Monitoring report form
(Version 03.2)

Monitoring report

Title of the project activity	'India-FaL-G-Brick and Blocks Project No.3'
Reference number of the project activity	4831
Version number of the monitoring report	Version number 01
Completion date of the monitoring report	12/05/2014
Registration date of the project activity	01/07/2012
Monitoring period number and duration of this monitoring period	Monitoring Report No.1 01/07/2012-31/03/2014, inclusive of both the days.
Project participant(s)[1]	India: M/s Eco Carbon Pvt. Ltd., Italy: Government of Italy acting through the Ministry for the Environment, Land and Sea Netherlands: The State of the Netherlands acting through the Netherlands' Ministry of Infrastructure and the Environment (IenM)
Host Party(ies)	India
Sectoral scope(s) and applied methodology(ies)	Sectoral Scope : 04 Approved Methodology Type III, AMS-III-Z. Fuel Switch, Process improvement and energy efficiency in Brick Manufacture (Version 03).
Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD	81,774 tCO2e vide revised PDD for 1y 9m from 01/07/2012 to 31/03/2014.
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	49,383 tCO2 for 01/07/2012 to 31/03/2014, for 1y-9m covered by this Monitoring Report.
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved during the period up to 31 December 2012 (if applicable)	17,932 tCO_2e
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved during the period from 1 January 2013 onwards (if applicable)	31,451 tCO_2e

[1] International Bank for Reconstruction and Development as the Trustee of the Community Development Carbon Fund ("CDCF") involved as Bilateral and Multilateral Funds as per information at _http://cdm.unfccc.int/Projects/DB/DNV-CUK1300267994.99/view

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

'India-FaL-G-Brick and Blocks Project No.3' is primarily a bundled activity of forty two small and micro-industrial plants those practice an eco-friendly technology known as 'FaL-G Technology', using fly ash as one of the main inputs. FaL-G bricks replace sintered clay bricks, contributing to mineral and energy conservation. By avoiding use of thermal energy in the production of fly ash bricks the project contributes for conservation of fossil fuel (coal), and, in turn, abates associated emissions. Fly ash bricks replace clay bricks as walling material serving all functional and performance criteria with better engineering properties.

The Technology

It is a known art since millennia that addition of lime to fly ash initiates pozzolanic chemistry, which can be augmented through hydro-thermal treatment in autoclaves at high temperature (150-180 ^{o}C) and pressure (8-12 bar). The innovative part of FaL-G technology is to accelerate pozzolanic chemistry by adding gypsum by which the development of ettringite phase to threshold limits invigorates the strengths of fly ash-lime mix. Therefore, FaL-G does not require energy intensive equipments such as heavy duty-press and autoclave, which were otherwise required in case of erstwhile fly ash brick technologies. FaL-G technology completely eliminates thermal treatment, and does not require combustion of any fossil fuel.

The key ingredients of FaL-G products are fly ash, lime, and gypsum, which are well-known mineral substitutes. All these materials are available in the form of byproducts from industrial activities and are available in adequate quantities in the areas, where the project activities are located. By-product lime is available at competitive cost over the mineral lime. Alternate to FaL-G in lime route, the technology has also been developed in cement (OPC) route, whereby the surplus lime in cement gets into pozzolanic chemistry. It is economical to use OPC than mineral lime and, hence, OPC is preferred in areas where by-product lime is scarce or not available, may be due to profuse FaL-G activity. In view of quality and logistical issues in procuring lime many entrepreneurs adopt FaL-G in OPC route.

The process-flow chart is enclosed as Figure 1 at the end of this report.

The project also contributes to sustainable development in many ways as explained below, thus getting qualified under CDM. By displacing burnt clay bricks the project contributes for:

- Ecology protection by minimising eco-hostile practice of topsoil denudation and resultant land degradation;
- Pollution abatement otherwise caused by emission of unprocessed flues out of brick kilns.
- Environment protection by putting to use industrial wastes as value added building materials.

On social front, the project creates business opportunities for the small and micro enterprises. In contrast to the seasonal production-operations in the clay brick industry, FaL-G plants facilitate continuous yearlong operation, and hence provide employment all through the year for the skilled artisans and create self-help livelihood for the illiterate poor.

By taking advantage of CDM program, this project targets to catalyse proliferation of huge number of fly ash brick industries in the country, in order to prevent the use of 200 billion clay bricks and resultant emissions of over 48.40 million tons.

Notwithstanding the intrinsic environmental and social benefits of the project, the specific community benefit program, particularly the health and accident insurance schemes being implemented to meet

the requirements of the Community Development Carbon Fund (CDCF) of the World Bank, would enhance the benefits further.

FaL-G has its antecedents from the ancient pozzolanic chemistry practiced over 2000 years back. The modern knowledge on material science has helped to pronounce the process with technical rationale. Basically two machines do involve for a plant; roller (pan) mixer for preparation of FaL-G and casting machine to cast the product.

It needs over 2 to 4 weeks for the development infrastructure. Otherwise the plant can be installed in one day and production can be started immediately. The plant is normally operated for single shift. However, depending on the seasonal demand, extra hours of operation are not uncommon. Similarly the efficiency of man power decides the output rather than the rated capacity of plant.

The bundle is registered with forty two sub-project entities. The table consisting of Start date of the project and establishment date is appended as Table 1 at the end of the report.

This project has earned 49,383 ERs for 01/07/2012 to 31/03/2014, for the 1y-9m covered by this Monitoring Report.

The PDD and associated documents can be accessed from UNFCCC web site http://cdm.unfccc.int/Projects/DB/DNV-CUK1305866694.28/view

A.2. Location of project activity

India is Host party for this Project activity and the units in the bundle are located in various districts of the State of Andhra Pradesh, Tamil Nadu, Orissa and Chhattisgarh in India. Please refer Table 2 (appended at the end of this report) for details of the units and their geographical coordinates, which are identified through google earth based on the nearest landmarks of the units.

A.3. Parties and project participant(s)

Party involved ((host) indicates a host Party)	**Private and/or public entity(ies) project participants (as applicable)**	**Indicate if the Party involved wishes to be considered as project participant (Yes/No)**
India (Host)	• Eco Carbon Private Limited (ECPL)	No
Italy	• Government of Italy acting through the Ministry for the Environment, Land and Sea	Yes
Netherlands	• The State of the Netherlands acting through the Netherlands' Ministry of Infrastructure and the Environment (IenM)	Yes

A.4. Reference of applied methodology

Approved Methodology Version 3 of AMS-III-Z. Fuel Switch, Process improvement and energy

efficiency in Brick Manufacture, dt. 11 June 2010.

As per approved methodology, project activity emissions (PEy) consist of those emissions associated with the use of electricity or fossil fuel or both and are calculated in accordance with the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" (EB39, Annex 7) and/or "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (tCO_2e) (EB 41, Annex 11).

A.5. Crediting period of project activity

Fixed Ten years ie. 01/07/2012-30/06/2022 inclusive of both days.

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity

The Start Date of the Project activity is 01/02/2004 which is the earliest date of establishment occurred out of forty two SPE units vide their application and duly recorded as per particulars given in Table 1 appended at the end of this report.

This CDM project has been registered as a bundle of 42 plants located in different districts in the state of Andhra Pradesh and Tamilnadu, India, and operated by individual entrepreneurs called Sub-Project Entities (SPEs). Their aggregate capacities district-wise are as follows:

States	District	No. of Plants	Aggregate Capacity - m^3/year
Andhra Pradesh	Rangareddy	1	2,930
	Nalgonda	2	16,000
	Warangal	1	10,000
	Guntur	3	13,500
	Krishna	14	94,500
	West Godavari	3	16,700
	East Godavari	1	2,600
	Visakhapatnam	6	39,800
	Vizianagaram	1	4,500
	Srikakulam	3	17,200
Tamil Nadu	Salem	2	12,000
Orissa	Khorda	1	3,500
Chhattisgarh	Raipur	4	15,700
	Total	**42**	**248,930**

B.2. Post registration changes

B.2.1. Temporary deviations from registered monitoring plan or applied methodology

Not Applicable

B.2.2. Corrections

Nil

B.2.3. Permanent changes from registered monitoring plan or applied methodology

Not Applicable

B.2.4. Changes to project design of registered project activity

There are no changes on applicability of methodology, additionality and scale of project activity.

B.2.5. Changes to start date of crediting period

Not Applicable

B.2.6. Types of changes specific to afforestation or reforestation project activity

Not Applicable.

SECTION C. Description of monitoring system

The monitoring has been conducted in harmony with the monitoring plan discussed in PDD.

Tables in Section D elucidate the data to be monitored and the frequency of monitoring. Accordingly the data have been collected and archived as per schedule, and emission reductions have been computed at the end of the year.

Monitoring Approach - QC & QA Measures Adopted:

Project Entity (PE) developed templates on various data for monitoring and provided to SPEs. SPEs submit monthly reports to PE consisting of production on daily basis and other data on monthly basis. Upon receipt, the monthly reports are reviewed by the monitoring personnel of PE and electronically archived for consolidation. The total data, together with daily reports, are kept ready for submission to DOE for verification. Figure II (appended at the end of this report) provides monitoring data inflow.

The monitoring personnel of PE make random visits to SPEs, during which they verify the production records, stock registers and purchase bills to check the diligence of the monthly data. The production output in a small-scale plant does not go by label capacity, and is governed by the manpower number, their efficiency and working hours in a day. Electricity consumption is recorded from the electricity bills issued by the State Electricity Department.

In arriving to baseline emissions total (actual) electricity consumption without any deductions is taken as a conservative approach.

