**PROJECT DESIGN DOCUMENT FORM
FOR SMALL-SCALE CDM PROJECT ACTIVITIES (F-CDM-SSC-PDD)
Version 04.1**

PROJECT DESIGN DOCUMENT (PDD)

Title of the project activity	Melting Furnace Modification at Nkana
Version number of the PDD	01
Completion date of the PDD	21/11/2012
Project participant(s)	Konkola Copper Mines PLC
Host Party(ies)	Zambia
Sectoral scope(s) and selected methodology(ies)	04 Manufacturing Industries, AMS II D, Energy Efficiency and fuel switching measures for industrial facilities (Version 12.0)
Estimated amount of annual average GHG emission reductions	15213

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

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Konkola Copper mines PLC (KCM hereafter the project proponent (PP)) is a subsidiary of Vedanta Resources is having mining operations in India, Australia, Namibia, South Africa, Ireland and Zambia. KCM is involved in the production of copper cathode, cobalt pyrites and sulphuric acid.

Project Scenario:

In the effort to contribute towards the global efforts for combating climate change, KCM is developing a new screap melting furnace which will replace/displace the use of existing scrap melting furnace. With the implementation of the project activity the specific fuel consumption of the project activity will be reduced from the existing 182.5 kg of HFO/tonnes of scrap to 80 kg of HFO/tonnes of scrap . The adopted new technology for the process is more environmental friendly which will result in the savings of Heavy fuel oil (HFO) used for heating the charged scrap in furnace. This ultimately will lead to energy efficiency improvements and associated GHG emissions reduction because of implementation of the project activity.

A.2. Location of project activity

A.2.1. Host Party(ies)

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Zambia

A.2.2. Region/State/Province etc.

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Copper belt province

A.2.3. City/Town/Community etc.

>>

Kashamata

A.2.4. Physical/ Geographical location

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Latitude : 12^{o} 31’ 27’’ S
Longitude : 27^{o} 31’ 01’’ E

A.3. Technologies and/or measures

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In the pre-project scenario, KCM used to manufacture the copper anodes by means of batch process in which copper scraps are heated by means of Heavy fuel oil in anode furnace. This process was highly inefficient due to their higher energy utilization for smelting operations from Heavy Fuel Oil (HFO).

The proposed project activity involves installation of new furnace in which operates in a continuous mode of scrap treatment which is regarded to be one of the most environmental friendly alternatives.

With the implementation of the project, this will result in reduction in the specific fuel consumption from 182,5 to 80 kg/ton of scrap.

A.4. Parties and project participants

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)
Zambia (host)	Konkola Copper Mines PLC – Public Entity	No

A.5. Public funding of project activity

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Public Funding from Annex I countries is not involved in this project.

A.6. De-bundling for project activity

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As mentioned in the *Appendix C of the Simplified Modalities and Procedures for Small-Scale CDM project Activities*, the following results into debundling or fragmentation of large CDM project activity into smaller parts:

"A proposed small-scale project activity shall be deemed to be a debundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity:

- With the same project participants;
- In the same project category and technology/measure; and
- Registered within the previous 2 years; and
- Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point."

Subject to the above mentioned conditions Konkola Copper Mines PLC has not implemented any CDM project prior to this smelter modification in the last two years. Also there is no CDM project activity in the vicinity or within 1 km of the project boundary. Hence the proposed project activity is not a de-bundled component of any larger project activity as there is no other small-scale project activity fulfilling the above mentioned criteria.

SECTION B. Application of selected approved baseline and monitoring methodology

B.1. Reference of methodology

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The implemented project activity falls under

Type II - Energy efficiency improvement projects

Category – AMS – II D – "Energy efficiency and fuel switching measures for industrial facilities"

Version 12.0 valid from 18th December 2009.

Sectoral Scope – IV

B.2. Project activity eligibility

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The proposed project activity involves the replacement of old scrap melting furnace with a new one. The applicability of the project activity for the implemented methodology is detailed in the table mentioned here with.

