

# VERIFICATION REPORT "SKHIDENERGO" LTD

## VERIFICATION OF THE "RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD "

SECOND PERIODIC VERIFICATION 01/01/2010-01/03/2011

### REPORT NO. UKRAINE-VER/0254/2011 REVISION NO. 02

### **BUREAU VERITAS CERTIFICATION**

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE



Date of first issue: 15/04/2010	Organization Bureau Holding	<sup>al unit:</sup> /eritas ( SAS	Certification	
<sup>Client:</sup> "Skhidenergo" Ltd	Client ref.: Oleksii N	/likhailo\	1	
Summary: Bureau Veritas Certification structure unit "Kurakhovska project of "Skhidenergo" Lto approach, on the basis of L operations, monitoring and modalities and the subseque	n has made the 2 <sup>rd</sup> period ya TPP" of the "Skhidene I located in Kurakhovo to INFCCC criteria for the JI reporting. UNFCCC criter ent decisions by the JI Su	dic verific rgo" Ltd", wn, Done , as well a ia refer to pervisory	ation of the "Reconst JI Registration Refer tsk region, Ukraine, a as criteria given to pro Article 6 of the Kyoto Committee, as well a	truction of the units at the ence Number UA1000205, and applying the JI specific ovide for consistent project o Protocol, the JI rules and as the host country criteria.
The verification scope is def Entity of the monitored redu- following three phases: i) de interviews with project sta- verification report and opinion was conducted using Burea	fined as a periodic indepe uctions in GHG emission: esk review of the project o keholders; iii) resolution on. The overall verification u Veritas Certification inte	ndent rev s during o design an of outst n, from Co rnal proce	iew and ex post deter defined verification pe d the baseline and m anding issues and ontract Review to Ver edures.	mination by the Accredited riod, and consisted of the onitoring plan; ii) follow-up the issuance of the final ification Report & Opinion,
The first output of the ver Actions Requests (CR, CAR	ification process is a list and FAR), presented in ,	of Clarif Appendix	fication, Corrective A A.	ctions Requests, Forward
In summary, Bureau Veritas approved project design do runs reliably and is calibrat GHG emission reductions. omissions, or misstatement from 01/01/2010 to 31/0	Certification confirms that ocuments. Installed equip ed appropriately. The mo The GHG emission reduc s, and the ERUs issued 3/2011.	at the proj oment bei nitoring s stion is ca totalize 3	ect is implemented as ng essential for gene ystem is in place and loculated accurately a 33708 tons of CO2ec	s planned and described in erating emission reduction d the project is generating nd without material errors, f for the monitoring period
Our opinion relates to the related to the approved proj	project's GHG emission ect baseline and monitorir	s and res ng, and its	sulting GHG emission associated documen	n reductions reported and ts.
Report No.: UKRAINE-ver/0254/2011	Subject Group:	]		
Project title: Reconstruction of the uni "Kurakhovskaya TPP" of the	ts at the structure unit "Skhidenergo" Ltd			
Work carried out by: Oleg Skoblyk – Team Leade Vyacheslav Yeriomin – Trainee	er, Lead Verifier <i>Ette</i> Team Member, Verifier	D		
Work reviewed by: Ivan Sokolov – Internal Tech	nnical Reviewer		No distribution withou	t permission from the
Work approved by: Flavio Gomes - Operational	Manager Burgen Aeritas C	ertificati	Limited distribution	organizational unit
Date of this revision: Rev. No. 25/05/2011 02	Number of pages 9	AS	Unrestricted distribution	on

VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

#### Table of Contents

1	INTRODUCTION	3
1.1	Objective	3
1.2	Scope	3
1.3	Verification Team	3
2	METHODOLOGY	4
2.1	Review of Documents	4
2.2	Follow-up Interviews	4
2.3	Resolution of Clarification, Corrective and Forward Action Requests	5
3	VERIFICATION CONCLUSIONS	6
3.1	Project approval by Parties involved (90-91)	6
3.2	Project implementation (92-93)	7
3.3	Compliance of the monitoring plan with the monitoring methodology (94-98)	12
3.4	Revision of monitoring plan (99-100)	12
3.5	Data management (101)	12
3.6	Verification regarding programmes of activities (102-110)	14
4	VERIFICATION OPINION	14
5	REFERENCES	16
APPE	NDIX A: COMPANY PROJECT VERIFICATION PROTOCOL	23



#### Page



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

#### **1** INTRODUCTION

"Skhidenergo" Ltd has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Reconstruction of the units at the structure unit "Kurakhovskaya TPP" of the "Skhidenergo" Ltd" (hereafter called "the project") at Kurakhovo town, Donetsk region, Ukraine.

This report summarizes the findings of the verification of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

#### 1.1 Objective

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

#### 1.2 Scope

The verification scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

#### **1.3 Verification Team**

The verification team consists of the following personnel:

#### Oleg Skoblyk

Bureau Veritas Certification Team Leader, Climate Change Verifier

#### Vyacheslav Yeriomin

Bureau Veritas Certification Team Member, Climate Change Verifier Trainee



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

This verification report was reviewed by:

Ivan Sokolov Bureau Veritas Certification, Internal Technical Reviewer

#### 2 METHODOLOGY

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a verification protocol was customized for the project, according to the version 01 of the Joint Implementation Determination and Verification Manual, issued by the Joint Implementation Supervisory Committee at its 19 meeting on 04/12/2009. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

- It organizes, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent verification process where the verifier will document how a particular requirement has been verified and the result of the verification.

The completed verification protocol is enclosed in Appendix A to this report.

#### 2.1 Review of Documents

The Monitoring Report (MR) submitted by JSC "ELTA" and additional background documents related to the project design and baseline, i.e. country Law, Proiect Design Document (PDD), Approved CDM methodology (if applicable) and/or Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report versions 1.0, 1.1, 1.2 and project as described in the determined PDD.

#### 2.2 Follow-up Interviews

On 27/04/2011 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of "Skhidenergo" Ltd were interviewed (see References). The main topics of the interviews are summarized in Table 1.

VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

Table 1	Interview	topics
		topics

Interviewed organization	Interview topics
"Skhidenergo" Ltd	Organizational structure
0	Responsibilities and authorities
	Roles and responsibilities for data collection and
	processing
	Installation of equipment
	Data logging, archiving and reporting
	Metering equipment control
	Metering record keeping system, database
	Training of personnel
	Quality management procedures and technology
	Internal audits and check-ups
JSC "ELTA"	Monitoring plan
	Monitoring report
	Deviations from PDD
	ERUs calculation model

### 2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

If the Verification Team, in assessing the monitoring report and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to the monitoring requirements, it should raise these issues and inform the project participants of these issues in the form of:

(a) Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;

(b) Clarification request (CL), requesting the project participants to provide additional information for the AIE to assess compliance with the monitoring plan;

(c) Forward action request (FAR), informing the project participants of an issue, relating to the monitoring that needs to be reviewed during the next verification period.





VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.

#### **3 VERIFICATION CONCLUSIONS**

In the following sections, the conclusions of the verification are stated.

The findings from the desk review of the original monitoring documents and the findings from interviews during the follow up visit are described in the Verification Protocol in Appendix A.

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 6 Corrective Action Requests.

The number between brackets at the end of each section corresponds to the DVM paragraph.

Two FARs were remaining from previous verification and they were closed during this verification.

FAR1: Please photograph every stages of unit reconstruction.

Response: Commissioning acts were presented, see references /17/-/26/ of category 2 documents.

Decision: Evidences were sufficient and FAR1 was closed.

FAR2: Please make sure that all journals and logbooks of fuel consumption and power generation will be archived and saved during Project period.

Response: Order on the data archiving for the period of two years after the last emission reduction transfer was presented, see reference /171/ of category 2 documents.

Decision: Evidence was sufficient and FAR2 was closed.

#### 3.1 **Project approval by Parties involved (90-91)**

Written project approval by the Host Party has been issued by the National Environmental Investment Agency of Ukraine #753/23/07 dated 09.06.2010. Letter of Approval by the UK Department of Energy and Climate Change #CFCarbonII/02/2010 dated 03.12.2010 when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest.

The abovementioned written approvals are unconditional.



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

#### **3.2 Project implementation (92-93)**

Kurakhovskaya TPP exploited by energy generating company Skhidenergo ltd. Installed power capacity of the Kurakhovskaya TPP is 1460 MW. All energy equipment was installed in the 1970's. The list of installed equipment:

- 7 boilers Ttp-109 (one boiler per unit), produced by the Taganrog boiler factory. Steam capacity 640 t/hour, steam pressure 130 kg/sm<sup>2</sup>, temperature of the overheated steam is 545 <sup>C</sup>C.

- 6 turbines K-210-130, produced by the "Leningrad metal works", capacity 200 MW. Installed power capacity is 200 MW.

- 1 turbine K-200-130-3, produced by the "Leningrad metal works", capacity 210 MW. Installed power capacity is 210 MW.

- 6 power generators TFB-200M, produced by the "Kharkov SPC Electrotyazhmash" with the capacity of 210 MW.

- 1 power generator TFB-200, produced by the "Kharkov SPC Electrotyazhmash" with the capacity of 200 MW.

Electricity consumption for own needs -9.8% (2007).

Main fuel - coal, reserve fuel - heavy oil or natural gas.

The overall efficiency of the TPP was 30.83% in 2007.

According to the Project Schedule the Reconstruction of the Unit #7 completed at the TPP and the preparation measures for the TPP Units' Reconstructions were implemented during the monitoring period. These measures included:

#### Generating Unit № 3

Boiler Equipment:

1. The replacement of the packages Low Pressure Convective Steam Overheater outer stair (47% of the packages) – 120units;

2. The replacement of the bypath pipelines of the screens at the 14 burners (8,4t);

3. The replacement of the Raw Coal Feeder PSU-3B tape – 46m2.

4. The repairs of the dust feeder dispenser ULPP-2 - 4 units;

5. The inspection and repairs of the support-suspension system (within the boiler);

6. The replacement of the Mill Fan impellers with the replacement of the frame and foundation re-charge MV-3B;

7. The replacement of the Smoke Exhauster impeller DS-3B - 1 pc. and the blades welding at the Smoke Exhauster DS-3A;

8. The replacement of the defective parts of the two-space screen tubes in the radiation superheater;

9. The replacement of the defective 1100 mm pipelines at the places of the runs through the ceiling 38 pc.;

10. The replacement of the front screen pipelines – 9pc. 2,5m each and side screen – 9pc. 2,6m each;



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

11. The replacement of the Main Steam Superheater turns mark 6 m 426x18 st.12X1MF - 1,144t.;

12. The replacement of the lead drum of the Raw Coal Feeder PSU-3A;

Turbine Equipment:

1. The repairs of the steam pipeline part Main Steam Superheater "B" 426x18 12X1MF-1 pc;

2. The replacement of the repair kits №1,3 at the High Pressure Cylinder - 2 pc;

3. The replacement of the drainage tank pump 3B DO 80-50-200 - 1 pc.;

4. The replacement of the level controller of the High Pressure Heater PVT-6 - 1 pc.;

5. The replacement of the E-01 latches Du-100 Pu-23, 5 recycling Electric Feed Pump-3B - 1 pc.;

6. The repairs of the support-suspension system of the steam pipelines (on the turbine);

7. The replacement of the tube system PN-300 - 1 pc.;

8. The recharge of the electric motor bearing of the Electric Feed Pump PEN A, B - 4 pc.;

9. The replacement of the steam pipeline section Main Steam Superheater HPP "A" 426x18 12x1MF - 2pc.;

10. The factory repair of the internal shell of the Steam Electric Heater PEN-3B - 1 pc.;

11. TG #3 and #7 bearings recharge 2pc.;

12. The replacement of the circulating water jumper Du-1200mm - 1pc.;

13. The installation of the mud pump #3 Lowara - 1 pc.;

14. The acid wash of the condensers A,B;

Electric Equipment:

1. The replacement of the Clinker Transporter ShT electric motors - 2 pc.;

2. The replacement of the Mill Fan MV-3B stator windings- 1 pc.;

3. The replacement of the shaking hummers precipitation electrodes – 30 pc.;

4. The replacement of the shaking hummers corona-forming electrodes – 60 pc.;

#### Generating Unit № 4

Boiler Equipment:

1. The replacement of the screen bypath pipelines at 16 (9,6 tons);

2. The replacement of the lower tier of the Radiation Steam Superheater at the two-space screen (3,1 tons);

3. The repairs of the dust dispenser ULPP-2 - 4 pc.;

4. The replacement of the Mill Fan impellers MV-A.B - 2 pc.;

5. The replacement of the separator turns from the mark ShBM A to mark . 9,6 m - 2,5 tons;



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

6. The recharge of the Ball Drum Mill electric motor bearing ShBM-4A - 2 pc.;

7. The production and the replacement of the Ball Drum Mill ShBM-4B casing – 1 pc.;

Turbine Equipment:

1. The replacement of the straight section of the steam pipeline Main Steam Superheater HPP "B" 426x18 12X1MF - 1 pc.;

2. The replacement of the tube system PN-250 (KI) 4 "A" - 1 pc.;

Electric Equipment:

1. The replacement of the 110 KV input of the transformer - input 110 KVGBMT-90-110/2000 V1-1 pc;

2. The repairs of the Steam Superheater PEN4A;

3. The replacement of the Clinker Removal ShNShU electric motor - 1 pc.;

#### Generating Unit № 5

Boiler Equipment:

1. The replacement of the steam pipeline section  $630 \times 28$ ,  $15 \times 10^{-1}$ ,

2. The replacement of the lower tier of the Radiation Steam Superheater at the two-space screen - 3,1 tons;

3. The replacement of the parts of the Raw Coal Bunker 5A,B - 9,764 tons.

#### Generating Unit № 6

Boiler Equipment:

1. The replacement of the straight section of the steam pipeline Main Steam Superheater HPP "B" 630x28 12X1MF - 2 pc.(1,419τons);

2. The replacement of the lower tier of the RPP at the two-space screen - 3,1 tons;

3. The replacement of the Low Pressure Convective Steam Superheater turns St. 724 pc. (2,4 tons);

4. The repairs of the support-suspension system of the steam pipelines (boiler equipment);

5. The replacement of the boiler side screens pipelines from the lower collectors to the "18m" mark (tube 60x6 st.20 - 64,9 tons);

6. The repairs of the dust dispenser ULPP-2 - 8pc.;

7. The replacement of the Mill Fan MV-A.B impellers - 2 pc.;

8. The replacement of the separator turns from the "ShBM A" mark to the "9.6m" mark - 2,5 tons;

9. The replacement of the face armour 6A - 1 set;

10. The replacement of the Smoke Exhauster DS-A,B impellers- 2 pc.;



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

Turbine Equipment:

1. The replacement of the High-Pressure Cylinder Repair Kits  $N_{21,3} - 2$  pc.;

2. The replacement of the level regulator of the High-Pressure heater-5,6,7-3 pc.;

3. The repairs of the circulating water pipelines of the condenser A, B - 2 pc.;

4. The repairs of the inner casing Steam Electric Heater PEN-6A at the factory – 1 pc.;

5. The repairs of the condenser pump inner KEN-A casing at the factory – 1 pc.;

6. The repairs of the Turbogenerator bearings №1,2,3,4,6,7 (factory recharge);

7. The High-Pressure and Mid-pressure rotors metal control at the axial side of the turbogenerator;

Electric Equipment:

1. The repairs of the electric filters with the replacement of the precipitation electrodes (40pc.) and corona-forming electrodes (45pc.);

2. The repairs of the 6T transformer with the rubber seals replacement;

3. The repairs of the 26T transformer with the rubber seals replacement;

4. The replacement of the DV 6A electric motor stator winding (at the factory) - 1 pc.;

5. The replacement of the Ball Drum Mill ShBM 6A electric motor stator winding- 1 pc.;

#### Generating Unit № 7

Boiler Equipment:

1. The replacement of the higher row of the Row Coal Bunker A,B - 8 tons;

Turbine Equipment:

1. The replacement of the Main Steam Superheater HPP "B" steam pipeline segment 630x28 15X1M1F - 0,5t.;

Electric Equipment :

1. The repairs of the Recirculation Gas Exhauster DSR 7 A electric motor - 1 pc .

2. The repairs of the Ball Drum Mill ShBM 7A electric motor - 1 pc .

#### Generating Unit № 8

Boiler Equipment:

1. The replacement of the steam pipeline segment 630x28 15X1M1F - 0,45tons.



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

2. The replacement of the Mill fan 8B issue;

3. The repairs of the Dust Exhauster DS-A,B;

Turbine Equipment:

1. The replacement of the E-01 Du-100 Ru-23,5 lathes of the "A,B" Steam Superheaters recirculation - 2 pc.;

2. Steam Superheater electric motor bearings factory recharge - 2 pc.;

3. Turbogenerator №2 bearing recharge - 1pc.;

Electric Equipment :

1. The replacement of the ShNShU electric motor - 1 pc.;

2. The replacement of the Ball Drum Mill ShBM 8B electric motor stator winding – 75 pc.;

3. The replacement of the Ball Drum Mill ShBM 8B fan blower - 1 pc.;

4. The replacement of the Mill Fan 8A -DAZO 4-450-4UHL electric motor stator winding – 1 pc.;

5. The replacement of the discharge Low-Pressure Heater electric motor – 1 pc.;

6. The replacement of the Turbogenerator Shaft-Turning Mechanism electric motor – 1 pc.;

7. The replacement of the Generator Gas Chiller Pump NGO 8"A" electric motor - 1 pc.;

8. The replacement of the 28T transformer fan blower - 10 pc.;

#### Generating Unit № 8

Boiler Equipment:

1. The replacement of the higher level tube air-heater cubes – 5 pc.;

2. The replacement of the defective turns of the Low-Pressure Convective Steam Superheater - 10 pc .  $(42x4 \text{ st.}12X18N12T = 0,006 \text{ tons}; 42x4 \text{ st.} 12X1MF = 0,01tons});$ 

3. The replacement of the defective segments of the shaft #3 screen system pipelines: back panel, front panel mark 31M (60x6 st.20 = 0,06ons);

Turbine Equipment:

