Bureau Veritas Certification Holding SAS

BUREAU VERITAS
CERTIFICATION
Reviewed
Init
Date: 23/01/2012

DETERMINATION REPORT

JSC TERRITORIAL GENERATION COMPANY # 6

DETERMINATION OF THE INSTALLATION OF CCGT UNIT AT THE DZERZHINSKAYA HPS, RUSSIAN FEDERATION

REPORT NO. RUSSIA-DET/0170/2011

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Determination Protocol on JI project

Installation of CCGT unit at the Dzerzhinskaya HPS, Russian Federation

Date of first issue: 18/01/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: JSC "TGC-6"	Client ref.: Mrs. Inna V. Baikova

Summary:

Bureau Veritas Certification has made the "Installation of CCGT unit at the Dzerzhinskaya HPS, Russian Federation" project of the JSC Territorial Generation Company #6 located in the city of Dzerzhinsk, Nizhny Novgorod region , Russian Federation on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. 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.

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up on-site interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final determination report and opinion. The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the determination process is a list of Corrective Actions Requests (CAR) and clarification Requests (CL), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies Guidance on criteria for baseline setting and monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.: REPORT NO. RUSSIA-	Subject Group: JI	
Project title: "Installation of CCGT unit at the Dzerzhinskaya HPS, Russian Federation"		
Work carried out by: Vladimir Lukin – Team Leader, Lead Verifier		
Work verified by: Leonid Yaskin – Internal Technical Reviewer		
Work approved by: Leonid Yaskin – Operational Manager		
Date of this revision: 23/01/2012	Rev. No.: 02	Number of pages 59

Abbreviations

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CCGT	Combined Cycle Gas Turbine
CCP	Combined Cycle Plant
CL	Clarification Request
CO_2	Carbon Dioxide
DDR	Draft Determination Report
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
GHG	Greenhouse House Gas(es)
HPS	Heat and Power Station
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
NCSF	National Carbon Sequestration Foundation JSC
PDD	Project Design Document
RAO EES	Russian Joint Stock Company “United Energy System of Russia”
JSC	Joint Stock Company
PP	Project Participant
RF	Russian Federation
TGC-6	Territorial Generation Company #6
tCO2e	Tonnes CO2 equivalent
UNFCCC	United Nations Framework Convention for Climate Change

Table of Contents ***Page***

1 INTRODUCTION

JSC "Territorial Generation Company #6 (hereafter referred 'TGC-6') has commissioned Bureau Veritas Certification to determine JSC "Installation of CCGT unit at the Dzerzhinskaya HPS, Russian Federation" project of the JSC Territorial Generation Company #6 (hereafter referred 'the project') located in city of Dzerzhinsk, Nizhny Novgorod region , Russian Federation.

This report summarizes the findings of the determination 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

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and meet the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emissions reductions units (ERUs).

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 determination 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 determination 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 design.

1.3 Determination team

The determination team consists of the following personnel:

Vladimir Lukin
Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

This determination report was reviewed by:

Leonid Yaskin

Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

In order to ensure transparency, a determination 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 determination and the results from determining the identified criteria. The determination protocol serves the following purposes:

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

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

2.1 Review of Documents

The original Project Design Document (PDD) v. 01 dd. 11/07/2011 submitted by the Consultant JSC “National Carbon Sequestration Foundation” (hereinafter referred ‘NCSF’) for determination and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Guidance on criteria for baseline setting and monitoring, Kyoto Protocol to be checked by an Accredited Independent Entity were reviewed and corrective action requests were reported.

To address Bureau Veritas Certification corrective action requests, NCSF revised the original PDD and resubmitted it as v.02 dated 23/12/2011.

The determination findings presented in this report relate to the project as described in the above mentioned versions of the PDD.

2.2 Follow-up Interviews

On 07/12/2011 Bureau Veritas Certification conducted on-site interviews with the project participant TGC-6 and the consultant NCSF to confirm selected information about the technical and economic characteristics and parameters of the project and to clarify issues identified in the review of the PDD v.01. Interviewees are listed in the References. The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Project participant: JSC «TGC-6» ;	• The project history • Current status of the project • Confirmation of the starting date • Technical details of the project and the baseline • Input values for the investment analysis • Monitoring plan • Monitoring equipment • Environmental impacts • Authority/responsibility for the ER Monitoring
NCSF (consultant)	• Justification of the selected baseline • Investment analysis • Calculations of Emission Reduction in the PDD

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination 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 project design.

If Bureau Veritas Certification, in assessing the PDD and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to JI project 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 in the published PDD that is not in accordance with the (technical) process used for the project or relevant JI project requirement or that shows any other logical flaw;

(b) Clarification request (CL), requesting the project participants to provide additional information for Bureau Veritas Certification to assess compliance with the JI project requirement in question;

(c) Forward action request (FAR), informing the project participants of an issue, relating to project implementation but not project design, that needs to be reviewed during the first verification of the project.

Bureau Veritas Certification should make an objective assessment as to whether the actions taken by the project participants, if any, satisfactorily resolve the issues raised, if any, and should conclude its findings of the determination.

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

3 PROJECT DESCRIPTION (quoted by PDD v.02)

The project objectives:

- to increase the efficiency of electric power production
- to improve environmental conditions
- to decrease the emission of greenhouse gases

The project tasks:

- to install CCGT Unit
- to build gas infrastructure (gas compressor unit, on-site gas pipeline)
- to reconstruct the main building
- to build an engineering infrastructure

The situation existing prior to the project

The installed capacity of the OJSC Dzerzhinskaya HPS (Heat and Power Station) before the project was as follows:

Electric capacity - 485 MW

Thermal capacity - 1349 Gcal

Primary fuel of the Dzerzhinskaya HPS was fuel oil and natural gas.

The increase in consumer demand for heat and power energy led to the need to increase the heat and electric power capacity of the Dzerzhinskaya HPS.

Baseline scenario

In the absence of the Project, turbine No.3 P-50 would be taken out of operation and boiler No.9 BKZ-420 that would use the fuel oil 85% and natural gas 15% as a fuel and turbine No. 7 PT-140/165/ would be installed.

Project scenario

It is proposed to take boiler No.3 TGM-88 ,turbine No.3 R-50 and No.4 R-50 out of operation, and replace them with a combined cycle gas turbine unit (CCGT unit) in the following configuration:

- a 150 MW power Siemens gas turbine unit, type V94.2

- a waste-heat boiler from the Machine Building Factory of the Podolsk PR-310-1.5-275

- a steam-generating set T-30/45-145

The conveying capacity of the natural gas supply system existed prior the project start at Dzerzhinskaya HPS could not cover the demands of the implemented CCP. Hence the additional gas infrastructure installation was necessary including following:

- gas compressor station

- additional high pressure gas pipeline 600 meters long with a gas metering skids.

Project scenario assumes continuation of a project that was starting to plan in 1994.

Project background

The discussion regarding the reconstruction of the Dzerzhinskaya HPS began in 1990. The reconstruction plan envisaged further enhancement of generation according to the baseline scenario with the application of the established design. This design included the combined generation of heat and electric power by a steam turbine. For these purposes it was planned to install an additional boiler No.9 BKZ-420 and a turbine unit No.7 GN-140*165-130 at the Dzerzhinskaya HPS and to take turbine No.3 out of operation. The plan was to carry out the reconstruction between 1993 and 1996. However, because of the collapse of the USSR in 1991 and the subsequent privatizations the reconstruction was halted.