S.No,	Technology /Measure as per AMS II.D/version 12	Measure of project activity
1.	This category comprises any energy efficiency and fuel switching measures implemented at a single or several industrial or mining and mineral production facility(ies). This catergory covers project activities aimed primarily at energy efficiency. Examples include energy efficiency measures (such as efficient motors), fuel switching measures (such as switching from steam or compressed air to electricity) and efficiency measures for specific industrial or mining and mineral production processes (such as steel furnaces, paper drying, tobacco curing, etc.)	The implemented project activity is an energy efficiency project implemented at mining and mineral production facility. This involves installation of new scrap furnace which will be more energy efficient.
2.	The measures may replace, modify or retrofit existing facilities or be installed in a new facility	The project activity will replace existing facility .
3.	This category is applicable to project activities where it is possible to directly measure and record the energy use within the project boundary e.g., electricity and/or fossil fuel consumption).	The energy utilization for the project activity can be directly measured with in the project boundary.
4.	This category is applicable to project activities where the impact of the measures implemented (improvements in energy efficiency) by the project activity can be clearly distinguished from changes in energy use due to other variables not influenced by the project activity (signal to noise ratio).	The replacement of scrap melting furnace operated in a batch mode with that of continuous one can be distinguished by reduction in HFO used for melting the scrap.
5.	The aggregate energy savings of a single project (inclusive of a single facility or several facilities) may not exceed the equivalent of 60 GWh_e per year. A total saving of 60 GWh_e per year is equivalent to a maximal saving of 180 GWh_{th} per year in fuel input.	The calculated aggregate energy savings for the project activity is around 18.21 GWh_e which is well with in the limits of 60 GWh_e, as specified by the methodology.

B.3. Project boundary

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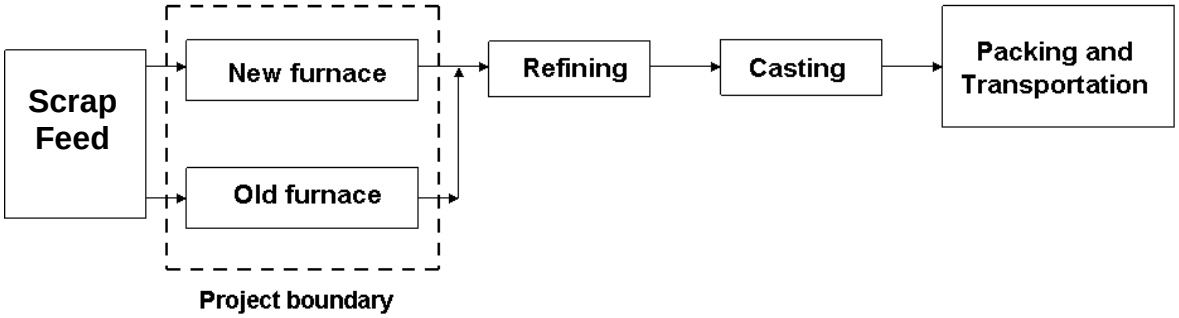
The project boundary involves the physical geographical site of the facility / equipment directly affected by the project activity. The new furnace installed as a part of the project activity along with the old furnace which will be kept on cold standby on the commissioning of new furnace. The project boundary is shown below



B.4. Establishment and description of baseline scenario

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As per the paragraph 7 of AMS II D version 12, project baseline is

In the case of replacement, modification or retrofit measures, the baseline consists of the energy baseline of the existing facility or sub-system that is replaced, modified or retrofitted. In the case of project activities involving several facilities, the baseline needs to be established separately for each site. In the case of project activities involving multiple energy efficiency measures at individual facilities, the interaction between the measures should be taken into consideration when establishing the baseline.

The baseline scenario for the project activity involves the energy consumption in the existing batch scrap melting furnace which is in use prior to the installation of continuous scrap melting furnace. The main sources for energy consumption for the batch type scrap melting furnace in the baseline scenario involves HFO consumptions used for melting the scrap.

In the absence of the CDM project activity, the existing facility (ies) would continue to consume energy (EC_{BL} in GWh/year) at historical average levels (EC_{HY} in GWh/year), until the time at which the industrial or mining and mineral production facility(ies) would be likely to be replaced, modified or retrofitted in the absence of the CDM project activity ($DATE_{BaselineRetrofit}$). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and baseline energy consumption (EC_{BL}) is assumed to equal project energy consumption ($EC_{PJ,y}$ in GWh/year), and no emission reductions are assumed to occur.

