchangeable Sodium as Na	mg/kg	87.4	81.7	280.7	128.7	162.5
11	Available Potassium as k	Kg/ha	1003	697	3968	640	594
12	Available Phosphorous as P	Kg/ha	63.3	12.4	56.9	62	94.3
13	Available Nitrogen as N	Kg/ha	67.9	98.7	56.4	124	151.8
14	Organic Matter	%	0.65	0.93	0.74	1.16	1.31
15	Organic Carbon	%	0.38	0.54	0.43	0.68	0.76
16	Water Soluble Chloride as Cl	mg/kg	70.8	84.9	127.5	85	56.6
17	Water Solubie Sulphate as SO4	mg/kg	62.1	29.8	20.1	10.4	19.7
18	Sodium Absorption Ratio	---	0.25	0.32	0.48	0.21	0.35
19	Aluminium	- %	1.92	1.48	1.69	1.43	1.60
20	Total Iron	%	0.86	0.93	0.79	1.02	0.69
21	Manganese	mg/kg	162.8	148.6	188.4	148.1	158.4
22	Zinc	mg/kg	143.4	118.1	128.3	101.9	162.4
23	Boron	mg/kg	44.8	42.1	61.8	53.9	68.2
24	Fluoride	mg/kg	185.7	120.6	98.3	168.4	114.8

SOIL ANALYSIS RESULTS

Sr. No.	Parameter	UOM	S6	S7	S8	S9	S10
1	pH (1:5 Aq. Extract)	---	6.5	10.8	6.9	7.2	6.9
2	Condutivity (1:5 Aq. Extract)	uS/cm	326	3869	276	451	237
3	Texture	---	Sandy clay	-	Sandy clay	Sandy clay	Sandy clay
4	Sand	%	54	-	46	51	58
5	Silt	%	10	-	09	03	07
6	Clay	%	36	-	45	46	35
7	Bulk Density	mg/cc	1.2	1.1	1.1	1.1	1.1
8	Exchangeable Calcium as Ca	mg/kg	3593	1435	1637	1112	1838
9	Exchangeable Magnesium as Mg	mg/kg	3128	2834	1504	893	1653
10	Exchangeable Sodium as Na	mg/kg	214	209	172	278	443.5
11	Available Potassium as k	Kg/ha	2378	860	1947	5934	933
12	Available Phosphorous as P	Kg/ha	121.1	156	63	83.4	38
13	Available Nitrogen as N	Kg/ha	158	128	102.2	113	73.3
14	Organic Matter	%	1.36	1.21	0.96	1.06	0.69
15	Organic Carbon	%	0.79	0.70	0.56	0.51	0.4
16	Water Soluble Chloride as Cl	mg/kg	99.1	85	113.2	115.6	70.7
17	Water Soluble Sulphate as SO4	mg/kg	23.2	13.9	16.0	16.7	32.1
18	Sodium Absorption Ratio	---	0.28	0.33	0.33	0.68	0.81
19	Aluminium	%	1.62	1.48	1.86	1.69	1.92
20	Total Iron	%	0.86	0.98	1.21	0.72	0.88
21	Manganese	mg/kg	183.6	148.9	162.5	182.8	206.3
22	Zinc	mg/kg	112.6	162.8	118.9	132.6	142.4
23	Boron	mg/kg	38.9	46.3	82.1	36.2	48.9
24	Fluoride	mg/kg	177.6	192.7	154.1	180.5	191.4

The analysis result of soil testing of Villages Renusagar, Termuni, Makati, Rehata and Churidel.

SOIL ANALYSIS RESULTS (POST MONSOON SEASON-2008)

Sr. No.	Parameter	UOM	S1	S2	S3	S4	S5	S6
1	pH (1:5 Aq. Extract)	---	7.4	7.3	6.9	7.4	7.2	6.5
2	Condutivity (1:5 Aq. Extract)	uS/cm	320	290	380	210	450	332
3	Texture	---	Sand loam	Sand loam	Sand Clay	Silt Clay	Sand loam	Sand loam
4	Sand	%	52	47	45	14	56	36
5	Silt	%	28	28	30	45	24	40
6	Clay	%	20	35	20	41	20	14
7	Bulk Density	mg/cc	1.4	1.2	1.8	1.3	1.6	1.5
8	Exchangeable Calcium as Ca	mg/kg	272	258	253	485	313	289
9	Exchangeable Magnesium as Mg	mg/kg	13	11	16	65	14	45
10	Exchangeable Sodium as Na	mg/kg	31	29	32	31	38	19
11	Available Potassium as k	Kg/ha	9.9	9.4	11	39	11	28
12	Available Phosphorous as P	Kg/ha	2.1	2.2	2.6	2.9	3.0	3.8
13	Available Nitrogen as N	Kg/ha	4.0	4.1	4.5	3.9	5.7	4.5
14	Organic Matter	%	0.2	0.9	0.8	0.3	0.5	0.3
15	Organic Carbon	%	0.3	1.5	1.4	0.5	1.8	0.5
16	Water Soluble Chloride as Cl	mg/kg	11	12	14	16	17	13
17	Water Soluble Sulphate as SO4	mg/kg	26	24	27	25	31	24
18	Sodium Absorption Ratio	---	0.43	0.07	0.04	0.17	0.10	0.08

Source: EIA studies, Vimta Labs Limited.

