

REGISTERED

Ref.No.HPC/NPM/ENV/51/2010/
To,
The Joint Director,
Ministry of Environment & Forest,
Regional Office (North East Zone),
Upland Road, Laitumkhrah,
SHILLONG – 793 003

Date : 16.06.2010

**Sub : Implementation of Environmental Safeguard as per Environmental Clearances
(Status as on 1st June 2010)**

Ref. EC No. G.O.No. J-11011/294/2008- IA- II(I) dated September 30, 2008

Sir,

In inviting reference to the aforesaid subject, we are enclosing herewith the environmental safeguard reports (Stipulations and present status), on the 'Environmental Clearance', issued to Nagaon Paper Mill (NPM), for your kind perusal. This status report is sent to your office in the month of June and December every year.

A soft copy of the report is also sent to your mail ID apart from uploading in our official web site.

Thanking you.

Yours faithfully,

A.K.Mukhopadhyay
Dy.General Manager (Env/Lab & QC)

Encl:

1. Status on Stipulations of EC
2. Reports of Effluent, Ground water, Stack and Ambient air, fugitive emission, etc
3. Reports on Farm Forestry
4. CREP status

Copy to :

ACE, NPM
AGM (W), NPM



HINDUSTAN PAPER CORPORATION LIMITED
NAGAON PAPER MILL : KAGAJNAGAR.

**ENVIRONMENTAL CLEARANCE TO NAGAON PAPER MILL FOR
MODERNIZATION AND TECHNOLOGICAL UPGRADATION (MTUP)**

(G.O.No. J-11011/294/2008- IA- II(I) dated September 30, 2008)

STIPULATIONS AND PRESENT STATUS AS ON 1ST JUNE 2010

(Status report is sent to MoEF, Shillong in December and June every year)

Sl. No.	Stipulations	Proposed Action	Present Status
A	SPECIFIC CONDITIONS :		
(i)	The project authority shall install adequate air pollution control equipment with the boilers to achieve the particulate emission below 100 mg/NM ³ . NCG collection and incineration system along with blow heat recovery system shall be included in the proposed scheme for control of the gaseous emissions from pulp mill and soda recovery sections.	The coal fired boilers have multicyclone separators and Recovery boiler is equipped with ESP. The AFBC boiler, which is under commissioning, is also equipped with ESP. It is proposed that once the AFBC boiler is commissioned, the coal will be screened and screened coal will be burnt in CF boilers and fines in AFBC. The particulate matter will be within 100-mg/NM ³ NCG collections and burning in lime mud reburning plant is already proposed. Blow heat recovery system is already in place.	The coal-fired boilers have multicyclone separators and Recovery boiler is equipped with ESP. The AFBC boiler is commissioned on 31.12.2008, which is equipped with ESP. All the multicyclone separators overhauled again in last annual shut in April 2010. As proposed the screened coal is being fed in CF boilers. Present PM values are within 150 mg/NM ³ (Annexure- I). Procurement action for ESPs in CF boilers already initiated. NCG collection and burning in lime mud reburning plant is already proposed. Being continuous digester, the blow down heat recovery system is not existed in the process.
(ii)	The company shall install the Oxygen delignification plant in the pulp mill to reduce chlorine demand and to achieve AOX level below 1 kg/Tonne of paper.	It is proposed to implement ECF bleaching with change in bleaching sequence. Consultant has been engaged for implementation of MTUP projects including switching over to membrane cell technology by November 2010. Once these activities are over, the AOX value will be below 1 kg/MT of paper.	It is proposed to implement ECF bleaching with change in bleaching sequence. Consultant has been engaged for implementation of MTUP projects including switching over to membrane cell technology by May 2011, as discussed in presence of CPCB, NPM and Consultant on 18.11.2009. Work order for Membrane Cell already placed on 04.06.2010 on Ms Nuberg Engineering, Noida. Present value of AOX is below 1 kg/MT of paper.
(iii)	The process emissions and particulate matter from various units shall conform to the standards prescribed by the	Process emissions are within prescribed limits. Particulate matters in stack emissions also are	Process emissions are within prescribed limits. Particulate matters in stack emissions also are regularly monitored and are within limits. As proposed the

