

Six Monthly Status (for 2nd half of year 2012) of Compliance of Environmental Clearance from MoEF, Govt. of India vide letter no: J-11015/322/2010-IA.II (M) dated 14.9.2011 for 5 MTPA Coal Washery of M/s Monnet Ispat & Energy Limited located at village Malibrahmani, Chhendipada, Angul, Odisha.

Sr. No.		Particulars of Environmental Clearance	Compliance Status for 2 nd half of year 2012
2	A	<u>Specific Conditions</u>	
	(i)	The transportation of entire raw coal from Utkal B-2 coalmines and from Mandakini coalmines to the washery shall be by closed conveyors only. The closed conveyor from Utkal B-2 coal mine to the washery shall be laid within 2 years and from Mandakini coal mines to the washery covering a distance of 22 kms shall be laid within a period of 3 years and thereafter, transport of raw coal from Mandakini coal mine shall be by closed conveyors only.	Complying. Plan and design in line with requirement.
	(ii)	The entire washed coal transported to the linked TPP shall be by closed conveyors only.	Complying. Plan and design in line with requirement.
	(iii)	Coal rejects to be sent to the company's FBC based TPP in Raigarh shall be by rail. The initial transportation up to rail way siding covering a distance of 12 kms is to be by road. The proponent shall ensure that the road used for transportation of coal rejects to the railway siding is developed with a 3-tier avenue plantation using native species.	Complying. Plan and design in line with requirement.
	(iv)	As the washery is located in Chhendipara Tehsil which forms a part of critically polluted area of Angul-Talcher region, the company shall implement preventive and mitigative measures at the washery and the linked TPP which would be in conformity with the Environmental Protection Action plan prepared for Angul-Talcher area to keep the levels of air quality parameters well within limits.	Complying. Plan and design in line with requirement. (Annexure A: Compliance report of Environment management plan for construction phase)
	(v)	The raw coal, washed coal and coal waste (reject) shall be stacked properly at earmarked site(s) within stockyards fitted with wind breakers /shields. Adequate measures shall be taken to ensure that the stored coal, washed coal and coal	Complying. Plan and design in line with requirement. Wind breaker plant line is given on periphery to cover coal stock yard. (Annexure B: Photograph of green belt development)

		rejects do not catch fire.	
	(vi)	Hoppers of the coal crushing unit and washery unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and transportation roads.	Complying. Plan and design in line with requirement. Adequate measures have been incorporated in plan for operation phase.
	(vii)	All approach roads shall be black topped and all internal roads shall be black topped or concreted. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using local species shall be developed along the main roads and approach roads to the washery.	Complying. Plan and design in line with requirement. (Annexure C: photograph of black topping of roads). Roads shall be regularly cleaned. Three tier avenue plantations along the roads have been done. (Annexure B: Photograph of green belt development)
	(viii)	High capacity/ tonnage trucks shall be engaged for mineral transportation outside the washery and shall optimally loaded and covered with tarpaulin with and no spillage en route. The trucks shall be properly maintained and emissions shall be below notified limits.	Complying. Plan and design in line with requirement. (Annexure D: photograph of material transportation in covered trucks)
	(ix)	The proponent shall maintain proper records of the ash content of raw (ROM) coal, clean coal and coal; rejects and the same shall be unloaded along the quantum of raw coal obtained and washed and dispatched every month on the company website every month.	Complying. Plan and design in line with requirement. Ash content (in %) shall be recorded on regular basis.
	(x)	Water for the coal washery shall be met from the mine water from the two captive coal mines only and transported by pipe lines from the two coal mines. No ground water shall be used for the washery plant operations. Any additional water requirement envisaged shall be obtained by recycle/reuse to the maximum extent and rain water harvesting measures.	Complying. Plan and design in line with requirements.
	(xi)	The washery unit shall be a zero- discharge facility and no waste water shall be discharged from washery into the drains/ natural watercourses. The washery shall be provided with a garland drain to carry / recycle the effluents generated from the washery operations. Recycled water shall be used for development and maintenance of green belt and in the plant operation.	Complying. Plan and design in line with requirement (Annexure E: DPR page 30 - water balance diagram and Annexure F: Photograph of equipment for water reclamation).