The responsibility for calibration of power meters lies with the State Electricity Board. The State Electricity Board is required to follow the national standard set by the Central Electricity Authority, Ministry of Power, Government of India, Clause 18 of Gazette Notification No. 502/70/CEA/DP&D dt. 17.3.2006, to undertake calibration of power meters once in 5 years. The consumer does not have any control over the process. Currently, State Electricity Boards do not have established calibration schedules and the government regulation is also not enforced stringently, especially for domestic consumers and small scale industrial consumers, like the FaL-G plants.

Monitoring Methodology as per AMS III.Z does not specify calibration requirements for electricity meters.

In the above background scenario getting calibration done for power meters is not a practice for small scale units, thus only calibration reports of 13 SPEs are available prior to Registration.

All the SPEs have been insisted for calibration of power meters only in the concern of compliance with the requirement of VVS. There upon SPEs got the calibration done by Service Provider at the payment of special fee.

Table3 gives the Status of calibration of power meters duly covering the meter numbers. Though due date for subsequent calibration is applicable only for category above 20 HP, 5 years is taken as the basis and duly mentioned in table 3.

Whenever the meters are changed fresh calibration reports are sent by SPEs as given in Table 4.

Since the calibration of all the meters got initiated at different times but completed by March 2013, while computing power consumption for July 2012-March 2013, the maximum permissible error, as directed by VVS, Ver 06.0, para 273(a), is added to the actual power consumption. For this purpose, on a conservative approach 1% is taken because the permissible errors of meters range from 0.5 to 1.0% by manufacturers, as per the relevant 'Accuracy Class'. Since the calibration of meters show errors within the permissible limits, the addition of 1% as permissible level satisfies the directions of VVS, Ver 06.0 para 273(a).

The line diagram is attached as Figure III (appended at the end of this report) I showing the monitoring points in organizational structure.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Data / Parameter:	**EF_{BL}**
Unit:	tCO_2/ m^3
Description:	The parameter is Annual production specific emission factor. The units are derived based on the calorific value of fuel, which was duly documented by TERI.
Source of data:	TERI (Emission Standards for Brick Kilns-an opportunity for technology up gradation. (refer page 36 of the registered PDD)
Value(s) applied):	0.2683 tCO_2/ m^3
Purpose of data:	For computing baseline emissions
Additional comment:	The baseline coal consumption is determined considering different technologies used in the production of burnt clay bricks, as studied by TERI at national level. Since it is difficult to determine precisely a particular technology that would be used in the absence of project activity, a weighted average coal consumption of these technologies is considered to best represent the baseline coal consumption in lieu of the weighted average energy use suggested by methodology. The annual production specific emission factor is thus computed based on the weighted average coal consumption. Use of biomass represents less than 2% in terms of fuel input in the production of clay bricks, which is conservatively taken as 5%, keeping in view the periodical escalation that may take place in the future. This value is fixed ex-ante.

Data / Parameter:	**EF_{EL}**
Unit:	t CO_2/ MWh
Description:	The parameter is emission factor for electricity. The value for emission factor is taken from the Tool to calculate the project emissions due to electricity to be on higher side and ERs as conservative.
Source of data:	"Tool to calculate baseline, project and/or leakage emissions from electricity consumption (Version 01)"

Value(s) applied):	1.3 ton CO_2 per MWhe.
Purpose of data:	For computing project emissions.
Additional comment:	AMS III - Z recommends calculating the project emissions in accordance with the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption". The tool has given options for determining the emission factor for electricity generation, and facilitated to adopt a conservative default value of 1.3 tCO_2/ MWh as one of the options. In this background the default value is taken for emission factor. The emission factor for electricity is fixed ex-ante. As and when there is revision in this value the revised value will be taken for Verification.

Data / Parameter:	**EF_{CO2}**
Unit:	tCO_2/TJ
Description:	The parameter is emission factor for diesel which is taken from 2006 IPCC Guidelines.
Source of data:	2006 IPCC Guidelines on National GHG Inventories:' Table 1.4 - Default CO_2 Emission factors for Combustion' of Chapter 1 of Vol 2. Default value at the upper limit of the uncertainty at a 95% confidence interval is taken as recommended.
Value(s) applied):	74.8 t CO_2/ TJ
Purpose of data:	For computing project emissions. .
Additional comment:	AMS III-Z recommends calculating the project emissions from fossil fuel in accordance to the "Tool to calculate project or leakage emissions from fossil fuels (version02)". The tool has given four options for emission factor from diesel out of which IPCC default value is one option. This can be adopted in the absence of invoices by fuel supplier containing the emission factors. Such data are not available with small scale units who purchase diesel in small quantities. The emission factor taken from IPCC 2006, is fixed ex-ante. However should there be any revision in IPCC values in future the same would be taken for Verification.

Data / Parameter:	**NCV**
Unit:	T J/Gg
Description:	The parameter is Net Calorific Value for diesel which is taken from 2006 IPCC Guidelines.
Source of data:	2006 IPCC Guidelines on National GHG Inventories:' Table 1.2 - Default Net Calorific Values (NCVs)' of Chapter 1 of Vol 2. Default value at the upper limit of the uncertainty at a 95% confidence intervals is taken as conservative approach.
Value(s) applied):	43.3 TJ/Gg
Purpose of data:	For computing project emissions. .

Additional comment:	NCV is used in the calculation of emission factor vide "Tool to calculate project or leakage emissions from fossil fuels (Version 02)" as recommended in AMS-III.Z. The tool has given four options for NCV of diesel out of which IPCC default value is one option. This can be adopted in the absence of invoices by fuel supplier containing the NCV. Such data are not available with small scale units who purchase diesel in small quantities. The Net Calorific Value (NCV) of diesel, taken from IPCC 2006, is fixed ex-ante. However should there be any revision in IPCC values in future the same would be taken for Verification.

Data / Parameter:	ρ
Unit:	Kg/KL
Description:	The parameter is density for diesel which is taken from Society of Indian Automobile Manufacturers (SIAM).
Source of data:	Society of Indian Automobile Manufacturers
Value(s) applied):	820 kg/KL
Purpose of data:	For computing project emissions. .
Additional comment:	Density of diesel is required for converting volume to mass units. "Tool to calculate project or leakage emissions from fossil fuels (Version 02)" as recommended in AMS-III.Z has given three option for this value out of which Regional or national default values can be used. This can be adopted in the absence of invoices by fuel supplier. Such data are not available with small scale units who purchase diesel in small quantities. The density of diesel, taken from SIAM is fixed ex-ante. However should there be any revision in SIAM values in future the same would be taken for Verification. Default value of NCV is applicable on weight basis, whereas the data from SPEs is monitored on volume basis based on the purchase bills that are mentioned with units in litres. Hence litres are multiplied by density of 820kg/KL (http://www.siamindia.com/scripts/Diesel.aspx) in order to arrive to weight-units (tons).

Data / Parameter:	**EF_{OPC}**
Unit:	tCO2/ ton of cement
Description:	The parameter is emission factor for OPC, which is on higher side for conservative approach. National average based on prevailing production practices of cement production in the country.
Source of data:	National average based on prevailing production practices of cement production in the country
Value(s) applied):	0.82 ton CO_2 per ton of cement as conservative approach.

Purpose of data:	For computing emissions due to leakage.
Additional comment:	The value is taken based on the technical coverage in Press Information Bureau, Government of India. http://www.pib.nic.in/release/release.asp?relid=55724 With more and more concern for energy efficiency and conservation of fuel, cement industry in India is striving to reduce the emission factor for OPC. This has resulted in emission factor at as low as 0.77 in some cement plants. However a factor of 0.82 is taken as a conservative value. This value is fixed ex-ante.

Data / Parameter:	**EF_{ML}**
Unit:	tCO2/ ton of CaO
Description:	The parameter is emission factor for mineral lime and is taken based on the commercially available lime.
Source of data:	2006 IPCC Guidelines for National Green House Inventories; Table 2.4 of Volume 3.
Value(s) applied):	0.42 t CO_2/ ton of CaO.
Purpose of data:	For computing emissions due to leakage.
Additional comment:	In the general practice lime from mineral source is available with a purity of 30-45% in terms of CaO that results in lesser emissions. However to ensure conservativeness, the highest lime purity of 53% for commercial limes is taken into consideration, and emission factor is computed using the stoichiometric ratio of 0.785 tones CO_2/ ton of CaO as per above referred table. The emission factor for lime is fixed ex-ante. However should there be any revision in IPCC values in future the same would be taken for Verification

D.2. Data and parameters monitored

Data / Parameter:	**Production-$P_{PJ,y}$**
Unit:	m^3 bricks/ blocks
Description:	SPE maintains the actual quantities of production in number on daily basis, based on each size of brick/block, which is duly converted to volume (m^3) to facilitate computations.
Measured/ Calculated / Default:	Calculated based on production number. Production m3 bricks/blocks = number of bricks/blocks x volume of each element SPEs record the production of bricks/ blocks on daily basis. These are made available to PP once in a month.
Source of data:	Stock registers of SPE.
Value(s) of monitored parameter:	275,382.92 m3

Monitoring equipment:	N.A
Measuring/ Reading/ Recording frequency:	Daily.
Calculation method (if applicable):	Number of bricks and blocks are converted to cubic meter for uniformity.
QA/QC procedures:	Upon receipt of monthly data on brick/ block production from the plants, PE reviews the data. The personnel of PP make periodical visits to SPEs' plants to check the diligence of record keeping and the accuracy for ultimate diligence of emission computations.
Purpose of data:	For baseline emissions.
Additional comment:	Log books are maintained by SPEs on daily basis and archived by PP in excel format on monthly basis for the data received from SPEs.

