Monitoring Report Sheet (Input Sheet) [For Verification]

Table 1: Parameters monitored *ex post*

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
Monitoring period	Monitoring point No.	Parameters	Description of data	Monitored Values	Units	Monitoring option	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments
06/02/2017 - 31/12/2017	(1)	$EC_{PJ,p}$	Total electricity consumption of project DC during the period *p*	559.2	MWh/p	Option C	monitored data	Measured with an electricity meter(s). Electricity meter readings at the beginning and end of each monitoring period will be documented with photographs showing clearly the meter readings and the date when the meter reading is taken. The meters are installed and managed by the electrical utilities of Lao PDR.	Monitored continuously, recorded at least at the beginning and the end of the monitoring period	N/A
06/02/2017 - 31/12/2017	(2)	$\Sigma EC_{IT,i,p}$	Sum of electricity consumption by IT equipment measured by electricity meters during the period *p*	384.06	MWh/p	Option C	monitored data	Measured with electricity meters. Electricity meter readings at the beginning and end of each monitoring period will be documented with photographs showing clearly the meter readings and the date when the meter reading is taken. Calibration certificates are issued for all 48 meters by Japan Electric Meters Inspection Corporation (JEMIC), and are valid until November 2023.	Monitored continuously, recorded at least at the beginning and the end of the monitoring period	Input on "MPS(input_separate_IT)" sheet

Table 2: Project-specific parameters fixed *ex ante*

(a)	(b)	(c)	(d)	(e)	(f)
Parameters	Description of data	Estimated Values	Units	Source of data	Other comments
EF_{elec}	CO_2 emission factor of electricity consumed	0.5595	tCO_2/MWh	[Laotian national grid emission factor] The most recent value announced by the Ministry of Natural Resources and Environment (MONRE), DNA for CDM unless otherwise instructed by the Joint Committee. Source of data: Simplified CM as in "Calculation for the emission factor for electricity generation in Lao PDR, 2010".	N/A

Table3: *Ex-post calculation* of CO_2 emission reductions

Monitoring period	CO_2 emission reductions	Units
06/02/2017 - 31/12/2017	116	tCO_2/p

[Monitoring option]

Option A	Based on public data which is measured by entities other than the project participants (Data used: publicly recognized data such as statistical data and specifications)
Option B	Based on the amount of transaction which is measured directly using measuring equipments (Data used: commercial evidence such as invoices)
Option C	Based on the actual measurement using measuring equipments (Data used: measured values)

Monitoring Spreadsheet: JCM_LA_AM001_ver01.0
Reference Number: LA001

i	$EC_{IT,i,p}$
An index variable for electricity meters, measuring electricity consumption of IT equipment	Electricity consumption of IT equipment measured by electricity meter *i* during the period *p*
-	MWh/p
1	1.28
2	0.88
3	6.21
4	6.60
5	6.66
6	6.19
7	7.32
8	10.14
9	7.84
10	9.46
11	7.71
12	8.78
13	7.66
14	9.20
15	6.50
16	8.65
17	8.20
18	9.02
19	9.03
20	7.62
21	7.23
22	9.48
23	7.05
24	9.56
25	8.21
26	9.02
27	7.82
28	8.58
29	8.03
30	8.84
31	7.70
32	9.09
33	7.85
34	9.36
35	7.11
36	9.12
37	8.38
38	8.43
39	8.11
40	8.76
41	9.22
42	7.68
43	7.85
44	8.10
45	9.24
46	9.41
47	10.68
48	9.20

Monitoring Report Sheet (Calculation Process Sheet) [For Verification]

1. Calculations for emission reductions	Fuel type	Value	Units	Parameter
Emission reductions during the period *p*	N/A	116.887081	tCO_2/p	ER_p
2. Selected default values, etc.				
Energy efficiency (PUE) of reference DC	N/A	2.0	-	η_{REF}
3. Calculations for reference emissions				
Reference emissions during the period *p*	N/A	429.759481	tCO_2/p	RE_p
Total electricity consumption of project DC during the period *p*	Electricity	559.20	MWh/p	$EC_{PJ,p}$
Sum of electricity consumption by IT equipment measured by electricity meters during the period *p*	Electricity	384.06	MWh/p	$\Sigma EC_{IT,i,p}$
CO_2 emission factor of electricity consumed	Electricity	0.5595	tCO_2/MWh	EF_{elec}
Energy efficiency (PUE) of reference DC	N/A	2.0	-	η_{REF}
Energy efficiency (PUE) of project DC during the period *p*	N/A	1.5	-	$\eta_{PJ,p}$
4. Calculations of the project emissions				
Project emissions during the period *p*	N/A	312.87	tCO_2/p	PE_p
Total electricity consumption of project DC during the period *p*	Electricity	559.20	MWh/p	$EC_{PJ,p}$
CO_2 emission factor of electricity consumed	Electricity	0.5595	tCO_2/MWh	EF_{elec}

[List of Default Values]

