B.7 Application of the monitoring methodology and description of the monitoring plan:

B.7.1 Data and parameters monitored:

(Copy this table for each data and parameter)

Data / Parameter:	$EG_{PJ,y}$
Data unit:	MWh
Description:	the electricity delivered to the grid by the Project
Source of data to be used:	Data in the PDD is obtained from FSR and real data will be obtained based on measurement.
Value of data applied for the purpose of calculating expected emission reductions in section B.5	1,195,723
Description of measurement methods and procedures to be applied:	Measured continuously by ammeters and monthly recording by the project owner.
QA/QC procedures to be applied:	Sales receipts/records to the grid are used to ensure the consistency.
Any comment:	Bi-direction ammeters with precision of 0.2s are employed by the Project, whose reading is net electricity delivered to grid, therefore, there is no need to monitor the auxiliary electricity consumption.

Data / Parameter:	$EF_{BM,y}$
Data unit:	tCO_2/MWh
Description:	build margin emission factor of North China Grid
Source of data used:	Calculated over recently built power plants as defined in the baseline methodology
Value applied:	0.9066
Justification of the choice of data or description of measurement methods and procedures actually applied :	Calculated based on data published by *China Electric Power Yearbook* and *China Energy Statistical Yearbook*, see Annex 3 for details. Update the data with the latest public available edition of *China Electric Power Yearbook* and *China Energy Statistical Yearbook.*
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	$F_{i,m,y}$
Data unit:	mass or volume unit
Description:	total amount of fuel i consumed by province m in year y
Source of data used:	*China Energy Statistical Yearbook* (see Annex 3 for details)
Value applied:	(see Annex 3 for details)
Justification of the choice of data or description of measurement methods and procedures actually applied :	The data obtained from the *China Energy Statistical Yearbook* is reliable. Update the data with the latest public available edition of the *China Energy Statistical Yearbook.*
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	-
Data unit:	MWh
Description:	electricity generated by province m in year y
Source of data used:	*China Power Electric Yearbook* (see Annex 3 for details)
Value applied:	(see Annex 3 for details)
Justification of the choice of data or description of measurement methods and procedures actually applied :	The data obtained from the *China Power Electric Yearbook* is reliable. Update the data with the latest public available edition of the *China Power Electric Yearbook.*
QA/QC procedures to be applied:	-
Any comment:	For calculation of electricity output to the grid by province m in year y.

Data / Parameter:	-
Data unit:	%
Description:	Auxiliary electricity consumption rate of province m in year y
Source of data used:	*China Power Electric Yearbook* (see Annex 3 for details)
Value applied:	(see Annex 3 for details)
Justification of the choice of data or description of measurement methods and procedures actually applied :	The data obtained from the *China Power Electric Yearbook* is reliable. Update the data with the latest public available edition of the *China Power Electric Yearbook.*
QA/QC procedures to be applied:	-
Any comment:	For calculation of electricity output to the grid by province m in year y.

Data / Parameter:	NCV_i
Data unit:	MJ/t or 1000 m^3
Description:	net calorific value of fuel i
Source of data used:	*China Energy Statistical Yearbook* (see Annex 3 for details)
Value applied:	(see Annex 3 for details)
Justification of the choice of data or description of measurement methods and procedures actually applied :	The data obtained from the *China Energy Statistical Yearbook* is reliable. Update the data with the latest public available edition of the *China Energy Statistical Yearbook.*
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	$OXID_i$
Data unit:	%
Description:	oxidation factor of the fuel i
Source of data used:	*Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories: workbook*
Value applied:	99.5% for gas fuel, 99% for liquid fuel and 98% for solid fuel
Justification of the choice of data or description of measurement methods and procedures actually applied :	The data obtained from the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* is reliable. Update the data with the latest public available edition of the *IPCC Guideline for National Greenhouse Gas Inventories.*
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	$EF_{CO2,i}$
Data unit:	tC/TJ
Description:	CO_2 emission factor of the fuel i
Source of data used:	*IPCC Guideline for National Greenhouse Gas Inventories* (see Annex 3 for details)
Value applied:	(see Annex 3 for details)
Justification of the choice of data or description of measurement methods and procedures actually applied :	The data obtained from the *Revised 1996 IPCC Guideline for National Greenhouse Gas Inventories* is reliable. Update the data with the latest public available edition of the *IPCC Guideline for National Greenhouse Gas Inventories*.
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	-
Data unit:	-
Description:	Fuel consumption per kWh electricity supplied to grid of best technology commercially available in China
Source of data used:	Data used in the PDD is obtained from http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File1051.pdf and the data will be updated with latest reliable data source.
Value applied:	(see Annex 3 for details)
Justification of the choice of data or description of measurement methods and procedures actually applied :	The data obtained from the China's DNA is reliable. Update the data with data obtained from the latest reliable data source.
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	$FC_{NG,y}$
Data unit:	Nm^3
Description:	the total volume of natural gas combusted in the project plant in year(s) 'y'
Source of data used:	Data in the PDD is obtained from FSR and real data will be obtained based on measurement.
Value applied:	247,805,250
Justification of the choice of data or description of measurement methods and procedures actually applied :	Measured continuously by natural gas flow meter(s) and daily recording by the project owner.
QA/QC procedures to be applied:	The total volume of natural gas combusted in the project plant in year(s) 'y' will be measured by the natural gas flow meter(s) installed at the Changqing Gas Field, and cross checked against the monitoring results of the natural gas flow meter(s) installed at the Gas Pressure Regulating Station. Precision of the ultrasonic gas flow meter(s) installed at the Gas Pressure Regulation Station is 0.5. Precision of the ultrasonic gas flow meter(s) installed at the Changqing Gas Field is 1.0. The gas flow meter(s) will be maintained and calibrated in accordance with relevant local/national standards or manufacturer specification.
Any comment:	-