	(xii)	A separate storm water drain to carry storm water from the washery for discharge outside the premises to nallahs/streams shall be established and de-silted. The storm water drains shall be regularly de-silted.	Complying. Plan and design in line with requirement
	(xiii)	Industrial waste water (workshop and waste water from the washery) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 th May 1993 and 31 st Dec 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed for treatment of workshop effluents.	Complying. Plan and design in line with requirement. Zero-Discharge concept have been adopted for operation of coal washery, hence the process water shall be treated and re-circulated back in process in close loop. (Annexure E: DPR, page no 30; water balance diagram and detailed process flow sheet on page 39)
	(xiv)	Green belt of 9.82 acres shall be developed using local species all along the periphery of the site, along the areas such as crushing units and stockyards, transfer and loading points.	Complying. Plan and design in line with requirement. Green belt development is under construction. (Annexure B: Photographs of green belt development)
	(xv)	Socio-economic and welfare measures for the local communities shall be implemented under CSR with a capital outlay would be Rs 1 crore and an annual revenue expenditure of Rs 60.05 lakhs per year. The village wise activities undertaken and proposed shall be displayed on the company website every year.	Complying. Various socioeconomic welfare measures are being taken for CSR. (Annexure G: CSR expenditure statement)
	(xvi)	Levels of heavy metals such as mercury in raw coal, washed coal and reject shall be analysed twice in a year and records maintained thereof.	Complying. Monitoring shall be done accordingly.
		<u>(B) GENERAL CONDITIONS</u>	
	(i)	No change in technology and scope of working shall be made without prior approval of the MoEF.	Noted
	(ii)	No change in the calendar plan including quantum mineral coal and coal rejects shall be made.	Noted
	(iii)	Four ambient air quality monitoring stations shall be established in the core zone as well as in the Buffer zone for monitoring PM ₁₀ , PM _{2.5} , SO ₂ and NO _x . Location of stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr in PM ₁₀ and PM _{2.5} etc. shall be carried out at least once in six	Complying. Ambient air quality monitoring locations are identified as per AAQM location selection guidelines (Annexure H: Ambient Air Quality report for PM ₁₀ , PM _{2.5} , SO _x , NO _x , O ₃). Six monthly ambient air quality monitoring for heavy metals is under progress and results shall be submitted very soon.

		months.	
	(iv)	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with State Pollution Control Board and data got analysed through laboratory recognised under EP Rules 1986.	Complying. Adequate number and type of pollution monitoring equipment shall be selected and recognised / empanelled laboratory of OSPCB shall be involved for external monitoring time to time.
	(v)	Data on ambient air quality (PM 10, Pm2.5, SO ₂ , NO _x and heavy metals such as Hg, Cd, As, Cr, Ni etc.) and other monitoring data shall be regularly submitted to the Ministry including its regional office at Bhubaneswar and to the State Pollution Control Board and Central Pollution control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EP rules, 1986 shall be furnished as part of the compliance report.	Complying. Ambient Air Quality Monitoring is done as per guidelines through recognised laboratory (Annexure H: Ambient Air Quality report for PM ₁₀ , PM _{2.5} , SO _x , NO _x , O ₃). Six monthly ambient air quality monitoring for heavy metals is under progress and results shall be submitted very soon.
	(v)	Adequate measures shall be taken for control of noise level below 85 dB (A) in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc. shall be provided with ear plugs/ muffs.	Complying. Project is presently in construction and erection stage. Plan and design is in line with requirement to comply with noise limit in washery operation stage (Annexure I: Ambient noise report of project in construction stage). No drilling and blasting operations shall be required in washery.
	(vi)	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contraction due to exposure to dust and to take corrective measures if needed.	Complying. Suitable respiratory safety equipments are used. Periodical training and occupational health surveillance programme of the workers are conducted to detect and observe any contraction due to exposure to dust.
	(vii)	A separate environmental management cell with suitable qualified personnel shall be set up under control of a senior executive, who will report directly to the head of the company.	Complying. Separate environment management cell is set-up which is headed by senior officer presently at the rank of DGM – Environment reporting directly to head of the Angul site.
	(viii)	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to this ministry and its regional office Bhubaneswar.	Complying. Separate funds for Environmental management have been earmarked. (Annexure J: Page 6-4 and 6-5 of EIA report for Environmental Management Fund). Yearly recurring expenses shall be submitted in operational phase of the plant.
	(ix)	The project authorities shall advertise at least in two local newspaper widely circulated around the project, one of which shall be in the vernacular	Complying.