Data / Parameter:	**Electricity-$EC_{PJ,i,y}$**
Unit:	kWh
Description:	The electricity consumption is monitored continuously by the Electricity Meter and recorded by the Service Provider (State Electricity Department) monthly or bimonthly based on which the Electricity bills are provided.
Measured/ Calculated / Default:	Measured out of meters by service provider
Source of data:	Electricity bills provided by the service provider (state electricity department).
Value(s) of monitored parameter:	399,957 kWh
Monitoring equipment:	Electricity meters installed by service providers. The details of accuracy clause, serial number, calibration frequency, date of calibration and validity have been given in Table 3 (appended at the end of this report).
Measuring/ Reading/ Recording frequency:	Monthly/bimonthly as decided by the service provider.
Calculation method (if applicable):	N.A
QA/QC procedures:	SPEs submit to PE the electricity bill as provided by the Service Provider. The information is verified and tallied with the records of SPE by the personnel of ECPL periodically. For this purpose ECPL personnel are imparted with in-house training
Purpose of data:	To compute project emissions.

Additional comment:	Electricity bills are received by SPEs on monthly/bimonthly basis and archived by PP in excel format as and when received from SPEs.

Data / Parameter:	**Diesel-FC_y**
Unit:	Litre
Description:	Consumption of diesel provided by SPEs to PE on monthly basis.
Measured/ Calculated / Default:	Measured..
Source of data:	Stock register.
Value(s) of monitored parameter:	39,009.9 litres
Monitoring equipment:	N.A
Measuring/ Reading/ Recording frequency:	Based on purchase bills as and when diesel is procured, where the meters of diesel pumps at delivery point are calibrated under statutory stipulations.
Calculation method (if applicable):	NA
QA/QC procedures:	All the information is verified and tallied with records of SPEs. Consumption is cross checked with diesel purchase bills since the later is supported by measurement and record (purchase bills). Pumps at diesel filling stations are calibrated periodically as per statutory stipulations.
Purpose of data:	For computing project emissions.
Additional comment:	Log books are maintained by SPEs on daily basis and archived by PP in excel format on monthly basis for the data received from SPEs.

Data / Parameter:	**Cement-Q_{OPC}**
Unit:	Tons
Description:	Purchase details are provided by the SPEs through monthly statement.
Measured/ Calculated / Default:	Calculated based on purchase bills where the weight of bag is taken as 50 kg by default.
Source of data:	Purchase bills of cement.
Value(s) of monitored parameter:	5,555.97 tons
Monitoring equipment:	N.A

Measuring/ Reading/ Recording frequency:	As and when purchased.
Calculation method (if applicable):	The leakage emissions for using Cement is derived based on the default values of national average.
QA/QC procedures:	Upon receipt of the monthly data of purchase bills, the personnel of PE make periodical visits to SPEs' plants to check the diligence of record keeping.
Purpose of data:	To compute emissions due to leakage
Additional comment:	Quantities of cement as per purchase bills are taken for computation of leakages. Log books are maintained by SPEs as and when purchased and archived by PP in excel format on monthly basis for the data received from SPEs.

Data / Parameter:	**Mineral Lime-Q_{ML}**
Unit:	Tons
Description:	Purchase details are provided by the SPEs through monthly statement.
Measured/ Calculated / Default:	Calculated based on purchase bills.
Source of data:	Purchase bills of lime
Value(s) of monitored parameter:	23,762.59 tons
Monitoring equipment:	N.A
Measuring/ Reading/ Recording frequency:	As and when purchased.
Calculation method (if applicable):	Based on purchase bills.
QA/QC procedures:	All the information is verified and tallied with the records of SPE by the personnel of ECPL periodically. For this purpose in-house training is imparted to ECPL personnel.
Purpose of data:	For computing emissions due to leakage
Additional comment:	The object of monitoring lime purchases is to compute the leakage emissions. Purchase bills may not be available when by-product lime is procured. In such case delivery challans would be accepted for computing the quantity of procurement. The leakage is taken into account only when lime from mineral source is procured. In the case of by product lime, the data is recorded, but no leakages are accounted for as the same would not have any impact. Log books are maintained by SPEs as and when purchased and archived by PP in excel format on monthly basis for the data received from SPEs.

Data / Parameter:	Performance of project brick/block in terms of Compressive Strength once in six months
Unit:	MPa
Description:	The brick/ block is tested in a Compressive strength Testing Machine (CTM) in any of the laboratories of polytechnics, engineering colleges, building centers, national laboratories etc., and the test certificates are provided by the laboratory.
Measured/ Calculated / Default:	Measured and tested by testing laboratories
Source of data:	Test Certificate as provided by the testing laboratories
Value(s) of monitored parameter:	MPa Please refer Table 4(a) and 4(b) at the end of the report for strength details.
Monitoring equipment:	The test procedure is followed as per Annex 9 of PDD. Details of testing date and the name of the notified labs are provided in tables 5(a) and 5(b) (appended at the end of this report).
Measuring/ Reading/ Recording frequency:	Once in six months.
Calculation method (if applicable):	N.A
QA/QC procedures:	Referred codes for testing of the bricks are : IS: 12894-2002: Pulverised Fuel Ash-Lime Bricks Specification (Table 1) IS:516-1959: Method of Test for Strength of Concrete Calibration of CTM for strength test is taken care by respective laboratories and outside the project boundary.
Purpose of data:	Quality control
Additional comment:	Strengths are tested in notified labs by SPEs once in six months and archived by PP as and when the certificates are received from SPEs.

D.3. Implementation of sampling plan

The units are visited randomly once in an year subject to minimum of 25% of operating units of the bundle.

SECTION E. Calculation of emission reductions or GHG removals by sinks

E.1. Calculation of baseline emissions or baseline net GHG removals by sinks

Baseline and its Development:

As per AMS III-Z the baseline emissions are the emissions related to fossil fuel consumption (fossil

fuel consumed multiplied by an emission factor) associated with the systems(s), which were or would have otherwise been used, in the clay brick production facility in the absence of project activity.

The approved methodology suggests "For project involving installation of systems in a new facility, the average annual historical baseline fossil fuel consumption value and the baseline brick production rate shall be determined as that which would have been consumed and produced, respectively, under an appropriate baseline scenario. If the baseline scenario identified includes different technologies with different levels of energy consumption, a weighted average energy use of these technologies can be considered for determining the baseline emissions of the facility or facilities."

The project activity involves setting up new facilities for production of bricks and blocks by adopting the FaL-G technology, which results in emission reductions. The baseline is therefore the fossil fuel consumption of the facilities that would otherwise be built in the absence of the project in order to meet the demand for walling material, comparable in quality and utility to that of bricks and blocks produced through FaL-G technology. Under Indian conditions coal is only fossil fuel used in the manufacture of clay brick. The data on walling material market (provided in table 1.2) show that burnt clay bricks represent more than 95% of the total walling material market. Production of burnt clay bricks is therefore considered the baseline scenario.

In the absence of the project activity, it is expected that the burnt clay brick manufacturing using conventional technologies will continue to meet the walling material demand in the country resulting in substantial CO_2 emissions. Production of burnt clay bricks employs different technologies with different levels of coal consumption. Since it is difficult to determine precisely a particular technology that would be used in the absence of project activity, a weighted average coal consumption of these technologies is considered to best represent the baseline coal consumption in lieu of the weighted average energy use suggested by methodology. The technologies, which are banned by regulation, have not been considered in calculating the weighted average coal consumption.

The different technologies that are used to produce burnt clay bricks include clamps, Movable Chimney- Bull Tranche Kilns (MCBTK), Fixed Chimney-Bull Tranche Kiln (FCBTK), High Draft Kilns (HDKs) and the recently introduced Vertical Shaft Brick Kiln (VSBK) technology. Concerned over the increasing pollution from brick industry, the Government of India has already banned the use of MCBTK and it does not issue any clearances/approvals to set up new brick units using MCBTK. Therefore, MCBTKs have not been considered in the baseline. The baseline specific coal consumption (coal use for production of unit volume of bricks/blocks) is determined by considering the remaining technologies and their prevalence in the market using the data presented in the table 1.1 below. Annual production specific emission factor is then computed based on the specific coal consumption and its calorific value. (source[2] : Emission Standards for brick kilns- An opportunity for Technology upgradation by Sameer Maithel, The Energy Research Institute (TERI), India).

In the context of applicability of above values it is to be clarified that baseline of brick manufacturing process is same as that of 500 years back. New technologies in clay brick such as VSBK would have caused reduction in energy consumption, but they could not penetrate due to various socio-logistical issues, and thus not widely used. Hence the applicability of thermal energy data can be much accepted.

Moreover, as conservative approach, baseline with weighted average thermal energy is taken as the basis out of various technological options available in clay brick production. Therefore the energy baseline continues to be the same.

[2]refer page 36 of the registered PDD

Coal is the main source of energy used for manufacturing burnt clay bricks in India. The second choice of fuel is biomass, including fuel wood. In one of the studies undertaken by the FAO[3] the annual use of fuel wood in the entire brick industry in the country is reported to be only 300,000 tons, while the use of coal is reported to be about 14,000,000 tons. Thus use of fuel wood represents less than 2% in terms of fuel inputs of the total fuel requirement of the brick industry in all of India. Since the values reported in the FAO report do not distinguish between the renewable biomass and nonrenewable biomass, the actual fraction of renewable biomass (with zero emissions) is likely to be lower.

Further the situation with biomass, which was earlier available as a cheaper fuel, is changing rapidly nationwide. The ongoing initiatives for biomass-based power plants have introduced competition in the market, increasing the cost of biomass. In the absence of any precise information on the use of biomass in brick industry, it is proposed to fix the biomass usage in brick production conservatively at 5% of the total energy input, for all the areas included in the project. This figure is higher than the national average figure of less than 2% reported in the FAO report. In order to account for the zero emissions from the use of biomass, the emissions in burnt clay brick production is adjusted appropriately by multiplying it with a "biomass adjustment factor" (0.95 = 1 - 0.05). The baseline emission thus derived would be conservative.

