

Ref: TML/KGP/ 255 / 2015-16

Date:-23. 12.2015

To
Dr. V.P. Upadhyay
Director (S)
Government of India
Ministry of Environment & Forests
Eastern Regional Office
A/3, Chandrashekharpur
Bhubaneswar – 751 023
Odisha

Dear Sir,

Sub: Six monthly Compliance Report for Sinter Plant at Mahespur, Kharagpur

Please find enclosed the Six Monthly Compliance report (April'15 to September'15) **Sinter plant** (Environmental clearance no:- J-11011/742/2008-IA II (I) dated 2nd January, 2009) for the condition stipulated in Environment Clearance to the Tata Metaliks Ltd at Mahespur, Kharagpur.

1. Sinter Production- 'Fy 2014-15' - 4,76,061.369 T ' Fy-2015-16'(April 15 – September 15) -235197 T
2. Pig Iron Production- ' Fy-2015-16*(April 15* to September 15*) - 1,49,876.166 T
3. Water Consumption of '2015-16 (Apr 15 to Sept 15*)'- 340236 KL.
4. Power Consumption of April 15* to September 15*:- 26154100 Kwh,

The copy of the compliance report is being sent to you as hard copy as well as soft copy and same also will be uploaded in the Tata Metaliks Ltd website. for your kind perusal.

Thanking you

Yours sincerely
For Tata Metaliks Limited

Debasis Misra
VP (Operation)

Enclosure – As above

A	SPECIFIC CONDITIONS for installation of Sinter Plant :	Compliance Status
i	<p>Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks and sufficient air pollution control devices shall be provided to keep the emission levels below 100 mg/Nm³. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit. The monitoring reports shall be submitted to the Ministry's Regional Office at Bhubaneswar, CPCB and WBPCB.</p>	<p>Ambient air quality is being monitored at two places i.e., near ADM building and near Guest House for PM₁₀, PM_{2.5}, SO₂ and NO₂. The data of June, 2015 indicate that these parameters are within the limit in respect of 24 hour¹⁵ standards, and two places i.e. Material Gate & Upcoming power plant area on September 2015 as per EP Act by SGS. The data of June, 2015 indicate that these parameters are within the limit.</p>
ii	<p>Electrostatic precipitator (ESP) and bag filters shall be provided to Sinter plant to control the emissions within 100 mg/Nm³. Gases from the process shall be vented to atmosphere through chimney of adequate height as per the CPCB guidelines after passing through the ESP.</p>	<p>Please see Annexure E</p>
iii	<p>Gaseous emission levels including secondary fugitive emissions from blast furnace and sinter plant shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed. The emission standards issued by the Ministry in May, 2008 shall be followed. Data on fugitive emissions shall be submitted to Ministry's Regional Office at Bhubaneswar, CPCB and WBPCB.</p>	<p>The stacks of raw material feeding, coke breeze, and flux crushing are attached to bag filters which have got provisions of continuous on-line stack monitoring facilities. It is also monitoring stack emission by West Bengal Pollution Control Board and also through a 3rd party consultant viz., M/s Indicative Consultants, Kolkata. Please see the data in Annexure E We have also planned to carry out stack monitoring by Moef Approved agency within December 2015</p>
iv	<p>Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.</p>	<p>The site is connected by a road which joins the National Highway. This road is being used by several industries located in this industrial area and found badly damaged. The WBIDC is improving the road and M/s Tata Metaliks has also contributed Rs.1.00 crore. Raw Material and the product are brought by road as well as by railway wagon. Pollution under control certification is also being insisted to all the vehicles to reduce vehicular emissions inside the plant and also on the surrounding areas.</p>
v	<p>In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Dust collection system shall be provided for arresting dust emissions. Dust suppression system like water spraying shall be provided at unloading and raw material handling areas, storage yards, conveyor belts and bucket elevators to control fugitive dust emissions to meet the WBPCB norms. Covered conveyer belts shall be provided. Water spraying shall also be done to prevent the dust emanation due to vehicular movement.</p>	<p>It has provided dry fog system at raw material handling section and also at transfer hoppers. Water sprinkler system provided stock yard,, railway yard, sinter plant area and powerhouse area. The road inside the plant has been made concrete in most of the areas. The conveyor systems are covered to help reducing fugitive dust.</p>
vi	<p>Total ground water requirement shall not exceed 700 m³/day. All the treated wastewater shall be recycled and reused in the process, dust suppression and green belt development. No wastewater shall be discharged outside the premises and 'Zero' effluent discharge shall be ensured. Domestic wastewater shall be treated in septic tank followed by soak pit system and used for plantation</p>	<p>The Blast Furnace Gas is sent to GCP and the waste water is routed through clarifier. The treated water is being recycled for different processes in the -plant viz., Pig quenching, slag granulation and dust suppression. Waste water from canteen is also being treated and used for dust suppression and plantation. Similarly run-off from process areas is lead to underground tanks as well as in waste water pond area for use in spraying on roads and gardening. Monitoring of drinking water and the run-off collected at waste water pond and emergency discharge area is being monitored regularly.</p>
vii	<p>Prior permission for the drawl of 700 m³/day water from bore</p>	<p>As per the CGWA implementation of revised</p>