Sl. No.	Stipulations	Proposed Action	Present Status
	concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	regularly monitored and are within limits. Moreover, the CF boilers are equipped with multicyclone separators and Recovery boiler is with ESP. The new AFBC boiler, which is under commissioning is also equipped with ESP. All mill's organic wastes is proposed to be burnt in this boiler.	screened coal is being fed in CF boilers. Procurement action for ESPs in CF boilers already initiated Present PM values are within 150 mg/NM ³ . AFBC boiler is commissioned. It is also equipped with ESP.
(iv)	Ambient Air Quality Monitoring Stations shall be set up in the down wind direction as well as where maximum ground level concentration of SPM, RSPM, SO ₂ , NO _x , are anticipated in consultation with the Assam Pollution Control Board.	Total four numbers of ambient air monitoring stations are there both in inside factory and in residential areas. However, change of positions of stations shall be initiated in consultation with APCB official.	We have engaged Gauhati University for monitoring and analysis of ambient air quality on annual contract basis. All parameters are within limits (Annexure – II). We have approached APCB for their help in refixing the position of stations as directed, vide our letter No.HPC /NPM/ENV/02A/2009/787 dated 22.04.09. When contacted, the SPCB opined that the samplers are already in right position and no change is required right now.
(v)	Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by Assam PCB for control of fugitive emission.	Fugitive emissions shall be regularly monitored inside the factory premises.	Fugitive emissions are regularly being monitored inside the factory premises. (Annexure – III)
(vi)	The water requirement shall not exceed 36000 KLD and shall be met from existing supply from river. The Industry shall ensure that the treated effluent from the unit is within the norms stipulated under the EPA rules or SPCB whichever is more stringent. In case of treatment process disturbances/failure of pollution control equipment adopted by the unit, the respective unit shall be shut down and shall not be restarted until the control measures are rectified to achieve the desired efficiency.	The existing water consumption for 1,00,000 tpa paper production is approx. 36,000 KLD. The treated effluent parameters are within norms and taking all possible measures to maintain. In case of any deviation or disturbances action shall be taken immediately.	The existing water consumption for 1,00,000 tpa paper production is approx. 36,000 KLD. The treated effluent parameters are within norms and taking all possible measures to maintain. As an alternative method of treatment, we have been using polymer in ETP to maintain norms. Consultancy services for monitoring and recommendations for further improvement of performances in ETP, was given to CPPRI, Saharanpur, and IIT, Delhi, vide w.o. No.HPC/NPM/ ENV /49/2008/4062 dated 04.11.08 and No.HPC/NPM/ENV/ 49 /2008/477 dated 27.10.08 respectively. Reports submitted revealed encouraging results of treated effluent.
(vii)	Adequate number of influent and effluent quality monitoring	Samples of effluents are collected round the clock	Samples of effluents are collected round the clock before and after treatment.

Sl. No.	Stipulations	Proposed Action	Present Status
	stations shall be set up in consultation with the State Pollution Control Board and regular monitoring shall be carried out for all relevant parameters to maintain the effluent treatment efficiency. The report shall be submitted to Ministry's Regional Office at Shillong, CPCB and SPCB.	before and after treatment. Samples are collected as directed by the APCB, covering treated effluent disposal route and reports are sent every month. The report shall be submitted to Ministry's Regional Office at Shillong, CPCB and SPCB.	(Annexure – IV). Samples are also collected, covering treated effluent disposal route including ground waters and reports are sent every month to APCB. We have been sending these reports to CPCB, Shillong also. Last report sent on 10.05.2010.
(viii)	In order to achieve reduction in colour, tertiary treatment systems like activated carbon filter, Multimedia filter etc shall be explored and also the options for increasing the reuse/recycling of treated effluent, shall be explored and detailed plan shall be submitted to the Ministry and its Regional Office at Shillong within three months from date of issue of this letter.	Colour of treated effluent appears to be less. However, a detail programme shall be made as suggested.	Colour of treated effluent appears to be less. To reduce COD, BOD and colour, we have been dosing polymer/ alum, etc. in ETP. Positive impact is noticed.
(ix)	One water quality monitoring station at 100 m downstream of the confluence of the treated effluent discharge point in the nearest water body shall be started in consultation with the Assam Pollution Control Board.	At present as suggested by the APCB, a monitoring station at 2 km down stream as per consent condition is maintained. However, as desired, a monitoring station at 100 m down stream shall also be started in consultation with APCB.	The water quality in treated effluent disposal route including down stream of river at 100 m are regularly checked and results are sent to APCB and CPCB every month. Last report sent on 10.05.2010.
(x)	The Company shall obtain fresh permission for drawl of water from the competent authority and copy of the permission letter shall be submitted to Ministry's Regional Office at Shillong within 3 months from date of issue of this letter.	A fresh application for drawl of water shall be submitted to APCB as directed.	Initially an application for 49000 KLD drawl of water was submitted to APCB vide our letter No.HPC/NPM/ENV/02A/2008/515/4369 dated 22.11.08. As per documents submitted to MoEF, Delhi, we may require 49,000 KLD of water for implementation of MTUP. In this context, we also requested for this requirement to the Joint Director, MoEF, New Delhi, vide our letter No. HPC/NPM /ENV/51/2008/516/4384 dated 25.11.08. In the mean time we wrote to obtain fresh permission to the Chief Engineer, Water Resource Dept, Govt. of Assam, vide our letter No. HPC /NPM/ENV/51/2008/731/259 dated