		language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the state pollution control board and may also seen at the website of the ministry of Environment & Forrest at http://envior.nic.in .	
	(x)	A copy of the environmental clearance letter shall be marked to the concerned Panchayat /Zilla Parisad/Municipal corporation or Urban Local Body/ local NGO, if any from whom any suggestion /representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.	Complying. Copy of EC is displayed on company's website.
	(xi)	A copy of the clearance letter shall be displayed on the website of the concern state pollution control board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/ Tehsildar's Office for 30 days.	Complying. Copy of EC is provided to State Pollution Control Board and other authorities.
	(xii)	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once in every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient and stack if any) and critical sect oral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on company's website.	Clearance letter is uploaded on company's website. Compliance status shall be displayed on company's website on 6 months basis. Main gate of the project premises is under construction. Plan and design is in line with requirement to display critical pollutants data on entrance of project premises very soon.
	(xiii)	The proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance condition (both in hard copy and in email) to the respective regional office of the MoEF, the respective zonal offices of CPCB and the SPCB.	Noted and Complying.
	(xiv)	The Regional Office of this ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The projects authorities shall extend full co-operation to the office (s) of the regional office by furnishing the requisite data / information / monitoring reports.	Noted. Full cooperation shall be extended.
	(xv)	The environmental statement for each financial year ending 31 st March in form-V is mandated to be submitted by the project proponent for the	Noted. Project is under erection stage and expected to come in operational phase in FY 2013-14. Consent to Establish for coal washery has been

		concern SPCB as prescribed under the environment (protection) rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective regional offices of the MoEF by email.	received in February, 2012. Environmental statement for FY 2012-13 shall be submitted as per rule 14 of Environmental Protection Rules, 1986.
3.		The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Noted and agreed.
4.		Failure to comply with any of the conditions will be enforced mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (protection) Act, 1986.	Noted and agreed.
5.		The above conditions will be enforced inter alia, under the provisions of the Water (prevention & Control of pollution) Act, 1974, the Air (prevention & Control of Pollution) Act, 1991 along with their amendments and Rules. The proponent shall ensure to undertake and provide for the cost incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.	Noted and agreed.

(... PRADIPTA KISHOR SAHOO...)

Authorised Signatory
Monnet Ispat and Energy Limited

**Compliance Status of Environmental Management Plan (EMP) for
Construction Phase of Coal Washery**

<u>Discipline</u>	<u>Potential Impacts</u>	<u>Probable Source</u>	<u>Mitigation Measures</u>	<u>Compliance Status</u>
Constructional Phase Impact				
Water quality	Suspended solids due to soil run-off during heavy precipitation	Loose soil at construction site	During monsoon season run-off from construction site will flow through garland drains to common basin (settling tanks) for settlement of suspended solids.	Complying
Air quality	Dust concentration	Construction vehicular movement	Trucks shall be covered with optimum fill level. After initial years, closed conveyors shall be used, thus, almost eliminating fugitive emissions due to transportation of raw coal. Sprinkling of water in the construction area and unpaved roads. Proper maintenance of vehicles shall be done. Cover vehicle moving off-site. Restrict vehicles speed on construction roads and ensure vehicles used only dedicated construction roads and access points. Visually monitor particulate emissions from diesel vehicles and carry out regular maintenance on all plant and equipment.	Complying. Trucks are filled up to optimum level with tarpaulin cover to avoid fugitive dust emission. Also, speed of vehicles has been restricted to 20km\hr to avoid fugitive dust emission and to ensure safety. (Annexure 8: Photograph of covered trucks for air-born material transport) All heavy vehicles running in washery premises have been admitted only after verifying their PUC certificates.
Noise	Noise level	Construction equipment	Equipment to be kept in maintained condition to keep noise level within 90db (A). Develop and implement a construction noise management plan. Limit hours of construction where practical. Workers	Complying. Hearing Protection equipments has been provided to workman.

			will be provided with necessary protective equipment e.g. Ear plugs & ear-muffs.	
Terrestrial ecology	Clearing of vegetation	Soil handling activities	Landscaping and extensive plantation shall be done	Complying. Green belt development is under progress. (Annexure 12: Photograph for Green belt development in washery premises)
Excavated soil	Loss of excavated top soil	Excavation	The top soil shall be properly stored and used for leveling in low laying area.	Complying. Top soil is being used for Green belt development.