Soil samples locations

S.No.	Name of village	Distance (Km)	Direction from site
1.	Chakari	3.4	North – West
2.	Garbani	7.9	South – East
3.	Kariya	3.2	South – West
4.	Bari	7.3	North – East
5.	Karamsar	3.9	South – West
6.	Parsoi	6.9	West

Analysis Results of Soil Samples

S.No.	Parameters	Unit	Location					
			S1	S2	S3	S4	S5	S6
1	pH	µg/g	7.85	8.32	8.11	7.85	8.02	8.21
2	Arsenic	µg/g	ND	ND	ND	ND	ND	ND
3	Cadmium	µg/g	ND	ND	ND	ND	ND	ND
4	Calcium	µg/g	10448	13778	12240	11749	12534	13497
5	Lead	µg/g	10.13	13.74	15.44	22.57	7.09	9.19
6	Magnesium	µg/g	4805	9515	12884	6393	5910	7376
7	Nickel	µg/g	15.73	30.06	45.14	152.04	156.56	58.65
8	Phosphorus	µg/g	390	240	390	730	430	600
9	Potassium	µg/g	4256	5511	4138	3598	5590	4338
10	Total Chromium	µg/g	31	42	55	56	49	68
11	Zinc	µg/g	40	64	54	72	45	50
12	Nitrogen	%	0.11	0.07	0.05	0.013	0.07	0.084
13	Conductivity	µmhos/cm	0.200	0.141	0.211	0.191	0.178	0.245

The analysis results of soil testing of Villages Jurwani, Dahkudandi, Kota, Chhikara, Pakari, Chopan, Obra Bazar, Ningha, Paraspani, Kanauja, DDalla, Bari, Kajrahat.

SUMMAARY OF THE SOIL QUALITY

Sl.No.	Parameters	Plant Site	Villages
1	pH	7.7	7.5-8.01
2	Soluble Salts (mg/kg)	192	96-342
3	Organic Carbon(%)	0.48	0.34-0.58
4	Texture	Silty Clay	Sandy Clay/Silty Clay
5	Sand(%)	22	18-68
6	Silt(%)	45	17-47
7	Clay(%)	33	15-43
8	Chlorides(mg/kg)	38	12-65
9	Nitrates(mg/kg)	10	7-25
10	Phosphorus(mg/kg)	8	7-23
11	Potassium(mg/kg)	74	47-228

NOTE:- The soil sampling results have been taken from the EIA Reports of different industies of Singrauli Area

जनपद–सोनभद्र में भूगर्भीय जल (हैण्ड पम्प–इण्डिया मार्का) के एकत्र जल नमूनों के विश्लेषण आख्या अनुसार पायी जाने वाली फ्लोराइड की मात्रा निम्न है:–

क0 संख्या	गॉव का नाम व पता	एकत्रित जल के नमूने की तिथि	फ्लोराइड की मात्रा मि0ग्रा0/ली0	निर्धारित मानक मि0ग्रा0/ली0
1.	चोपन रोडवेज के पास, सोननदी से 1.0 किमी0 की दूरी पर	01.08.2011	1.25	1.2
2.	ग्राम–लभरी, रिहन्द रिजरवॉयर से 1.0 किमी की दूरी पर	01.08.2011	1.38	1.2
3.	ग्राम–टैंगा पाथर, बहेडवा, डडिहरा के पास, म्योरपुर, सोनभद्र।	21.11.2011	2.70	1.2

(2) स्थान का नाम व पता जहां पर फ्लोराइड की मात्रा पेय जल हेतु निर्धारित मानक से कम पायी गयी है, का विवरण निम्नलिखित है:–

क0 संख्या	गॉव का नाम व पता	एकत्रित जल के नमूने की तिथि	फ्लोराइड की मात्रा मि0ग्रा0/ली0	निर्धारित मानक मि0ग्रा0/ली0
1.	रेनुकूट डोंगिया नाला खटाल के पास	01.08.2011	1.19	1.2
2.	चोपन सोन ब्रिज के पास	01.08.2011	1.12	1.2
3.	रेनुकूट के शिव मंदिर के मुख्य द्वार के पास (वाराणसी–शक्तिनगर मार्ग पर)	01.08.2011	0.90	1.2
4.	गोविन्दपुर कुसुम्हां प्रा0पाठशाला गोविन्दपुर, सोनभद्र	29.07.2010	बी0डी0एल0	1.2
5.	ग्राम प्रधान कुसुम्हां के घर के पास, म्योरपुर, सोनभद्र	29.07.2010	0.92	1.2
6.	कुसुम्हां पंचायत भवन के सामने, म्योरपुर, सोनभद्र	29.07.2010	0.46	1.2
7.	रामविलास पोखरा के पश्चिम दिशा, गोविन्दपुर, कुसुम्हां, सोनभद्र	29.07.2010	0.84	1.2
8.	केवल के घर के सामने, गोविन्दपुर, कुसुम्हां, सोनभद्र	29.07.2010	0.87	1.2