Sl. No.	Stipulations	Proposed Action	Present Status
			14.03.09 and again 1 st reminder on 29.05.09, 2 nd reminder on 10.10.2009 and 3 rd reminder on 30.11.2009 apart from personal contact in the office of the Dy.Chief Engineer. It is under process.
(xi)	The Project Authorities shall explore the possibilities of Utilization of the dumped lime sludge and mud in cement plants etc.	Possibilities of utilization shall be explored accordingly.	Because of huge demand of the material by local SSI units, etc., for their end use in agricultural purposes, cement units, we allow lifting of the material in a systematic manner to local SSI unit, unemployed youths.
(xii)	The fly ash generated from the power plant shall be disposed of in accordance with the provisions of the Fly ash Notification 2003.	It will be disposed as directed in notification.	Fly ash is allowed to lift by Cement and brick manufacturers as per their requirement.
(xiii)	The Project authority shall dispose of hazardous waste as per the provision of Hazardous Wastes (Management and Handling) Rules, 2003.	Hazardous waste shall be handled as per Hazardous Wastes (Management and Handling) Rules, 2003.	Hazardous waste, brine sludge, is handled as per rule.
(xiv)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Qualified doctors shall do occupational health surveillance of the employees on a regular basis in our Occupational Health Center (OHC).	Occupational health and safety surveillance of the employees are regularly done as PME schedule in OHC located inside the plant. NPM is a certified OHSAS 18001 company and these aspects are also subjected to surveillance audit.
(xv)	The Company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.	Fire fighting arrangements shall be maintained as directed.	NPM has its own fire fighting wing with two numbers fire tenders, under CISF and directly reporting to Chief Safety Officer. The fire tenders are also sent outside the premises in the district on emergency calls.
(xvi)	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the pulp and paper sector shall be strictly implemented.	CREP conditions shall be strictly implemented.	About 80 – 85% of the conditions are already implemented except few capital schemes, which are under implementation. (Annexure – V)
B	GENERAL CONDITIONS		
i)	The project authorities shall strictly adhere to the stipulations of the SPCB/State Government or any Statutory body.	The stipulations of the statutory bodies shall be strictly adhered to.	The conditions/stipulations imposed through consents are strictly maintained and reports are sent to APCB as well as to CPCB.
ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of environment and Forests. In case of deviations or alterations in the project proposal	No expansion or modification of plants shall be carried out without prior approval. In case	Once the schemes under MTUP are implemented, no other expansion or modification of plants is proposed at present.