1. The replacement of the defective segments of the Main Steam Superheater HPP 8B (bent elbows) 630x28 15X1MF – 2 pc.;

Electric Equipment : 1. The replacement of the ShNShU № 3 electric motor – 1 pc.;

#### Generating Unit № 9

Boiler Equipment:



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

1. The replacement of the lower row Radiation Steam Superheater at the two-space screen – 3,1 tons.;

2. The replacement of the screen bypath pipelines at 10 burners – 6 tons.; 3. The replacement of the separator turns from the "ShBM" mark to "9,6m" mark (630x10 st.3) unit 9 «A» -1,709 tons.;

4. The repairs of the Dust Exhauster DS-9A, B - 2 pc.

Electric Equipment:

1. The replacement of the ShNShU electric motors – 1 pc.

As the result of the foregoing measures, the average Specific Fuel Rate of the energy supplied by the TPP lowered from 0.4071 tef/MWh (11.280 GJ/MWh) in the Baseline Scenario to 0.3931 tef/MWh (11.5178 GJ/MWh) in 2010.

The Annual electricity supply in 2010 was 5 336 952 MWh.

The electricity supply during 1.01 - 31.03.2011 was 1 813 081 MWh.

### 3.3 Compliance of the monitoring plan with the monitoring methodology (94-98)

The monitoring occurred in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.

For calculating the emission reductions or enhancements of net removals, key factors, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating emission reductions or enhancements of net removals are clearly identified, reliable and transparent.

Emission factors, including default emission factors, are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

The calculation of emission reductions or enhancements of net removals is based on conservative assumptions and the most plausible scenarios in a transparent manner.

#### 3.4 Revision of monitoring plan (99-100)

"Not applicable"

#### 3.5 Data management (101)

The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent.

VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE



UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures.

The function of the monitoring equipment, including its calibration status, is in order. The monitoring equipment is within its calibration interval.

Calibration of majority part main electric meters carried out by State Enterprise "Donetskderzhstandartmetrologiia". Some electric meters were calibrated by State Enterprises "Donetskderzhstandartmetrologiia" and "Odessaderzhstandartmetrologiia".

Coal conveyor scales were calibrated by State Enterprise "Donetskderzhstandartmetrologiia".

Automatic conveyor scales were calibrated by TPP Metrology Laboratory. Attestation Certificate of TPP Metrology Laboratory were provided to the verification team.

The heavy fuel oil consumption per period is defined by the stationary measuring instrument (log scale), which is mounted on the each heavy fuel oil tank in accordance with the project. According to the calibration table of the each tank, the heavy fuel oil level, measured with the log scale, is evaluated into the heavy fuel oil level in tons. The difference between the levels, measured at the beginning and the end of the period, shows the heavy fuel oil consumption in the period.

The natural gas consumption is measured by the meter, which is mounted at the AGDS owned by the "Donetskoblgas" Company and fixed by signing by the Kurakhovskaya TPP, "Donetskoblgas" Company a monthly act.

The evidence and records used for the monitoring are maintained in a traceable manner.

The data of the fuel consumption is measured and collected for the whole TPP and the energy produced is measured per each unit separately. This allows to measure the average emission for all the TPP and to see the influence of the Project activity while some of the units are out of operation.

All the starts and stops of each Unit are monitored and also shown in the technical documentation alongside with the working time hours for each Unit of the TPP.

The electricity supply is being monitored by the Electricity Department of the TPP at the central electric panel of the TPP and sent to the Technical Production Department (TPD).

The coal consumption is being monitored daily by the Fuel-Transport Department. The reports are also sent to the TPD.

The heavy fuel oil consumption is being monitored daily by the Boiler-Turbine Department of the TPP. The reports are sent to the TPD.

The natural gas consumption is being monitored by the Gas Distribution System. The daily reports are also sent to the TPD.



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

The data of the Net Caloric Value of the fuel is being provided to the TPD by the certified laboratory of the TPP daily.

The TPD collects all the data and calculate the Specific Fuel Rate daily. After that, the data is being summarized in the monthly reports and in the annual report called "3-tech" Form.

All the measures are being sent to the project manager of the "ELTA" company, who collects the data, calculates the emission, emission reductions and creates a monitoring report.

All the data shall be stored in the paper and electronic form at the TPP and in the data base of the "ELTA" company during all lifetime of the project.

The data collection and management system for the project is in accordance with the monitoring plan.

#### 3.6 Verification regarding programmes of activities (102-110)

"Not applicable"

#### **4 VERIFICATION OPINION**

Bureau Veritas Certification has performed the 2<sup>nd</sup> periodic verification of the "Reconstruction of the units at the structure unit "Kurakhovskaya TPP" of the "Skhidenergo" Ltd". Project in Ukraine, which applies JI specific approach. The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of "Skhidenergo" Ltd is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD version 2.2. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 1.2 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reduction runs reliably and is



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/20	010 to 31/03/2	2011
Baseline emissions	: 7981324	t CO2 equivalents.
Project emissions	: 7647616	t CO2 equivalents.
Emission Reductions	: 333708	t CO <sub>2</sub> equivalents.

VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE



UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

#### 5 REFERENCES

#### Category 1 Documents:

Documents provided by "Skhidenergo" Ltd that relate directly to the GHG components of the project.

- /1/ Project Design Document "Reconstruction of the units at the structure unit "Kurakhovskaya TPP" of the "Skhidenergo" Ltd" version 2.2 dated 18.01.10
- /2/ Monitoring Report "Reconstruction of the units at the structure unit "Kurakhovskaya TPP" of the "Skhidenergo" Ltd" version 1.0, dated 1.04.11
- /3/ Monitoring Report "Reconstruction of the units at the structure unit "Kurakhovskaya TPP" of the "Skhidenergo" Ltd" version 1.1, dated 1.05.11
- /4/ Monitoring Report "Reconstruction of the units at the structure unit "Kurakhovskaya TPP" of the "Skhidenergo" Ltd" version 1.2, dated 10.05.11
- /5/ ERUs calculation model Exel file "мониторинг Ky" dated 11.04.11
- /6/ Determination and verification manual, version 1.0
- /7/ Letter of Approval, issued National Environmental Investment Agency of Ukraine #753/23/07 dated 09.06.2010
- /8/ Letter of Approval, issued UK Department of Energy and Climate Change # CFCarbonII/02/2010 dated 3.12.2010

#### Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- /1/ Photo: Attestation certificate №ВЛ-223/09 dated 12/10/2009 on Shidenerho Ltd Kurakhovska Thermal Power Plant Structural Unit production chemical laboratory
- /2/ Photo: Add-on to Attestation certificate №ВЛ-223/09, scope of production chemical laboratory
- /3/ Photo: Attestation certificate №ВЛ-678/08 dated 12/02/2008 on Shidenerho Ltd Kurakhovska Thermal Power Plant Structural Unit production chemical laboratory
- /4/ Photo: Add-on to Attestation certificate №ВЛ-678/08, scope of production chemical laboratory
- /5/ Photo: Certificate on natural gas quality, March 2011
- /6/ Photo: Certificate on natural gas quality, February 2011
- /7/ Photo: Certificate on natural gas quality, January 2011
- /8/ Photo: Certificate on natural gas quality, December 2010
- /9/ Certificate on natural gas quality, September 2010
- /10/ Photo: Certificate on natural gas quality, June 2011
- /11/ Photo: Certificate on natural gas quality, March 2010
- /12/ Photo: Certificate on natural gas quality, January 2011
- /13/ Photo: Sample logbook heavy fuel oil
- /14/ Sample logbook fuel coal from 11/12/2010
- /15/ Photo: Sample logbook fuel coal from 20/01/2011
- /16/ Photo: Sample logbook fuel coal



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

- /17/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7 electric transformer ТДЦГ 250000/330-72У1
- /18/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7 boiler TΠ-109
- /19/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7 alternator TFB-200M semiconductor feed system
- /20/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7 feed pump XE-720-185 electric drive
- /21/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7 turbine K-200-130-3 (ЦНТ)
- /22/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7 electric drivers ДВ-7А, Б, КЕН-7Б, В, ШБМ 7Б and dust feeders
- /23/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7 turbine K-200-130-3 (ЦВТ, ЦСТ)
- /24/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7
- /25/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #7 generator switch-off
- /26/ Photo: Statement of working commission on equipment precommissioning dated 31/12/2009, Kurakhovska Thermal Power Plant block #5 alternator TΓB-200M semiconductor feed system
- /27/ Photo: Automatic conveyor scales CBEДA BK 230-1400 №197 work instruction
- /28/ Photo: Automatic conveyor scales CBEДA BK 230-1400 №198 work instruction
- /29/ Photo: Act on weighting railway wagons dated 27.04
- /30/ Photo: Invoice #51064111 fuel coal
- /31/ Photo: Invoice #51044121 fuel coal
- /32/ Photo: Photo: Wagon scales
- /33/ Photo: Indicator TB-330 of conveyor scales СВЕДА
- /34/ Photo: Fuel-transport department Operational Logbook, from 01.01.11
- /35/ Photo: Conveyor scales platform
- /36/ Photo: Indicator TB-330 of conveyor scales СВЕДА
- /37/ Photo: Power meter ABB Alfa Metronika №01006177
- /38/ Photo: Power meter Elster Metronika EA02RAL-C-4 №01147077



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

/39/	Photo: Power meter Elster Metronika EA02RAL-C-4 №01147076
/40/	Photo: Power meter Elster Metronika EA02RAL-C-4 №01147044
/41/	Photo: Power meter Elster Metronika EA02RAL-C-4 №01147064
/42/	Power meter Elster Metronika EA02RAL-C-4 №01147032
/43/	Photo: Power meter ABB Alfa Metronika №01006169
/44/	Photo: Power meter ABB Alfa Metronika №01006165
/45/	Photo: Power meter Elster Metronika EA02RAL-C-4 №01147082
/46/	Photo: Power meter Elster Metronika EA02RAL-C-4 №01147072
/47/	Photo: Power meter Elster Metronika EA02RAL-C-4 №01147077
/48/	Power meter ABB Alfa Metronika №01006171
/49/	Power meter ABB Alfa Metronika №01006172
/50/	Power meter Elster Metronika EA02RAL-C-4 №01147129
/51/	Power meter ABB Alfa Metronika №01006085
/52/	Power meter ABB Alfa Metronika №01006163
/53/	Power meter ABB Alfa Metronika №01006162
/54/	Power meter Elster Metronika EA02RAL-C-4 №01154793
/55/	Power meter Elster Metronika EA02RAL-C-4 №01154794
/56/	Power meter Elster Metronika EA02RAL-C-4 №01147067
/57/	Power meter ABB Alfa Metronika №01006189
/58/	Form 3tex on equipment operation technical and economic
	parameters at Kurahovskaya Thermal Power Plant for January-
	February 2011
/59/	Form 3tex on equipment operation technical and economic
	parameters at Kurahovskaya Thermal Power Plant for January-
	December 2010
/60/	Form 3tex on equipment operation technical and economic
	parameters at Kurahovskaya Thermal Power Plant for January
	2011
/61/	Form 3Tex on equipment operation technical and economic
	parameters at Kurahovskaya Thermal Power Plant for February
(00)	2011
/62/	Form 3Tex on equipment operation technical and economic
(00)	parameters at Kurahovskaya Thermal Power Plant for March 2011
/63/	Form 2-TH, issued to Shidenerho LLC Kurakhovska Thermal Power
10.41	Plant SU. Report on air protection for 2010
/64/	Form 2-TH, issued to Shidenerno LLC Kuraknovska Thermal Power
1051	Plant SU. Report on air protection for I quarter 2011
/65/	Permit #1 423 310 600 – 10 dated 27/02/2009 on stationary
	sources air pollution, issued by Donetsk Region Environmental
	State Office to Shideherno LLC
/66/	Analysis result dated I quarter 2011 on coal AIP 0-200 and AIP
167/	0-200 Analysis result dated 01/01/2010 21/12/2010 on seel UED 0 200
/0//	Analysis result dated 01/01/2010-31/12/2010 on coal ДГР 0-200
1601	anu Arr 0-200 Form 2275 on fuel cool leftovers consumption at Kurakhavaka
/00/	Thermal Rewer Plant for February 2010
	i nemiai ruwei riani iui rediualy 2010