$EC_{BL} = EC_{HY}$ until $DATE_{BaselineRetrofit}$

$EC_{BL} = EC_{PJ,y}$ on/after $DATE_{BaselineRetrofit}$

In order to estimate the point in time when the existing equipment would need to be replaced in the absence of the project activity ($DATE_{BaselineRetrofit}$), project participants may take the following approaches into account:

(a) The typical average technical lifetime of the equipment type may be determined and documented, taking into account common practices in the sector and country, e.g. based on industry surveys, statistics, technical literature, etc.

(b) The common practices of the responsible industry regarding replacement schedules may be evaluated and documented, e.g. based on historical replacement records for similar equipment. The point in time when the existing equipment would need to be replaced in the absence of the project activity should be chosen in a conservative manner, i.e. if a range is identified, the earliest date should be chosen.

Baseline emissions

Each energy form in the emission baseline is multiplied by an emission coefficient (in kg CO_2e/kWh). For fossil fuels, the IPCC default values for emission coefficients may be used. The baseline emissions have been calculated considering the consumption data of melted scrap and the corresponding usage of HFO in the furnace.

$SFC_{HFO,BL} = HFO_{BL} / SC_{BL}$
$SFC_{HFO,BL}$ = Specific fuel consumption in the baseline scenario for the HFO. (TJ/tonnes)
HFO_{BL} = HFO heat input in baseline scenario. (TJ)
SC_{BL} = Scrap Quantity used in the furnaces in the baseline scenario. (tonnes)
Where:
$HFO_{BL} = HFO_{Q,BL} \times NCV_{HFO,BL}$
$HFO_{Q,BL}$ = HFO quantity consumed in baseline scenario (tonnes)
$NCV_{HFO,BL}$= NCV of HFO in TJ/tonnes in the baseline

$SFC_{HFO,PA} = HFO_{PA} / SC_{PA}$
$SFC_{HFO,PA}$ = Specific fuel consumption in the project activity for the HFO. (TJ/tonnes)
HFO_{PA} = HFO heat input in project activity (TJ)
SC_{PA} = Scrap Quantity that will be used in the project activity (tonnes)
Where:
$HFO_{PA} = HFO_{Q,PA} \times NCV_{HFO,PA}$
$HFO_{Q,PA}$ = HFO quantity consumed in the project activity (tonnes)
$NCV_{HFO,PA}$= NCV of HFO in TJ/tonnes in project activity

$BE_Y = (SFC_{HFO,BL} - SFC_{HFO,PA}) \times SC_{PA} \times EF_{HFO}$
BE_Y = Total Baseline emissions (tCO_2) per annum.
EF_{HFO} = Emission factor of HFO in tCO_2/TJ

B.5. Demonstration of additionality

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As per paragraph 3 of "Guidelines for demonstrating additionality of microscale project activities (EB 68, annex 26),

"Energy efficiency project activities that aim to achieve energy savings at a scale of no more than 20 gigawatt hours per year are additional if any one of the conditions below is satisfied:
(a) The geographic location of the project activity is in an LDC/SIDS or special underdeveloped zone of the host country identified by the government in accordance with the paragraph 2 (a) (i)
(b) The project activity is an energy efficiency activity with both conditions (i) and (ii) below satisfied:
(i) Each of the independent subsystems/measures in the project activity achieves an estimated annual energy savings equal to or smaller than 600 megawatt hours;
(ii) End users of the subsystems or measures are households/communities/SMEs."

The project activity is located in Zambia which is an LDC country and the energy savings from the project activity per annum is 18.21 GWh which is less than the threshold limit of 20 GWh per annum. Hence the project activity is additional.

As per the EB's Guidance on Demonstration and assessment of the prior consideration of the CDM the following table indicates the events taken up by the PP to indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation.