In January 1994 the new owner of the HPS (OJSC Nizhnovenergo) returned to the issue of reconstruction. The offer from Siemens AG was considered and accepted. The proposal was to install the steam and gas unit No.3. The sources of financing, which included internal funds of the OJSC Nizhno-

venergo and funds raised from the RAO UES and the budget of the Nizhny Novgorod Region, were selected. In March 1994 an agreement was signed, according to which the installation of unit No.3 was planned for November 1996. Because of the problems with funding that began in 1996 the project was halted. In 1997 due to the beginning of the structural reform in electrical power engineering the present project was eliminated from the development plans of the RAO UES. Thus, the project was deprived of a significant source of financing from the electric-power holding company. As a result the agreement with Siemens AG was annulled and the project was frozen.

Interest reemerged to this project in 2001 when the company management at the meeting as of 25/02/2001 took the decision to implement the project with the application of the mechanism of the Joint Implementation of the Kyoto Protocol

From 2001 to 2004 the engineering data was updated, permits and agreements were received and funding sources for the project were sought out. The only funding source was a loan from the OJSC Sberbank of the Russian Federation. The bank lent the entire sum of the investment. In May 2004 the project received its first funds. In December 2005 the steam and gas unit No.3 was put into operation.

4 DETERMINATION CONCLUSIONS

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

The findings from the desk review of the original project design documents and the findings from interviews during the follow up communications are described in the Determination Protocol in Appendix A.

The Corrective Action Requests are stated, where appropriate, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 12 Corrective Action Requests, 14 Clarification Requests, and 1 Further Action Request.

The numbers in brackets at the end of each section correspond to the respective DVM paragraphs.

4.1 Project approvals by Parties involved (19-20)

The project has no approvals from the parties involved. This is reported in CAR 03 which remains pending.

4.2 Authorization of project participants by Parties involved (21)

The participation of JSC "TGC-6" listed as project participant in the PDD is not authorized by the Parties involved.

The authorization is deemed to be carried out through the issuance of the project approval.

4.3 Baseline setting (22-26)

PDD explicitly indicates that JI specific approach was applied to establish the baseline following appendix B of the JI guidelines.

JI specific approach

The baseline is established basically:

(a) by listing and describing future scenarios available for the project owner TGC-6 and selecting the scenario least influenced by the key factors.

Two alternative scenarios (AS) were listed and assessed as follows:

AS1. Decommission of turbine No.3 with the installation of boiler No.9 and turbine No.7

Under this alternative turbine No.7 Type R-50-130/13, capacity – 50 MW would be decommissioned, and the following facility would be installed:

- Boiler No.9 BKZ-420-140 NGM, steam-generating capacity 420 t/h;
- Turbine No.3 PT-140/165-130/15, capacity – 140 MW.

These facilities would have been fueled with mix of fuel oil and natural gas.

AS2. Realisation of the project without JI registration.

Both alternatives were considered during the project discussion and found plausible that was confirmed by the review of the Baseline feasibility study of the TPP overhaul made in 1990 /4/ and official conclusion (positive) issued by the Environmental committee /5/ and the Project feasibility study developed in 1994 /6/ and approved by local authorities /7/.

Based on alternatives analysis taking into account the key factors listed below a conclusion is made in Section B.1 that AS1 is the most plausible baseline scenario.

(b) by taking into account the key factors that affect a baseline:

- sectoral reform policies and legislation;
- economic situation and availability of funds (including investment barriers);
- local availability of technologies, equipment, experience and know-

how.
- price and availability of fuel;

(c) basically in a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors.

(d) taking account of uncertainties and using conservative assumptions.

(i) in such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure.

(f) by drawing of the list of standard variables contained in appendix B to Guidance on criteria for baseline and monitoring.

The key information and data used to establish the baseline are provided in the required tabular forms.

Outstanding issues related to the Project description and Baseline setting (22-26), PP's response and the AIE conclusion are summarized in Appendix A (refer to CARs 01; 02 CAR 04 – 06 and CLs 01- 05).

The issued CARs and CLs concern:
- Justification of the reconstruction status at the project start (CAR 01);
- Justification of the approach to determine the baseline emissions (CAR 02);
- PP requested to refer to the current version of Guidance for baseline setting and monitoring which is version 3 (CAR 04);
- Justification on how the high prices of mazut might affect the baseline (CAR 05);
- Justification of incomplete tables in sec. B.2 (CAR 06);
- Request of evidence supporting project history as described in PDD (CL 01);
- PP is requested to demonstrate that baseline equipment would have been capable to provide the similar heat and power output as the project does (CL 02);
- Justification of the nature of impacts affecting the alternatives (CL 03);
- Clarification on how the legal policies and initiatives affect the alternatives selected (CL 04);
- Clarification on changes in the annual specific fuel consumption occurring from year to year (CL 05);
- Request for the information sources to confirm baseline emission calculation input values (CL 06)

4.4 Additionality (27-31)

It is explicitly indicated that the JI specific approach according to Annex 1, paragraph 2a of Guidance on criteria for baseline setting and monitoring Version 03 was used to demonstrate additionality.

According to the applied approach, additionality is proven by investment analysis and common practice analysis.

Investment analysis made by TGC-6 with the use of company's input data is presented on the excel spreadsheet. It covers the 20 years period from the start of the project. The capital expenses and inflationary expectations are considered in accordance with the project feasibility study /8/ without the expenses which had been paid prior the project restart. The fuel costs and heat and power tariffs are considered as the average regional tariffs in 2000 and were validated on the basis of the review of the publicly available sources /10/ taking into account the inflation expectation verified on the basis of reliable publication /9/. The investment comparison analysis was applied to demonstrate that the baseline scenario would have been more economically attractive than the project without being implemented as JI. The general outcome from the investment model application is supported by the sensitivity analysis with ±10% variation range of key parameters.

Common practice analysis has shown that projects to install CCP are not widely observed and commonly carried out in Russia. The AIE observes that implementation of CCP has become the trend in Russia during the last decade; most of such projects are implemented as JI. However, in Dzerzhinsk region, a similar gas turbine technology of the same scale is definitely not the common practice.

Outstanding issue related to Additionality (27-31), PP's response and the AIE conclusion are summarized in Appendix A (refer to CARs 07-08 and CL 07).

- Justification of the investment assumptions choice (CAR 07);
- Common practice analysis (CAR 08);
- Requested evidence to support the investment assumptions (CL 07);

4.5 Project boundary (32-33)

JI specific approach
The project boundary encompasses all anthropogenic emissions by sources of greenhouse gases as listed in Table B.3-1 which are:(i) under the control of the project participants; (ii) reasonably attributable to the project; and (iii) significant.

The project boundary is defined on the basis of case-by-case assessment of different emission sources.

The identified sources of the GHG emissions are the fossil fuels (natural gas and fuel oil) combustion at Dzerzhinsk HPS. Methane emission due to NG fugitive leaks from the Gas Compressor station installed as the part of project is neglected as being less than 1% of total emissions as confirmed by the review of Annual State statistical forms “2-tp air” /11/. Delineation of the project boundary and the sources is described and justified in the PDD by using figure B.1 and Table B.3.1.

All exclusions made are appropriate as a conservative or logic assumption based on data from reliable sources.

Based on the assessment of the project documentation, the AIE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

Outstanding issue related to Project boundary (32-33), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CARs 09-10).

The issued CARs concern:
- Justification on why the methane fugitive leaks are not considered as the project emission source (CAR 09);
- Requested indication of all emission sources at the diagram (CAR 10).

4.6 Crediting period (34)
The project’s starting date is indicated in the PDD and determined by the AIE as January 1st, 2008 being the date after the emission reduction started to be generated.

The PDD states the expected operational lifetime of the project in years and months, which is 14 years or 168 months: 16.10.2006 – 16.10.2019 (based on the project equipment specification.