Green belt development in washery premises



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10.



11.



12.

Under progress work for black topping of roads

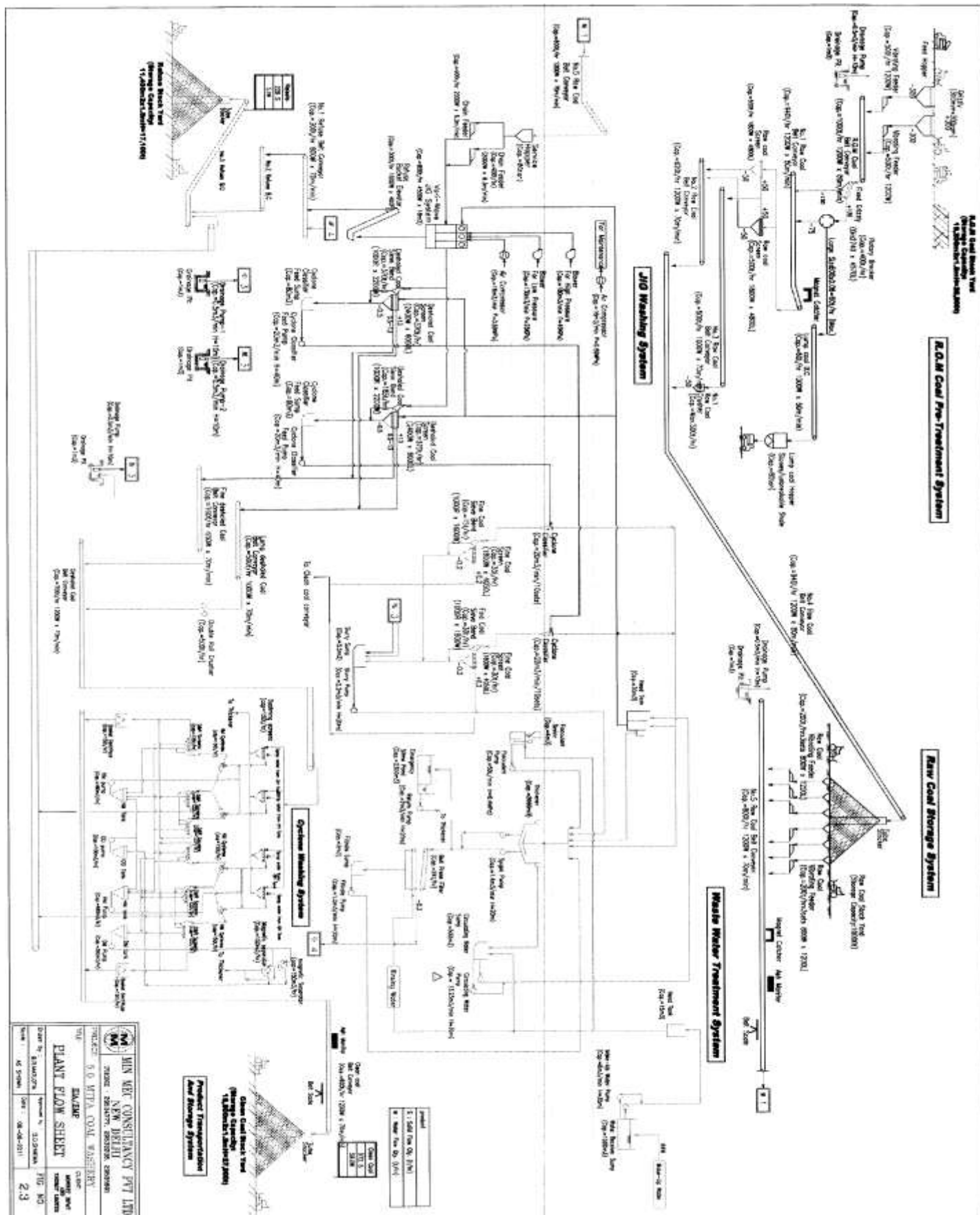


Transportation of materials in covered trucks



Speed limit sign board





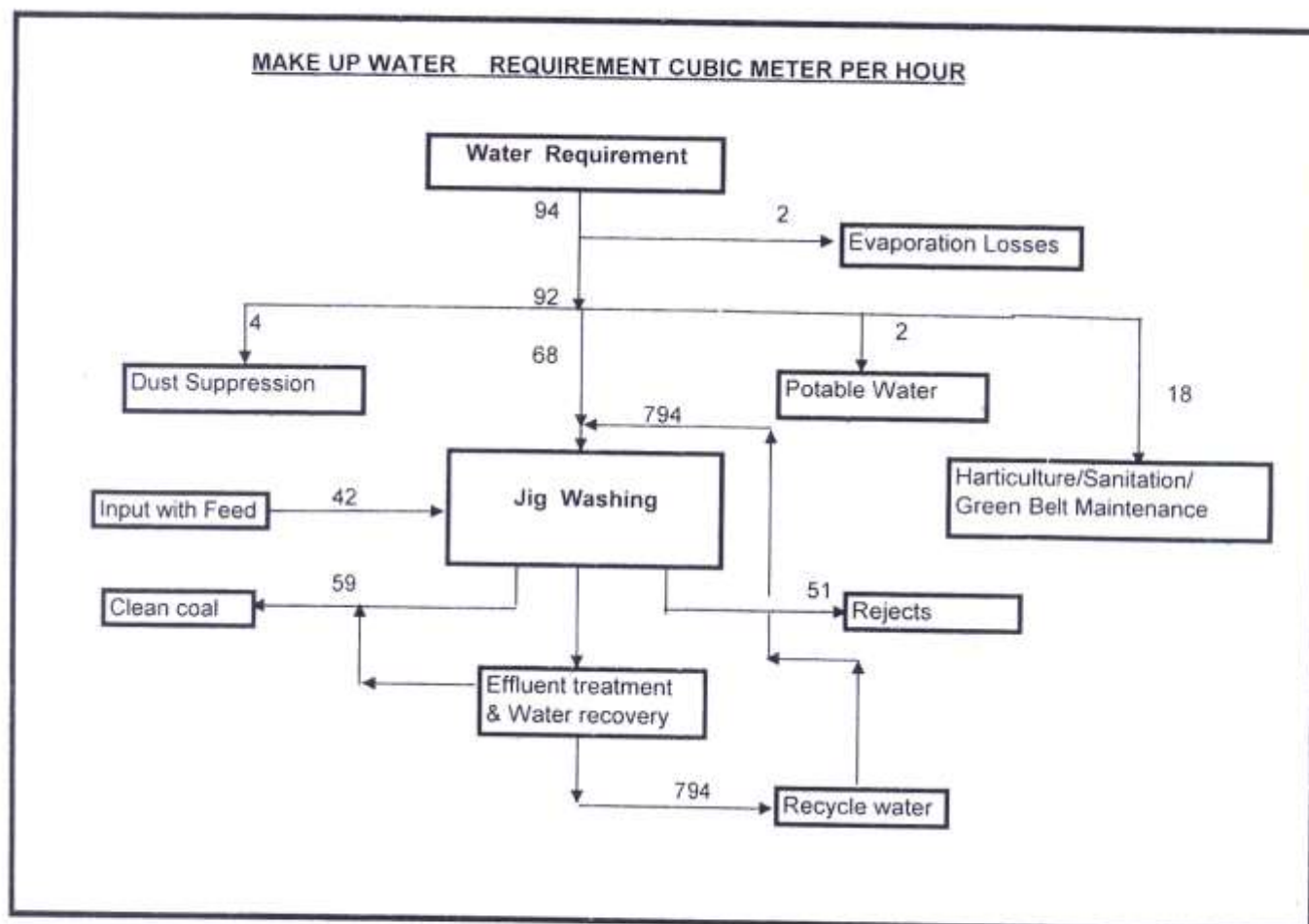


Fig 6

Equipments for water reclamation



1. Thickener for waste water treatment and recycling



2. Thickening cyclones for waste water reclamation

CSR BUDGET AND EXPENSES						
SL.NO	Verticals	FY 2010-11	FY 2011-2012		FY 2012-2013 (Till DEC 12)	
		Expenses	Proposed	Expenses	Proposed	Expenses
1	HEALTH	7 lakhs	8L	22L	27L	1.25L
2	EDUCATION	10 lakhs	5L	43L	32L	3.35L
3	SPORTS & CULTURE	4 lakhs	2L	3L	17L	2.60L
4	INFRASTRUCTURE	15 lakhs	27L	23L	36L	62.30L
5	WOMEN EMPOWERMENT	2 lakhs	7 L	2L	8L	0.7L
6	ENVIRONMENT PROTECTION	2 lakhs	3 L	3L	5L	2.63L
7	MISCELLANEOUS			20L	10L	0.8L
			52L		135L	
		40 lakhs		115Lakhs		73.63L