Timeline

Date	Project Implementation	Actions for acquiring CDM	Supporting document
11/07/2011	Purchase order for the Scrap melting furnace was placed from KCM		P.O Copy
17/12/2011		Appointment of Core CarbonX Solutions Pvt Ltd for providing the CDM consultancy services for the project activity	Copy of the contract
23/12/2011		Submission of Prior Consideration of the CDM form to submit the notification of the commencement of the project activity and the intention to seek CDM status to UNFCCC.	Copy of the Prior consideration form.
29/12/2011		Submission of Prior Consideration of the CDM form to submit the notification of the commencement of the project activity and the intention to seek CDM status to DNA, Zambia.	Copy of the Prior Consideration form.

B.6. Emission reductions

B.6.1. Explanation of methodological choices

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Baseline emissions

Each energy form in the emission baseline is multiplied by an emission coefficient (in kg CO_2e/kWh). For fossil fuels, the IPCC default values for emission coefficients may be used. The baseline emissions have been calculated considering the consumption data of melted scrap and the corresponding usage of HFO in the furnace.

$SFC_{HFO,BL} = HFO_{BL} / SC_{BL}$
$SFC_{HFO,BL}$ = Specific fuel consumption in the baseline scenario for the HFO. (TJ/tonnes)
HFO_{BL} = HFO heat input in baseline scenario. (TJ)
SC_{BL} = Scrap Quantity used in the furnaces in the baseline scenario. (tonnes)
Where:
$HFO_{BL} = HFO_{Q,BL} \times NCV_{HFO,BL}$
$HFO_{Q,BL}$ = HFO quantity consumed in baseline scenario (tonnes)
$NCV_{HFO,BL}$= NCV of HFO in TJ/tonnes in the baseline

$SFC_{HFO,PA} = HFO_{PA} / SC_{PA}$
$SFC_{HFO,PA}$ = Specific fuel consumption in the project activity for the HFO. (TJ/tonnes)
HFO_{PA} = HFO heat input in project activity (TJ)
SC_{PA} = Scrap Quantity that will be used in the project activity (tonnes)
Where:

HFO_{PA} = $HFO_{Q,PA}$× $NCV_{HFO,PA}$
$HFO_{Q,PA}$ = HFO quantity consumed in the project activity (tonnes)
$NCV_{HFO,PA}$= NCV of HFO in TJ/tonnes in project activity

BE_Y = $(SFC_{HFO,BL}- SFC_{HFO,PA}) \times SC_{PA} \times EF_{HFO}$
BE_Y = Total Baseline emissions (tCO_2) per annum.
$EF_{HF O}$ = Emission factor of HFO in tCO_2/TJ
Leakage:0

B.6.2. Data and parameters fixed ex ante

(Copy this table for each piece of data and parameter.)

Data / Parameter	$SC_{,BL}$
Unit	Tonnes
Description	Scrap Quantity used in the furnaces in the baseline scenario
Source of data	Plant data
Value(s) applied	36487.5
Choice of data or Measurement methods and procedures	The data is stored at the facility.
Purpose of data	The data is used for the calculation of Baseline emission of the project activity.
Additional comment	

Data / Parameter	$HFO_{Q,BL}$
Unit	tonnes
Description	HFO quantity consumed in the baseline scenario.
Source of data	Plant data
Value(s) applied	6659.5
Choice of data or Measurement methods and procedures	The data is stored at the facility.
Purpose of data	The data is used for the calculation of Baseline emission of the project activity.
Additional comment	

Data / Parameter	$NCV_{HFO,BL}$
Unit	cal/g
Description	Net Calorific Value of Heavy Fuel Oil in Baseline Scenario
Source of data	Plant data
Value(s) applied	10602.77
Choice of data or Measurement methods and procedures	The data is considered from third party.
Purpose of data	The data is used for the calculation of Baseline emission of the project activity.
Additional comment	

Data / Parameter	EF_{HFO}
Unit	tCO_2e/TJ
Description	Emission factor of Heavy Fuel Oil
Source of data	IPCC Default Value, Table 1.4, Chapter 1, Volume 2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Value(s) applied	77.4
Choice of data or Measurement methods and procedures	The value for the emission factor of heavy fuel oil is obtained from IPCC guidelines for National Greenhouse Gas Inventories.
Purpose of data	The data is used for the calculation of Baseline emission of the project activity.
Additional comment	

B.6.3. Ex-ante calculation of emission reductions

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Baseline emissions for the anode produced with its corresponding HFO consumption is calculated for the year 2 years.