The PDD defines the length of the crediting period as 5 years or 60 months as from 01/01/2008 to 31/12/2012.

Outstanding issue related to Crediting period (34), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 11 and CL 08).

The issued CAR and CL concern:
- Request for the evidence to confirm the starting date (CL 08);
- Justification of the difference in the operation lifetime used in the PDD and investment analysis (CAR 11).

4.7 Monitoring plan (35-39)

The PDD, in its monitoring plan section, explicitly indicates that JI specific approach was the selected approach.

JI specific approach

The monitoring plan adequately specifies the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions to be monitored.

The monitoring plan describes:
- data to be monitored to determine the project emissions (M1 – Natural gas consumption by; M2 – Natural Gas caloric value);
- fixed parameters used to estimate the project emissions (NG emission factor determined on the basis of IPCC 2006);
- data to be monitored to determine the baseline emissions (electricity generation by CCGT; heat output from the CCGT*; auxiliary electricity consumption to cover the own needs).
- fixed parameters not to be monitored for the baseline calculation (Specific fuel consumption to produce electricity under the baseline – historical data; Specific fuel consumption to produce heat – historical data; the capacity of gas distributing station #1 - technical specification; minimal NG consumption under the baseline – historical data; NG and fuel oil emission factors determined on the basis of IPCC 2006);
- data to be monitored to estimate leakage effect (;
- formulae for estimation of project and baseline emissions;

* To estimate the heat output following additional parameters are to be measured:
- overheated steam consumption,
- steam pressure
- steam temperature,
- hot water consumption,
- hot water temperature
- hot water pressure;

The default values originate from recognized sources and are presented in a transparent manner.

The monitoring plan explicitly and clearly distinguishes:
(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as emission factors, boilers efficiency, and specific fuel;
(ii) N/A (refer to para 36 (d));
(iii) Data and parameters that are monitored throughout the crediting period (please see above).
The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC, as appropriate (project and baseline emissions and their components, and relevant emission factors).

The monitoring plan outlines the quality assurance and control procedures for the monitoring process.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. Responsibilities concern inter alia data collection, data storing and archiving estimation of emission reduction, and monitoring report preparation and approval.

As per the site visit results including visual observation and documentation review all monitoring equipment is operational and its calibration status is confirmed /21/.

All personnel involved in the operation and monitoring process and take over the responsibility for the carry out the monitoring functions are appropriately trained that was confirmed through the review of training certificates provided on site /22/.

On the whole, the monitoring report reflects good monitoring practices appropriate to the project type.

Outstanding issues related to Monitoring plan (35-39), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 12 and CLs 09 – 12).

The issued CAR and CLs concern:
- Justification of the approach applied to estimate the NG consumption (CAR 12);
- The request of information sources for the selected input values (CL 09);
- Clarification of the source for the fuel oil emission factor (CL 10);

- Specification of the rocedures to be followed if the monitoring data are unavailable (CL 11);
- Clarification of the authority and responsibility distribution to carry out the monitoring functions (CL 12)

FAR 01 is left pending till the 1st verification. It concerns the monitoring procedures to be followed if expected data are unavailable.

4.8 Leakage (40-41)

JI specific approach
Leakage is defined as the net change of anthropogenic emissions by sources of greenhouse gases (GHG) which occurs outside the project boundary, and which is measurable and attributable to the project activity. The fugitive methane emission occurring due to natural gas recovery and transportation contributes to the leakage effect. Without the project activity the methane emissions from both NG and fuel oil recovery and transportation would have occurred. Hence the leakage was estimated as the difference between the fugitive methane emissions from the recovery/transportation of NG consumed by the project and the fugitive methane emissions from the production/transportation of the NG and the fuel oil that would have been consumed without the project to provide the same energy output (baseline).

The data of average methane fugitive leaks factor attributable to the Gazprom's transportation system /12/ was applied to estimate the component of leakage attributable to NG transportation and recovery either with or without the project.

The methane emissions due to fuel oil production and transportation were conservatively estimated on the basis of default emission factors presented in IPCC 2006 /14/.

The PDD comprehensively explains which sources of leakage are to be calculated, provides a procedure for an ex ante estimation of leakage and appropriately describes an assessment of the potential leakage of the project.

No outstanding issues were raised with regard to the leakage estimation.

4.9 Estimation of emission reductions or enhancements of net removals (42-47)

JI specific approach

The PDD indicates that the emission reduction was estimated as the difference between the baseline emissions and the project emissions taking into account the leakage effect occurred outside the project boundary.

The PDD provides the ex ante estimates of emission reduction from the project for the whole crediting period;

The estimates referred to above are given:
(a) On an annual basis;
(b) From 01/01/2008 to 31/12/2012;
(c) On a source-by-source basis;
(d) For CO2 and CH4 as GHG emitted.
(e) In tonnes of CO2 equivalent.

The formulae used for calculating the estimates referred above, which are Formulae in Sections D.1, D.1.1.2, D.1.1.4 and D 1.3.2 are consistent throughout the PDD and excel calculation model.

For calculating the estimates referred to above, key factors defined in the monitoring plain influencing the project and baseline emissions were taken into account, as appropriate.

The estimation referred to above is based on conservative assumptions and the most plausible scenario in a transparent manner.

The PDD Section E includes an illustrative ex ante emissions calculation supported by the excel model /1/ providing all formulae in transparent and verifiable mode.

All input values for the ex-ante emission reduction estimation were verified on the basis of the review of reliable documentary evidence /13 – 17/ collected through the site visit and provided by PP.

No outstanding issues related to Estimation of emission reduction (42-47), were raised in course of determination.

4.10 Environmental impacts (48)

Environmental impact assessment (EIA) is made as a part of the design documentation of the "Dzerzhinskaya TPP technical overhaul project" /6/ approved by the positive conclusion made by the authorized regional branch state Environmental committee /7/. The information about the possible adverse impacts from air pollution, waste generation and noise is summarized in Section F.1.

The project received a positive Conclusion of Glavgosexpertiza of Russia and a Permit for Air Emission from Rostekhnadzor.

Outstanding issues related to Environmental impacts (47a – 47b), PP's response and the AIE conclusion are summarized in Appendix A (refer to CL 13).

The issued CL concerns:

- Request of evidence to support the official approval of EIA (CL 13);

4.11 Stakeholder consultation (49)

The project was undergoing the environmental expertise as required by law. No legal requirements existed at that time to undertake the stakeholder's meeting. The information on the possible adverse environmental impact was made publicly available via the local press "Dzerzhinsk" newspaper # 25 in 2001. No negative comments were received back.

Outstanding issues related to Stakeholders' consultation (49), PP's response and the AIE conclusion are summarized in Appendix A (refer to CL 14).

The issued CL concerns:

- Request of evidence against the stakeholders' consultation arrangement (CL 14).

4.12 Determination regarding small scale projects (50-57) (Not applicable)

4.13 Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64) (Not applicable)

4.14 Determination regarding programmes of activities (65-73) (Not applicable)

5 SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES

No comments, pursuant to paragraph 32 of the JI Guidelines, were received.

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the «Installation of CCGT unit at the Dzerzhinskaya HPS, Russian Federation» project. The determination 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 determination consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project participants; iii) the resolution of outstanding issues and the issuance of the final determination report and opinion.

Using investment analysis and common practice analysis the project participants proved that the project activity itself is not the baseline scenario.

Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria.

The determination revealed two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party. If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 02 dated 23/12/2011 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The determination is based on the information made available to us and the engagement conditions detailed in this report.