	wells from the Central Ground Water Authority / State Ground Water Board (CGWA / SGWB) shall be obtained.	guidelines for grant of NOC for ground water withdrawal- reg. Tata Metaliks Ltd has taken permission form SWID.
viii	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report shall be submitted to the Ministry's Regional Office at Bhubaneswar, WBPCB and CPCB.	The total blast furnace granulated slag of is being sold to the Cement Manufacturers. The iron ore fines and coke fines are used in the Sinter plant within the premises. Waste oil (2070 kg) is being sold to WBPCB approved recycler within April 2015 to September 2015.
ix	. Dust collected from ESPs and bag filters shall be re-circulated into Sinter plant for making sinter. Solid waste from process containing oxides of Iron, Calcium and Silica and wastes from clarifier shall be recycled in Sintering process. Wastes from clarifier and bag filters shall be used in Sinter making. All the other solid wastes shall be properly disposed off in environment-friendly manner. Oily waste shall be provided to authorized recyclers / reprocessors as per the Hazardous Waste (Management & Handling) Rules, 1989 and subsequent amendments.	
x	As proposed, green belt shall be developed in 33 % area in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO	It has already achieved stipulated area under greenbelt and plantation inside the plant. Therefore, the condition has been complied with. Local species have also been planted. The growth and survival is satisfactory. As informed, till date an area of 54 acres has already been covered with greenery and is more than 33% of the total plant area. The different species planted are Polyathea longifolia Casuarina equisetifolia, Alstonia scholaris, Tecoma stans, Azadirach[a indica Dalbergia sisoo, Mimusops elengii, Cassia fistula, Leucaena leucocephala etc.
xi	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the steel sector shall be strictly implemented	The conditions of CREP applicable for the existing operations are: To reduce specific water consumption, Installation of Continuous stack monitoring system & its calibration in major stacks and setting up of the online ambient air quality monitoring stations and to operate the existing pollution control equipment efficiently and to keep proper record of run hours, failure time and efficiency which are being complied. Please see Annexure 2
xii	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel	The project has already been commissioned

	for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	
--	--	--

B	General Conditions for installation of Sinter Plant:	Compliance Status														
i	The project authorities shall adhere to the stipulations made by West Bengal Pollution Control Board (WBPCB) and the State Government..	Project has received Consent to Operate for Sinter plant from WBPCB which is valid up to 30.11.2018														
ii	No further expansion or modifications of the plant shall be carried out without prior approval of this Ministry	Complied as no expansion or modification of plant carried out.														
iii	The gaseous emissions from various process units shall conform to the load / mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The WBPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	Online monitoring system in the stack of Head ESP and Tail ESP has been installed. PM concentration is below 100 mg!Nm ³ .														
iv	Ambient air quality monitoring stations shall be set up as per statutory requirement in consultation with the WBPCB. Ambient air quality including ambient noise levels shall not exceed the standards stipulated under EPA or by the State authorities. Monitoring of ambient air quality and shall be carried out regularly in consultation with WBPCB and data submitted to the CPCB and WBPCB regularly. The instruments used for ambient air quality monitoring shall be calibrated time to time.	The status of compliance is described at Specific Condition No.(i).														
v	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	As per the data provided on 24 th June 2015 by Indicative Consultant, the noise level is within the permissible limit. <table border="1" data-bbox="954 1157 1500 1467"> <thead> <tr> <th>Sl no</th> <th>Area / Location</th> <th>Ambient Limit (dBA)</th> <th>Result (dBA)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ADM Building (Near Main Gate)</td> <td rowspan="3">75 dBA (day time)</td> <td>60.1-62.5</td> </tr> <tr> <td>2</td> <td>Material Gate</td> <td>65.2-69.3</td> </tr> <tr> <td>3</td> <td>Near Cycle Stand</td> <td>63.1-64.5</td> </tr> </tbody> </table>	Sl no	Area / Location	Ambient Limit (dBA)	Result (dBA)	1	ADM Building (Near Main Gate)	75 dBA (day time)	60.1-62.5	2	Material Gate	65.2-69.3	3	Near Cycle Stand	63.1-64.5
Sl no	Area / Location	Ambient Limit (dBA)	Result (dBA)													
1	ADM Building (Near Main Gate)	75 dBA (day time)	60.1-62.5													
2	Material Gate		65.2-69.3													
3	Near Cycle Stand		63.1-64.5													
vi	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Regular occupational health checkup April 15 to September 15 was carried out. The investigation includes blood test, audiometric, PFT and eye test including general health checkup.														
vii	All the environment management measures given in the EINEMP shall be implemented and complied with	The conditions prescribed in the EC is similar to the provisions provided in.														