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	from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	such situation arises, fresh application for permission shall be made as directed.	
iii)	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals rules, 1989 as amended. Authorization from the SPCB shall be obtained for collection, treatment, storage and disposal of hazardous wastes.	NPM shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals rules, 1989 as amended.	The present authorization was valid up to May 2009. Renewal application submitted on 09.05.2009 followed by number of reminders. Authorization is awaited.
iv)	For control of process emissions, stacks of appropriate height as per the Central pollution control Board Guidelines shall be provided. The scrubbed water shall be sent to ETP for further treatment.	Stack heights are as per CPCB guidelines.	Stack heights are as per CPCB guidelines. The ESP provided in Recovery boiler is equipped with high voltage electrode so water is not in use for scrubbing.
v)	<p>The company shall undertake following Waste Minimization measures :-</p> <ul style="list-style-type: none"> • Metering of quantities of active ingredients to minimize waste. • Reuse of by-products from the process as raw materials or as raw material substitutes in other process. • Maximizing recoveries. • Use of automated material transfer system to minimize spillage. • Use of “Closed Feed” system into batch reactors. 	<p>Metering system in flow of water/liquid or quantity of raw materials, chemicals used, wastes generated are already in existence. Recycling of wastes shall be the prime aim to minimize wastes generation.</p>	<ul style="list-style-type: none"> • Chemicals/raw materials used in processes are passed through metering systems • Liquid wastes or solids are used in the processes itself as raw materials to other processes, like waste water is used in bamboo handling system, chips washing system, pulp dilution system, etc. Solid wastes like coal ash and fly ash are used as per direction in notification in Sept 1999. Bamboo dust is used in production of fuel in lime mud reburning plant to produce lime for use in process. • Since spent liquor after digestion of bamboo contains alkali, NPM has its Recovery plant to recover chemicals. • All kinds of automated material transfer systems are in place to minimize spillage • All modern methods are adopted to maintain the closed feed systems
vi)	The project authorities shall comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with	NPM shall strictly comply with the rules and regulations under	The present authorization was valid up to May 2009. Renewal application submitted on 09.05.2009 followed by number of reminders. Authorization is

Sl. No.	Stipulations	Proposed Action	Present Status
	the Hazardous Wastes (Management and Handling) rules, 2003. Authorization from the State Pollution control Board shall be obtained for collections/treatment/storage/disposal of hazardous wastes.	Manufacture, Storage and Import of Hazardous Chemicals rules, 1989 as amended.	awaited.
vii)	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The Ambient noise levels shall conform to the standards prescribed under environment (Protection) act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Noise level shall be maintained within limits by providing all control measures. Ambient noise shall be monitored as directed by APCB.	Noise level, under work place monitoring in different working zones are regularly monitored as per Factories Rule and OHSAS systems. They are within limits. Ambient noise in different places inside and outside factory premises are regularly monitored and monitoring results are sent to APCB as well as to CPCB. Last report sent on 10.05.2010. All parameters are well within the limits.
viii)	A separate environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	Complied with. A separate Cell with qualified officers, and number of workers headed by a DGM is functioning well.	A separate Env cell is working with qualified officers and number of workers headed by DGM, having a full-fledged laboratory facility merged with Central Laboratory.
ix)	Adequate financial provision shall be made in the budget of the project for implementation of the above suggested environmental safeguards. Fund so earmarked shall not be diverted for any other purposes.	Complied with. For maintenance of CREP conditions an amount of about Rs.161 Cr. has been earmarked. Funds so earmarked are not diverted for any other purposes. Many conditions already complied and some are under implementation.	Apart from CREP, a huge amount has already been spent in upgradation /modification of systems and processes on environmental safeguard point of view. Lagoon was desludged at a cost of about Rs.35 lakhs in 2007-08. Contract on Beel system cleaning is being regularly given to local youths. Several crores earmarked and utilized in implementing number of Environmental Management Programmes (EMP) as per EMS (ISO 14001 certification). A CREP status is enclosed as Annexure –V .
x)	The project authorities shall provide rainwater harvesting system and ground water recharge.	A trial programme will be initiated by March 2009.	NPM draws water from a nearby perennial river, which has the maximum flow round the year. However, as directed, we approached Central Ground Water Board, vide our letter No.HPC/NPM/ENV/51/2009/726/258 dated 12.03.09 and again on 20.04.09 apart from personal visit to their office. The authority has advised to explore the

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			possibility to engage other agency through net search. Accordingly, we approached Ms EnviroArch, Mumbai on 06 th Nov 2009, Ms Eureka Forbes on 6 th Nov 09 and Times Foundation, Mumbai. Only Enviro Arch responded to our request and we requested to send budgetary offer but till date no reply received. Again on 03 rd April 2010, we sent a mail to 'Environmental Research & Evaluation Center', Guwahati, but till date no response.
xi)	The implementation of the project vis-à-vis environmental action plans shall be monitored by Ministry's Regional Office / SPCB/ CPCB. A six monthly compliance status report shall be submitted to monitoring agencies.	A six monthly compliance status report shall be submitted to monitoring agencies. It is regularly monitored by APCB.	The statutory authorities regularly monitor it. Six monthly compliance reports are sent to monitoring agencies as on 1 st December and 1 st June every year.
xii)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Ministry's Regional Office.	Shall be published in local dailies as directed.	Already published in one popular Assamese and in one English daily on 30.10.2008. Copies enclosed in our reports submitted to your office in December 2008.
xiii)	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Shall be complied.	Date of final approval of the project: 29.03.2006. Date of start of the project : July 2008 Date of final implementation : July 2011