7 REFERENCES

Category 1 Documents:
Documents provided by TGC-6 and NCSF directly related to the GHG components of the project.

/1/ Installation of CCGT unit at the Dzerzhinskaya HPS, Russian Federation",
Version 01 dd. 11/07/2011
Version 02 dd. 23/12/2011
Supporting documentation:
ER calculation model in the Excel sheet
Investment analysis model

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design and/or other reference documents.

/1/ Guidelines for the implementation of Article 6 of the Kyoto Protocol (JI Guidelines)
http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf#page=2;
/2/ Guidelines for Users of the JI PDD Form (Version 04), JISC
http://ji.unfccc.int/Ref/Documents/Guidelines.pdf ;
/3/ Guidance on criteria for baseline setting and monitoring (Version 03), JISC
http://ji.unfccc.int/Ref/Documents/Baseline_setting_and_monitoring.pdf ;
/4/ Prefeasibility study on the Dzerzhinskaya TPP technical overhaul project dd.1990
/5/ Positive conclusion issued by the Environmental committee of Nizhniy Novgorod region
/6/ Prefeasibility study for the Dzerzhinskaya TPP technical overhaul project dd. 1994
/7/ Positive conclusion on the GTU installation prefeasibility study issued by Environmental committee of Nizhegorodsky region on 30/05/1994.
/8/ Overhaul calculation of the expenses for the reconstruction of Dzerzhinskaya TPP dd. 1990
/9/ Energy market costs forecast: general principles.
http://www.rectmn.ru/old/FILE/file106.htm
/10/ Russian State Statistical Committee's database, Data for Privolzhsky Region for 2001
http://www.gks.ru/dbscripts/Cbsd/DBInet.cgi?pl=1904009
/11/ State Statistical Reports "2-TP air" on the pollutant emissions into atmosphere.
/12/ Gazprom environmental reports for 2008, 2009 and 2010
http://www.gazprom.ru/nature_new/environmental-reports/.

/13/ IPCC 2006 http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html
/14/ Total fuel consumption (NG and fuel oil) historical data for 2004-2007 and for 2008-2010 6 –TP statistical reports.
/15/ Electricity generation and own consumption data for the 2008-2010, heat output for the CCGT unit (3-tekh statistical reports);
/16/ Industrial program November-December 2011;
/17/ Industrial program (forecast for 2012);
/18/ The letter on State Environmental Expertise # VL-61/54 dd. 08/01/02 issued by Ministry on Environmental Resources Of Russia;
/19/ Gas regulation unit certificate.
/20/ Laboratory reports on the NCV testing results for the NG and the fuel oil supplied to the Dzerzhinskaya TPP
/21/ Calibration certificates for the heat and power generation meters and NG flaw meters installed at the CCGP
/22/ Training certificates for the operational staff and management involved into the monitoring.

Persons interviewed:

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

/1/	I. Baikova -	The head of Environmental Protection department in the Nizhegorodsky regional branch of TGC-6;
/2/	E. Baidakova –	NCSF Lead expert of Project Development department;
/3/	N. Trofimov -	NCSF expert of Project Development department

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APPENDIX A

DETERMINATION PROTOCOL

Table 1

Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (REVISION 01)

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
General description of the project				
Title of the project				
-	Is the title of the project presented?	The title of the project is presented. It is "Installation of CCGT unit at the Dzerzhinskaya HPS, Russian Federation".		OK
-	Is the sectoral scope to which the project pertains presented?	The indicated sectoral scope of the project is: (1) Energy industries (renewable/non-renewable sources),		OK
-	Is the current version number of the document presented?	PDD Version 01.		OK
-	Is the date when the document was completed presented?	PDD dated 11/07/2011		OK
Description of the project				
-	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, includ-	Project objectives: - to increase the efficiency of electric power production - to improve environmental conditions - to decrease the emission of greenhouse gases Situation existing prior the project:		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	ing a technical description)?	The installed capacity of the OJSC Dzerzhinskaya HPS (Heat and Power Station) before the project was as follows: Electric capacity - 485 MW Thermal capacity - 1349 Gcal Primary fuel of the Dzerzhinskaya HPS was mazut (fuel oil). The increase in consumer demand for heat and power energy led to the need to increase the heat and electric power capacity of the Dzerzhinskaya HPS. The baseline is described as the replacement of turbine No.3 P-50 with new boiler No.9 BKZ-420 that would use the fuel oil (mazut) as a fuel and turbine No. 7 PT-140/165/ The project is the replacement of boiler No.3 TGM-88 and turbine No.3 R-50 with CCGT including: - a 150 MW power Siemens gas turbine unit, type V94.2 - a waste-heat boiler from the Machine Building Factory of the Podolsk PR-310-1.5-275 - a steam-generating set T-30/45-145 Requirements a), b), c) to the content of Section A.2 are basically met.		
-	Is the history of the project (incl. its JI component) briefly summarized?	The history of the project (incl. its JI component) is briefly summarized in sec. A.2. The project idea emerged in 1990. The project implementation including construction and installation works were being undertaken in the period 1994-1996. In 1997 the project im-	CAR 01 CL01	OK OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		plementation was ceased. The project restarted in 2001 considering the possibility to earn the additional funds from the ER according to article 6 of Kyoto protocol. The decision to restart the project considering JI was adopted on 25/02/2001. Construction works took place in the period 2001-2004 and the project was commissioned in December 2005. **CL 01** Please provide the documentary evidence against the history milestones. This project can be deemed additional in terms of JI only if the fact of impossibility to finalize the previously started activity is strongly proved documentarily (The same is to be checked on site). **CAR 01** Following the description of project history given in sec. A.2 the project is rehabilitation of activity which had been previously ceased. This fact should be consistently stated throughout the additionality discussion and reflected in the investment analysis (the expenses had been paid prior the project start in 2005 should be subtracted from the project costs). .		
Project participants				
-	Are project participants and Party(ies) involved	The Party and project participant involved in the project are		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	in the project listed?	listed as follows: - Party A the Russian Federation and its legal entity JSC Territorial Generation Company # 6 (JSC "TGC-6"). - Party B is not defined.		
-	Is the data of the project participants presented in tabular format?	The data of the project participant are presented in due tabular format.		OK
-	Is contact information provided in Annex 1 of the PDD?	Contact information is provided in Annex 1 of the PDD.		OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	Russian Federation is indicated as Host Party.		OK
Technical description of the project				
Location of the project				
-	Host Party	Russian Federation.		OK
-	Region/State/Province etc.	Nizhny Novgorod Region		OK
-	City/Town/Community etc.	The city of Dzerzhinsk		OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	Dzerzhinskaya HPS, 606000, Russian Federation, Nizhegorodskaya oblast, the city of Dzerzhinsk. Coordinates: 40°65′ 31″ N,114°33′23″ E		OK
Technologies to be employed, or measures, operations or actions to be implemented by the project				
-	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described?	Section A.4.2 outlines main technologies to be employed including all relevant technical data and the implementation schedule **Pending a response to CL 01**	pending	OK
Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances				