Energy efficiency (PUE) of reference DC	2.0	-

Monitoring Report Sheet (Input Sheet) [For Verification]

Table 1: Parameters monitored *ex post*

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
Monitoring period	Monitoring point No.	Parameters	Description of data	Monitored Values	Units	Monitoring option	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments
01/01/2018 - 31/08/2018	(1)	$EC_{PJ,p}$	Total electricity consumption of project DC during the period *p*	423.2	MWh/p	Option C	monitored data	Measured with an electricity meter(s). Electricity meter readings at the beginning and end of each monitoring period will be documented with photographs showing clearly the meter readings and the date when the meter reading is taken. The meters are installed and managed by the electrical utilities of Lao PDR.	Monitored continuously, recorded at least at the beginning and the end of the monitoring period	N/A
01/01/2018 - 31/08/2018	(2)	$\Sigma EC_{IT,i,p}$	Sum of electricity consumption by IT equipment measured by electricity meters during the period *p*	293.22	MWh/p	Option C	monitored data	Measured with electricity meters. Electricity meter readings at the beginning and end of each monitoring period will be documented with photographs showing clearly the meter readings and the date when the meter reading is taken. Calibration certificates are issued for all 48 meters by Japan Electric Meters Inspection Corporation (JEMIC), and are valid until November 2023.	Monitored continuously, recorded at least at the beginning and the end of the monitoring period	Input on "MPS(input_separate_IT)" sheet

Table 2: Project-specific parameters fixed *ex ante*

(a)	(b)	(c)	(d)	(e)	(f)
Parameters	Description of data	Estimated Values	Units	Source of data	Other comments
EF_{elec}	CO_2 emission factor of electricity consumed	0.5595	tCO_2/MWh	[Laotian national grid emission factor] The most recent value announced by the Ministry of Natural Resources and Environment (MONRE), DNA for CDM unless otherwise instructed by the Joint Committee. Source of data: Simplified CM as in "Calculation for the emission factor for electricity generation in Lao PDR, 2010".	N/A

Table3: *Ex-post calculation* of CO_2 emission reductions

Monitoring period	CO_2 emission reductions	Units
01/01/2018 - 31/08/2018	91	tCO_2/p

[Monitoring option]

Option A	Based on public data which is measured by entities other than the project participants (Data used: publicly recognized data such as statistical data and specifications)
Option B	Based on the amount of transaction which is measured directly using measuring equipments (Data used: commercial evidence such as invoices)
Option C	Based on the actual measurement using measuring equipments (Data used: measured values)

Monitoring Spreadsheet: JCM_LA_AM001_ver01.0
Reference Number: LA001

i	$EC_{IT,i,p}$
An index variable for electricity meters, measuring electricity consumption of IT equipment	Electricity consumption of IT equipment measured by electricity meter *i* during the period *p*
-	MWh/p
1	1.09
2	0.68
3	4.66
4	5.01
5	4.99
6	4.70
7	5.66
8	7.75
9	5.91
10	7.18
11	6.03
12	6.65
13	6.38
14	7.28
15	4.94
16	6.61
17	6.16
18	6.69
19	6.76
20	5.76
21	5.49
22	7.07
23	5.36
24	7.11
25	6.22
26	6.73
27	5.99
28	6.56
29	6.15
30	6.53
31	5.81
32	6.79
33	6.05
34	6.93
35	5.56
36	6.90
37	6.56
38	6.62
39	6.14
40	6.56
41	7.15
42	5.74
43	6.20
44	6.27
45	7.08
46	7.48
47	8.18
48	7.08

Monitoring Report Sheet (Calculation Process Sheet) [For Verification]

1. Calculations for emission reductions	Fuel type	Value	Units	Parameter
Emission reductions during the period *p*	N/A	91.3352754	tCO_2/p	ER_p
2. Selected default values, etc.				
Energy efficiency (PUE) of reference DC	N/A	2.0	-	η_{REF}
3. Calculations for reference emissions				
Reference emissions during the period *p*	N/A	328.115675	tCO_2/p	RE_p
Total electricity consumption of project DC during the period *p*	Electricity	423.20	MWh/p	$EC_{PJ,p}$
Sum of electricity consumption by IT equipment measured by electricity meters during the period *p*	Electricity	293.22	MWh/p	$\Sigma EC_{IT,i,p}$
CO_2 emission factor of electricity consumed	Electricity	0.5595	tCO_2/MWh	EF_{elec}
Energy efficiency (PUE) of reference DC	N/A	2.0	-	η_{REF}
Energy efficiency (PUE) of project DC during the period *p*	N/A	1.4	-	$\eta_{PJ,p}$
4. Calculations of the project emissions				
Project emissions during the period *p*	N/A	236.78	tCO_2/p	PE_p
Total electricity consumption of project DC during the period *p*	Electricity	423.20	MWh/p	$EC_{PJ,p}$
CO_2 emission factor of electricity consumed	Electricity	0.5595	tCO_2/MWh	EF_{elec}

[List of Default Values]

Energy efficiency (PUE) of reference DC	2.0	-