ANNEXURE H



S.S. Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"

At : Patrapada, P.O.: Dumuduma, Dist: Khurda, Bhubaneswar-751 030, Odisha

Tele Fax : 0674-2471574; Mobile: 9437071573, 9437071575, 9937910105

E-mail: emails@ssenvironics.com Website : www.ssenvironics.com

ISO 9001

BUREAU VERITAS
Certification



Bureau Veritas Certification
using the accreditation
certificate number 008



008

Ref. No: SSE/12/R-3081

Date: 05.12.2012

AMBIENT AIR QUALITY REPORT

Name of the Industry : Monnet, Angul, Odisha

Date of Analysis : 01.12.2012 to 04.12.2012

Sl. No	Date of Sampling	Name of the Location	Parameters						
			SPM (Suspended Particulate Matter) µg/ m ³	PM 10 (Particulate Matter Size <10µm) µg/ m ³	PM 2.5 (Particulate Matter Size <2.5µm) µg/ m ³	SO ₂ (Sulphur Dioxide) µg/ m ³	NO _x (Oxides of Nitrogen) µg/ m ³	CO (Carbon monoxide) mg/m ³	Hg (Mercury) µg/ m ³
1	27 Nov 2012	Malibrahmani RR Colony (Project Boundary North)	190	89	51.5	9.1	10.7	0.42	BDL