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	It is explained in Section A.4.3 that the emission reduction will be achieved due to the replacement of more carbon intensive production of electric energy generated by the existing facilities at the Dzerzhinsk HPS and electric power plants of the Russian power network. The sources of emission reduction are the following : Increased power and heat production delivery (the reduction of fuel equivalent consumption) The switch from mazut to less carbon intensive natural gas. **CAR 02** The baseline emissions are determined on the basis of specific fuel consumption values for power and heat production which are obtained from the Dzerzhinskaya HPP reference. Please demonstrate that these values (SFC EG and SFC HG) are really relevant to the baseline which is new to be installed steam boiler and turbine. The approach to determine of these key baseline parameters is absolutely vague and untraceable. Please update the PDD with the clear description on where this parameters were taken from.	CAR 02	OK
-	Is it provided the estimation of emission reductions over the crediting period?	The estimation of emission reductions over the crediting period is provided.		OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO2e?	The estimated annual reduction for the chosen credit period is provided in tCO2e.		OK
-	Are the data from questions above presented in	The data from questions above are presented in tabular for-		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	tabular format?	mat. Refer to Table A.4.3.1.		
-	Is the length of the crediting period Indicated?	The length of the crediting period is indicated as 5 years.		OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided?	Total as well as annual and average annual emission reductions in tonnes of CO2 equivalent are provided.		OK
Project approvals by Parties				
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	**CAR 03.** The project has no written approvals by the Parties involved. Information of the project approval by a party involved other than the host Party is not provided. The project approval by the Host Party will be provided after the determination statement is issued by the AIE.	CAR 03	Pending
19	Does the PDD identify at least the host Party as a "Party involved"?	Host Party involved is the Russian Federation.		OK
19	Has the DFP of the host Party issued a written project approval?	Conclusion is pending a response to CAR 03.	Pending	Pending
20	Are all the written project approvals by Parties involved unconditional?	Conclusion is pending a response to CAR 03.	Pending	Pending
Authorization of project participants by Parties involved				
21	Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: - A written project approval by a Party involved, explicitly indicating the name of the legal entity? or - Any other form of project participant authorization in writing, explicitly indicating the name	Conclusion is pending a response to CAR 03.	Pending	Pending

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	of the legal entity?			
Baseline setting				
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? - JI specific approach - Approved CDM methodology approach	It is explicitly indicated in the PDD Section B.1 that a JI specific approach is applied according to the Guidance on criteria for baseline setting and monitoring, version 02 (hereafter referred Guidance). *Most plausible scenario* to be selected per Guidance is replaced in the PDD by the *scenario on which the key factors have the least negative impact.* The AIE considers this acceptable. **CAR 04** Please refer to the current version of Guidance (ver. 03)	CAR 04	OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	Section B.1 provides a detailed theoretical description of the baseline. Pending a response to CAR 02	Pending	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
23	Does the PDD provide justification that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? - Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors? (d) Taking into account of uncertainties and using conservative assumptions? (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure? (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?	The baseline is established basically: By listing and describing future scenarios available for the project owner TGC-6 and selecting the scenario least influenced by the key factors. Two alternative scenarios (AS) were listed and assessed as follows: 1. Withdrawal of turbine No.3 with the installation of boiler No.9 and turbine No.7 2. Realisation of the project without JI registration. Based on alternatives analysis with taking into account the key factors in (b) below a conclusion is made in Section B.1 that Alt. 1 is the baseline scenario. (b) By taking into account the key factors that affect a baseline: -Sectoral reform policies and legislation; -Economic situation and availability of funds (including investment barriers); -Local availability of technologies, equipment, experience and know-how; -Price and availability of fuel; **CL 02** Please demonstrate that the baseline equipment is capable to provide the same heat and power output as the project does. Relevant documentarily evidences are to be provided and reviewed on site. **CL 03** (i) The description on how the key factors affect the	CAR 05 CAR 06 CL 02 CL 03 CL 04 CL 05 CL 06	OK OK OK OK OK OK OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		alternatives does not correspond to the outcomes from the analysis. Please justify why the "minimal impact" is indicated for Alt. 2 for: -Economic situation and availability of funds (including investment barriers); -Local availability of technologies, equipment, experience and know-how; -Price and availability of fuel. (ii)Please check the formulation of Alt. 2 given at page 11. It does not correspond to the description of project given in the other parts of PDD. **CAR 05** Nevertheless the last factor is entitled "Price and availability of fuel" the prices of mazut and NG are not analyzed. In fact HFO (mazut) including delivery and pretreatment much more expensive than NG. Please update PDD accordingly. **CL 04** The description of the first factor (Sectoral reform policies and initiatives) is vague and equivocal. Please clarify what relevance has the restriction of access to the market for "new players" with regard to the proposed project. Also please specify the risks associated with the collaboration with "foreign partners" in light of the fact that the agreement with Siemens had previously been concluded in 1994 and the company had had all necessary experience at the time of project start.		

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		(c) Pending a response to CAR02 (d) N/A. Taking account of uncertainties and using conservative assumptions is not evident. (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure. (f) By drawing of the list of standard variables contained in appendix B to Guidance on criteria for baseline and monitoring. The key information and data used to establish the baseline are provided in the required tabular forms. **CAR 06.** Following information is missing in the tables for baseline parameters: • Value of data applied (for ex ante calculations/determinations) Missing for $HG_{boiler,y}$ $HG_{tg,y}$ $EG_{gtu,y}$ $EG_{tg,y}$ • Justification of the choice of data or description of measurement methods and procedures (to be) applied Missing for *all parameters (the phrase* "This parameter is needed to define baseline GHG emissions." has no relevance to the justification of parameters' choice). • QA/QC procedures (to be) applied Missing for $EG_{gtu,y}$ $EG_{tg,y}$ $SFC_{EG,BL}$, $SFC_{HG,BL}$		

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CL 05 please clarify why the different values for each year are used for $SFC_{EG,BL,}$ $SFC_{HG,BL}$ bearing in mind these parameters are determined only once and not eligible for monitoring. **CL 06** Please provide the documentary evidence to confirm the assumed values for ER calculation, including 6-TP statistics forms for 2008-2010 and the forecasts for the rest crediting period to verify the values of electric and heat production and specific gas consumption per electric energy production.		
24	If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above?	N/A		
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	N/A		
Approved CDM methodology approach only_Paragraphs 26(a) – 26(d)_Not applicable				
Additionality				
JI specific approach only				
28	Does the PDD indicate which of the following approaches for demonstrating additionality is used? (a) Provision of traceable and transparent information showing the baseline was identified	The PDD indicates that approach (a) is used.		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board".			
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	The PDD provides a description of the 3-step scope of the approach. The justification of the applicability of the approach clearly follows from its application in the PDD.		OK
29 (b)	Are additionality proofs provided?	According to the applied approach, additionality is proven by investment analysis and common practice analysis. Investment analysis made by TGC-6 with the use of company's input data is presented on the excel spreadsheet. It covers the 14 years period from start of construction. The investment analysis is made assuming inflation to be	CAR 07 CAR 08 CL 07	OK OK OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		zero. **CAR 07** (i) The discount rate is calculated on the basis of inflation (18%) whereas the investment analysis is made using on the fixed input values. Please justify. (ii) The revenues for the project activity are calculated with consideration of ERU sales. That is not in line with description of alternative 2 which is the project activity not being registered as JI. (iii) Even taking revenues from ER into account the investment parameters for project (IRR) lower than the baseline. Hence the investment barrier is not being overcome by JI status and the project should be rejected anyway or the investment criterion is not material. (iv) Please justify the conservativeness of averaging of heat and power tariffs for investment analysis. Please provide the real breakdown of energy output against different tariffs and consumer's groups. (v) The revenues from heat and power output are calculated starting from the 2002 whereas the project was commissioned in 2005. Similarly the operation lifetime shall be prolonged for 14 years starting from the		