A.K.Mukhopadhyay
Dy.General Manager (Env/Lab & QC)

Stack Monitoring Report :

Month	Boiler No.	PM mg/NM ³	H ₂ S mg/NM ³
Norms : Max.		150 mg/NM³	10 mg/NM³
December 2009	I	145	-
	II	150	-
	III	142	-
	Recovery	100	7.0
Jan 2010	I	144	-
	II	139	-
	III	145	-
	Recovery	75	7.5
Feb 2010	I	140	-
	II	144	-
	III	141	-
	Recovery	80	7.0
March 2010	I	138	-
	II	140	-
	III	144	-
	Recovery	72	6.4
Apr 2010	I	140	-
	II	142	-
	III	146	-
	Recovery	66	6.0
May 2010	I	149	-
	II	150	-
	III	150	-
	Recovery	82	7.0

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Average Ambient Air Quality Monitoring Report :

Month	Station	SPM/RSPM $\mu\text{gm}/\text{M}^3$	SO ₂ $\mu\text{gm}/\text{M}^3$	NO _x $\mu\text{gm}/\text{M}^3$
Residential (R) : Norms : Max.		200/100	80	80
Industrial (I) : Norms : Max.		500/150	120	120
Dec 2009	Inside mill (ETP)(I)	280.9	17.4	14.4
	Township (Electric office)	186.0	14.3	11.8
	CISF Barrack	187.7	13.5	12.0
	NPM Guest house	169.1/83.3	12.8	10.5
Jan 2010	Inside mill (ETP)(I)	255.8	18.0	14.2
	Township (Electric office)	143.4	13.6	12.7
	CISF Barrack	142.6	12.1	10.8
	NPM Guest house	146.0/81.2	11.0	9.7
Feb 2010	Inside mill (ETP)(I)	240.4	17.5	13.6
	Township (Electric office)	175.4	14.4	12.5
	CISF Barrack	171.6	12.4	10.4
	NPM Guest house	167.3/77.5	10.2	8.7
Mar 2010	Inside mill (ETP)(I)	249.9	18.4	14.4
	Township (Electric office)	186.0	14.3	11.8
	CISF Barrack	177.7	12.5	10.9
	NPM Guest house	159.1/63.3	11.8	10.5
Apr 2010	Inside mill (ETP)(I)	194.8	16.0	12.4
	Township (Electric office)	142.5	15.0	1.4
	CISF Barrack	112.8	11.7	10.0
	NPM Guest house	137.8/55.2	11.4	10.2
May 2010	Inside mill (ETP)(I)	208.4	13.3	11.5
	Township (Electric office)	129.0	11.1	8.9
	CISF Barrack	118.0	9.7	9.6
	NPM Guest house	112.3/52.1	10.0	8.5

N.B : Chemistry Dept. of Gauhati University has been engaged since Jan 2006 for air quality monitoring including statistical analysis, under the supervision of Prof. Dr.K.G.Bhattacharyya.

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HINDUSTAN PAPER CORPORATION LTD.
INTER OFFICE MEMO
NAGAON PAPER MILL

Sub : **Work Zone monitoring .for SPM & RSPM for the month of May, 2010**
(Lab report No.NPM/CLB/50/09-10 dated 03.06.2010)

Department	Date of monitoring	Process stage/Location	Max. Limit in $\mu\text{gm}/\text{m}^3$ (24 Hrs)	Actual in $\mu\text{gm}/\text{m}^3$
			SPM / RSPM	
Pulp	02.05.10	Screening of chips	500 / 150	390/ 82
	02.05.10	Conveying of chips to silo	500 / 150	340 / 80
Paper Machine	03.05.10	Talc. Slurry preparation & pumping	500 / 150	500 / 150
	03.05.10	S.S Powder unloading & feeding to conveyer	500 / 150	500 / 150
	04.05.10	Suction roll drilling	500 / 150	280 / 62
	05.05.10	Rewinder operation -I	500 / 150	382 / 90
	06.05.10	Rewinder operation -2	500 / 150	366 / 82
	06.05.10	Core cutting	500 / 150	450 / 62
Soda Recovery	07.05.10	Lime unloading at godown	500 / 150	500 / 150
	07.05.10	Lime feeding through crusher	500 / 150	500 / 150
	08.05.10	Lime feeding	500 / 150	500 / 150
C & C	09.05.10	Running of vehicles in C&C area	500 / 150	366/ -
Utility	10.05.10	CHP Operation	500 / 150	400 /
	12.05.10	Loading of fly-ash in trucks from silo	500 / 150	410 /
	12.05.10	Coal yard	500 / 150	300 / 76
Distribution	13.05.10	Cutting & stitching of Reels & Bundles.	500 / 150	290 /
Finishing House	14.05.10	Movement of vehicles on the road near F.H.	500 / 150	332