2	27 Nov 2012	Near Project Boundary (West)	180	79	50.6	12.5	12.3	0.39	BDL
3	28 Nov 2012	Near Project Boundary (South)	173	74	50.9	10.2	11.7	0.46	BDL
4	28 Nov 2012	Village Sana Mahitala (Approx. 6 km East)	191	71	51.7	8.3	11.9	0.23	BDL
5	29 Nov 2012	Between Rajjharan and Singhada Jhor (Approx 6 km North West)	163	76	44.9	8.2	9.6	0.25	BDL
6	29 Nov 2012	Between Bhuvanpur and Parang (Approx 5.5 km South East)	195	87	53.5	9.5	10.8	0.34	BDL
CPCB Standards			Not Specified	100	60	80	80	4.0 /1 hrs	Not Specified
Method of Analysis			Average Flowrate at 1.1m ³ /min	Average Flowrate at 1.1m ³ /min	Average Flowrate at 1.0m ³ /hr	Improve d West Gaeke method.	Jacob & Hochheiser modified Method.	Non dispersive Infrared Spectroscopy	AAS/ ICP

BDL : Below Detection Limit and BDL value for SO₂ is below 4.0 µg/m³ and for NO_x is below 9.0 µg/m³. Mercury 0.01µg/ m³
Below Detection Limit of CO is 0.1mg/m³.