The project activity is a bundle consisting of small scale units scattered throughout the country, resulting in variations in quality and quantum of coal used. Hence the project activity takes energy baseline based on National average. The amount of CO_2 emissions from burning of coal depends largely on the type of coal and its calorific value. Different types of coal are used in India for brick making. In order to address the variability in coal quality, the IPCC default carbon emission factor for Indian coal as 25.8 tC/TJ (IPCC) has been used to estimate the CO_2 emissions associated with burning of coal in the baseline.

Estimating Baseline emissions:

Baseline Emissions are computed based on production of bricks and blocks in terms of m^3 as follows:

$BEy = EF_{BL} * P_{PJ,y}$ **Eq. 1**

where

BEy = The annual baseline emissions from fossil fuels displaced by the project activity in t CO_2e in year (of the crediting period)

EF_{BL} = The annual production specific emission factor for year y, in t CO_2/kg or m^3

$P_{PJ,y}$ = The annual net production of the facility in year y, in kg or m^3

The annual production specific emission factor (EF_{BL}) is calculated as follows:

$EF_{BL} = (FC_{BL,i,j} \times NCV_j \times EF_{CO2,j}) / P_{Hy}$ **Eq. 2 (i)**

Where:

$FC_{BL,i,j}$ = Average annual baseline fossil fuel consumption value for fuel type *j*

[3] Source: FAO Field Document No. 35, "Regional Wood Energy Development Programme in Asia", GCP/RAS/154/NET.

combusted in the process I, using volume or weight units

NCV_j = Average net calorific value of fuel type *j* combusted, TJ per unit volume of mass unit

$EF_{CO2,j}$ = CO_2 emission factor for fuel type j combusted in the process *i* in t CO_2/TJ

P_{Hy} = Average annual historical baseline brick production rate in units of weight or volume, kg or m^3

While Eq. 1 gives gross emission in the baseline, biomass correction factor of 0.05 is taken for emissions and are deducted from gross emissions to be more conservative as already discussed under B.4 of PDD. Thus net baseline emissions are computed as below.

Net BEy,x = BEy (1-0.05) **Eq. 2 (ii)**

The total emissions $BE_{y,total}$ in the baseline is represented by the formula

$BE_{y,total}$ = Net BEy,x **Eq. 3**

The total net emissions from the baseline scenario are 64,541.37 tonnes of CO_2 equivalent for 1yr- 9m covered in this monitoring period.

E.2. Calculation of project emissions or actual net GHG removals by sinks

As per approved methodology III-Z project activity emissions (PEy) consist of those emissions associated with the use of electricity or fossil fuel or both and are calculated in accordance with the "Tool to calculate baseline, project and /or leakage emissions from electricity consumption" and/or "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (tCO_2e).

FaL-G plants do use electricity and/or diesel. In general wherever electricity is available, the same is used in the plant and, in places where electricity is not available, diesel is used to run the plant. However, in a few cases, some of those who run the plants with electricity do keep provision to operate diesel based generators in order to overcome intermittent power breakdowns.

Estimating emissions from electricity consumption

"Tool to calculate baseline, project and /or leakage emissions from electricity consumption" discusses the applicability of three scenarios to adopt the tool. Out of these three 'Scenario A' as given below is applicable for project activity.

Scenario A*: Electricity consumption from the grid. The electricity is purchased from the grid only. Either no captive power plant is installed at the site of electricity consumption or. If any on-site captive power plant exists, it is not operating or it can physically not provide electricity to the source of electricity consumption*.

As per the tool the project emissions from the electricity are calculated based on the quantity of electricity consumed, an emission factor for electricity generation and a factor for transmission losses, as follows:

$PE_{EC,y} = \sum_j EC_{PJ,i,y} \times EF_{EL,i,y} \times (1+TDLj,y)$ **Eq. 4**

Where:

$PE_{EC,y}$ Project emissions from electricity consumption in year y (tCO_2/yr)

$EC_{PJ,i,y}$ Quantity of electricity consumed by the project electricity consumption source j in year y (MWh/yr)

$EF_{EL,j,y}$ Emission factor for electricity generation for source j in year y (tCO_2/MWh)

TDLj,y Average technical and transmission and distribution losses for providing electricity to source j in year y

For determining the emission factor for electricity generation the tool facilitates to use conservative default value of 1.3 tCO_2 / MWh under Option A2 if Scenario A applies only to project and/ or leakage electricity consumption sources but not to baseline electricity consumption sources. Project activity falls under Scenario A hence uses the recommended default value of 1.3 tCO_2/ MWh for emission factor for electricity consumption as against the IPCC default value of 0.9 tCO2/MWh power generation. In the background of considering the conservative default value together with TDL, no additional TDL factor is considered in the project emissions due to electricity.

Thus project emissions due to electricity consumption are computed as below:

$$PE_{ECy,} = \sum_{j} EC_{PJ,j,y} \times EF_{EL,j,y} \quad \textbf{Eq. 5}$$

$PE_{EC,y}$ Project emissions from electricity consumption in year y (tCO_2/yr)

$EC_{PJ,j,y}$ Quantity of electricity consumed by the project electricity consumption source j in year y (MWh/yr)

$EF_{EL,j,y}$ Emission factor for electricity generation for source j in year y (tCO_2/MWh)

In arriving to baseline emissions total (actual) electricity consumption without any deductions has been taken as a conservative approach.

In the absence of calibration reports for the period of 01.07.2012 to 31.03.2013 1% correction factor is added for all SPEs. Similarly 1% correction factor is added for SPEs III/8, III/9 and III/11 for 2013-14 for delayed submission of calibration reports when the meters are changed.

<u>b). Estimating emissions from diesel consumption</u>

Wherever electricity supply is not available, diesel is used to run the equipments and machinery in the plant. Consumption of diesel in the plant is monitored and recorded on a monthly basis, from which the annual consumption is calculated.

As per “Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion” CO_2 emissions from fossil fuel combustion in process j are calculated based on the quantity of fuels combusted and the default values of CO_2 emission factor of those fuels as follows:

$$PE_{FC,i,y,} = \sum_{i} FC_{i,j,y} \times COEF_{i,y}$$

$PE_{FC,y}$ = Project emissions from fossil fuel combustion in year y (tCO_2/yr)

$FC_{i,j,y}$ = Quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)

$COEF_{i,y}$ = CO_2 emission coefficient of fuel type i in year y (t CO_2/ mass or volume)

i = fuel types combusted in process j during the year y

Tool suggests calculating CO_2 emission coefficient based either on chemical composition or on net calorific value multiplied with CO_2 emission factor of the fuel type. In the present calculation the latter approach is considered. Accordingly the equation is as follows:

$COEF_{i,y} = NCV_{i,y} \times EF_{CO2,i,y}$

Where:

COEFi,y = the emission coefficient of fuel typei in year y (t CO2/mass or volume unit)

NCVi,y = the weighted average of net calorific value of the fuel type I in year y (GJ/mass or volume unit)

$EF_{CO2,i,y}$ = the weighted average CO2 emission factor of fuel type I in year y (t CO_2/GJ)

i = the fuel types combusted in process j during the year

Tool suggests four alternates for emission factor of diesel out of which one recommendation is to use IPCC default value. This is recommended in the absence of invoices, providing emission factors by the fuel supplier. The project activity consists of small scale units those purchase the diesel from retail dealers in small quantities but not on contract basis. Under these conditions no suggested data would be available. Hence recommended IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in Table 1.4 of Chapter 1 of Vol.2 (Energy) of the 2006 IPCC guidelines on National GHG Inventories are taken for emissions from diesel.

Based on above, project emissions due to diesel consumption are computed as below:

$PE_{FC,y,} = \sum_i FC_{i,jy} \times NCV \times EF_{CO2y}$ **Eq. 6**

$PE_{FC,y}$ = Project emissions from diesel consumed in year y (tCO_2/yr)

FC_y = Quantity of diesel consumed during the year y (litres/yr)

NCV_F = Net calorific value of diesel (GJ/t)

EF_{CO2y} = CO_2 emission factor (tCO_2/GJ)

The total project emissions PEy due to the project activities within the project boundary is calculated by the formulae

$PEy = (PE_{ECy} + PE_{FC,y})$ **Eq. 7**

The total project emissions are 626.23 tonnes of CO_2 equivalent for 1yr- 9m covered in this monitoring period.

E.3. Calculation of leakage

Estimating emissions due to leakage:

As per AMS III-Z leakage is applicable in the case of project activities involving change in production process or a change in type and quantity or raw and /or additive materials as compared with the baseline. The incremental emissions associated with the production/ consumption and transport of those raw materials consumed as compared to baseline, shall be calculated as leakage.

The activity outside the project boundary that leads to CO_2 emissions is the transport of raw materials to the FaL-G plants. Since substantial transport activity (for soil and coal) also occurs in the baseline to support clay brick activity (the baseline activity), as well as to support waste disposal activity (for various kinds of wastes - fly ash, gypsum etc.), net emissions associated with transport of raw materials, as per computation below, are observed to be insignificant and hence not included in the project emissions.