U.P.POLLUTION CONTROL BOARD, REGIONAL OFFICE – ALLAHABAD

Surface Water Quality Report for the month of April,2012 under MINARS project

S No	PARAMETER	SAMPLING STATION					
		RIHAND AT RENUKOOT U/S SONEBHADRA	RIHAND AT RENUKOOT O/S SONEBHADRA	GANGA AT ALLAHABAD RASOOLABAD GHAT	GANGA AT ALLAHABAD D/S SANGAM	YAMUNA AT ALLAHABAO O/S BALUA GHAT	GANGA AT KADA GHAT ALLAHABAD
	Station Number	1359	1360	1046	1049	1069	2487
	Date of sampling	11-Apr	11-Apr	4-Apr	4-Apr	4-Apr	4-Apr
GENERAL PARAMETERS							
1	Total Fixed Solids (mg/L)	94	78	208	184	226	192
2	Total Suspended Solids (mg/L)	34	28	62	48	38	65
3	Fluoride (mg/L)	0.20	0.49	0.35	0.36	0.31	0.21
4	P-Alkalinity (mg/L)	NT	NT	22	18	14	19
5	Potassium (mg/L)	10.0	11.2	15.6	16.8	17.2	14.0
TRACE METALS							
1	Arsenic (mg/L)	NT	NT	NT	NT	NT	NT
2	Nickel (mg/L)	NT	NT	NT	NT	NT	NT
3	Copper (mg/L)	NT	NT	NT	NT	NT	NT
4	Mercury (mg/L)	-----	-----	-----	-----	-----	-----
5	Chromium (mg/L)	NT	NT	NT	NT	NT	NT
6	Cadmium (mg/L)	NT	NT	NT	NT	NT	NT
7	Zinc (mg/L)	0.16	0.14	NT	NT	NT	NT
8	Lead (mg/L)	NT	NT	NT	NT	NT	NT
9	Iron (mg/L)	0.38	0.31	0.55	0.49	0.44	0.51
PESTICIOE							
1	Total BHC (ng/L)	244.96	216.64	96.48	124.72	116.73	94.84
2	OPDDT (ng/L)	NT	NT	NT	NT	NT	NT
3	PPDDT (ng/L)	NT	NT	NT	NT	NT	NT
4	Alpha Endosulphan (ng/L)	NT	NT	NT	NT	NT	NT
5	Beta Endosulphan (ng/L	NT	NT	NT	NT	NT	NT
6	Dieldrin (ng/L)	NT	NT	NT	NT	NT	NT
7	Carbonyl (Carbamate) (ng/L)	-----	-----	-----	-----	-----	-----
8	2,4D (ng/L)	-----	-----	-----	-----	-----	-----
9	Aldrin (ng/L)	NT	NT	NT	NT	NT	NT
10	Malathion (ng/L)	-----	-----	-----	-----	-----	-----
11	Methyl Parathion (ng/L)	-----	-----	-----	-----	-----	-----
12	Anilophos (ng/L)	-----	-----	-----	-----	-----	-----
13	chloropyriphos (ng/L)	-----	-----	-----	-----	-----	-----

Note : 1- NT – Not Traceable.

2-Trace Metals & Pesticide are analysed in the other Labaratories.

3- ----- Not Analysed

Aarti 9/5/12
Scientific Assistant

Asstt. Scientific Officer

Regional Officer

SGS

	Sample Number	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
	Report Number	2120002933	2120002936	2120002937	2120002938	2120002935
	Date of Monitoring	26.02.2011	26.02.2011	26.02.2011	25.02.2011	24.02.2011
	Sampling Location	Rerrukut	Anpara	Renusagar	Ogra	Dala
1	Ozone (O3) (µg/m3)	<5.0	<5.0	<5.0	<5.0	<5.0
2	Lead (Pb) (ng/m3)	120	31	12	17	9
3	Benzene (µg/m3)	<3	<3	<3	<3	<3
4	Benzopyrine (ng/m3)	<0.5	<0.5	<0.5	<0.5	<0.5
5	Arsenic (As) (ng/m3)	2.0	<2.0	<2.0	2.0	<2.0
6	PM10 (µg/m3)	124.2	128.7	48.2	244.6	124.6
7	PM2.5 (µg/m3)	41.9	55.2	34.7	60	49.2
8	Nickel (Ni) (ng/m3)	20.53	20.27	17.97	51.42	8.05
9	Carbon Monoxide (CO)(ppm)	<2.0	<2.0	<2.0	<2.0	<2.0
10	SO2 (µg/m3)	70.1	72.2	<18	<18	<18
11	NO2 (µg/m3)	17.8	18.8	<13	<13	<13
12	Ammonia (µg/m3)	<9	<9	<9	<9	24.5