Norms of Suspended particulate matter & Respirable suspended particulate matter is as per National Ambient Air quality standards (NAAQS) schedule-VII

Stack Monitoring

Department	Date	Location	Max. Limit in mg/M^3 PM / SO_2 / NO_x / H_2S	Actual Conc. In mg/M^3 PM / H_2S
Utility	25.05.10	Stack No-01	150 / - / - / - /	149/- / - /
	25.05.10	Stack No-02	150 / - / - / - /	150/- / - /
	27.05.10	Stack No-03	150 / - / - / - /	150/- / - /
Soda Recovery	27.05.10	Rec. Stack	150 / - / - / 10.0 /	82/- / - / 7.0

Note : Monitoring is carried out as per ISO Manual .

Average treated Effluent Quality Parameters :

Month	pH	SS, mg/l	COD, mg/l	BOD, mg/l	Hg, mg/l
December 2009	8.1	76	300	25	Nil
Jan 2010	8.0	78	287	24	Nil
Feb 2010	7.4	73	300	23	Nil
March 2010	8.0	78	295	21	Nil
Apr 2010	7.9	59	309	26	Nil
May 2010	8.0	82	288	20	Nil
Standards, Max	6.5-8.5	100	350	30	0.01

Average Ground Water Quality Parameters :

Month	Source/ Village	pH	Turbidity NTU	TH mg/L	Fe mg/L	Cl mg/L	Hg mg/L
Dec 2009	Near Lagoon	7.0	5.1	120	0.6	7.0	BDL
	Tegheria mazid	7.0	5.3	100	0.6	7.0	BDL
	Ghunusha	7.2	5.0	164	0.8	7.0	BDL
	Tegheria	7.3	4.9	132	0.7	7.9	BDL
Jan 2010	Near Lagoon	7.2	6.3	132	0.8	7.5	BDL
	Mazid Tegheria	7.4	6.8	110	0.7	7.5	BDL
	Ghunusha	7.6	7.0	178	0.8	8.2	BDL
	Tegheria vill	7.5	6.5	141	0.8	8.5	BDL
Feb 2010	Near Lagoon	7.2	5.5	138	0.8	7.0	BDL
	Tegheria mazid	7.4	5.9	100	0.7	7.0	BDL
	Ghunusha	7.5	6.1	174	0.8	7.4	BDL
	Tegheria vill	7.4	6.0	136	0.9	7.9	BDL
Mar 2010	Near Lagoon	7.3	6.4	125	0.7	5.8	BDL
	Tegheria	7.2	8.2	241	0.6	22.0	BDL
	Ghunusha	7.2	6.5	142	0.8	6.0	BDL
	Near mazid	7.1	6.0	118	0.6	6.6	BDL
Apr 2010	Near Lagoon	7.7	10	132	0.94	17.6	BDL
	Tegheria	7.4	10	135	0.92	11.7	BDL
	Near lagoon outlet	7.7	10	132	0.9	17.6	BDL
	Karkat Basti	7.1	1.0	270	0.64	6.0	BDL
May 2010	Near Lagoon	7.6	8.0	146	0.95	24.9	BDL
	Tegheria	7.4	10	137	0.96	17.8	BDL
	Near lagoon outlet	7.5	9.8	110	0.92	28.4	BDL
	Karkat Basti	6.2	6.1	38	0.6	78.1	BDL