$SFC_{HFO,BL} = HFO_{BL} / SC_{BL}$	0.008100579
$SFC_{HFO,BL}$ = Specific fuel consumption in the baseline scenario for the HFO. (TJ/tonnes)	0.008100579
HFO_{BL} = HFO heat input in baseline scenario. (TJ)	295.5698886
SC_{BL} = Scrap Quantity used in the furnaces in the baseline scenario. (tonnes)	36487.5
Where:	
$HFO_{BL} = HFO_{Q.BL} \times NCV_{HFO,BL}$	295.5698886
$HFO_{Q,BL}$ = HFO quantity consumed in baseline scenario (tonnes)	6659.5
$NCV_{HFO,BL}$= NCV of HFO in TJ/tonnes in the baseline	0.044383195

$SFC_{HFO,PA} = HFO_{PA} / SC_{PA}$	0.003550656
$SFC_{HFO,PA}$ = Specific fuel consumption in the project activity for the HFO. (TJ/tonnes)	0.003550656
HFO_{PA} = HFO heat input in project activity (TJ)	153.3883227
SC_{PA} = Scrap Quantity that will be used in the project activity (tonnes)	43200
Where:	
$HFO_{PA} = HFO_{Q,PA} \times NCV_{HFO,PA}$	153.3883227
$HFO_{Q,PA}$ = HFO quantity consumed in the project activity (tonnes)	3456
$NCV_{HFO,PA}$= NCV of HFO in TJ/tonnes in project activity	0.044383195

$BE_Y = (SFC_{HFO,BL} - SFC_{HFO,PA}) \times SC_{PA} \times EF_{HFO}$	15213.48894
BE_Y	15213.48894
$EF_{HF O}$ = Emission factor of HFO in tCO_2/TJ	77.4

Leakage Emissions

In accordance with methodology AMS II.D, Paragraph No. 11 leakage is to be considered only if the energy generating equipment is transferred from another activity.
This is not applicable here so $LE_y = 0$

Hence,
$ER_y = BE_y – LE_y = 15213\ tCO_2e$

B.6.4. Summary of ex-ante estimates of emission reductions

Year	Baseline emissions (tCO_2 e)	Project emissions (tCO_2 e)	Leakage (tCO_2 e)	Emission reductions (tCO_2 e)
2012 – 2013	15213	0	0	15213
2013 – 2014	15213	0	0	15213
2014 – 2015	15213	0	0	15213
2015 – 2016	15213	0	0	15213
2016 – 2017	15213	0	0	15213
2017 – 2018	15213	0	0	15213
2018 – 2019	15213	0	0	15213
2019 – 2020	15213	0	0	15213
2020 – 2021	15213	0	0	15213
2021 – 2022	15213	0	0	15213
Total	**152130**	**0**	**0**	**152130**
Total number of crediting years	10			
Annual average over the crediting period	15213	0	0	15213

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

(Copy this table for each data and parameter.)

Data / Parameter	$HFO_{Q,PA}$
Unit	tonne / year
Description	HFO quantity consumed in project activity
Source of data	Plant Data.
Value(s) applied	-
Measurement methods and procedures	
Monitoring frequency	Yearly
QA/QC procedures	
Purpose of data	The HFO consumption in the used for estimation total GHG emissions incurred due to its consumption.
Additional comment	

Data / Parameter	SC_{PA}
Unit	tonne/year
Description	Scrap Quantity that will be used in the project activity (tonnes)
Source of data	Data from the log book
Value(s) applied	432000
Measurement methods and procedures	The scrap will be weighted by means of weigh bridge which is noted down in daily log book.
Monitoring frequency	It will be determined for on daily basis.
QA/QC procedures	
Purpose of data	The amount of scrap used for the project activity is used for estimation of total GHG emissions
Additional comment	

Data / Parameter	$NCV_{HFO,PA}$
Unit	cal/g
Description	Net Calorific Value of Heavy Fuel Oil in project activity
Source of data	Plant Data.
Value(s) applied	-
Measurement methods and procedures	The data is considered from third party.
Monitoring frequency	
QA/QC procedures	
Purpose of data	The HFO consumption in the used for estimation total GHG emissions incurred due to its consumption.
Additional comment	

B.7.2. Sampling plan

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Not applicable

B.7.3. Other elements of monitoring plan

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The project activity is operated and managed by the project proponent as per the procedures defined in the Quality Management system and hence will follow internal QA/QC procedures. A monitoring plan has been prepared here in, the emergency preparedness plan will become an integral part of the project Management Programmes and would be constituent of operational and management structure of this Quality Management System (QMS).