viii	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	A pond has been constructed to store both surface and rooftop rainwater which is sufficient enough to collect the rain water from entire catchment of the plant area. The total quantity of rain water which can be stored in the rainwater harvesting pit is 0.03 million m ³ .
ix	. Proper house keeping and adequate occupational health programmers shall be taken up as per the Factory Act.	The condition is described at General Condition No.(vi) above
x	The company shall undertake eco-development measures including community welfare measures in the project area.	The project has been taking up community welfare programmers regularly which includes health checkup, organizing camps for awareness on addiction, maternal health and hygiene, sex education and blood donation. Please see CSR expenditure file.
xi	A separate environmental management cell to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	Environmental management cell used to carry out environmental management and monitoring under control of vice president.
xii	As proposed, Rs. 12.00 Crores and Rs. 20.00 Lakhs earmarked towards total capital cost and recurring cost/ annum for environmental pollution control measures shall be judiciously used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	The details of expenditure for the year 2015-16(Apr to Sept 15) towards pollution control is Rs.1.07 crore of which Rs.20.00 lakh has been spent RCC construction of internal roads, yards & drains resulting in reduced dust generation and Covering raw materials at yard & material transfer & discharge points with tarpaulin at RM yard for minimizing fugitive emission cost isRs.17 lakhs. Please see Annexure 1
xiii	The Regional Office of this Ministry at Bhubaneswar/CPCB/WBPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly	The condition is being complied.
xiv	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	The plant is already under operation
xv	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 W. B. Pollution Control Board and may also be seen at the Website of the Ministry of Environment and Forests at http://envfor.nic.in . This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office at Bhubaneswar.	The condition was complied. The status of compliance is also being uploaded on Tata Metaliks website.

Annexure E

Ambient Air Monitoring.

Sl	Area / Location	Analysis Done By	Date Of Sampling	SO2	PM10	PM2.5	O3	C6H6	NH3	NO2	CO	Bennzo Pyrene	As	Ni	Pb
1	Material Gate	SGS India Pvt Ltd	17.09.2015 & 18.09.2015	BDL	35.4	24.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2	Upcoming Power Plant	SGS India Pvt Ltd	17.09.2015 & 18.09.2015	BDL	36.4	19.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.10
1	Near ADM Building	Indicative Consultant	22.06.2015 & 23.06.2015	20.98 (Avg)	72.62 (Avg)	26.90 (Avg)	-	-	-	39.38 (Avg)	-	-	-	-	-
2	Guest House	Indicative Consultant	22.06.2015 & 23.06.2015	20.97 (Avg)	79.28 (Avg)	29.73 (Avg)				38.64 (Avg)					

Particulate Matter –

Sl	Analysis Done By	Date Of Sampling	Head ESP	Tail ESP	Fuel Crusher	Raw Material Storage Bin	Flux Stack	Sinter Storage Bin
1	West Bengal Pollution Control Board	20.04.2015 & 21.04.2015	25.35 mg/Nm ³	22.74 mg/Nm ³	0.21 mg/Nm ³	34.53 mg/Nm ³	4.94 mg/Nm ³	38.90 mg/Nm ³
2	Indicative Consultant	23.06.2015 & 24.06.2015	18 mg/Nm ³	22 mg/Nm ³	16 mg/Nm ³	20 mg/Nm ³	12 mg/Nm ³	14 mg/Nm ³
3	West Bengal Pollution Control Board	14.09.2015 to 07.09.2015	43.08 mg/Nm ³	14.86 mg/Nm ³	23.71 mg/Nm ³	3.99 mg/Nm ³	8.56 mg/Nm ³	3.29 mg/Nm ³