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

/69/	Form 22тп on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for March 2010
/70/	Form 22тп on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for April 2010
/71/	Form 22TI on fuel leftovers consumption at Kurakhovska Thermal
	Power Plant for May 2010
/72/	Form 22TI on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for July 2010
/73/	Form 22TI on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for June 2010
/74/	Form 22тп on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for August 2010
/75/	Form 22TI on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for September 2010
/76/	Form 22Tn on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for October 2010
/77/	Form 22тп on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for November 2010
/78/	Form 22тп on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for December 2010
/79/	Form 22Tn on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for January 2011
/80/	Form 22тп on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for February 2011
/81/	Form 22тп on fuel coal leftovers consumption at Kurakhovska
	Thermal Power Plant for January 2010
/82/	Form 23тп on fuel oil leftovers consumption at Kurakhovska
	Thermal Power Plant for January 2010
/83/	Form 23тп on fuel oil leftovers consumption at Kurakhovska
	Thermal Power Plant for February 2010
/84/	Form 23Th on fuel oil leftovers consumption at Kurakhovska
<i>i</i> = - <i>i</i>	Thermal Power Plant for March 2010
/85/	Form 23Th on fuel oil leftovers consumption at Kurakhovska
( <b>-</b> - (	Thermal Power Plant for April 2010
/86/	Form 23Th on fuel oil leftovers consumption at Kurakhovska
(a=1	Thermal Power Plant for May 2010
/87/	Form 23Th on fuel oil leftovers consumption at Kurakhovska
(0.0.1	Thermal Power Plant for June 2010
/88/	Form 23Th on fuel oil leftovers consumption at Kurakhovska
(0.0.1	Thermal Power Plant for July 2010
/89/	Form 23Th on fuel oil leftovers consumption at Kurakhovska
1001	Inermal Power Plant for August 2010
/90/	Form 23TH on fuel oil lettovers consumption at Kurakhovska
	Inermal Power Plant for September 2010
/91/	Form 23Th on fuel oil lettovers consumption at Kurakhovska
	Inermal Power Plant for October 2010



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

- /92/ Form 23тп on fuel oil leftovers consumption at Kurakhovska Thermal Power Plant for November 2010
- /93/ Form 23тп on fuel oil leftovers consumption at Kurakhovska Thermal Power Plant for December 2010
- /94/ Form 23тп on fuel oil leftovers consumption at Kurakhovska Thermal Power Plant for January 2011
- /95/ Form 23тп on fuel oil leftovers consumption at Kurakhovska Thermal Power Plant for February 2011
- /96/ Form 23тп on fuel oil leftovers consumption at Kurakhovska Thermal Power Plant for March 2010
- /97/ Technical passport wagon scales #0358
- /98/ Technical passport wagon scales BBЭT-25 ТД-0 ЭП-0 П.Д.
- /99/ Commissioning act #158 on coal scales #0358 calibration from 17.03.2011
- /100/ Commissioning act #995 on coal scales #0358 calibration from 20.12.2010
- /101/ Commissioning act #680 on coal scales #0358 calibration from 20.09.2010
- /102/ Commissioning act #397 on coal scales #0358 calibration from 18.06.2010
- /103/ Commissioning act #71 on coal scales #0358 calibration from 24.06.2009
- /104/ Commissioning act #330 on coal scales BBЭT-25 TД calibration from 19.03.2010
- /105/ Commissioning act #330 on coal scales BBЭT-25 TД calibration from 15.12.2009
- /106/ Commissioning act #817 on coal scales BBЭT-25 TД calibration from 02.07.2008
- /107/ Commissioning act #687 on coal scales BBЭT-25 TД calibration from 11.12.2008
- /108/ Invoice #51111738 on fuel oil dated 1.11.2010
- /109/ Passport #4 dated 23/07/10 on heavy fuel oil type 40
- /110, Analysis result dated 04/11/10 on fuel oil
- /111/ Confirmative certificate on fuel oil type 40, from 11.01.2010 to 09.01.2011
- /112/ Invoice #46706356 on fuel oil
- /113/ Passport #6 dated 14/05/10 on heavy fuel oil type 40
- /114/ Analysis result dated 21/11/10 on fuel oil
- /115/ Confirmative certificate on fuel oil type 40, from 05.11.2010 to 04.11.2011
- /116/ Invoice #46129607 on fuel oil
- /117, Passport #1232 dated 22/02/11 on heavy fuel oil type 100
- /118/ Confirmative certificate on fuel oil type 100, from 09.12.2010 to 08.12.2011
- /119, Invoice #43208983 on fuel oil dated 30/12/2010
- /120/ Passport #81 dated 18/12/10 on heavy fuel oil type 100