SGS

	Sample Number	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10
	Report Number	2120003215	2120003216	2120003217	2120003218	2120003219
	Date of Monitoring	28.02.2011	01.03.2011	02.03.2011	03.03.2011	28.02.2011
	Sampling Location	Senior Tansh Camp(NCL Bina)	Officer's Club Kakri Colony MCL project	Khadia Colony Expart Hostel	NTPC Main Market near Bijpur, Rihand Nagar	NTPC Colony Executive Club(Shakti Nagar)
1	Ozone (O3) (µg/m3)	<5.0	<5.0	<5.0	<5.0	<5.0
2	Lead (Pb) (ng/m3)	21	23	17	12	35
3	Benzene (µg/m3)	<3	<3	<3	<3	<3
4	Benzopyrine (ng/m3)	<0.5	<0.5	<0.5	<0.5	<0.5
5	Arsenic (As) (ng/m3)	<2.0	2.26	<2.0	<2.0	<2.0
6	PM10 (µg/m3)	109.2	127.4	193.8	50.8	79.7
7	PM2.5 (µg/m3)	59.2	96.2	136.2	32.5	35.5
8	Nickel (Ni) (ng/m3)	13.75	8.03	35.03	6.04	11.41
9	Carbon Monoxide (CO)(ppm)	<2.0	<2.0	<2.0	<2.0	<2.0
10	SO2 (µg/m3)	14.2	53.1	38.2	84.9	55.9
11	NO2 (µg/m3)	31.8	38.2	61.7	28.5	14.4
12	Ammonia (µg/m3)	<9	<9	<9	42.6	<9

SGS

	Sample Number	Sample 11	Sample 12	Sample 13	Sample 14	Sample 15
	Report Number	2120003220	2120003377	2120003378	2120003379	2120003380
	Date of Monitoring	02.03.2011	07.03.2011	07.03.2011	08.03.2011	08.03.2011
	Sampling Location	G.M.Office Dudhichua-NCL	NCL Residencial colony (Guest House) Nigahi	NTPC Vindya Nagar Residential	NCL Jayant Colony (Expert Hostel)	NCL Amdri Colony (Officers club)
1	Ozone (O3) (µg/m3)	<5.0	<5.0	<5.0	<5.0	<5.0
2	Lead (Pb) (ng/m3)	15	12	9	15	9
3	Benzene (µg/m3)	<3	<3	<3	<3	<3
4	Benzopyrine (ng/m3)	<0.5	<0.5	<0.5	<0.5	<0.5
5	Arsenic (As) (ng/m3)	<2.0	<2.0	<2.0	<2.0	<2.0
6	PM10 (µg/m3)	206.2	96.9	38	118.7	89.6
7	PM2.5 (µg/m3)	148.7	40	30.4	81.7	51.2
8	Nickel (Ni) (ng/m3)	10.44	3.57	6.91	8.14	<2.0
9	Carbon Monoxide (CO)(ppm)	<2.0	<2.0	<2.0	<2.0	143.42
10	SO2 (µg/m3)	59.6	<18	<18	<18	<18
11	NO2 (µg/m3)	64.2	15.3	15.5	23.7	15.8
12	Ammonia (µg/m3)	<9	29.5	<9	30	<9

SGS

	Sample Number	Sample 16	Sample 17	Sample 18
	Report Number	2120003633	2120003634	2120003635
	Date of Monitoring	10.03.2011	09.03.2011	09.03.2011
	Sampling Location	NCL Area (Near police chowki), jayant	NCL Dudhichua Colony(Sector B, Guest House)	NCL Jhingurda Colony(Guest House)
1	Ozone (O3) (µg/m3)	<5.0	<5.0	<5.0
2	Lead (Pb) (ng/m3)	10	23	12
3	Benzene (µg/m3)	<3	<3	<3
4	Benzopyrine (ng/m3)	<0.5	<0.5	<0.5
5	Arsenic (As) (ng/m3)	<2.0	<2.0	<2.0
6	PM10 (µg/m3)	61.3	143	55.6
7	PM2.5 (µg/m3)	50.8	62.5	33.7
8	Nickel (Ni) (ng/m3)	<2.0	13.5	5.36
9	Carbon Monoxide (CO)(ppm)	<2.0	<2.0	<2.0
10	SO2 (µg/m3)	<18	<18	<18
11	NO2 (µg/m3)	20.3	24.6	<13
12	Ammonia (µg/m3)	<9	<9	29.2