Work Zone Air

Analysis Done By	Area	Month	SPM(mg/m ³) Limit- 10	RPM(mg/m ³) Limit- 5	SO ₂ (mg/m ³) Limit- 5	NO ₂ (mg/m ³) Limit- 6
Indicative Consultant	Main Sinter Building	June 2015	0.196	0.071	0.018	0.032
	Head ESP Area		0.180	0.068	0.019	0.030
	Tail ESP Area		0.253	0.081	0.020	0.030

Annexure 1

Expenditure on Pollution Control From April'15- Sept'15 in Tata Metaliks Ltd

Expenditure on Pollution Control From April'15- Sept'15 in Tata Metaliks Ltd		
Sl No	Initiatives taken	Expenditure (Rs in Lakhs)
1	Maintenance of head & tail ESP & bag filters at sinter plant	8.70
2	All stacks emission, ambient, work zone air, effluent, drinking water, noise sampling & analysis,	1.90
3	Repair & maintenance of dry fog dust suppression system at RMHS	1.60
4	Manpower cost for installing water sprinklers at railway yard	2.52
5	Operation and Maintenance of existing water and environmental projects	2.11
6	Construction of waste water recirculation system with settling tanks & drainage system at sinter plant and TML gate No-2 for using recycled water at sinter plant & for dust suppression purpose.	10.50
7	Industrial water treatment in the entire plant	10.50
8	Drain & vat cleaning all plant locations	2.50
9	Road sweeping & water spraying with mobile tanker	5.55
10	Cleaning of sludge tank & reusing at sinter plant	6.30
11	RCC construction of internal roads, yards & drains resulting in reduced dust generation	20.00
12	Covering raw materials at yard & material transfer & discharge points with tarpaulin at RM yard for minimizing fugitive emission & reducing unwanted moisture in raw materials	16.72
13	Construction of in-house oil separation unit near RMD office	0.25
14	Development and maintenance of greeneries	17.92
	Grand Total	107.07

**Annexure 2
CREP Guidelines**

The plan for the implementation of the recommendations made for the steel plants in the Charter on Corporate Responsibility for Environmental Protection (CREP) guidelines is presented in **Table-1**.

TABLE-1
PLAN FOR THE IMPLEMENTATION OF THE RECOMMENDATIONS OF
CREP GUIDELINES FOR INTEGRATED ISPAT & POWER INDUSTRY

Sr. No.	CREP Recommendations	Action Plan
1	<p>Coke Oven Plants</p> <p>To meet the parameters PLD (% leaking doors), PLL (% leaking lids), PLO (% leaking off take), of the notified standards under EPA within three years. Industry will submit time bound action plan and PERT Chart along with the Bank Guarantee for the implementation of the same.</p> <p>To rebuild at least 40% of the coke oven batteries* in next 10 years.</p>	Not applicable.
2	<p>Steel Melting Shop</p> <ul style="list-style-type: none"> • Fugitive emissions <p>To reduce (including installation of secondary de-dusting facilities)</p>	Not applicable.
3	<p>Blast Furnace</p> <p>Direct inject of reducing agents</p>	There is no direct injection of reducing agent in the Blast furnace.
4	<p>Solid Waste / Hazardous Waste Management</p> <p>Utilization of 100% Steel Melting Shop (SMS) / Blast Furnace (BF) Slag</p>	100 % Granulated slag is sold to cement industries.
5	<p>Hazardous Wastes</p> <ul style="list-style-type: none"> • Charge of tar sludge / ETP sludge to Coke Oven. • Inventorization of the Hazardous Waste as per Hazardous Waste (M&H) Rules, 1989 as amended in 2000 and implementation of the Rules. (tar sludge, acid sludge, waste lubricating oil and type fuel falls in the category of Hazardous Waste) 	<p>Not applicable</p> <p>Used oil/ spent oil are being sold to authorized recycler. The declaration of waste oil generation is done through Form-3.</p>
6	<p>Water Conservation / Water Pollution</p> <ul style="list-style-type: none"> • To reduce specific water consumption to 5 m³/t for long products and 8 m³/t for flat products. • To operate the CO-BP effluent treatment plant efficiently to achieve the notified effluent discharge standards. 	<p>Not applicable</p> <p>However as part of water conservation following measures is taken.</p> <p>Water conservation is achieved through 4 R strategy, namely Reduce, Reuse, Recycle and Rain water harvesting, In Reduce step loss reduction is achieved by arresting leakages, installation of nozzles and sprinklers in flexible rubber hoses. In reuse and recycle step recycling of process water and waste water in closed loop is done with zero discharge. Waste water recirculation plants at MBF-1, MBF-2, power house and sinter plant are in operation to reuse the waste water, pig quenching, slag granulation and road dust suppression. In rain water harvesting step already 2 rain water harvesting systems are in operation and others are under planning.</p> <p>Waste water generated from blast furnace gas cleaning plant is treated in thickener or</p>

