HAPUGASTENNE AND HULU GANGA SMALL HYDROPOWER PROJECTS (REF. NO. 0085)
MONITORING REPORT FOR PERIOD 01/01/2006 TO 31/12/2006

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HAPUGASTENNE PHASE I AND II PLANTS

Note

1. The Hapugastenne Phase I and II plants have the same civil works.
2. The Phase I plant consist of 2 sets of identical turbines/generators and related equipment
3. The Phase II plant (which was commissioned one year later) consists of 1 set of the same turbines/generators as the Phase I plant plus related equipment.
4. The CEB measures the output of the two plants seperately using two separate meters
5. In practice the 2 plants are operated as a single entity.

ELECTRICITY OUTPUT

Hapugastenne Phase I

Month	Electricity Output (kWh)	Source (Invoice Nos raised for CEB)
2006		
January	675 340	4001
February	441 590	4002
March	1 374 900	4003
April	591 490	4004
May	1 817 500	4005
June	1 433 850	4006
July	1 003 070	4007
August	2 139 460	4008
September	2 053 660	4009
October	2 279 190	4010
November	3 404 440	4011
December	1 154 060	4012
Total for 2006	**18 368 550**	

Hapugastenne Phase II

Month	Electricity Output (kWh)	Source (Invoice Nos raised for CEB)
2006		
January	1 447 340	5001
February	1 510 240	5002
March	1 435 160	5003
April	1 215 880	5004
May	1 679 530	5005
June	1 389 160	5006
July	1 266 360	5007
August	1 481 080	5008
September	1 827 480	5009
October	1 459 180	5010
November	1 537 650	5011
December	1 587 110	5012
Total for 2006	**17 836 170**	

MONITORING OF ENVIRONMENTAL PARAMETERS AS REQUIRED BY CENTRAL ENVIRONMENTAL AUTHORITY*

A monitoring plan the project in the following form has been submitted to the CEA and will be followed once approval for the plan is received from the CEA.

Aspect Monitored	Parameters Monitored	Monitoring Location(s)	Frequency of Monitoring	Responsibility for Monitoring/ Approach
Surface water	Nutrient levels in terms of phosphates and Total Inorganic Nitrogen (TIN)	Upstream of weir	Once a year	Industrial Technology Institute to do water quality tests on samples provided
Surface water	BOD and COD levels	Upstream of weir and below the tailrace (water release point to the river after generation)	Once a year	Industrial Technology Institute to do water quality tests on samples provided
Ecology	Flora and fauna	Within the courses of Rath Ganga below the diversion point.	Once a year	Independent expert to visually observe any adverse changes to flora and fauna since previous
River bank erosion	Erosion level	Below the tailrace and at the bottom of the spill where water is diverted in the event of a plant shut down.	Once a month	Eco Power personnel operating the plant to visually inspect for signs of
Sediment	Sediment deposits.	Upstream of the weir.	Once a month	Eco Power personnel operating the plant to visually inspect for

EMPLOYMENT (Common for Phase I and II)

Employee category	No. of Employees
Power Station Assistants	11
Power Station Operators	3
Power Station Supervisors	5

COMMUNITY DEVELOPMENT EXPENDITURE (Common for Phase I and II)

Date	Invoice Number	Nature of Expenditure	Amount (Rs)
4/1/2006	993/873362	Donation given for repair of Rathgama Vathura Kanuwa road - First Payment	43 777,00
03.01.2006	1190/873516	Donation given for repair of Rathgama Vathura Kanuwa road - Second Payment	55 685,00
29/6/2006	299/958321	Final payment of build a community hall at Hal-Ella	50 000,00

HULU GANGA PHASE I AND II PLANTS

Note

1. The Hulu Ganga Phase I and II plants are situated next to each other and are considered a single plant complex by the CEB. As a result the CEB only has a single meter to measure the combined energy generation by the two plants each month.
2. The Phase II plant was commissioned on October 27, 2006. Therefore, the Phase I plant was in fact responsible for the entire combined output shown in the table below up to end September 2006.

	Electricity Output (kWh)	CEB)
2006		
January	1 046 800	6001
February	690 200	6002
March	467 000	6003
April	881 800	6004
May	681 500	6005
June	537 700	6006
July	753 400	6007
August	520 500	6008
September	794 700	6009
October	1 435 800	6010
November	3 737 300	6011
December	3 639 300	6012
Total for 2006	**15 186 000**	

MONITORING OF ENVIRONMENTAL PARAMETERS AS REQUIRED BY CENTRAL ENVIRONMENTAL AUTHORITY

A monitoring plan for the project in the following form has been submitted to the CEA and will be followed once approval for the plan is received from the CEA.

Aspect Monitored	Parameters Monitored	Monitoring Location(s)	Frequency of	Responsibility for
Surface water	Nutrient levels in terms of phosphates and Total Inorganic Nitrogen (TIN)	Upstream of weirs of Phase I and II plants	Once a year	Industrial Technology Institute to do water quality tests on samples provided
Surface water	BOD and COD levels	Upstream of weirs and below the tailraces (water releases back to river) of Phase I and II plants.	Once a year	Industrial Technology Institute to do water quality tests on samples provided
Ecology	Flora and fauna	Courses of Hulu Ganga, Daluk Oya and Moragaha Oya below the diversion points.	Once a year	Independent expert to visually observe any adverse changes to flora and fauna since previous
River bank erosion	Erosion level	Below the tailraces and at the bottom of the spills where water re-enters the river in the event of a plant shut down of the Phase I and II plants.	Once a month	Eco Power personnel operating the plant to visually inspect for signs of erosion.
Sediment	Sediment deposits.	Upstream of weirs of the Phase I and II plants	Once a month	Eco Power personnel operating the plant to visually inspect for

EMPLOYMENT

Employee category	No. of Employees	
	Phase I	Phase II
Power Station Assista	3	3
Power Station Operat	3	3

COMMUNITY DEVELOPMENT EXPENDITURE

Date	Invoice Number	Details of projects	Expenditure (Rs.)	Project
4/1/2006	994/873362	50%Advance given to build a Buddhist Temple at Kosgama	100 000,00	Phase I
14/6/2006	250/958289	Balance Payment to Built a Buddhist Temple at Kosgama	100 000,00	Phase I
10.02.2006	637/557139	Donation given to implement a drinking water project at Panvilla	200 000,00	Phase II

EMISSIONS REDUCTION - ALL PROJECTS

Hapugestenne I		Hapugestenne II		Hulu Ganga I and II		All projects
Electricity Output (kWh)	Emissions Reductions (kgCO2)	Electricity Output (kWh)	Emissions Reductions (kgCO2)	Electricity Output (kWh)	Emissions Reductions (kgCO2)	Total Emission Reduction (ton CO2eq)
18 368 550	15 605 920	17 836 170	15 153 610	15 186 000	12 902 026	43 661

Note: Emissions factor as per PDD is 0.8496 kgCO2 per kWh