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

/121/ Analysis result dated 05/01/11 on fuel oil /122/ Confirmative certificate on fuel oil type 100, from 31.05.2010 to 30.05.2011 /123/ Invoice #43208822 on fuel oil dated 27.12.10 /124/ Passport #82 dated 21/12/10 on heavy fuel oil type 100 /125/ Analysis result dated 31/12/10 on fuel oil /126/ Confirmative certificate on fuel oil type 100, from 31.05.2010 to 16.05.2011 /127, Certificate #827 dated 07/03/11 on coal ДГР 0-200 quality /128/ Analysis result #5669 dated 08/03/11 on coal ДГР 0-200 мм /129/ Certificate #895 dated 22/03/10 on coal ДГР 0-200 quality /130/ Analysis result #6166 dated 23/03/10 on coal ДГР 0-200 мм /131, Certificate #1050 dated 12/11/10 on coal ДГ 0-200 quality /132/ Analysis result #3195 dated 13/11/10 on coal ДГ 0-200 мм /133/ Certificate #988 dated 21/11/10 on coal ДГ 0-100 quality /134/ Analysis result #26537 dated 21/11/10 on coal ДГ 0-100 мм /135/ Certificate #1896 dated 31/12/10 on coal ДГР 0-200 guality /136/ Analysis result #30158 dated 31/12/10 on coal ДГР 0-200 мм /137/ Calibration certificate meter Enerhia-9 A1R-4- AL -C4T #36057 /138/ Calibration certificate meter Enerhia-9 A1R-4- AL -C4T #36055 /139/ Calibration certificate meter Enerhia-9 A1R-4- AL -C4T #36058 /140/ Calibration certificate meter Enerhia-9 A1R-4-AL-C4T #36059 /141/ Calibration certificate meter Enerhia-9 A1R-4-AL-C4T #36060 /142/ Calibration certificate meter Enerhia-9 A1R-4- AL -C4T #36061 /143/ Calibration certificate meter Enerhia-9 A1R-4- AL -C4T #36056 /144/ Calibration certificate meter EA 02RAL-C-4 #01147069 /145/ Calibration certificate meter EA 02RAL-C-4 #01147044 /146/ Calibration certificate meter EA 02RAL-C-4 #01147082 /147, Calibration certificate meter EA 02RAL-C-4 #01147032 /148/ Calibration certificate meter EA 02RAL-C-4 #01147035 /149/ Calibration certificate meter EA 02RAL-C-4 #01147067 /150/ Calibration certificate meter EA 02RAL-C-4 #01147072 /151/ Calibration certificate meter EA 02RAL-C-4 #01154794 /152/ Calibration certificate meter EA 02RAL-C-4 #01147085 /153/ Calibration certificate meter EA 02RAL-C-4 #01147029 /154/ Calibration certificate meter EA 02RAL-C-4 #01147077 /155/ Calibration certificate meter EA 02RAL-C-4 #01147076 /156/ Calibration certificate meter EA 02RAL-C-4 #01147058 /157/ Calibration certificate meter EA 02RAL-C-4 #01147081 /158/ Calibration certificate meter EA 02RAL-C-4 #01150411 /159/ Calibration certificate meter EA 02RAL-C-4 #01150407 /160/ Calibration certificate meter EA 02RAL-C-4 #01150406 /161/ Calibration certificate meter EA 02RAL-C-4 #01150409 /162/ Calibration certificate meter EA 02RAL-C-4 #01150412 /163/ Calibration certificate meter A1R-4- AL-C4-T #01006148 /164/ Calibration certificate meter A1R-4- AL-C4-T #01006150



VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE

UNIT "KURAKHOVSKAYA TPP" OF THE "SKHIDENERGO" LTD

/165/ Calibration certificate meter A1R-4- AL-C4-T #01006147

- /166/ Calibration certificate meter A1R-4- AL-C4-T #01006151
- /167, Calibration certificate meter A1R-4- AL-C4-T #01006170
- /168/ Calibration certificate meter A1R-4- AL-C4-T #01006192
- /169/ Calibration certificate meter A1R-4- AL-C4-T #01006127
- /170/ Calibration certificate meter A1R-4-AL-C4-T #01006148
- /171, LLC Vostokenergo Order #202 of 09.09.10 on archiving the JI project information

#### Persons interviewed:

List persons interviewed during the verification or persons that contributed with other information that are not included in the documents listed above.

- /1/ Yevgen Mazurov Head of Production-Technical Department of Kurakhovo TPP
- /2/ Pavlo Titarenko Head of Transport-Fuel Department of Kurakhovo TPP
- /3/ Serhiy Kostin Head of Boiler-Turbine Department of Kurakhovo TPP
- /4/ Ihor Chaban Head of Electric Department of Kurakhovo TPP
- /5/ Natalya Pilyhina Head of Chemical Laboratory of Kurakhovo TPP



"Skhidenergo" Ltd

### APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL VERIFICATION PROTOCOL

Check list for verification, according to the JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM	Check Item	Initial finding	Draft	Final
Paragra			Conclusio	Conclusio
ph			n	n
Project ap	provals by Parties involved			
90	Has the DFPs of at least one Party involved, other than the host Party,	CAR #01 Information on project approval is missing in the	CAR #01	OK
	issued a written project approval when	Monitoring Report.		
	submitting the first verification report to	Please, provide to the Monitoring Report		
	the secretariat for publication in	references to the written project approvals.		
	accordance with paragraph 38 of the JI			
	guidelines, at the latest?			
91	Are all the written project approvals by Parties involved unconditional?	All project approvals are unconditional	OK	OK
Project im	plementation			
92	Has the project been implemented in	CAR #02	CAR #02	OK
	accordance with the PDD regarding	Please, provide description of abbreviations used		
	which the determination has been	in the Monitoring Report.		
	deemed final and is so listed on the			
	UNFCCC JI website?			
93	What is the status of operation of the	CAR #03	CAR #03	OK
	project during the monitoring period?	Capital repairs, mid-repairs, permanent repairs are		

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE



#### "Skhidenergo" Ltd

DVM Paragra	Check Item	Initial finding	Draft Conclusio	Final Conclusio
ph			n	n
		common for power generation industry. Please, prove that project activity during monitoring period is additional to repairs provided at the TPP.		
Complian	ce with monitoring plan			
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	The monitoring plan, included in PDD version 2.2, dated 18.01.10, which has been deemed final, got positive determination conclusion. This plan, with initial and 1 <sup>st</sup> periodic reports is available on UNFCCC JI website. The monitoring algorithm is in line with monitoring plan, included in the PDD version 2.2	OK	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	All key factors influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project were taken into account, as appropriate for calculating the emission reductions or enhancements of net removals.	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified,	The data sources used for calculating emission reductions are clearly identified, reliable and transparent.	ОК	OK

### B U R E A U V E R I T A S

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE

"Skhidenergo" Ltd

DVM Paragra	Check Item	Initial finding	Draft Conclusio	Final Conclusio
ph			n	n
	reliable and transparent?	Daily coal consumption is recorded by fuel- transport department in paper form. Daily heavy fuel oil consumption is recorded by boiler-turbine department. Electricity supply is recorded by Electricity department. Net calorific value of fuel is measured by TPP chemical laboratory. This data transferred to the technical-producing department, which is responsible to daily fuel consumption. The technical-producing department is responsible for prepare periodical technical report 3-TEX form on daily, monthly, yearly basis.		
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	CAR #04 Please, provide in the Monitoring Report traceable references to the emission factor for coal, used in ERUs calculations.	CAR #04	ОК
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative	CAR #05 Please, submit to the verification team ERUs calculations for March 2011.	CAR #05	ОК