Data / Parameter:	$FC_{diesel,y}$
Data unit:	t
Description:	the total volume of diesel combusted in the project plant in year(s) 'y' for backup start off
Source of data used:	Data in the PDD is assumed as zero and real data will be obtained based on measurement.
Value applied:	0
Justification of the choice of data or description of measurement methods and procedures actually applied :	Since the diesel is used as backup fuel for star off, it will be measured continuously by flow meters and monthly recording by the project owner.
QA/QC procedures to be applied:	The total volume of diesel combusted in the project plant in year(s) 'y' will be monitored by flow meter and double checked against the diesel purchase receipts and storage record.
Any comment:	-

Data / Parameter:	$NCV_{NG,y}$
Data unit:	GJ/m^3
Description:	the net calorific value per volume unit of natural gas in year 'y'
Source of data used:	Data in the PDD is obtained from report provided by the natural gas supplier and real data will be obtained from report provided by the natural gas supplier once per two weeks.
Value applied:	0.03542858
Justification of the choice of data or description of measurement methods and procedures actually applied :	HP6890 Gas Chromatogram is adopted by the natural gas supplier to measure the net caloric value of natural gas.
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	$COEF_y$
Data unit:	tCO_2/m^3
Description:	CO_2 emission coefficient of the Project in year 'y'
Source of data used:	Calculated under project activity
Value applied:	-
Justification of the choice of data or description of measurement methods and procedures actually applied :	Annually calculated with $NCV_{f,y}$, $OXID_f$ and $EF_{CO2,f}$.
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	PE_y
Data unit:	tCO_2
Description:	CO_2 emission of the Project in year 'y'
Source of data used:	Calculated under project activity
Value applied:	-
Justification of the choice of data or description of measurement methods and procedures actually applied :	Annually calculated with $FC_{f,y}$ and $COEF_y$.
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	BE_y
Data unit:	tCO_2
Description:	baseline emissions due to displacement of electricity in year 'y'
Source of data used:	Calculated as defined in Section B.6 of the PDD
Value applied:	-
Justification of the choice of data or description of measurement methods and procedures actually applied :	Annually calculated with $EF_{BM,y}$ and $EG_{PJ,y}$.
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	LE_y
Data unit:	tCO_2
Description:	leakage due to fugitive upstream CH_4 emissions in year 'y'
Source of data used:	Calculated as defined in Section B.6 of the PDD
Value applied:	-
Justification of the choice of data or description of measurement methods and procedures actually applied :	Annually calculated.
QA/QC procedures to be applied:	-
Any comment:	-

Data / Parameter:	$EG_{gen,y}$
Data unit:	MWh
Description:	The amount of electricity generated by the Project during year y
Source of data used:	Data in the PDD is obtained from FSR and real data will be obtained based on measurement.
Value applied:	1,225,000
Justification of the choice of data or description of measurement methods and procedures actually applied :	Electricity generation will be measured by the ammeters at the outlet of generators and recorded per month.
QA/QC procedures to be applied:	Cross-checked with fuel consumption of the Project.
Any comment:	Used to calculate the auxiliary electricity consumption of the Project with the amount of electricity supplied to the grid.

Data / Parameter:	φ_{coal}
Data unit:	-
Description:	the share of coal-fired generation in BM generation
Source of data used:	*China Electric Power Yearbook*
Value applied:	0.9888
Justification of the choice of data or description of measurement methods and procedures actually applied :	Estimate based on data published by *China Electric Power Yearbook*, see Annex 3 for details. Update the data with the latest public available edition of the *China Electric Power Yearbook.*
QA/QC procedures to be applied:	-
Any comment:	-

B.7.2 Description of the monitoring plan:

Key content of the monitoring plan for the Project includes monitoring of electricity supplied to the grid, monitoring of baseline emission factor, monitoring of natural gas consumption of the Project, monitoring of net caloric value of natural gas and monitoring of leakage.

1. Management structure

Please refer to Figure 3 for details regarding the management structure of the monitoring plan.