A separate project management team is in place for supervising the functioning of normal project activities. This is coordinated by Project Executor and Head (General Manager) mainly responsible for checking the consistency with monitored parameters. The well maintained diversified procedure for collection of data and its analysis at various levels for subsequent corrective actions as when required in line indicates effectiveness of implemented quality management system.

- The project team has been entrusted with the responsibility of storing, recording the data related to the project activity. The project team is also responsible in calculating actual emission reduction in the most transparent and relevant manner.

- Inspection and record of daily checklist of critical parameters of project activity is maintained. The maintenance staff's accesses the condition of all the equipments relating to the project activity and takes a suitable action if required.

- Installed meters are calibrated according to the calibration schedule programmed at the start of the operation and recalibrated annually before the due date.

- All the monitoring data is stored /will be recorded and kept under safe custody of the Project Executor and Head for a period of crediting period (10 years fixed crediting period) + 2 years.

- The Instrumentation and the control system for the project activity are designed with adequate instruments to control and monitor the various operating parameters for safe and efficient operations. All the instruments are of reputed make and are calibrated at regular intervals.

Training Protocol:

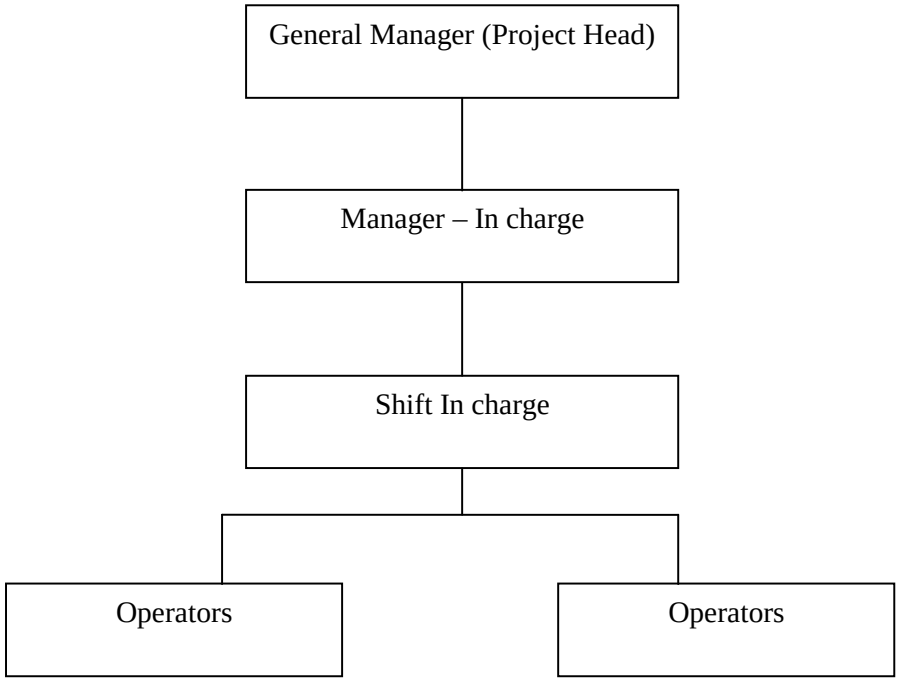
Training will be imparted subsequent to the installation of steam heater for the Shift In charge, Manager and General Manager. Internal audits will be performed every 6 months by the audit team comprising of the Manager (Utilities) and the Shift In-charge. The audit will be performed with respect to the following points:

- Are the monitoring of the parameters done in line with the CDM PDD.
- Is the recording done properly?
- Are the equipments calibrated and maintained as per the schedule.
- Are any corrective actions to be taken?