SGS

	Report Number	2120002942	2120002983	2120002986	2120002989	2120002991
	Sampling Location	Obra Colony Near Hospital	Renukut market,beside main road	Dala tempo stand	Near Coal Gate(outside of HPD boundary)	Anpara Colony near DAB College
1	Appearance	Clear	Clear	Clear	Clear	Clear
2	Colour	10	5	5	5	5
3	Odour	Unobjectionable	None	Unobjectionable	Unobjectionable	Unobjectionable
4	Transperancy	Clear	Clear	Clear	Clear	Clear
5	Ecology	Animal like fish, insect absent	Animal like fish, insect absent	Animal like fish, insect absent	Animal like fish, insect absent	Animal like fish, insect absent
6	pH	7.9	7.18	7.6	7.7	7.74
7	Oil & Grease (mg/L)	<2	<2	<2	<2	<2
a	Total Suspende Solid (mg/L)	<5.0	<5	<5.0	<5.0	<5.0
9	Dissolved Oxygen (mg/L)					
10	COD (mg/L)	<5.0	9.7	<5.0	9.7	<5.0
11	BOD (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
12	Electrical Conductivity (µmhos/cm)	520	1322	652	1446	580
13	Nitrate (as Nitrogen) (mg/L)	<0.5	6.51	1.88	10	2.46
14	Nitrite (as Nitrogen) (mg/L)	<0.01	0.07	<0.01	0.08	0.02
15	Free Ammonia (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
16	Residual Chlorine (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2
17	Cyanide (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
18	Fluoride (mg/L)	<0.10	0.31	0.48	1.58	0.83
19	Sulphide (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
20	Dissolved Phosphate as PO4 (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
21	Phosphorus as P (mg/L)	<0.65	<0.65	<0.65	<0.65	<0.65
22	Kjeldhal Nitrogen (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
23	Ammonical Nitrogen (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
24	Phenolic Compounds (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
25	Surfactant (mg/L)	<0.05	<0.05	<0.05	1.71	<0.05
26	Bioassay (%)	--	--	--	--	--
27	Sodium Adsorption Ratio (SAR)	0.48	2.59	0.6	1.71	0.64
28	Zinc (Zn) (mg/L)	<0.1	0.1	<0.1	0.19	0.14
29	Nickel (Ni) (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
30	Copper (Cu) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
31	Total Chromium (Cr) (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
32	Arsenic (As) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
33	Lead (Pb) (mg/L)	0.01	0.01	0.014	0.02	0.01
34	Cadmium (Cd) (mg/L)	<0.005	<0.005	<0.005	<0.005	<0.005
35	Mercury (Hg) (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
36	Chromium Vi (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
37	Manganese (Mn) (mg/L)	<0.05	0.16	<0.05	<0.05	<0.05
38	Iron (Fe) (mg/L)	0.66	1.22	0.48	0.42	1.58
39	Vanadium (V) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
40	Selenium (Se) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
41	Boron (B) (mg/L)	<1	<1	<1	<1	<1
42	Organo Chlorine Pesticide Residue Group(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
43	Poly Aromatic Hydrocarbon (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
44	Polychlorinated Biphenyls(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
45	Polychlorinated Terphenyls(mg/L)	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
46	Coliform Organism (MPN/100ml)	<1.8	<1.8	<1.8	<1.8	<1.8
47	Faecal Coliform (MPN/100ml)	<1.8	<1.8	<1.8	<1.8	<1.8

SGS

	Report Number	2120003199	2120003200	2120003202	2120003203	2120003204
	Sampling location	Kakri colony (Near Qtr. No. MQ-7)	Khadia NCL Colony (Minor quarter No.	Dudhichua(Near primary school)	NCLColony (Bina)	Near main shoping contro(NTPC
1	Appearance	Clear	Clear	Clear	Clear	Clear
2	Colour	<5	<5	<5	10	5
3	Odour	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
4	Transperancy	Clear	Clear	Clear	Clear	Clear
5	Ecology	--	--	--	--	--
6	pH	7.55	7.7	7.6	7.35	7.52
7	Oil & Grease (mg/L)	<2	<2	<2	<2	<2
8	Total Suspende Solid (mg/L)	<5	<5	<5	9	<5
9	Dissolved Oxygen (mg/L)					
10	COD (mg/L)	<5	<5	<5	<5	<5
11	BOD (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
12	Elootrioal Conduotivity (µmhoo/cm)	850	507	050	547	728
13	Nitrate (as Nitrogen) (mg/L)	1.34	0.21	3.22	2.9	<0.5
14	Nitrite (as Nitrogen) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
15	Free Ammonia (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
16	Resldual Chlorine (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2
17	Cyanide (mg/L)	<0.02	<0.05	<0.02	<0.02	<0.02
18	Fluoride (mg/L)	1.42	0.95	1.5	0.35	0.96
19	Sulphide (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
20	Dissolved Phosphate as PO4 (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
21	Phosphorus as P (mg/L)	<0.65	<0.65	<0.65	<0.65	<0.65
22	Kjeldhal Nitrogen (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
23	Ammonical Nitrogen (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
24	Phenolic Compounds (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
25	Surfactant (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
26	Bioassay (%)	--	--	--	--	--
27	Sodium Adsorption Ratio (SAR)	2.58	0.92	3.06	1.09	2.25
28	Zinc (Zn) (mg/L)	0.28	0.23	0.17	<0.1	0.18
29	Nickel (Ni) (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
30	Copper (Cu) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
31	Total Chromium (Cr) (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
32	Arsenic (As) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
33	Lead (Pb) (mg/L)	0.02	0.013	0.026	0.03	0.024
34	Cadmium (Cd) (mg/L)	<0.005	<0.005	<0.005	<0.005	<0.005
35	Mercury (Hg) (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
36	Chromium VI (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
37	Manganese (Mn) (mg/L)	<0.05	<0.05	<0.05	0.05	<0.05
38	iron (Fe) (mg/L)	0.19	0.45	0.16	2.14	3.37
39	Vanadium (V) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
40	Selenium (Se) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
41	Boron (B) (mg/L)	<1	<1	<1	<1	<1
42	Organo Chlorine Pesticide Residue Group(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
43	Poly Aromatic Hydrocarbon (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
44	Polychlorinated Biphenyls(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
45	Polychlorinated Terphenyls(mg/L)	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
46	Coliform Organism (MPN/100ml)	<1.8	<1.8	<1.8	<1.8	<1.8
47	Faecal Coliform (MPN/100ml)	<1.8	<1.8	<1.8	<1.8	<1.8