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		date of project commissioning. (vi) The fair values of assets at the end of investment analysis time horizon are not considered. (vii) Please justify whether the CAPEX (2.3 mln RUR) considers the relevant expenses had been carried out prior the project start (in 1991-1997). (viii) Sensitivity analysis for alt. 2 is made in untraceable manner that does not allow its validation. (ix) The outcome of sensitivity analysis is not supported by the comparison of investment parameters under varying conditions. (x) The heat output value applied for IA (1,615.68 GKal) is much more than that used in ER calculation (321.88 - 702.11 Gkal) Please justify the difference. **CL 07** Please provide the documentary evidence against all input values applied for the investment analysis (The same is to be checked on site). **CAR 08** The Common practice analysis does not consider the fact that the project activity had been started in 1991. The conclusion about the project's iniquity based on the		

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		analysis of project specific features is not substantial. Every project has its own specific features but it does not mean that it is first of its kind. Please make an emphasis at the analysis of implementation of CCUs in the similar environment.		
29 (c)	Is the additionality demonstrated appropriately as a result?	Pending a response to CARs 07 and 08	Pending	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	N/A		
Approved CDM methodology approach only_ Paragraphs 31(a) – 31(e)_Not applicable				
Project boundary (applicable except for JI LULUCF projects)				
JI specific approach only				
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: (i) Under the control of the project participants? (ii) Reasonably attributable to the project? (iii) Significant?	The project boundary defined in the PDD encompasses main anthropogenic emissions by sources of GHGs that are (i) under the control of the project participants, (ii) reasonably attributable to the project, and (iii) significant. **CAR 09** Please justify why the fugitive leaks from NG compressing and pumping inside the project boundary are not considered as the project emissions.	CAR 09	OK
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	Project boundary delineation is the subject for onsite evaluation. Pending a response to CAR 07	Pending	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately	Delineation of the project boundary and the sources is described in the PDD by using the Diagram in sec. B.3 and and	CAR 10	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	described and justified in the PDD by using a figure or flow chart as appropriate?	Table B.4 **CAR 10.** Please indicate all the identified emission sources on the diagram.		
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	Pending a response to CAR 07	Pending	OK
Approved CDM methodology approach only_Paragraph 33_ Not applicable				
Crediting period				
34 (a)	Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	The project's starting date is indicated as 30/05/2004 when the financing was received. **CL 08** Please provide the AIE a documented evidence of the date.	CL 08	OK
34 (a)	Is the starting date after the beginning of 2000?	Yes.		OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	Operational lifetime is defined as 29 years or 348 months: 01/01/2006 – 31/12/2035. **CAR 11.** Operational lifetime was determined as 14 years that is used in investment analysis. Please justify different values of the lifetime used in investment analysis and determined in sec. C.2. Please provide the documentary evidence to support any lifetime duration whichever is chosen	CAR 11	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	The length of crediting period is defined as 5 years (60 months).		OK
34 (c)	Is the starting date of the crediting period on or	Starting day is 01/01/2008 should be the date after the first	Pending	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	after the date of the first emission reductions or enhancements of net removals generated by the project?	emission reductions generated by the project. Pending a response to CL 11		
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	The crediting period is defined as from 01.01.2008 to 31.12.2012.		OK
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	N/A		OK
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? - JI specific approach - Approved CDM methodology approach	It is explicitly indicated that a JI specific approach is chosen.		OK
JI specific approach only				
36 (a)	Does the monitoring plan describe: - All relevant factors and key characteristics that will be monitored? - The period in which they will be monitored? - All decisive factors for the control and reporting of project performance?	The monitoring plan describes: 1. Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination regarding the PDD: - CO2 emission factors for natural gas and mazut; - Specific equivalent fuel consumption for the heat genera-		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		tion - Specific equivalent fuel consumption for electricity generation. 2. Data and parameters that are monitored throughout the crediting period. - Natural gas consumption by the CCGT unit; - Net calorific value of the natural gas - Heat and electric power output from the CCGT unit. The decisive factors to be monitored for the control of project performance are the heat and power output.		
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	The monitoring plan generally specifies indicators, constants and variables used that are basically reliable, valid and provide transparent picture of the emission reductions to be monitored. For data to be monitored, please refer to 36(a) above. For constants please refer to the next paragraph.		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (b)	If default values are used: - Are accuracy and reasonableness carefully balanced in their selection? - Do the default values originate from recognized sources? - Are the default values supported by statistical analyses providing reasonable confidence levels? - Are the default values presented in a transparent manner?	Constants used are the default values of the parameters as follows: - emission factor of natural gas (2006 IPCC) and mazut ; The default EF for Mazut (77.4) corresponds to that proposed by IPCC 2006 v.2 table 2.2. SFC coefficient for electricity and heat production are presented in inapplicably untraceable manner. Pending a response to CAR 02	pending	OK
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	**CL 09** Please provide the information sources on which basis the input values were selected. (The same is to be checked on site.)	CL 09	OK
36 (b) (ii)	For other values, - Does the monitoring plan clearly indicate the precise references from which these values are taken? - Is the conservativeness of the values provided justified?	**CL 10** The reference for default value of EF for mazut given in sec. B.1 and D.1 (page 25) is not consistent. The link given in sec. B.1 is inaccessible. Please refer to IPCC 2006 for EF mazut. Conclusion is pending a response to CAR 02	CL 10 Pending	OK OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	N/A for default data. **CL 11.** Please specify in the monitoring plan the procedures to be followed if expected data are unavailable.	CL 11	FAR 01
36 (b) (iv)	Are International System Unit (SI units) used?	International System Units (SI units) are used together with		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		kcal/kg for gas caloric value.		
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	Section D.1.3 notes the parameters to be obtained through monitoring		OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	There is consistency between parameters, coefficients, variables, etc. used in baseline and monitoring plan.		OK
36 (c)	Does the monitoring plan draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring".		OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored throughout the crediting period?	Description of the monitoring plan in Section D.1 explicitly and clearly distinguishes: (i) Refer to 36 (a).		OK
36 (e)	Does the monitoring plan describe the methods	The meters indicated for the monitoring of gas consumption,	pending	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	employed for data monitoring (including its frequency) and recording?	heat and power output monitoring are to be checked on site.		
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	Pending a response to CAR 02	pending	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	Pending a response to CAR 02	pending	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Consistent variables, equation formats, subscripts etc. are used.		OK
36 (f) (iii)	Are all equations numbered?	Yes.		OK
36 (f) (iv)	Are all variables, with units indicated defined?	Yes.		OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	Pending a response to CAR 02	pending	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	to be checked on site through the review of meters certificates	pending	OK
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	**CAR 12** Nonetheless PDD prescribes direct monitoring of NG consumption, excel spreadsheet applies its estimation on the basis of energy production and specific fuel consumption coefficients. This approach gives additional uncertainty related to estimation of SFC coefficients. Please provide the real data on natural gas consumption.	CAR 12	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	Pending a response to CARs 2 and 12	pending	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	Yes, the monitoring is in line with current operational routines.		OK
36 (f) (vii)	Are references provided as necessary?	Pending a response to CL 07.	Pending	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Conclusion is pending a response to CAR 02	Pending	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	N/A		OK
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	Uncertainty level of data is defined in Section D.2 as low. The same is to be checked on site.	Pending	OK
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project? Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?	The Monitoring plan provides the list of national standards used as the guidance for monitoring in the routine practice.		OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	N/A		
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the moni-	QC/QA procedures are outlined in PDD Section D.2. Pending a response to CAR 06	Pending	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	toring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?			
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	The "operational-administrative scheme of the project" is outlined in Section D.3. **CL 12.** Please Identify the authority and responsibility for the following monitoring functions: • Data storing; • Protection of database from unauthorized access and changes; • Internal audit; • Maintenance and calibration of meters.	CL 12	OK
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	Monitoring techniques are in line with current operation routines at Russian power sector.		OK
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?	Sections D.1.1.1 and D.1.1.3 provide compilation of all data needed to monitor project and baseline emissions.		OK
36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be	It is indicated in the Section D.3 that data will be stored for two years after the last ERU transfer under the project.	pending	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	kept for two years after the last transfer of ERUs for the project?	The respective procedure is to be checked on site		
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	N/A		OK
Approved CDM methodology approach only_Paragraphs 38(a) – 38(d)_Not applicable				
Applicable to both JI specific approach and approved CDM methodology approach_Paragraph 39_Not applicable				
Leakage				
JI specific approach only				
40 (a)	Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	Leakage is determined as the CO2 emission attributable to the recovery and transportation of NG consumed by the project (refer to Section D.1.3.2).		OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	Formula is provided in sec. D.1.3.2		OK
Approved CDM methodology approach only_Paragraph 41_Not applicable				
Estimation of emission reductions or enhancements of net removals				
42	Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the baseline scenario and in the project scenario	Approach (a) is clearly indicated by the scope of Section E.		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(b) Direct assessment of emission reductions			
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	Yes, ex ante estimates of project emissions, baseline emissions, leakage and emission reduction are provided.		OK
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	N/A		OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
45	For both approaches in 42 (a) Are the estimates in 43 or 44 given: (i) On a periodic basis? (ii) At least from the beginning until the end of the crediting period? (iii) On a source-by-source/sink-by-sink basis? (iv) For each GHG? (v) In tones of CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? (b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD? (c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate? (d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent? (e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and ap-	(a) Estimates in 42 are given: (i) Yes; (ii) Yes; (iii) On a source-by-source basis; (iv) For CO2 and CH4; (v) In tones of CO2 equivalent; (b) The formulae used for calculating the estimates in 43 are NOT consistent throughout the PDD Ex-ante estimation of GHG emission in the project is made on the basis of volumes of electricity and heat produced and respective SFC coefficients whereas the direct measurement should be available Pending a response to CAR 12 (c) For calculating estimates in 43, key factors influencing the baseline emissions and the activity level of the project and the emissions associated with the project are taken into account, as appropriate; (d) Pending a response to CL 09; (e) Yes. (f) Pending a response to the issues identified above; **(g) CAR 12;** **(h)** Yes.	CAR 12	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	propriately justified of the choice? (f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner? (g) Are the estimates in 43 or 44 consistent throughout the PDD? (h) Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?			
46	If the calculation of the baseline emissions or net removals is to be performed ex post, does the PDD include an illustrative ex ante emissions or net removals calculation?	Illustrative ex-ante estimation of emission reduction is made on the excel spreadsheet made available to AIE.		OK
Approved CDM methodology approach only_Paragraphs 47(a) – 47(b)_Not applicable				
Environmental impacts				
48 (a)	Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	Environmental impact assessment (EIA) is made as a part of the designed documentation of the project referred to in PDD Section F.1. Information about impact on environment from air pollution, waste generation and noise is summarised in Section F.1. **CL 13** Please provide the officially approved EIA along with relevant environmental licenses to confirm the compliance to	CL 13	OK