Emissions due to transport of raw materials

In the baseline activity

Production of bricks avoided, m^3/year	**4500**
Thermal energy requirement, GWhth/year @ 0.000725 GWhth/m^3	3.2625
Thermal energy requirement, kcal/year	2805245056
Thermal energy, kcal/year, after discounting for 5% use of biomass	2664982803
Calorific value of coal, kcal/kg	4500
Coal requirement, tons/year	592.2
Distance of availability of coal, kms	100-1000
Average distance of coal availability, kms	550
No. of trips @10 tons/trip	59.2
Diesel consumption, litres/year @ 4 litre/km	8143
CO_2 emission due to transport of coal, tCO_2/year@0.0032tCO_2/litre	**26.1**

In the project activity

For a typical FaL-G plant with production capacity of 4,500 m^3/ year
Lime route:

	Fly ash	**Lime**	**Gypsum**	**Stone dust**
Raw material requirement as % of product weight	14.50	8	2.50	75
Quantity in tons/year (FaL-G production @4,500 m^3/year)	1305	720	225	6750
Typical distance of raw material availability, kms	50-150	50-200	100-1000	10-50
Average distance of raw material availability, kms	100	125	550	30
Truck capacity, tons/trip	10	10	10	10
No. of trips per year	130.5	72	22.5	675
Distance travelled, kms/year	13050	9000	12375	20250
Fuel efficiency of trucks, km/litre	4	4	4	4
Diesel consumed, litres/year	3262.5	2250	3093.75	5062.5
CO2 emissions from diesel consumption @0.0032tons/litre(t CO_2/year)	10.44	7.2	9.9	16.2
CO_2 emissions due to transport of all raw materials = 10.44+7.2+9.9+16.2 t CO_2/ year	**43.74**			

OPC route:

	Fly ash	OPC	Gypsum	Stone dust
Raw material requirement as % of product weight	15.2	4.0	0.8	80
Quantity in tons/year (FaL-G production @4,500 m^3/year)	1368	360	72	7200
Typical distance of raw material availability, kms	50-150	50-200	100-1000	10-50
Average distance of raw material availability, kms	100	125	550	30
Truck capacity, tons/trip	10	10	10	10
No. of trips per year	136.8	36	7.2	720
Distance travelled, kms/year	13,680	4500	3960	21600
Fuel efficiency of trucks, km/litre	4	4	4	4
Diesel consumed, litres/year	3420	1125	990	5400
CO2 emissions from diesel consumption @0.0032tons/litre(t CO_2/year)	10.9	3.6	3.17	17.28
CO_2 emissions due to transport of all raw materials = 10.9+3.6+3.17+17.28 t CO_2/ year	**34.95**			

As per above computation of emissions due to transportation of the raw materials results as follows:

For baseline activity: 26.1 t CO_2
For project activity: 35 to 44 t CO_2 depending on the FaL-G recipe.

In the absence of data for energy consumption towards fly ash disposal, related leakage could not be computed. Otherwise, this is additional energy that the project conserves by consuming fly ash.

From above values it is evident that the net emissions out of transport are meagre and thus ignored.

In this project cement and lime are two inputs with significant emissions during their production and, thus need to be considered in the leakage computation.

As per AMS III-Z cement and / or lime would be monitored as per purchase bills and taken for computing leakages vide equations 8 and 9 respectively as below:

Leakage due to cement:

$$E_{L,x} = E_{x,OPC} = Q_{OPC} \times EF_{OPC} \qquad \textbf{Eq. 8}$$

Where
Q_{OPC} = Quantity of OPC purchased (tons)
EF_{OPC} = CO_2 emission factor for OPC (tCO_2/ ton OPC)

Even though PPC is used the emission factor of which is lower in comparison to OPC, emission factor of OPC will be taken for computation as a conservative approach.

Leakage due to mineral lime:

$$E_{L,x} = E_{x,ML} = Q_{ML} \times EF_{ML} \qquad \textbf{Eq. 9}$$

Where

Q_{ML} = Quantity of mineral lime purchased (tons)

EF_{ML} = CO_2 emission factor for mineral lime (tCO_2/ ton mineral lime)

EF_{ML} is arrived based on lime purity, which is tallying with IPCC default value

The total emissions due to leakage E_L is represented by the formulae

$$E_L = \sum_x E_{L,x} \qquad \textbf{Eq. 10}$$

The total emissions due to leakage are 14,531.92 tonnes of CO_2 equivalent for 1yr- 9m covered in this monitoring period.

Emission Reductions:

Emission reduction generated by the project consisting of 9 plants (x=9) as computed by Eq.11 below is the difference between the baseline emissions, as represented by Eq.3 and, the project emissions as per Eq.7 and emissions due to leakage vide Eq.10

$ER = \sum(BEy, total - PEy - E_{L,x})$ **Eq. 11**

E.4. Summary of calculation of emission reductions or net anthropogenic GHG removals by sinks

Emission reductions are computed as the difference between baseline emissions and project emissions + emissions due to leakage.

	Baseline emissions or baseline net GHG removals by sinks (tCO_2e)	Project emissions or actual net GHG removals by sinks (tCO_{2e})	Leakage (tCO_2e)	Emission reductions or net anthropogenic GHG removals by sinks (tCO_2e)
01/07/2012 to 31/03/2013	29,513.09	285.54	6,415.20	22,812.35
01/04/2013 to 31/03/2014	35,028.28	340.69	8,116.72	26,570.87
Total	**64,541.37**	**626.23**	**14,531.92**	**49,383.22**
Rounded down ERs				**48,383**

E.5. Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Item	Values estimated in ex-ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (t CO_2e)		
01.07.2012 to 31.03.2013	35,046	22,812.35
01.04.2013 to 31.03.2014	46,728	26,570.87
Total (Rounded down)	**81,774**	**48,383**

Note: Please refer emission reduction excel sheets for calculation. For the period 01/07/2012 to 31/03/2012 the amount of emission reduction has been taken for 9 months. For the period, 01/04/2013 to 31/03/2014, the value of emission reduction has been calculated for 1 year (12 months).

E.6. Remarks on difference from estimated value in registered PDD

The difference may mainly be attributed to the inoperative plants, which were 14 during 2012-13 and 17 during 2013-14. These plants would resume operations subject to attaining conducive logistics. Other reasons could be difference in actual production vis-à-vis expected production considered during the ex-ante calculation for the tenure of current monitoring period, which has effect due to variables such as market demand, Unit performance and workers' availability. As derived for large scale unit, this aspect cannot be attributed to specific reason due to heterogeneous locations and logistics.

E.7. Actual emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards.

Item	Actual values achieved up to 31 December 2012	Actual values achieved from 1 January 2013 onwards
Emission reductions or GHG removals by sinks (t CO_2e)	17,932	31,451

Annexure-1

Table 1: Small Scale Industries' Registration of SPEs -Date of Commencement of Production - Date of Establishment

Sl No	Name of the SPE	ID No	Date of SSI Provisional /Part-1	Date of	
				Commencement of Production as per SSI Regn	Establishment as mentioned in Agreement
1	Sri Venkateswara Fly Ash Products	AP/RNG/III/1	10.05.2007	15-12-2007	June-2007
2	Chandra Fly Ash Bricks	AP/NGD/III/2	-	08-09-2007	Sept-2007
3	Sri Lakshmi Fly Ash Brick Industry	AP/NGD/III/3	--	10-02-2004	Feb-2004
4	Sri Hiranmai Bricks	AP/WRG/III/4	27-09-2007	29-12- 2007	Nov-2007
5	Sri Lakshmi Venkateswara FaL-G Brick Industry	AP/GTR/III/5	-	01-06-2005	May-2005
6	Sri Durga Fly Ash Brick Industry	AP/GTR/III/6	-	Not Available	Apr-2007
7	Sri Venkata Triveni Fly Ash Brick Industry	AP/GTR/III/7	-	14-09-2007	Sept-2007
8	Sri Sai Raghava Fly Ash Brick Industries	AP/KRIS/III/8	-	29-04-2004	Apr-2004
9	Sri Sai Bhargava Fly Ash Brick Industries	AP/KRIS/III/9	-	03-08-2005	Aug-2005
10	Sri Sai Siva Brick Products	AP/KRIS/III/10	01-05-2007	11-08-2007	May-2007
11	Sri Sai Tulasi Brick Products	AP/KRIS/III/11	14-03-2007	18-06-2007	June-2007
12	Sri Venkateswara Fly Ash Products	AP/KRIS/III/12	24-04-2007	15-09-2007	Apr-2007
13	Sri Sai Baba Fly Ash Products	AP/KRIS/III/13	-	22-02-2007	Jan-2007
14	Gayatri Brick Products	AP/KRIS/III/14	-	15-10-2005	Oct-2005

Table 1 … contd					
				Date of	
Sl No.	Name of the SPE	ID No.	Date of SSI Provisional /Part-1	Commencement of Production as per SSI Regn	Establishment as mentioned in Agreement
15	Sai Build Products	AP/KRIS/III/15	-	20-04-2005	Mar-2005
16	Perfect Concrete Products (P) Ltd	AP/KRIS/III/16	26-10-2007	26-04-2008	Sept-2007
17	Sri Venkata Sai Fly Ash Products	AP/KRIS/III/17	05-12-2007	15-04-2008	Nov-2007
18	Sri Sai Fly ash Products	AP/KRIS/III/18	05-12-2007	25-02-2008	Dec-2007
19	Sri Venkata Ramana Fly Ash Products	AP/KRIS/III/19	02-11-2007	15-02-2008	Nov-2007
20	Sri Sai Krishna Fly ash Products	AP/KRIS/III/20	05-12-2007	25-05-2008	Dec-2007
21	Suneetha Fly Ash Products	AP/KRIS/III/21	02-11-2007	05-05-2008	Nov-2007
22	Sri Vasavi Fly Ash Concrete Pavers	AP/WG/III/22	--	28-04-2004	Apr-2004
23	Sri Kanaka Durga Hydraulic FaL-G Brick Industry	AP/WG/III/23	25-04-2007	21-10-2007	Apr-2007
24	Sri Kanaka Durga FaL-G & Cement Works	AP/WG/III/24	30-08-2006	01-06-2007	Apr- 2007
	Subha FaL-G Brick Industry	AP/EG/III/25	20-09-2005	08-02-2006	Jan-2006
26	Simhadri FaL-G Products	AP/VSP/III/26	16-06-2006	17-06-2006	June-2006
27	Neela Krishna FaL-G Center	AP/VSP/III/27	24-06-2005	07-09-2007	June- 2005
28	Mayuri Brick Industries	AP/VSP/III/28	09-02-2007	13-02-2007	Feb-2007
29	Visakha FaL-G Bricks *	AP/VSP/III/29	13.8.2007	Dec 2007	Dec-2007
30	Adithya FaL-G Products *	AP/VSP/III/30	22.5.2006	May 2006	May-2006
31	Prudvi Build Mate *	AP/VSP/III/31	28.04.2005	Oct, 2006	Oct-2006