Sr. No.	CREP Recommendations	Action Plan
		clarifier by adding flocculating agent and clear water is recycled to the GCP recirculation tank for reuse. BFG seal pot drain water at sinter plant is recycled & used for dust suppression using high capacity sprinklers.
7	Installation of Continuous stack monitoring system & its calibration in major stacks and setting up of the online ambient air quality monitoring stations by June 2005	Continuous online stack monitoring has been installed at all the stacks.
8	To operate the existing pollution control equipment efficiently and to keep proper record of run hours, failure time and efficiency with immediate effect. Compliance report in this regard be submitted to CPCB / SPCB every three months.	Existing 6 monthly compliance reports is being submitted regularly to MoEF.
9	To implement the recommendations of Life Cycle Assessment (LCA) study sponsored by MoEF.	Not applicable
10	The industry will initiate the steps to adopt the following clean technologies/measures to improve the performance of industry towards production, energy and environment	In house action has been taken to improve the efficiency of the pump, reduce the resistance of the pipe line, use of VVVF drive and improve the efficiency of the blowers to reduce the energy consumption. Further to this energy audits shall be carried out to improve the performance.
	Energy recovery of top Blast Furnace (BF) gas.	BF gas cleaned in GCP and is used as fuel in CPP, stove, sinter and annealing furnace (TMDIPL) and ladle heating.
	Use of Tar-free runner linings.	Not applicable
	De-dusting of Cast House at tap holes, runners, skimmers ladle and charging points.	This is being planned during the expansion projects.
	Suppression of fugitive emissions using nitrogen gas or other inert gas.	Not applicable
	To study the possibility of slag and fly ash transportation back to the abandoned mines, to fill up the cavities through empty railway wagons while they return back to the mines and its implementation.	Not applicable
	Processing of the waste containing flux & ferrous wastes through waste recycling plant.	Not applicable
	To implement rainwater harvesting.	Rain water harvesting from administrative block-security barrack and store are used for gardening, toilets and cleaning.
	Reduction of Green House Gases by: a. Reduction in power consumption b. Use of gases for power generation c. Promotion of Energy Optimization Technology including energy audit	Blast furnace gas is used for power generation. In house energy audit is carried out and different energy conservation initiatives are taken to reduce electrical energy consumption and improve energy efficiency in compressors, fans, pumps, blowers, lighting systems etc. Thermal energy conservation in mini blast furnace (coke rate saving) and power house (fuel saving) are also achieved by process optimization and improvement. External energy audit shall also be planned.
	To set targets for Resource Conservation such as Raw material, energy and water consumption to match International Standards.	On going
Up-gradation in the monitoring and analysis facilities for air and water pollutants. Also to impart elaborate training to the manpower so that realistic data is obtained in the environmental monitoring laboratories.	We are using the expertise of outside laboratories for monitoring air and water pollutant.	
To Improve overall housekeeping.	Details of housekeeping are given in next page.	
11	Sponge Iron Plants Inventorisation of sponge iron plants to install proper air pollution control equipment to control primary and secondary emissions.	Not applicable

Annexure 3

Health Related Activities under Community Development Programme 2015-16 (Apr 15 to Sept 15)

Sl No	Date	Activity	venue	No of cases	Remarks
1	25.04.2015	Motivation Camp for parents of students (Rainbow)	Loreto Girls School, Sealdah, Kolkata	36 parents of students	.
2	09.05.2015	Motivation Camp for students (Rainbow)	Loreto Girls School, Sealdah, Kolkata	60 students	
3.	16.09.2015	Health Check-up Camp No. I for School Children of Maheshpur Primary School	Maheshpur Primary School	82 Students	<ul style="list-style-type: none"> ➤ Medicines were distributed accordingly. ➤ Leaflets were distributed among students.
4.	19.09.2015	Health Check-up Camp No. II for School students of Loreto Girls School.	Loreto Girls School, Sealdah, Kolkata	70 students	<ul style="list-style-type: none"> ➤ Medicines were distributed accordingly. ➤ Leaflets were distributed among students.
5.	25.09.2015	Gynecological Check-up Camp for villagers of our community	Amba Primary School	138 Villagers (Women)	<ul style="list-style-type: none"> ➤ Medicines were distributed accordingly.