Whenever a new employee is involved in the CDM team the Manager (In charge) will provide the training with regard to the CDM procedures.

Any change with in the project boundary such as change in equipments will be recorded and change in emission reduction due to such alterations will be studied and recorded.

PROJECT TEAM



SECTION C. Duration and crediting period
C.1. Duration of project activity
C.1.1. Start date of project activity
>>
11/07/2011

C.1.2. Expected operational lifetime of project activity
>>
20 years

C.2. Crediting period of project activity
C.2.1. Type of crediting period
>>
Fixed Crediting period

C.2.2. Start date of crediting period
>>

01/04/2013

C.2.3. Length of crediting period
>>
10 years 00 months

SECTION D. Environmental impacts

D.1. Analysis of environmental impacts

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The propose project activity does not result in any significant adverse environmental impacts. The project activity is considered to be environmentally friendly as it reduces the HFO consumption due to the replacement old furnace which was operating in a batch mode with a new furnace which will be operating continuously. The project activity thus reduces the greenhouse gas emissions associated with the HFO consumptions by the new furnace.

SECTION E. Local stakeholder consultation

E.1. Solicitation of comments from local stakeholders

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The local stakeholder consultation meeting for the project activity was conducted at Rokana Basic school, Kitwe on 6th July 2012 at 14:30 hours.

Mr. Edward Zulu welcomed the guests and introduced the KCM CDM consultant team comprising Mr. Niroj Mohanty and Sandeep Kota.

A presentation on the identified opportunities on the clean development mechanism projects was done by Mr. Sandeep Kota. He described about the scientific aspects of global warming and climate change and the importance of clean development mechanism in this respect. He also added the initiatives taken up by United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto protocol. The technical aspects of the CDM proejct activity at Nkana were also explained.

Mr. Gift Kalumbu, Nkana Ward Counsellor was elected unanimously as the chairman of the meeting and was asked by Mr. Edward Zulu to carry forward with the meeting.

The chairman highlighted the community's concern regarding the environmental safety and the need for the surrounding industries to include environmental protection measures in their operations. He also mentioned the community's concern about 'scenta' emissions that came from industrial activities (scenta is a term referring to visible smoke emissions.

Mr. Frank Siatwinda on behalf of the Kitwe District commissioner expressed the government's happiness at the KCM's initiative to undertake the measures that will add towards safeguarding the environment in the current scenario of global warming and climate change. He also expressed his gratitude that KCM is currently engaging stakeholders in quest of the environmental equity He also added that KCM is taking future of earth as a matter of pro-active intervention and expressed his satisfaction in creating working relationships in these undertakings. He mentioned that this will pave the way for implementing environment friendly technologies.

Mr. Edward Zulu proposed the vote of thanks and concluded the meeting.

E.2. Summary of comments received

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Question 1: Elizabeth Mudenda (Rokana Basic School Grade 6 pupil): What is the effect of 'scenta'?
Answer 1; Mr. Wilson Miti, clarified about scenta, as a term referring to visible 'smoke' emissions of SO_2 from the surrounding plants.

Answer 2; Mr. Mwaiba Mundiya, Acting Superintendant, KCM Nkana Anode Section, elaborated on the strides which KCM has made in installing new more energy efficient technologies such as the New Nkana Anode melting furnace from reduced fossil fuel consumption. He mentioned that these efforts are aimed at reducing all associated emissions at KCM Nkana.

Question 2: Anita Makuba (Grade 6 pupil): What is the effect of greenhouse gases on trees?
Answer: Mr. Sandeep Kota: He clarified the same by citing the photosynthesis mechanism.

Question 3: Ms Caroline Phiri (Primary School Teacher, Rokana Basic): What is KCM doing to tackle GHG emissions?
Answer 1: Mr. Sandeep Kota: KCM has embarked on ambitious program to reduce consumption of fossil fuels by installing energy efficient technologies which are going to result into reduction of greenhouse gases.
Answer 2: Mrs Glenda Mwandama: Reiterated that KCM is no longer emitting 'scenta' and is working towards reducing emissions of GHGs by way of increasing extent of installing better energy efficient technologies. She cited example of the Nchanga Smelter at Chingola as one such installation that has lower emissions, and captures all the scenta (SO_2) for production of sulphuric acid. She further explained that KCM is zeroing-in on the remnants of Nkana Smelter to reduce emissions, example of shift from Furnaces 4 and 5 that have been in operation since decommisssioning of the old smelter, to the new scrap melting furnace was cited.
Answer 3: Mr. Vivek Nigam (Manager New Scrap Melting Furnace): Currently, Furnaces number 4 and 5 are in operation. These are the installations that will be replaced by the new scrap melting furnace that is being undertaken in the CDM context. The technology switch will result into HFO consumption from 150kg/ton of copper processing to 80kg/ton.