Table 1 … contd					
Sl No.	Name of the SPE	ID No.	Date of SSI Provisional /Part-1	Date of	
				Commencement of Production as per SSI Regn	Establishment as mentioned Agreement
32	M/s Mayuri Industries	AP/VZM/III/32	23-08-2005	18.12.2006	Aug-2005
33	M/s Sree Satya Enterprises	AP/SKLM/III/33	22.12.2005	03-11-2006	Dec-2005
34	M/s M.K Brick Industries	AP/SKLM/III/34	21-12-2006	18-05-2007	May-2007
35	M/s Chandanam Fly ash Industry	AP/SKLM/III/35	14-12-2006	26-08-2007	Mar-2007
36	M/s Hari Eco Building Materials	TN/SLM/III/36	-	29.08.2007	Aug-2007
37	M/s Mass Bricks	TN/SLM/III/37	26-02-2007	24-08-2007	Aug-2007
38	M/s Biswakarma Bricks & Blocks	ORS/KRD/III/38	13-09-2006	08-07-2007	Sept-2006
39	M/s A-1 Bricks	CG/RAIP/III/39	-	05-05-2005	Apr-2005
40	M/s Bansal Retreaders	CG/RAIP/III/40	-	15-07-2005	Apr-2005
41	M/s Alok Bricks	CG/RAIP/III/41	23-03-2007	29-02-2008	Sept-2007
42	M/s Umiya Industries *	CG/RAIP/III/42	19.02.2007	Jan, 2008	Jan-2008
*Note: The date of commencement of these four units has been sourced from the date of establishment as per the Agreement signed by SPEs with PP and , however, these units have not submitted further documents or continued their activity.					

TABLE 2 : LOCATION AND GEOGRAPHICAL COORDINATES

Name & Address of the MIP	SPE ID. No.	Geographical Co-ordinates, deg	
Andhra Pradesh State		**North**	**East**
Ranga Reddy Dist.			
Sri Venkateswara Fly Ash Products S. No. 612 (Pedda Amber pet) Laxmareddy Palem(V) Hayathnagar Mandal, Ranga Reddy Dist.	AP/RNG/III/1	17.32	78.64
Nalgonda Dist.			
Chandra Fly Ash Bricks S. No. 11, Mahadev Pur (V) – 508 126 Bibinagar Mandal, Nalgonda Dist.	AP/NGD/III/2	17.48	78.83
Sri Lakshmi Fly ash Brick Industry Ramapuram (V) Mellacheruvu Mandalam, Nalgonda Dist-508 246	AP/NGD/III/3	16.92	79.98
Warangal Dist.			
Sri Hiranmai Bricks H.No 2-39/2, Kummarigudem Road, Madikonda Warangal Dist.	AP/WRG/III/4	17.97	79.58
Guntur Dist.			
Sri Lakshmi Venkateswara FaL-G Brick Industries D No: 446-2,Nelapadu (P)-522 201 Tenali (Mandal), Guntur Dist.	AP/GTR/III/5	16.25	80.63
Sri Durga Fly ash Brick Industry Survey No .70/IB, G.T Road Opp. Anjaneyalu Tractor Shed, Near Selam Narayana Rice mill Mangalagiri – 522 503, Guntur Dist.	AP/GTR/III/6	16.40	80.57
Sri Venkata Triveni Fly Ash Brick Industry 11-277, S.No 777/4. Near Janakamma Temple Yerrabalem (P) Mangalagiri (M) Guntur Dist.	AP/GTR/III/7	16.43	80.55
Krishna Dist.			
Sri Sai Raghava Fly Ash Bricks Industries D.No 14-448, Raju Peta, Tiruvuru (P), Krishna Dist.	AP/KRIS/III/8	17.10	80.62
Sri Sai Bhargava Fly Ash Bricks Industries Patapadu (Post)- 521 212 Vijaywada (Rural), Krishna Dist.	AP/KRIS/III/9	16.27	80.65

Name & Address of the MIP	SPE ID. No.	Geographical Co-ordinates, deg	
		North	East
Sri Sai Siva Brick Products RS No. 674/4, NH-9, New Bypass Road Nandigama, Krishna Dist	AP/KRIS/III/10	16.75	80.27
Sri Sai Tulasi Brick Products RS No. 278/3, NH-9, Bypass Road Kanchikacherla (V)521 180; Krishna Dist	AP/KRIS/III/11	16.68	80.35
Sri Venkateswara Fly ash Products. R.S No 44/1: Kachavaram (V) Ibrahimpatnam (Mandal), Krishna Dist	AP/KRIS/III/12	16.60	80.47
Sri Sai Baba Fly ash Products R. S. No. 115/1A, NH-9 Road, Ibrahimpatnam (V) Krishna Dist	AP/KRIS/III/13	16.60	80.47
Gayatri Brick Products RS No. 112/4A&5, S.M. Pet X-Road, Jaggaiah Pet - 521 175, Krishna Dist	AP/KRIS/III/14	16.88	80.10
Sai Build Products 3-10, Kodalivari Street Enikepadu - 521 108, Vijayawada Rural (M); Krishna Dist.	AP/KRIS/III/15	16.52	80.70
Perfect Concrete Products (P) Ltd S. No. 307/2, Paritala (V) Kanchikacharla (M), Krishna Dist.	AP/KRIS/III/16	16.63	80.43
Sri Venkata Sai Fly ash Products R.S.No.779/2, NH-9 Road Paritala (V); Kanchikacherla (M), Krishna Dist.	AP/KRIS/III/17	16.63	80.42
Sri Sai Fly ash Products R.S.No.777, NH.No.9 Road, Paritala (V), Beside Uma Holyday Inns Kanchikacherla (M), Krishna Dist.	AP/KRIS/III/18	16.63	80.42
Sri Venkata Ramana Fly ash Products R.S.No.780, NH-9 Road, Paritala (V) Kanchikacherla (M), Krishna Dist.	AP/KRIS/III/19	16.63	80.42
Sri Sai Krishna Fly ash Products R.S.No.779/2, NH-9 Road, Paritala (V) Kanchikacherla (M), Krishna Dist	AP/KRIS/III/20	16.63	80.42
Suneetha Fly ash Products R.S.No.777, NH-9 Road, Paritala (V); Beside Uma Holyday Inns Kanchikacherla (M), Krishna Dist.	AP/KRIS/III/21	16.63	80.42

Name & Address of the MIP	SPE ID. No.	Geographical Co-ordinates, deg	
		North	East
West Godavari dist.			
Sri Vasavi Fly Ash Concrete Pavers Canal Road, Ramachandra Rao Peta, Penugonda-534 320; WG Dist.	AP/WG/III/22	16.65	81.73
Sri Kanaka Durga Hydraulic Fal-G Brick Industry, Opp: Kakatiya Kalayana Mandapam, Bypass Road Chivatam,(Tanuku), WG dist.	AP/WG/III/23	16.75	81.68
Sri Kanaka Durga FaL-G & Cement Works Plot No.A-3 Industrial Estate Tetali (Via) Tanuku. WG Dist.	AP/WG/III/24	16.75	81.67
East Godavari Dist.			
Subha FaL-G Brick Industry D.No 1-215/C, Yanam Road, Uppalanka Karapa Mandalam, EG Dist.	AP/EG/III/25	16.90	82.23
Visakhapatnam Dist.			
Simhadri FaL-G Products, NH-5, Salapuvanipalem, Parvada Mandal, Visakhapatnam Dist.	AP/VSP/III/26	17.68	83.07
Neela Krishna FaL-G Center, Plot No.104, IDA, Paravada. Visakhapatnam Dist.	AP/VSP/III/27	17.63	83.08
Mayuri Brick Industries Dakammarri village, Tagarapuvalasa(P) Bheemunipatnam Mandal Visakhapatnam Dist	AP/VSP/III/28	18.00	83.40
Visakha FaL-G Bricks S. No. 305, Kunchangi (V) 530.132 Anakapalli (M); Visakhapatnam dist.	AP/VSP/III/29	17.67	82.92
Aditya FaL-G Products Rebaka (V), Anakapalli (M) Visakhapatnam Dist.	AP/VSP/III/30	17.73	83.05
Prudvi Buildmate Koondram (V), Anakapalli(M) Visakhapatnam Dist.	AP/VSP/III/31	17.65	82.92
Vizianagaram Dist.			
Mayuri Industries, Shed No.F-2; A.P. Industrial Estate, V.T. Agraharam, Vizianagaram-535 004, Vizianagaram Dist.	AP/VZM/III/32	18.10	83.38