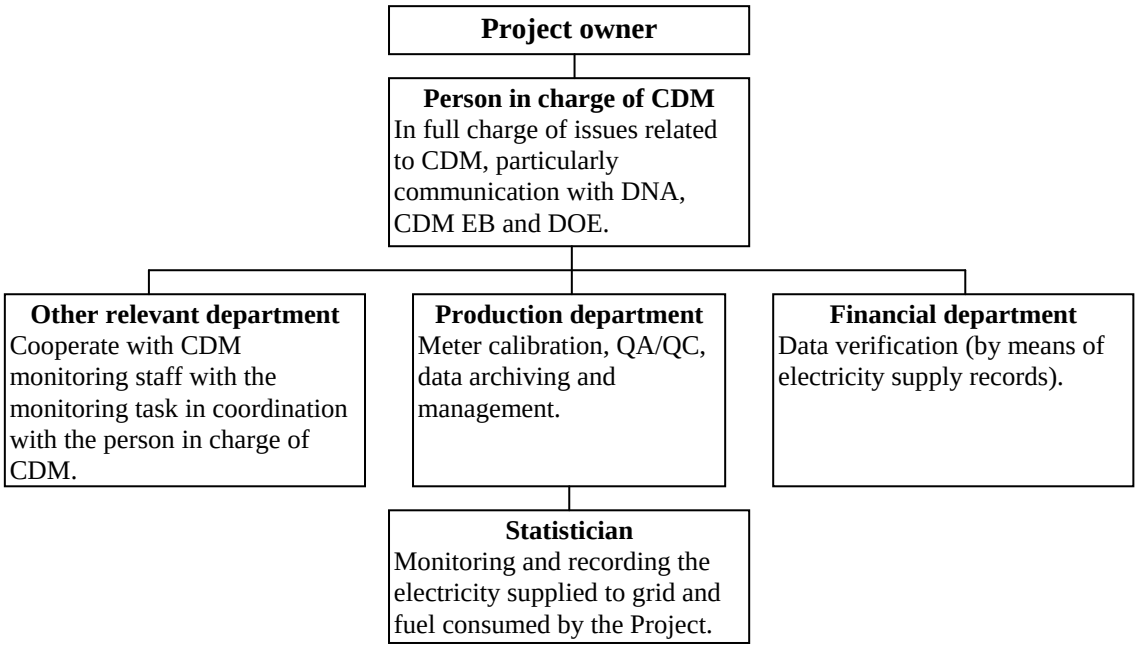

Figure 3. Management Structure of Monitoring Plan

2. Training Plan

The staffs of the Project have been trained in Shenzhen Nanshan Power Station Co., Ltd for 7 month regarding operation and maintenance. Prior to the submission of request for registration, the task of training staff in charge of executing the monitoring plan will be completed, with the training contents including basic concepts and operation modality of CDM, approaches of data monitoring and archiving for CDM projects, quality control and quality assurance of monitoring, and preparation and improvement of key documents of monitoring and verification. Contents and requirements of the training plan should be supplemented, modified and improved according to DOE's requirements.

3. Methods for monitoring

Electricity delivered to the grid by the Project: Electricity delivered to the grid by the Project will be measured by the ammeters installed at the point connecting the Project to the grid system, and cross-checked by the electricity sales receipts provided by the grid into which the Project is connected. The project owner will ensure that reading records of the ammeters are readily available for DOE's verification.

Baseline emission factors: The latest BM emission factor of the North China Grid, made public by China's DNA, is adopted as the baseline emission factors of the Project. If relevant is not available, project participates should calculate based on the latest public statistics.

Consumption of natural gas by the Project: The total volume of natural gas combusted will be measured by natural gas flow meter(s) installed at the Changqing Gas Field, daily recorded and cross-checked by the monitoring results of the natural gas flow meter(s) installed at the Gas Pressure Regulating Station.

NCV of natural gas: supplier of the natural gas for the Project should provide the project plant with the analysis report of caloric value of natural gas at least once per two weeks.

Leakage: as per China Electric Power Yearbook, the most recent 20% new additions to the North China Grid are calculated according to methodology ACM0002; writers of the monitoring report should be in charge of collecting data and determining the standard coal equivalent consumption for power generation using the most advanced commercialized technology and providing the authoritative and reliable sources for DOE's verification.

4. Error disposal procedure

Error disposal procedure for electricity delivered to the grid and natural gas supply will be executed as per stipulations in Power Purchase Agreement, Parallel Operation Agreement and Natural Gas Purchase Agreement.

5. Calibration of Meter(s) & Metering

Calibration of meter(s) & metering should be implemented according to relevant local/national standards or manufacturer specification. And all the records should be documented and maintained by the project owner for DOE's verification.

6. Quality Assurance and Quality Control

The quality assurance and quality control procedures for recording, maintaining and archiving data shall be improved as part of this CDM project activity according to CDM EB rules and real practice. This is an on-going process which will be ensured through the CDM mechanism in terms of the need for verification of the emission reductions on an annual basis according to this PDD.

7. Data Management System

- Specific staff will be appointed by the project owner to take the overall responsibility for monitoring greenhouse gas emission reductions and keeping all the data and information of emission reductions for verification.
- Electronic data and documents, including readings from electric meters connected into the computer central control system, will be regularly copied and archived via optical discs and storage tapes, and kept at least two years after the end of the crediting period.
- Written data and documents, including receipts for cross-checking of data, will be copied and archived with an explanation of the department or company where the original copy is kept, and kept at least two years after the end of the crediting period.