Question 4: Mr. Victor Musonda (Resident, Wusakile): How can one differentiate between KCM and Mopani emissions (Mopani is the neighboring plant to KCM)?
Answer 1: Mr. Edward Zulu: The two companies have different agendas and strategies for emission reductions. KCM would like to take the lead, already evident through CDM undertakings that will reduce emissions. KCM Nkana and Mopani are old plants that had inter-linkages in the past under Zambia Consolidated Copper Mines (ZCCM). KCM has taken a lot other activities that will be the company's contribution towards cushioning the phenomena of global warming and climate change, some of which being

- an undertaking to plant one million trees
- a collaborative program with the Zambian government for Joint Forest Management and support for local livelihoods

Answer 2: Chair: CDM is a global undertaking which companies can use as a tool to meet efforts to reduce carbon footprint.

E.3. Report on consideration of comments received
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The assembled stakeholders were provided clarifications on the issues raised by them to their satisfaction. None of the concerns expressed by the stakeholders required an action to be taken by the PP during the project operation and at any other stage.

SECTION F. Approval and authorization

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Letter of approval from the party for the Project activity will be provided to the DOE at the time of request for registration of the given project activity.

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Appendix 1: Contact information of project participants

Organization	Konkola Copper Mines PLC
Street/P.O. Box	Private Bag KCM © 2000
Building	Stand M/1408, Fern Avenue
City	
State/Region	Chingola
Postcode	
Country	Zambia
Telephone	
Fax	
E-mail	
Website	
Contact person	
Title	
Salutation	Mr
Last name	Prabhu
Middle name	
First name	Dhulipala
Department	
Mobile	+260 974 558 564
Direct fax	
Direct tel.	+260 212 350 851
Personal e-mail	dhulipala.prabhu@kcm.co.zm

Appendix 2: Affirmation regarding public funding

Public funding from Annex I countries and diversion of ODA is not involved in this project.

Appendix 3: Applicability of selected methodology

Please refer section B.2

Appendix 4: Further background information on ex ante calculation of emission reductions

Please refer Section B.6.1

Name of the responsible entity in determining the exante emission reduction calculation:

Core CarbonX Solutions Private Limited
6-3-903/A/4/1, Vani Nilayam

Rajbhavan Road, Suryanagar Colony,Somajiguda, Hyderabad –500082, Andhra Pradesh, India,
Landline: +91-40-23413071, +91-9908387772, +91-9963047666 Email:info@corecarbonx.com, www.corecarbonx.com

Appendix 5: Further background information on monitoring plan

Please refer Section B.7.3

Appendix 6: Summary of post registration changes

Not Applicable.

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History of the document

Version	Date	Nature of revision
04.1	11 April 2012	Editorial revision to change history box by adding EB meeting and annex numbers in the Date column.
04.0	EB 66 13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the project design document form for small-scale CDM project activities" (EB 66, Annex 9).
03	EB 28, Annex 34 15 December 2006	• The Board agreed to revise the CDM project design document for small-scale activities (CDM-SSC-PDD), taking into account CDM-PDD and CDM-NM.
02	EB 20, Annex 14 08 July 2005	• The Board agreed to revise the CDM SSC PDD to reflect guidance and clarifications provided by the Board since version 01 of this document. • As a consequence, the guidelines for completing CDM SSC PDD have been revised accordingly to version 2. The latest version can be found at <http://cdm.unfccc.int/Reference/Documents>.
01	EB 07, Annex 05 21 January 2003	Initial adoption.
Decision Class: Regulatory **Document Type:** Form **Business Function:** Registration		