CPCB norms with target date	Action proposed	Compliance status	Approx. cost Rs. in Lakh
removal programme by the mill within 2 years.	on the result of de-colorization project taken up by IPMA.	necessary study and guidance. Report yet to be received. In the meantime, the colour is found to be subsided by addition of polymer in ETP. The colour shall be minimum or even negligible once the ongoing MTUP projects like ECF, ODL systems in bleaching plant are implemented. Tender for the projects floated on 30.03.2009. Tendering process is in progress.	
Chlor- alkali plant			
1. Complete recycling of mercury bearing effluent by December,2003	All mercury bearing effluent through Hg removal plant to newly constructed Hypo sludge pit to be taken in operation by April, 2003.	<i>Complied with</i>	40.0
2. Installation of continuous Hg analyzer by June, 2003.	Presently monitoring is being carried out in Lab on regular basis. Procurement action for on line analyzer taken.	<i>Complied with</i>	5.0
3. Treatment of cell room ventilation gas limit for mercury not to exceed 1 gm/T of product by December, 2005	Mercury detector cum analyzer procurement action taken for close monitoring	<i>Complied with</i> <i>It is being determined by using portable detector.</i>	5.0
4. De-mercurisation of caustic soda and limit for mercury in caustic soda at 0.1 gm/T of product by December, 2004	Commissioning of caustic cooler in annual shut. If mercury content remains high, caustic filter, based on activated carbon adsorption, along with caustic lye pump will be installed in consultation with alkali manufacturer association	<i>Caustic lye filter based on Activated Carbon adsorption commissioned in Sept 2006.</i>	24.0
5. Reduction of mercury in H ₂ gas at 0.5 gm/T by December, 04	To reduce Hg content in H ₂ gas, it is to be cooled below 5 ⁰ C to avoid carry over along with installation of H ₂ gas Demercurization unit.	<i>Complied with</i>	28.5
6. Installation of common full-fledged salt washery unit at source by Dec,03	Using good quality of salt of equivalent to BIS grade common salt. Vendors to be informed to supply washed salt.	<i>Complied with</i>	-
7. Capping of existing pit completed disposal sites by June, 2004	Capping will be done as and when required.	<i>Complied with</i>	20.0
8. Installation of mercury distillation unit by June, 2003	Hg distillation unit will be installed as soon as it is received at site.	<i>Complied with</i>	9.5
9. Brine sludge treatment and water leach able mercury content in brine mud at < 0.1 mg/l before disposal in secured landfill	Brine sludge is treated in rotary vacuum drum filter to get maximum recovery of water leach able mercury content in brine sludge before disposal. For better reduction of Water leach able Hg,, a new Vacuum drum filter of improved design is under procurement..& proposed for dosing of sodium sulphide/lime for treatment and stabilization of mercury in brine sludge before disposal .	<i>Complied with</i> <i>New Drum filter commissioned. Brine sludge water leachable Hg content before disposal to secured landfill is found below 0.1 mg/l after stabilization.and treatment with sodium sulphide/lime</i>	25.0

CPCB norms with target date	Action proposed	Compliance status	Approx. cost Rs. in Lakh
10. Reduction of mercury consumption at < 50 gm/T of product by Dec, 2005	To get the target value, action plans already initiated to procure Caustic filter, additional chiller along with demercurization unit of hydrogen and mercury distillation unit.	<i>Achieved mercury consumption level of less than 50 g/MT of product. (Present achieved value of mercury consumption is below 50 g/MT of product).</i>	-
11. Total mercury release to environment at < 2.0 gm/T of product by Dec, 2005	To achieve the Hg emission level, action plans already initiated to procure Caustic filter, additional chiller along with demercurization unit of hydrogen product, mercury distillation unit as well as close monitoring of cell room gas on regular basis.	<i>Compliance status as mentioned in Sl.No. 5 & 8. By taking various measures as mentioned above, the target value of mercury release has already achieved c < 2.0 gm/T of product.</i>	-
12 The mercury cell plants will switch over to membrane cell technology in a time bound manner for which action plan will be prepared by respective plants within 6 months	With proposed modification of bleaching sequence to ECF, elemental Cl ₂ & hypo requirement will be eliminated Chlor- alkali plant will be downsized accordingly and change over to membrane cell technology is planned.	<i>Letter of Indent already placed on Ms Nuberg Engineering Ltd, Noida on 04.06.2010 for supply, erection & commissioning. Preliminary visit by the party is expected in the second week of June 2010.</i>	2500.0
13. To submit action plan covering the pollution and safety aspects for chlorine handling to prevent any accident/ release of chlorine.	Pollution & Safety aspects are identified and evaluated as per requirement of all management certifications.	This subject is covered under the following management certifications: ISO 9001: 2008 ISO 14001: 2004 OHSAS 18001: 2007	-

Total Rs. 16152.00

DGM (Env/Lab & QC)

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