Name & Address of the MIP	SPE ID. No.	Geographical Co-ordinates, deg	
		North	East
SRIKAKULAM DIST.			
Sree Satya Enterprises R.S. No 109/Part Chilakapalem (V)-532 403 Etcherla (M), Srikakulam Dist	AP/SKL/III/33	18.27	83.80
M.K.Brick Industries, NH-5 Road, Santhoshipuram (V), Devipuram Grama Panchayati Nandigam Mandal, Srikakulam Dist.	AP/SKL/III/34	18.73	84.40
Chandanam Fly ash Industry Abotulapeta (V) Anandapuram Panchayat G. Sigadam - 532 168, Srikakulam Dist	AP/SKL/III/35	18.35	83.77
Hari Eco Building Materials SF No. 108/3, Thalaivar Thottam D.Perumapalayam Main Road, Pallipatty Valapady Taluk Salem - 636 122, Salem Dist.	TN/SLM/III/36	11.70	78.23
Mass Bricks SF No. 7/1, Thottiyan Kadu Santhiyur Attayampatti (P), Mallur (Via)Salem Taluk Salem Dist - 636 203	TN/SLM/III/37	11.53	78.05
Orissa State			
Khurda Dist			
Biswakarma Bricks & Blocks Plot No: 329/639/764 At Alkar, P.0-Janla - 752 054, Khurda Dist, Orissa.	ORS/KRD/III/38	22.20	85.70
Chhattisgarh State			
Raipur Dist.			
A-1 Bricks 28-Part ,Phase II, Industrial Growth Centre, Siltara-Raipur (C.G)	CG/RAIP/III/39	21.30	81.63
Bansal Retreaders 18, Industrial area, Korba-495686, Raipur Dist.	CG/RAIP/III/40	22.35	82.73
Alok Bricks Chhuiya(V), Baloda Bazar Raipur - 493 332	CG/RAIP/III/41	21.65	82.15
Umiya Industries Limahi Village, Baloda Bazar Raipur Dist	CG/RAIP/III/42	21.65	82.15

Table 3 : Status of calibration of power meters of SPEs in Bundle 3

S. No	Name of the SPE	I.D.No.	Scanctioned load(HP)	Class Accuracy Class, s	calibration		Meter No	Comments of Service Provider
					Date of calibration	Due date of calibration		
1	Sri Lakshmi Fly Ash Brick Industry **	AP/NGD/III/3	-	-	-	-	-	NA
2	Sri Hiranmai Bricks	AP/WRG/III/4	29.00	0.5	10.10.2012	10.10.2017	72927022	The Meter Performance is OK
3	Sri Lakshmi Venkateswara FaL-G Brick Industry	AP/GTR/III/5	21.34	1.0	09.03.2013	09.03.2018	16689449	The accuracy of the meter is within permissible Limits
4	Sri Durga Fly Ash Brick Industry	AP/GTR/III/6	18.00	1.0	03.10.2012	03.10.2017	17995117	The accuracy test results are within the permissible Limits.
5	Sri Venkata Triveni Fly Ash Brick Industry	AP/GTR/III/7	15.00	1.0	03.10.2012	03.10.2017	17995944	The accuracy test results are within permissible Limits.
7	Sri Sai Raghava Fly Ash Brick Industries	AP/KRIS/III/8	15.00	1.0	19.03.2012	NA	16723462	% Error found within the Limits
			15.00	1.0	17.08.2013	17.08.2018	17990725	% Error within the permissible Limits
8	Sri Sai Bhargava Fly Ash Brick Industries	AP/KRIS/III/9	15.00	1.0	16.03.2012	16.03.2017	16704532	% Error found within the Limits
9	Sri Sai Siva Brick Products	AP/KRIS/III/10	16.00	1.0	30.12.2011	-	ASW69280	Error within the Limits
			16.00	1.0	14.08.2013	14.08.2018	17992166	Error within the Limits
10	Sri Sai Tulasi Brick Products	AP/KRIS/III/11	15.00	1.0	14.09.2012	NA	16731568	% Error of the Meter is within Limits
			15.00	1.0	29.10.2013	29.10.2018	20507305	% Error of the Meter is within the Limits
11	Sri Venkateswara Fly Ash Products	AP/KRIS/III/12	29.00	0.5	18.11.2011	18.11.2016	APE33451	% Error ok.
12	Sri Sai Baba Fly Ash Products	AP/KRIS/III/13	10.00	1.0	21.07.2012	21.07.2017	AS300203	% Error of the Meter is within Limits

Table 3 contd…

S.No	Name of the SPE	I.D.No.	scanctioned load(HP)	Class Accuracy Class, s	calibration		Meter No	Comments of Service Provider
					Date of calibration	Due date of calibration		
13	Gayatri Brick Products	AP/KRIS/III/14	15.00	0.5	10.02.2012	10.02.2017	APE36190	% Error of the Meter is within Limits
14	Sai Build Products	AP/KRIS/III/15	10.00	0.5	08.05.2012	08.05.2017	ASW61069	% Error found within the Limits
15	Sri Venkata Sai Fly Ash Products	AP/KRIS/III/17	11.00	1.0	21.07.2012	21.07.2017	SP717900	% Error of the Meter is within Limits
16	Sri Sai Fly ash Products	AP/KRIS/III/18	22.00	0.5	26.11.2011	NA	SP405403	% Error within the Limits
			22.00	0.5	21.07.2012	21.07.2017	SP405917	% Error of the Meter is within Limits
17	Sri Venkata Ramana Fly Ash Products	AP/KRIS/III/19	27.00	0.5	26.11.2011	NA	SP405363	% Error found within the Limits
			27.00	0.5	08.06.2013	08.06.2018	SP407526	% Error of the Meter is within Limits
18	Sri Sai Krishna Fly ash Products	AP/KRIS/III/20	11.00	1.0	21.07.2012	21.07.2017	AS324175	% Error of the Meter is within Limits
19	Suneetha Fly Ash Products	AP/KRIS/III/21	27.00	0.5	19.11.2011	19.11.2016	SP405530	% Error found within the Limits
20	Sri Vasavi Fly Ash Concrete Pavers	AP/WG/III/22	22.197	0.5	04.01.2012	04.01.2017	7168650	Results are found satisfactory
21	Sri Kanaka Durga Hydraulic FaL-G Brick Industry	AP/WG/III/23	48.768	0.5	30.11.2011	30.11.2016	5313144	Results are found satisfactory

Table 3 contd….

S.No	Name of the SPE	I.D.No.	scanctioned load(HP)	Class Accuracy Class, s	calibration		Meter No.	Comments of Service Provider
					Date of calibration	Due date of calibration		
					16.12.2011	NA	15675504	Meter is working Satisfactorily
	Main –meter (Improved HP)		27.00	0.5	28.12.2013	28.12.2018	394288	Test Results are satisfactory
	Sub-meter			1.0	04.12.2013	04.12.2018	015519	OK
23	Simhadri FaL-G Products	AP/VSP/III/26	10.00	1.0	24.07.2012	24.07.2017	734370	Pass
24	M.K Brick Industries	AP/SKLM/III/34	18.00	1.0	22.02.2013	22.02.2018	4030025	% of Error is within the Limits
25	Mass Bricks	TN/SLM/III/37	26.97(KW)	1.0	15.03.2013	15.03.2018	11225969	Uncertainty measured as± 0.001 in V
26	Bansal Retreaders	CG/RAIP/III/40	50.00	1.0	08.03.2011	08.03.2016	CSP05946	Pass
27	Alok Bricks	CG/RAIP/III/41	20.00	1.0	21.11.2012	21.11.2017	447956	The parameters of the meter are functioning well & normally.

Table 4 – Details of change of electricity meters for 2012-14

S. No.	Name of the SPE	I.D.No.	Details of meters		Date of change	Reason	Date of Calibration
			Removed	Existing			
1	Sri Venkata Triveni Fly Ash Brick Industry	AP/GTR/III/7	302954	17995944	03.10.2012	Watthour meter to CT Meter	03.10.2012
2	Sri Sai Raghava Fly Ash Brick Industries	AP/KRIS/III/8	1672346 2	17990725	27.07.2012	Meter Stuck	17.08.2013
3	Sri Sai Siva Brick Products	AP/KRIS/III/10	ASW69 280	16730945	13.02.2012	NA	No Calibration Report
			1673094 5	17992166	11.05.2012	Meter Stuck	14.08.2013
4	Sri Sai Tulasi Brick Products	AP/KRIS/III/11	1673156 8	20507305	02.07.2013	No Display	29.10.2013
5	Sri Sai Fly ash Products	AP/KRIS/III/18	SP4054 03	SP40591 7	21.07.2012	No Display	21.07.2012
6	Sri Venkata Ramana Fly Ash Products	AP/KRIS/III/19	SP4053 63	SP40752 6	08.06.2013	Meter Stuck& No Display	08.06.2013
7	M.K Brick Industries	AP/SKLM/III/34	1598128 7	4030025	22.02.2013	NA	22.02.2013
8	Sri Kanaka Durga FaL-G & Cement Works	AP/WG/III/24	1567550 4	394288	15.12.2013	Added Load	28.12.2013