VM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		the applicable requirements.		
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	The project received a positive Conclusion of Glavgosexpertiza of Russia and a Permit for Air Emission from Rostekhnadzor. Pending a response to CL 16	Pending	OK
Stakeholder consultation				
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects have been received, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	**CL 14** According to cl. 14 of FZ-174 dd. 23/11/1995 protocol of stakeholder consultation is mandatory part of documentation to be submitted to State Environmental Expertise, which this project underwent. Please clarify whether any stakeholder consultation was arranged as part of EIA undertaken in accordance with the above requirement.	CL 14	OK
Determination regarding small-scale projects (additional elements for assessment)_Paragraphs 50 - 57_Not applicable				
Determination regarding land use, land-use change and forestry projects _Paragraphs 58 – 64(d)_Not applicable				
Determination regarding programmes of activities_Paragraphs 66 – 73_Not applicable				

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Determination team conclusion
CAR 01 Following the description of project history given in sec. A.2 the project is rehabilitation of activity which had been previously ceased. This fact should be consistently stated throughout the additionality discussion and reflected in the investment analysis (the expenses had been paid prior the project start in 2005 should be subtracted from the project costs).		Response 1 Corrected. See excel spread sheet model "TGK 6 Dzerzh model Invest analysis"	Conclusion on the response 1 Closed upon the review of PDD v.2.0
CAR 02 The baseline emissions are determined on the basis of specific fuel consumption values for power and heat production which are obtained from the Dzerzhinskaya HPP reference. Please demonstrate that these values (SFC EG and SFC HG) are really relevant to the baseline which is new to be installed steam boiler and turbine. The approach to determine of these key baseline parameters is absolutely vague and untraceable. Please update the PDD with the clear description on where this parameters		Response 1 Corrected. See PDD, Section B.1 Key information and data to establish baseline, p.13	Conclusion on the response 1 Closed upon the review of PDD v.2.0

were taken from.			
CAR 03. The project has no written approvals by the Parties involved. Information of the project approval by a party involved other than the host Party is not provided.	19	Response 1 In accordance with the applicable laws of the Russian Federation in the implementation of CO projects, Project approval is possible only after a positive opinion is received from the determining company. The project approval by a Party involved other than the host Party is absent at the time of the determination. The party involved other than the host Party will be determined after the approved by the Ministry of Economic Development and Trade of the Russian Federation.	Conclusion on the response 1 Remains open
CAR 04 Please ensure that the current version of Guidance for baseline setting and monitoring (ver. 03) is referred to throughout the PDD	22	Response 1 Corrected.	Conclusion on the response 1 Closed upon the review of PDD v.2.0
CAR 05 Nevertheless the last factor is entitled "Price and availability of fuel" the prices of mazut and NG are not analyzed. In fact HFO (mazut) including delivery and pretreatment much more expensive than NG. Please update PDD accordingly.	23	Response 1 Corrected. See PDD, page 12	Conclusion on the response 1 Closed upon the review of PDD v.2.0
CAR 06. Following information is missing in the tables for baseline parameters: • Value of data applied (for ex ante calculations/determinations) Missing for *HG boiler, y HG tg, y EG gtu,y EG tg, y*	23	Response 1 Corrected. See PDD, page 13-17	Conclusion on the response 1 Closed upon the review of PDD v.2.0

• Justification of the choice of data or description of measurement methods and procedures (to be) applied Missing for *all parameters (the phrase* "This parameter is needed to define baseline GHG emissions." has no relevance to the justification of parameters' choice). • QA/QC procedures (to be) applied Missing for *EG gtu,y EG tg, y* SFC EG,BL, SFC HG,BL			
CAR 07 (i) The discount rate is calculated on the basis of inflation (18%) whereas the investment analysis is made using on the fixed input values. Please justify. (ii) The revenues for the project activity are calculated with consideration of ERU sales. That is not in line with description of alternative 2 which is the project activity not being registered as JI. (iii) Even taking revenues from ER into account the investment parameters for project (IRR) lower than the baseline. Hence the investment barrier is not	29(b)	Response 1 (i) Corrected. See excel spread sheet model "TGK 6 Dzerzh model Invest analysis. (ii) Corrected. (iii)Corrected	Conclusion on the response 1 Closed upon the review of PDD v.2.0 And the explanation provided.