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE

DVM Paragra ph	Check Item	Initial finding	Draft Conclusio n	Final Conclusio n
	assumptions and the most plausible scenarios in a transparent manner?			
Applicable	e to JI SSC projects only			
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	Not applicable	Not applicable	Not applicable
Applicable	e to bundled JI SSC projects only			
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	Not applicable	Not applicable	Not applicable
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	Not applicable	Not applicable	Not applicable
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of	Not applicable	Not applicable	Not applicable





#### BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0254/2011

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE

"Skhidenergo" Ltd

DVM Paragra ph	Check Item	Initial finding	Draft Conclusio n	Final Conclusio n
	the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were			
	already deemed final in the past?			
Revision	of monitoring plan			
Applicabl	e only if monitoring plan is revised by <b>p</b>	project participant		
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	Not applicable	Not applicable	Not applicable
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	Not applicable	Not applicable	Not applicable
Data man	agement			
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The implementation of data collection procedures is in accordance with the monitoring plan. Quality control and quality assurance procedures were found satisfactory.	OK	ОК
101 (b)	Is the function of the monitoring	The function of monitoring equipment is in order.	OK	OK



## B U R E A U V E R I T A S

VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE

"Skhidenergo" Ltd

DVM Paragra	Check Item	Initial finding	Draft Conclusio	Final Conclusio
ph			n	n
	equipment, including its calibration status, is in order?	Monitoring equipment is within its calibration interval. Calibrating of wagon scales and some part of electric meters were provided by the State Enterprise "Donetskderzhstandardmetrologiya". Another part of electric power meters also were calibrated by the State Enterprises "Odesskiyderzhstandertmetrologiya" and "Ukrainecetrstandartmetrologiya". Conveyor coal scales were calibrated by the TPP Metrological Laboratory. Accreditation certificate of the Laboratory were submitted to the verification team.		
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidence and records used for monitoring are maintained in a traceable manner.	OK	ОК
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection and management system for the project are in accordance with the monitoring plan. The data monitored and used to ERU's calculation will be kept during two years after the crediting period.	OK	OK
Verificatio	on regarding programs of activities (add	ditional elements for assessment)		
102	Is any JPA that has not been added to	Not applicable	Not	Not
	the JI PoA not verified?		applicable	applicable
103	Is the verification based on the	Not applicable	Not	Not

29

#### Report No: UKRAINE-ver/0254/2011

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE

#### "SKHIDENERGO" LTD

DVM Paragra ph	Check Item	Initial finding	Draft Conclusio n	Final Conclusio n
	monitoring reports of all JPAs to be verified?		applicable	applicable
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	Not applicable	Not applicable	Not applicable
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable	Not applicable	Not applicable
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	Not applicable	Not applicable	Not applicable
Applicable	e to sample-based approach only			
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account	Not applicable	Not applicable	Not applicable



#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE

#### "Skhidenergo" Ltd

DVM Paragra ph	Check Item	Initial finding	Draft Conclusio n	Final Conclusio n
	<ul> <li>differences among the characteristics of JPAs, such as: <ul> <li>The types of JPAs;</li> <li>The complexity of the applicable technologies and/or measures used;</li> <li>The geographical location of each JPA;</li> <li>The amounts of expected emission reductions of the JPAs being verified;</li> <li>The number of JPAs for which emission reductions are being verified;</li> <li>The length of monitoring periods of the JPAs being verified;</li> <li>The length of monitoring periods of the JPAs being verified; and</li> <li>The samples selected for prior verifications, if any?</li> </ul> </li> </ul>			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	Not applicable	Not applicable	Not applicable
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole	Not applicable	Not applicable	Not applicable



#### BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0254/2011

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE

"Skhidenergo" Ltd

DVM Paragra ph	Check Item	Initial finding	Draft Conclusio n	Final Conclusio n
	number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?			
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	Not applicable	Not applicable	Not applicable
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	Not applicable	Not applicable	Not applicable



#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE



"Skhidenergo" Ltd

 Table 2
 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklis t questio n in table 1	Summary of project participant response	Verification team conclusion
CAR #01 Information on project approvals is missed in the Monitoring Report. Please, provide information on written project approvals in the Monitoring report.	90	See Section A.2, Version 1.2- 2010KuTPP	The Monitoring Report is checked. The issue is closed.
CAR #02 Please, provide description of abbreviations used in the Monitoring Report.	92	See Section A.3, Version 1.2- 2010KuTPP	The Monitoring Report is checked. The issue is closed.

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE



"SKHIDENERGO" LTD

CAR #03 Capital repairs, mid repairs, permanent repairs are common for electric energy generating companies. These activities are regulated by acting Ukrainian legislation. Please provide in the Monitoring Report that Project activity is additional comparing to usual repairs.	93	In the Baseline Scenario (2003-2005) there were also permanent repairs, mid-life repairs and capital repairs, but the SFR in those years did not get better. The volume of the measures implemented in the Project Scenario during the permanent repair, mid-life repair or capital repair is much wider then in the Baseline Scenario. All the measures, that should be included in the repair program as the common practice described in the GKD 34.20.661-2003 "The rules for the servicing and repairs of the equipment, buildings and constructions of the Power Plants and the Networks" Approved by the Ministry of the Fuel and Energy of Ukraine in 2004. The measures implemented in the Project Scenario	The CAR is closed on the basis of required information provided and corrections made to the MR.
		are beyond these obligatory volume	
CAR #04 Please, provide in the Monitoring Report traceable references to the Emission factor for coal, used in ERUs calculations.	95(c)	See Section B.3 Version 1.2- 2010KuTPP <u>http://www.ipcc-</u> nggip.iges.or.jp/public/gl/pdfiles/rusch <u>1-1.pdf</u>	The Monitoring Report is checked. The issue is closed.

#### VERIFICATION REPORT: RECONSTRUCTION OF THE UNITS AT THE STRUCTURE UNIT "KURAKHOVSKAYA TPP" OF THE

B U R E A U VERITAS

"SKHIDENERGO" LTD

CAR #05 Please, submit to the verification team ERUs calculations for March 2011.	95(d)	ERUs calculations for March 2011 have been provided to the verification team.	The issue is closed.
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