DETAILS OF AWARENESS REGARDING HEAT RELATED ILLNESS AT TML & TMDIPL DEPTS

DATE	DEPARTMENTS
6th June'15	MBF # 2, TML
9th June'15	RAW MATERIAL, TML
15th June'15	MBF # 1, TML

Awareness Session On Hypertension (Dr. Anusua Samanta, Factory Medical Officer)

3rd July'15	Canteen Hall 3-30pm to 05-00pm
-------------	--------------------------------

Awareness Session On Occupational Health (Dr. Sunil Basu, Chest Physician)

27th Aug'15	TML Auditorium 11am to 12-30pm
27th Aug'15	Consultation & advice for emp having abnormality in PFT report
21.09.'15	Door to door campaign on alcoholism and drug addiction- Raipara
22.09.'15	Door to door campaign on alcoholism and drug addiction- Mudipara
22.09.'15	Session on Snake bite at departments of TMDIPL (Hot Zone Mech. Maint. (20) and Central Store (12)

Annexure 4

Traffic Density Survey

The traffic studies have been conducted to know the prevailing traffic volumes on the roads in the study area. It is essential to consider these details for assessing the anticipated future traffic volumes as a part of overall impacts assessment for the project.

The variations of traffic densities depend upon the working days and time and also vary in day and night times. In order to assess the prevailing traffic volumes on the roads, the survey was conducted during normal working days of the week by avoiding local holidays or abnormal situations to reflect the true picture of the traffic densities. The traffic study was conducted at two locations for 12 hours.

Selection of Sampling Location

The traffic density study was conducted at Saha Chowk NH-6 (Kolkata to Bombay) which is about 2 km away from the project site and Tata Metaliks Road to Saha Chowk which is about 1/2 km away from project site.

Methodology

Vehicular Count

The vehicles plying in both the directions were counted continuously for 12 hours at two locations. The vehicles were counted every hour and recorded under respective category. The maximum traffic count in an hour is termed as peak hour traffic. The vehicles were categorized under various heads like trucks/tankers, buses, multi axles, cars, 2/3 wheelers, cycles and bullock carts.

Categorization of Traffic

The engine driven vehicles were categorized into various heads viz. light motor vehicles (LMV) as two wheelers (scooters, motor cycles etc.), three wheelers (auto rickshaws, 3-wheel tempo etc.), medium motor vehicles (cars, jeeps), tractors (6 wheelers), minibuses and mini trucks (8 wheelers); heavy motor vehicles such as buses, trucks and tankers (10 wheelers).

Results and Discussion

The summary of daily traffic count for the location was monitored during the study period is summarized in **Table-1** and % of composition of the vehicles is given in the **Table-2**.

It was observed that the 2/3 wheelers, cars/jeeps and trucks/buses forms the major volume of the traffic. The total traffic PCU of this road is minimal.

Presentation of Results

The present level of traffic has been converted to Passenger Car Units (PCU) at this location as per the conversion factors stipulated by Indian Road Congress (IRC). The Passenger Car Unit (PCU) recorded at the selected traffic location, which is towards Saha Chowk NH-6 (Kolkata to Bombay) is about 9068 PCU, Saha Chowk NH-6 (Bombay to Kolkata) is about 8235 PCU, Tata Metaliks Road to Saha Chowk is about 1337 PCU and Saha Chowk to Tata Metaliks Road is about 1412 PCU.