SGS

	Report Number	2120003205	2120003388	2120003389	2120003390	2120003391
	Sampling location	Punarwas-2(Rihand Nagar)	Jhingurda NCL colony(Near shiv mandir)	Amlohri Colony(Near Ghivmandir)	Vindhyanagar(Nearcommercial Auto mobile)	Near Entrance gate,Nigahi(N.C.L project)
1	Appearance	Clear	Hazy	Clear	Clear	Hazy
2	Colour	5	10	<5	<5	10
3	Odour	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
4	Transperancy	Clear	Clear	Clear	Clear	Clear
5	Ecology	--	--	--	--	--
6	pH	7.55	7.32	7.95	7.15	7.47
7	Oil & Grease (mg/L)	<2	<2	<2	<2	<2
8	Total Suspende Solid (mg/L)	<5	137	<5	<5	142
9	Dissolved Oxygen (mg/L)					
10	COD (mg/L)	<5	9.26	<5	<5	<5
11	BOD (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
12	Electrical Conductivity (µmhos/cm)	965	155.6	1354	1015	1211
13	Nitrate (as Nitrogen) (mg/L)	19.02	<0.10	<0.5	3.92	26.4
14	Nitrite (as Nitrogen) (mg/L)	<0.01	0.05	<0.01	0.14	<0.01
15	Free Ammonia (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
16	Residual Chlorine (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2
17	Cyanide (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
18	Fluoride (mg/L)	2.09	<0.10	<0.10	0.26	0.28
19	Sulphide (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
20	Dissolved Phosphate as PO4 (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
21	Phosphorus as P (mg/L)	<0.65	<0.65	<0.65	<0.65	<0.65
22	Kjeldhal Nitrogen (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
23	Ammonical Nitrogen (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
24	Phenolic Compounds (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
25	Surfactant (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
26	Bioassay (%)	--	--	--	--	--
27	Sodium Adsorption Ratio (SAR)	0.92	1.76	0.99	0.19	1.03
28	Zinc (Zn) (mg/L)	0.13	5.86	0.16	0.5	0.69
29	Nickel (Ni) (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
30	Copper (Cu) (mg/L)	<0.01	0.02	<0.01	<0.01	0.16
31	Total Chromium (Cr) (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
32	Arsenic (As) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
33	Lead (Pb) (mg/L)	0.02	0.06	0.01	<0.01	0.02
34	Cadmium (Cd) (mg/L)	<0.005	<0.005	<0.005	<0.005	<0.005
35	Mercury (Hg) (mg/L)	<0.001	0.001	<0.001	<0.001	<0.001
36	Chromium VI (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
37	Manganese (Mn) (mg/L)	<0.05	0.31	0.05	<0.05	0.05
38	Iron (Fe) (mg/L)	0.49	34.7	0.34	0.28	5.61
39	Vanadium (V) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
40	Selenium (Se) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
41	Boron (B) (mg/L)	<1	<1	<1	<1	<1
42	Organo Chlorine Pesticide Residue Group(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
43	Poly Aromatic Hydrocarbon (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
44	Polychlorinated Biphenyls(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
45	Polychlorinated Terphenyls(mg/L)	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
46	Coliform Organism (MPN/100ml)	<1.8	<1.8	<1.8	<1.8	<1.8
47	Faecal Coliform (MPN/100ml)	<1.8	<1.8	<1.8	<1.6	<1.8