Table 5(a) – Strengths and Testing details of product from SPEs of B-3 – 2012-13

S.No	Unit Name	Unit ID	Test Conducted by	1st Term		2nd Term	
				Date of Testing	Strength, MPa	Date of Testing	Strength,MPa
1	Sri Lakshmi Fly Ash Brick Industry	AP/NGD/III/3	Department of Technical Education Govt. Polytechnic, Khammam	26.09.12	7.6	-	-
			Government Engg and Polytechnic College Department of Technical Education , Khammam	-	-	28.03.13	10.8
2	Sri Hiranmai Bricks	AP/WRG/III/4	Industrial Consultancy Cell, Warangal	03.10.12	6.1	28.03.13	8.5
3	Sri Lakshmi Venkateswara FaL-G Brick Industry	AP/GTR/III/5	Vignan University, Vadlamudi	24.09.12	9.2	27.03.13	9.1
4	Sri Durga Fly Ash Brick Industry	AP/GTR/III/6	Department of Technical Education Govt. Polytechnic, Vijayawada	21.09.12	8.1	11.03.13	7.9
5	Sri Venkata Triveni Fly Ash Brick Industry	AP/GTR/III/7	Department of Technical Education Govt. Polytechnic, Vijayawada	18.09.12	7.3	11.03.13	7.6
6	Sri Sai Raghava Fly Ash Brick Industries	AP/KRIS/III/8	Department of Technical Education Govt. Polytechnic, Vijayawada	21.09.12	7.9	21.03.13	7.6
7	Sri Sai Bhargava Fly Ash Brick Industries	AP/KRIS/III/9	Department of Technical Education Govt Polytechnic., Vijayawada	21.09.12	7.7	20.03.13	7.5
8	Sri Sai Siva Brick Products	AP/KRIS/III/10	Department of Technical Education Govt Polytechnic., Vijayawada	21.09.12	6.9	11.03.13	7.1
9	Sri Sai Tulasi Brick Products	AP/KRIS/III/11	Department of Technical Education Govt. Polytechnic, Vijayawada	24.09.12	7.0	11.03.13	7.9
10	Sri Venkateswara Fly Ash Products	AP/KRIS/III/12	Department of Technical Education Govt Polytechnic., Vijayawada	21.09.12	7.8	12.03.13	7.0
11	Sri Sai Baba Fly Ash Products	AP/KRIS/III/13	Department of Technical Education Govt. Polytechnic, Vijayawada	25.09.12	7.7	28.03.13	7.8
12	Gayatri Brick Products	AP/KRIS/III/14	Department of Technical Education Govt. Polytechnic, Vijayawada	21.09.12	7.9	12.03.13	7.4
13	Sai Build Products	AP/KRIS/III/15	Department of Technical Education Govt. Polytechnic, Vijayawada	22.09.12	6.0	12.03.13	4.5
14	Sri Venkata Sai Fly Ash Products	AP/KRIS/III/17	Department of Technical Education Govt. Polytechnic, Vijayawada	24.09.12	8.1	No Production	-
15	Sri Sai Fly ash Products	AP/KRIS/III/18	Department of Technical Education Govt. Polytechnic, Vijayawada	25.09.12	7.9	28.03.13	7.6

Table 5(a) contd…

S. No	Unit Name	Unit ID	Test Conducted by	1st Term		2nd Term	
				Date of Testing	Strength,MPa	Date of Testing	Strength,MPa
16	Sri Venkata Ramana Fly Ash Products	AP/KRIS/III/19	Department of Technical Education Govt. Polytechnic, Vijayawada	24.09.12	7.8	28.03.13	7.6
17	Sri Sai Krishna Fly ash Products	AP/KRIS/III/20	Department of Technical Education Govt. Polytechnic, Vijayawada	24.09.12	7.5	No Production	-
18	Suneetha Fly Ash Products	AP/KRIS/III/21	Department of Technical Education Govt. Polytechnic, Vijayawada	24.09.12	7.8	28.03.13	7.4
19	Sri Vasavi Fly Ash Concrete Pavers	AP/WG/III/22	SRR Engg college, Bhimavaram	17.09.12	9.1	-	-
			Swarnandhra Engineering College, Narsapur.	-	-	20.03.13	9.1
20	Sri Kanaka Durga Hydraulic FaL-G Brick Industry	AP/WG/III/23	SRR Engg college, Bhimavaram	17.09.12	10.4	-	-
			Swarnandhra Engineering College, Narsapur.	-	-	20.03.13	8.8
21	Sri Kanaka Durga FaL-G & Cement Works	AP/WG/III/24	SRR Engg college, Bhimavaram	17.09.12	9.2	-	
			Swarnandhra Engineering College, Narsapur.	-		20.03.13	8.9
22	Simhadri FaL-G Products	AP/VSP/III/26	INSWAREB Building Centre, Visakhapatman	20.09.12	12.9	25.03.13	7.8
23	Mayuri Industries	AP/VZM/III/32	M.R.A.G.R Govt Polytechnic-Vizianagaram.	30.11.12	6.6	-	-
24	M.K Brick Industries	AP/SKLM/III/34	Shiva Rama Krishna college of Engineering & Technology	28.09.12	6.8	29.03.13	6.8
25	Hari Eco Building Materials	TN/SLM/III/36	Department of Technical Education Tamil nadu Govt.College of Engg, Salem	27.09.12	12.8	-	-
26			INSWAREB Building Centre, Visakhapatnam	-	-	18.04.13	14.1
27	Bansal Retreaders	CG/RAIP/III/40	Office of the Assistant Research officer Quality Control sub unit, Jerwe	06.09.12	6.6	-	-
			Thakare Consultancy Services Pvt.Ltd	-	-	21.03.13	7.5
28	Alok Bricks	CG/RAIP/III/41	Marshal Geo Test Loboratory	12.09.12	7.3	08.03.13	6.8

Table 5(b) – Strengths and Testing details of product from SPEs of B-3 – 2013-14							
				1st Term		2nd Term	
S.No	Unit Name	Unit ID	Test Conducted by	Date of Testing	Strength ,MPa	Date of Testing	Strength ,MPa
1	Sri Lakshmi Fly Ash Brick Industry	AP/NGD/III/3	Government Engg and Polytechnic College Department of Technical Education , Khammam	25.09.13	11.4	30.03.14	11.8
2	Sri Hiranmai Bricks	AP/WRG/III/4	Industrial Consultancy Cell, Warangal	06.11.13	9.0	28.03.14	7.0
3	Sri Lakshmi Venkateswara FaL-G Brick Industry	AP/GTR/III/5	Vignan University, Vadlamudi	No Production	-	25.03.14	8.8
4	Sri Durga Fly Ash Brick Industry	AP/GTR/III/6	Department of Technical Education Govt. Polytechnic, Vijayawada	30.09.13	7.6	27.03.14	7.8
5	Sri Venkata Triveni Fly Ash Brick Industry	AP/GTR/III/7	Department of Technical Education Govt. Polytechnic, Vijayawada	30.09.13	7.9	27.03.14	7.7
6	Sri Sai Raghava Fly Ash Brick Industries	AP/KRIS/III/8	Department of Technical Education Govt. Polytechnic, Vijayawada	22.09.13	8.1	21.03.14	7.9
7	Sri Sai Bhargava Fly Ash Brick Industries	AP/KRIS/III/9	Department of Technical Education Govt Polytechnic., Vijayawada	22.09.13	7.7	21.03.14	7.9
8	Sri Sai Siva Brick Products	AP/KRIS/III/10	Department of Technical Education Govt Polytechnic., Vijayawada	21.09.13	7.5	13.03.14	7.7
9	Sri Sai Tulasi Brick Products	AP/KRIS/III/11	Department of Technical Education Govt. Polytechnic, Vijayawada	21.09.13	8.0	14.03.14	7.7
10	Sri Venkateswara Fly Ash Products	AP/KRIS/III/12	Department of Technical Education Govt Polytechnic., Vijayawada	21.09.13	7.2	13.03.14	7.5
11	Sri Sai Baba Fly Ash Products	AP/KRIS/III/13	Department of Technical Education Govt. Polytechnic, Vijayawada	28.09.13	7.8	18.03.14	7.9
12	Gayatri Brick Products	AP/KRIS/III/14	Department of Technical Education Govt. Polytechnic, Vijayawada	21.09.13	8.0	14.03.14	7.9
13	Sai Build Products	AP/KRIS/III/15	Department of Technical Education Govt. Polytechnic, Vijayawada	23.09.13	4.2	21.03.14	4.5
14	Sri Venkata Sai Fly Ash Products	AP/KRIS/III/17	Department of Technical Education Govt. Polytechnic, Vijayawada	28.09.13	7.7	14.03.14	7.7
15	Sri Sai Fly ash Products	AP/KRIS/III/18	Department of Technical Education Govt. Polytechnic, Vijayawada	28.09.13	7.7	18.03.14	7.7
16	Sri Venkata Ramana Fly Ash Products	AP/KRIS/III/19	Department of Technical Education Govt. Polytechnic, Vijayawada	28.09.13	7.6	18.03.14	7.8

Table 5 (b) contd….

17	Suneetha Fly Ash Products	AP/KRIS/III/21	Department of Technical Education Govt. Polytechnic, Vijayawada	28.09.13	7.7	No Production	-
18	Sri Vasavi Fly Ash Concrete Pavers	AP/WG/III/22	Swarnandhra Engineering College, Narsapur	19.09.13	8.9	04.02.14	8.7
19	Sri Kanaka Durga Hydraulic FaL-G Brick Industry	AP/WG/III/23	Swarnandhra Engineering College, Narsapur	19.09.13	8.8	07.03.14	8.8
20	Sri Kanaka Durga FaL-G & Cement Works	AP/WG/III/24	Swarnandhra Engineering College, Narsapur.	No Production	-	07.03.14	8.7
21	Simhadri FaL-G Products	AP/VSP/III/26	INSWAREB Building Centre, Visakhapatnam	21.10.13	10.4	12.04.14	10.6
22	M.K Brick Industries	AP/SKLM/III/34	Shiva Rama Krishna college of Engineering & Technology	30.09.13	6.9	27.03.14	6.7
23	Mass Bricks	TN/SLM/III/37	Department of Technical Education Govt. Engg college, SALAM	24.09.13	11.4	-	-
24	Bansal Retreaders	CG/RAIP/III/40	Thakare Consultancy Services Pvt.Ltd	10.08.13	6.5	03.02.14	7.6
25	Alok Bricks	CG/RAIP/III/41	Marshal Geo Test Laboratory	24.09.13	6.7	18.03.14	6.2

- - - - -

Document information

Version	*Date*	*Description*
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net anthropogenic GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01	28 May 2010	EB 54, Annex 34. Initial adoption.

Decision Class: Regulatory
Document Type: Form
Business Function: issuance
Keywords: monitoring report, performance monitoring