For S.S. Environics (India) Pvt. Ltd

ANNEXURE I



S.S. Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"

At : Patrapada, P.O.: Dumuduma, Dist: Khurda, Bhubaneswar-751 030, Odisha

Tele Fax : 0674-2471574; Mobile: 9437071573, 9437071575, 9937910105

E-mail: emails@ssenvironics.com Website : www.ssenvironics.com

ISO 9001

BUREAU VERITAS
Certification



Bureau Veritas Certification
using the accreditation
certificate number 008



008

Ref. No: SSE/12/R-3082

Date: 05.12.2012

NOISE MONITORING REPORT

Name of the Industry : Monnet, Angul. Odisha

Sl. No	Date of Monitoring	NOISE MONITORING LOCATIONS	Results in dBA (Day Time) 06.00am to 10.00pm	Results in dBA (Night Time) 10.00pm to 06.00am
1	27 Nov 2012	Malibrahmani RR Colony (Project Boundary North)	53.6	43.2
2	27 Nov 2012	Village Nisha (Project Boundary East)	52.8	44.1
3	27 Nov 2012	Near Project Boundary (West)	61.9	55.3
4	28 Nov 2012	Near Project Boundary (South)	63.1	57.8
AMBIENT NOISE STANDARDS			Day time (in dBA)	Night time (in dBA)
i	Industrial		75.0	70.0
ii	Commercial		65.0	55.0
iii	Residential		55.0	45.0
iv	Sesitive		50.0	40.0

For S.S. Environics (India) Pvt. Ltd

ANNEXURE J

6.3.3 Noise monitoring

Noise level will be monitored in working environment, near major noise producing sources, and in residential areas around the premises.

6.3.4 Green belt and afforested areas

Continuous vigil and monitoring of green belt will be done for its maintenance and survival rate. The plantation will be properly guarded by watch and ward personnel.

6.4 BUDGETARY PROVISION FOR ENVIRONMENTAL MANAGEMENT**A. Capital cost estimated for EMP**

Adequate budgetary provision has been made by the company for execution of environmental management plan. The project cost is Rs. 68 crores. Capital investment for environmental protection will be 2.75 crores. **Table 6.2** and **6.3** gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

TABLE 6.2
CAPITAL INVESTMENT FOR ENVIRONMENTAL PROTECTION

Sl. No.	Particulars	No. of equip.	Unit cost (Rs. lakh)	Total
IA	AIR POLLUTION CONTROL			
	Force draft ventilation	1	26.0	26.0
	Water sprayer (stationary)	20	0.1	2.0
	Water sprayer (mobile)	1	8.0	8.0
	Sub Total			36.0
IB	WATER POLLUTION CONTROL			
	Septic tank-soak pit system	2	0.25	0.5
	Industrial Effluent Treatment Plant	LS	150.00	150.00
	Garland drains, retaining wall, check dams, etc	LS	5.00	5.00
	Storm water drains	LS	5.00	5.00
	Drains along roads	LS	20.00	20.00
	Sub Total			180.5
IC	NOISE POLLUTION CONTROL			
	Acoustics for noise pollution control	LS	2.0	2.0
	TOTAL (IA+IB+IC)			218.50
II	POLLUTION MONITORING			
	Laboratory for testing	LS	5.00	5.00
	Sub Total			5.0

Sl. No.	Particulars	No. of equip.	Unit cost (Rs. lakh)	Total
III	OCCUPATIONAL HEALTH			
	Fire fighting equipment (Portable)	LS	10.00	10.00
	Fire fighting equipment (Fixed)	LS	10.00	10.00
	Personal protective equipment (goggles, gloves, helmets, safety boots etc)	200	0.01	2.00
	TOTAL			22.00
IV	GREEN BELT	9.28	1.00	9.82
V	MISCELLANEOUS	LS	20.00	20.00
	GRAND TOTAL			275.32

TABLE 6.3
RECURRING ANNUAL COST FOR ENVIRONMENTAL PROTECTION

Sl. No.	Particulars	Cost (Rs. Lakhs)
1	Pollution control	41.38
2	Pollution monitoring	2.93
3	Occupational health	2.74
4	Green belt	2.42
5	Others	4.77
6	Interest on capital cost	17.82
7	Overheads	1.56
	Total	73.63

Assumptions:

- 1) Debt equity ratio = 0.68
- 2) Three shifts working of 7 hours each for 300 days
- 3) Unit cost of diesel Rs.45/litre, petrol Rs. 70/ litre
- 4) 30 years is life of project

The total capital investment on environmental protection and improvement is envisaged as Rs. 275.32 lakhs which is 4% of the project cost and recurring expenditure is envisaged as Rs. 73.63 lakhs/year.