SGS

	Report Number	2120003392	2120003393	2120003637
	Sampling location	NCL Colony Sector-B,Dudhiehua	Swarswyaraja,Nera Telephone Tower	NCL Area(Sabji Mandi)
1	Appearance	Clear	Clear	Clear
2	Colour	10	<5	<5
3	Odour	Unobjectionable	Unobjectionable	Unobjectionable
4	Transperancy	Clear	Clear	Clear
5	Ecology	--	--	--
6	pH	7.47	7.16	7.62
7	Oil & Grease (mg/L)	<2	<2	<2
8	Total Suspende Solid (mg/L)	7	<5	<5
9	Dissolved Oxygen (mg/L)			
10	COD (mg/L)	<5	<5	7.84
11	BOD (mg/L)	<2.0	<2.0	<2
12	Electrical Conductivity (µmhos/cm)	685	1116	482
13	Nitrate (as Nitrogen) (mg/L)	0.54	3.69	<0.5
14	Nitrite (as Nitrogen) (mg/L)	<0.01	0.05	<0.01
15	Free Ammonia (mg/L)	<2.0	<2.0	<2.0
16	Residual Chlorine (mg/l)	<0.2	<0.2	<0.2
17	Cyanide (mg/L)	<0.02	<0.02	<0.02
18	Fluoride (mg/L)	0.23	0.23	0.33
19	Sulphide (mg/L)	<0.05	<0.05	<0.05
20	Dissolved Phosphate as PO4 (mg/L)	<2.0	<2.0	<2.0
21	Phosphorus as P (mg/L)	<0.65	<0.65	<0.65
22	Kjeldhal Nitrogen (mg/L)	<2.0	<2.0	<2.0
23	Ammonical Nitrogen (mg/L)	<2.0	<2.0	<2.0
24	Phenolic Compounds (mg/l)	<0.001	<0.001	<0.001
25	Surfactant (mg/L)	<0.05	<0.05	<0.05
26	Bioassay (%)	--	--	--
27	Sodium Adsorption Ratio (SAR)	0.75	1.02	0.26
28	Zinc (Zn) (mg/L)	1.05	<0.1	0.18
29	Nickel (Ni) (mg/L)	<0.02	<0.02	<0.02
30	Copper (Cu) (mg/L)	<0.01	<0.01	<0.01
31	Total Chromium (Cr) (mg/L)	<0.05	<0.05	<0.05
32	Arsenic (As) (mg/L)	<0.01	<0.01	<0.01
33	Lead (Pb) (mg/L)	0.01	0.01	0.02
34	Cadmium (Cd) (mg/L)	<0.005	<0.005	<0.005
35	Mercury (Hg) (mg/L)	<0.001	<0.001	<0.001
36	Chromium VI (mg/L)	<0.05	<0.05	<0.05
37	Manganese (Mn) (mg/L)	<0.05	<0.05	<0.05
38	Iron (Fe) (mg/L)	0.21	<0.1	1.16
39	Vanadium (V) (mg/L)	<1.0	<1.0	<1.0
40	Selenium (Se) (mg/L)	<0.01	<0.01	<0.01
41	Boron (B) (mg/L)	<1	<1	<1
42	Organo Chlorine Pesticide Residue Group(mg/L)	<0.0001	<0.0001	<0.0001
43	Poly Aromatic Hydrocarbon (mg/L)	<0.001	<0.001	<0.001
44	Polychlorinated Biphenyls(mg/L)	<0.0001	<0.0001	<0.0001
45	Polychlorinated Terphenyls(mg/L)	<0.00002	<0.00002	<0.00002
46	Coliform Organism (MPN/100ml)	<1.8	<1.8	<1.8
47	Faecal Coliform (MPN/100ml)	<1.8	<1.8	<1.8

SGS

	Report Number	2120002988	2120002990	2120003206	2120003207	2120003638
	Sampling location	Son River up stream(Dala)	Rehand Reserver downstream	Balia Nala Bridge(Near Sakti Nagar)	Rihand Dam (up stream Near Rihand main Bridge)	Rihand Resiourvior (Near villageBaliyari)
1	Appearance	Clear	Clear	Hazy	Clear	Clear
2	Colour	5	5	10	5	5
3	Odour	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
4	Transperancy	Slightly Turbid	Clear	Turbid	Turbid	Clear
5	Ecology	Animal like fish, insect present	Animal like fish, insects are	--	--	--
6	pH	8	8.79	8.4	8.82	9.41
7	Oil & Grease (mg/L)	<2.0	<2.0	<2.0	<2.0	<2
8	Total Suspende Solid (mg/L)	<5.0	<5.0	99	<5	<5
9	Dissolved Oxygen (mg/L)	10	7.4	6	6.8	6.9
10	COD (mg/L)	<5.0	23	25	<5	<5
11	BOD (mg/L)	<2.0	2.8	7	<2	<2
12	Electrical Conductivity (µmhos/cm)	217	127.1	275	149.4	135.7
13	Nitrate (as Nitrogen) (mg/L)	<0.5	<0.5	1.86	<0.5	<0.5
14	Nitrite (as Nitrogen) (mg/L)	<0.01	<0.01	<0.01	0.01	<0.01
15	Free Ammonia (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
16	Residual Chlorine (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2
17	Cyanide (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
18	Fluoride (mg/L)	0.16	0.34	0.38	0.13	0.34
19	Sulphide (mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05
20	Dissolved Phosphate as PO4 (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
21	Phosphorus as P (mg/L)	<0.65	<0.65	<0.65	<0.65	<0.65
22	Kjeldhal Nitrogen (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
23	Ammonical Nitrogen (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
24	Phenolic Compounds (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
25	Surfactant (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
26	Bioassay (%)	100% survial of fish in 100% sample after 96 hours	100% survial of fish in 100% sample after 96 hours	100 % survival of fish in 100 % sample after 96 hours	100 % survival of fish in 100 % sample after 96 hours	100 % survivnl of fish in 100 % sample after 96 hours
27	Sodium Adsorption Ratio (SAR)	0.23	0.4	0.45	0.36	0.31
28	Zinc (Zn) (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1
29	Nickel (Ni) (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
30	Copper (Cu) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
31	Total Chromium (Cr) (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
32	Arsenic (As) (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01
33	Lead (Pb) (mg/L)	0.02	<0.01	0.02	0.016	0.03
34	Cadmium (Cd) (mg/L)	<0.005	<0.005	<0.005	<0.005	<0.005
35	Mercury (Hg) (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
36	Chromium VI (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05
37	Manganese (Mn) (mg/L)	<0.05	<0.05	0.05	<0.05	<0.05
38	iron (Fe) (mg/L)	0.29	0.11	0.78	0.22	0.12
39	Vanadium (V) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
40	Selenium (Se) (mg/L)	0.01	0.01	<0.01	<0.01	<0.01
41	Boron (B) (mg/L)	<1	<1	<1	<1	<1
42	Organo Chlorine Pesticide Residue Group(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
43	Poly Aromatic Hydrocarbon (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001
44	Polychlorinated Biphenyls(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
45	Polychlorinated Terphenyls(mg/L)	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
46	Coliform Organism (MPN/100ml)	70	280	49	<1.8	<1.8
47	Faecal Coliform (MPN/100ml)	<1.8	<1.8	<1.8	<1.8	<1.8