TABLE-1
TRAFFIC DENSITY (VEHICLES/DAY)

Code	Location	Two Wheelers (Bicycle/ Scooter/ Motorcycle)	Four Wheelers (Car/Jeep)	Tractors/ Trucks	Buses	Multi Axles	Total PCU'S
1	Saha Chowk NH-6 (Kolkata to Bombay)	1471	1039	461	70	1900	9068
2	Saha Chowk NH-6 (Bombay to Kolkata)	1700	1148	506	86	1487	8235
3	Saha Chowk to Tata Metaliks Road	488	73	167	10	163	1337
3	Tata Metaliks Road to Saha Chowk	1100	58	157	15	96	1412

Note: PCU rating: (2/3 wheelers: 0.5, Car/Jeep: 1.0, Tractor: 3.0, Buses: 3.0, Trucks/HMV: 3.0)

TABLE-2
RECOMMENDATIONS ON TRAFFIC CAPACITY – IRC

Sr. No.	Category of Road	Maximum Carrying Capacity (PCU/day)
1	Two lane roads (7-m) with earthen shoulders	15,000
2	4-lane highway with earthen shoulders	35,000

The Kolkata to Bombay and Bombay to Kolkata National Highway-6 in front of the Saha Chowk is at present a two lane highway. It can take a maximum density of 15,000 PCU per day. The current density based on the primary survey is observed during two day that about ranged from 4941 moving towards Kolkata to Bombay, 4927 moving towards Bombay to Kolkata, 901 moving towards Saha Chowk to Tata Metaliks Road and 1426 moving towards Tata Metaliks Road to Saha Chowk.

Annexure 5

CSR Activity for community Development

EXPECTATIONS	PROPOSED INTERVENTIONS	LOCATION	EXPENDITURE APR - SEP '15	REMARKS
DRINKING WATER	To provide clean & hygienic drinking water in villages through deep bore well and piped water supply .	KUNJOCHAK	5.09	As part of our initiative of providing clean drinking water to surrounding villages, 02 nos of Drinking Water Projects commenced in Kunjochak and Raipara villages on 29 Jul '15 and 14 Aug '15 respectively. Deep boring jobs have been completed in both the villages and work of construction of pump room, laying pipeline and erection of water tanks etc is under progress and is expected to be completed by Nov'15.
		RAIPARA	5.67	
		MAHESHPUR & MODIPARA	1.51	Extension of pipeline of Maheshpur Project completed while Modipara extension work will be taken up after completion and stabilisation of drinking water project at Raipara village as this village will be covered by same borewell being provided in Raipara village.
LIVELIHOOD & ENTERPRENEURSHIP	Provide technical education for Matric pass students belonging to BPL category.	ITI Pratapchandra, Gopiballabhpur.	3.23	10 nos of matriculate boys out of which 06 nos are from AA Community have been sponsored for 02 Year ITI Course in Fitter / Electrician trade from Pratapchandra ITC, Gopiballabhpur which commenced from 13 Aug '15.
	Improve employability of local youth post ITI / Diploma / B.Sc. education by providing 01 year "On the Job" Training.	TML / TMDIPL	3.55	10 nos. of "Sadhbhavna Trainee" wherein ITI / Diploma / Science Graduates are being given one year "On the Job" training at TML commenced w.e.f. 02 Feb 2015. Out of the 10 trainees selected, 03 of them belong to AA community and for the first time 01 female Diploma qualified trainee has also been selected. Besides, 04 Sadhbhavna Trainees continued with their one year "on the job" training at TMDIPL which concluded on 21 Sep'15.
	Improve employability of mariculate girls	Chittaranjan Institue of Health, Medinipur.	0.6	10 nos of girls, out of which 04 are from AA community have been sponsored for a 02 Year Mid Wifery for the course from Chittaranjan Institute of Health, Medinipur which commenced from 07 Jul 2015.
HEALTH	Carry out health awareness / check-up camps in villages, blood donation camps, HIV / AIDS / sex education awareness camps.	MAHESHPUR & KUNJOCHAK	0.5	03 nos of General Health Check – up Camps with distribution of free medicines were organised during this period for the local community.
PROMOTING SPORTS	Providing LED TV for Gymnastic Training Centre at Kharagpur.	PALESTRA GYMNASITC TRG CENTRE, KGP	0.46	Provided a 42 inch LED TV to Palestra" Gymnastic Training Centre, Kharagpur to be used for viewing training films by trainees.
ASSISTING COMMUNITY AFTER NATURAL CALAMITY	Promote rural game amongst villagers.	ALL IDENTIFIED 6 VILLAGES	2.3	As part of our initiative of helping the community during a natural calamity, 200 nos of polythene sheets were distributed to affected families which enabled them to rebuild their damaged homes after cyclone KOMEN in Aug'15.