SGS

	Report Number	2120003639	2120003640	2120002982	2120002984
	Sampling location	SuryaNala(Vindhya NagarPolice Station)	Balia Nallah,Near Dudhichua sewage Treatment Plant	Obra Renu River down Stream	Murdhava Nala (Near Hospital)
1	Appearance	Hazy	Hazy	Clear	Hazzy
2	Colour	5		5	10
3	Odour	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
4	Transperancy	Turbid	Turbid	Clear	Hazzy
5	Ecology	--	--	Animal like fish, insect are present	Animal like fish, insect absent
6	pH	7.9	8.61	8.85	9
7	Oil & Grease (mg/L)	<2	2.1	<2.0	3.2
8	Total Suspende Solid (mg/L)	9	91	73	634
9	Dissolved Oxygen (mg/L)	5	6.1	7.4	4.7
10	COD (mg/L)	<5	29	<5.0	134
11	BOD (mg/L)	<2	8.25	<2.0	26
12	Electrical Conductivity (µmhos/cm)	518	608	222	756
13	Nitrate (as Nitrogen) (mg/L)	5.47	2.30	<0.5	<0.5
14	Nitrite (as Nitrogen) (mg/L)	<0.01	<0.01	0.02	0.18
15	Free Ammonia (mg/L)	<2.0	<2.0	<2.0	4.9
16	Residual Chlorine (mg/L)	<0.2	<0.2	<0.2	<0.2
17	Cyanide (mg/L)	<0.02	<0.02	<0.02	<0.02
18	Fluoride (mg/L)	0.87	0.39	0.34	2.29
19	Sulphide (mg/L)	<0.05	<0.05	<0.05	<0.05
20	Dissolved Phosphate as PO4 (mg/L)	<2.0	<2.0	<2.0	<2.0
21	Phosphorus as P (mg/L)	<0.65	<0.65	<0.65	<0.65
22	Kjeldhal Nitrogen (mg/L)	<2.0	<2.0	<2.0	7.5
23	Ammonical Nitrogen (mg/L)	<2.0	<2.0	<2.0	6.34
24	Phenolic Compounds (mg/L)	<0.001	<0.001	<0.001	<0.001
25	Surfactant (mg/L)	<0.05	<0.05	<0.05	<0.05
26	Bioassay (%)	100 % survival of fish in 100 % sample after 96 hours	100 % survival of fish in 100 % sample after 96 hours	100% survial of fish in 100% sample after 96 hours	100% survial of fish in 100% sample after 96 hours
27	Sodium Adsorption Ratio (SAR)	1.41	0.66	0.52	2.87
28	Zinc (Zn) (mg/L)	<0.1	<0.1	<0.1	<0.1
29	Nickel (Ni) (mg/L)	<0.02	<0.02	<0.02	<0.02
30	Copper (Cu) (mg/L)	<0.01	<0.01	0.01	0.01
31	Total Chromium (Cr) (mg/L)	<0.05	<0.05	<0.05	<0.05
32	Arsenic (As) (mg/L)	<0.01	<0.01	<0.01	0.024
33	Lead (Pb) (mg/L)	0.06	<0.01	0.01	0.016
34	Cadmium (Cd) (mg/L)	<0.005	<0.005	<0.005	<0.005
35	Mercury (Hg) (mg/L)	<0.001	<0.001	<0.001	<0.001
36	Chromium VI (mg/L)	<0.05	<0.05	<0.05	<0.05
37	Manganese (Mn) (mg/L)	0.09	0.11	0.06	0.13
38	Iron (Fe) (mg/L)	0.30	1.00	0.83	6.72
39	Vanadium (V) (mg/L)	<1.0	<1.0	<1.0	<1.0
40	Selenium (Se) (mg/L)	<0.01	<0.01	<0.01	0.01
41	Boron (B) (mg/L)	<1	<1	<1	<1
42	Organo Chlorine Pesticide Residue Group(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001
43	Poly Aromatic Hydrocarbon (mg/L)	<0.001	<0.001	<0.001	<0.001
44	Polychlorinated Biphenyls(mg/L)	<0.0001	<0.0001	<0.0001	<0.0001
45	Polychlorinated Terphenyls(mg/L)	<0.00002	<0.00002	<0.00002	<0.00002
46	Coliform Organism (MPN/100ml)	<1.8	22	<1.8	160000
47	Faecal Coliform (MPN/100ml)	<1.8	<1.8	<1.8	280