	being overcome by JI status and the project should be rejected anyway or the investment criterion is not material.		(iv) Corrected. Now average tariffs for Povolzhskiy Federal district is used.	
(iv)	Please justify the conservativeness of averaging of heat and power tariffs for investment analysis. Please provide the real breakdown of energy output against different tariffs and consumer's groups.		(v) Investment analysis was made at the time of decision making – 2001.	
(v)	The revenues from heat and power output are calculated starting from the 2002 whereas the project was commissioned in 2005. Similarly the operation lifetime shall be prolonged for 14 years starting from the date of project commissioning.		(vi) Corrected	
(vi)	The fair values of assets at the end of investment analysis time horizon are not considered.		(vii) Credit contract with Sberbank.	
(vii)	Please justify whether the CAPEX (2.3 mln RUR) considers the relevant expenses had been carried out prior the project start (in 1991-1997).		(viii) Corrected	
(viii)	Sensitivity analysis for alt. 2 is made in untraceable manner that does not al-			

low its validation. (ix) The outcome of sensitivity analysis is not supported by the comparison of investment parameters under varying conditions. (x) The heat output value applied for IA (1,615.68 GKal) is much more than that used in ER calculation (321.88 - 702.11 Gkal) Please justify the difference.		(ix) Corrected (x) Investment analysis for decision making about project realization was made on maximal output according to heat and electricity capacity.	
CAR 08 The Common practice analysis does not consider the fact that the project activity had been started in 1991. The conclusion about the project's iniquity based on the analysis of project specific features is not substantial. Every project has its own specific features but it does not mean that it is first of its kind. Please make an emphasis at the analysis of implementation of CCUs in the similar environment.	29(b)	Response 1 Corrected, see PDD, page 21.	Conclusion on the response 1 Closed upon the review of PDD v.2.0
CAR 09 Please justify why the fugitive leaks from NG compressing and pumping inside the project boundary are not considered as the project emissions.	32 (a)	Response 1 Corrected. See PDD, p 34.	Conclusion on the response 1 Closed upon the review of PDD v.2.0

CAR 10. Please indicate all the identified emission sources on the diagram.	32 (c)	Response 1 Done.	Conclusion on the response 1 Closed upon the review of PDD v.2.0
CAR 11. Operational lifetime was determined as 14 years that is used in investment analysis. Please justify different values of the lifetime used in investment analysis and determined in sec. C.2. Please provide the documentary evidence to support any lifetime duration whichever is chosen	34 (b)	Response 1 Project lifetime calculated on the basis of the operational lifetime of the gas turbine - 100 thousand hours with taking into account periods of outages. Project lifetime is equal 14 years.	Conclusion on the response 1 Accepted . ok
CAR 12 Nonetheless PDD prescribes direct monitoring of NG consumption, excel spreadsheet applies its estimation on the basis of energy production and specific fuel consumption coefficients. This approach gives additional uncertainty related to estimation of SFC coefficients.	36 (f) (vi)	Response 1 Corrected. Now estimation is made on the base of NG consumption.	Conclusion on the response 1 Closed upon the review of PDD v.2.0
CL 01 Please provide the documentary evidence against the history milestones before the start of proposed activity. The project can be deemed additional in terms of JI only if the fact of impossibility to finalize the previously started activity is strongly proved documentarily (The same is to be checked on site).		Response 1 See Protocol №18 from 2001.	Conclusion on the response 1 Closed upon the review of documentation provided /23/
CL 02 Please demonstrate that the baseline equipment is capable to provide the same heat	23	Response 1	Conclusion on the response 1 Closed upon the explanation pro-

<table>
<tr>
<td>and power output as the project does.
Relevant documentarily evidences are to be provided and reviewed on site.</td>
<td></td>
<td>
<table>
<tr><td>Baseline scenario</td><td>Project scenario</td></tr>
<tr><td>-50 MW</td><td>-50 MW</td></tr>
<tr><td>+140 MW</td><td>-50 MW</td></tr>
<tr><td></td><td>+ 150 MW</td></tr>
<tr><td></td><td>+30 MW</td></tr>
<tr><td>∆ 90 MW</td><td>∆ 80 MW</td></tr>
</table>
So, Baseline equipment is capable to provide the same heat and power output as the project does.
</td>
<td>vided as confirmed by the review of project and baseline technical specification /4/, /6/.
ok</td>
</tr>
<tr>
<td>CL 03 (i) The description on how the key factors affect the alternatives does not correspond to the outcomes from the analysis. Please justify why the “minimal impact” is indicated for Alt. 2 for:
-Economic situation and availability of funds (including investment barriers);
-Local availability of technologies, equipment, experience and know-how;
-Price and availability of fuel.

(ii)Please check the formulation of Alt. 2 given at page 11. It does not correspond to the description of project given in the other parts of PDD.</td>
<td>23</td>
<td>Response 1
Corrected, see PDD, p.11-14</td>
<td>Conclusion on the response 1
Closed upon the review of PDD v.2.0</td>
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<tr>
<td>CL 04 The description of the first factor (Sec-</td>
<td>23</td>
<td>Response 1
Corrected. See PDD page 10.</td>
<td>Conclusion on the response 1</td>
</tr>
</table>

toral reform policies and initiatives) is vague and equivocal. Please clarify what relevance has the restriction of access to the market for "new players" with regard to the proposed project. Also please specify the risks associated with the collaboration with "foreign partners" in light of the fact that the agreement with Siemens had previously been concluded in 1994 and the company had had all necessary experience at the time of project start.			Closed upon the review of PDD v.2.0
CL 05 please clarify why the different values for each year are used for SFC EG,BL, SFC HG,BL bearing in mind these parameters are determined only once and not eligible for monitoring.	23	Response 1 Corrected.	Conclusion on the response 1 Closed upon the review of PDD v.2.0
CL 06 Please provide the documentary evidence to confirm the assumed values for ER calculation, including 6-TP statistics forms for 2008-2010 and the forecasts for the rest crediting period to verify the values of electric and heat production and specific gas consumption per electric energy production.	23	Response 1 See 6-TP statistics forms for 2008-2010	Conclusion on the response 1 Closed upon the review of documents provided on site.

CL 07 Please provide the documentary evidence against all input values applied for the investment analysis (The same is to be checked on site).	29 (b)	Response 1 See notes in excel spread sheet model "TGK 6 Dzerzh model Invest analysis"	Conclusion on the response 1 Closed upon the review of documents provided on site.
CL 08 Please provide the AIE a documented evidence of the date.	34 (a)	Response 1 See Credit contract with Sberbank	Conclusion on the response 1 Closed upon the review of documents provided on site.
CL 09 Please provide the information sources on which basis the input values were selected. (The same is to be checked on site.)	36 (b) (i)	Response 1 See 3-TEH forms	Conclusion on the response 1 Closed upon the review of documents provided on site.
CL 10 The reference for default value of EF for mazut given in sec. B.1 and D.1 (page 25) is not consistent. The link given in sec. B.1 is inaccessible. Please refer to IPCC 2006 for EF mazut.	36 (b) (ii)	Response 1 Corrected	Conclusion on the response 1 Closed upon the review of PDD v.2.0
CL 11. Please specify in the monitoring plan the procedures to be followed if expected data are unavailable.	36 (b) (iii)	Response 1 Will be specify during verification of MR.	FAR 01
CL 12. Please Identify the authority and responsibility for the following monitoring functions: • Data storing; • Protection of database from unauthorized access and changes; • Internal audit; • Maintenance and calibration of me-	36 (j)	Response 1 See PDD, fig. D3 at p.40	Conclusion on the response 1 Closed upon the review of PDD v.2.0

ters.			
CL 13 Please provide the officially approved EIA along with relevant environmental licenses to confirm the compliance to the applicable requirements.	48 (a)	Response 1 Done	Conclusion on the response 1 Closed upon the review of documents provided
CL 14 According to cl. 14 of FZ-174 dd. 23/11/1995 protocol of stakeholder consultation is mandatory part of documentation to be submitted to State Environmental Expertise, which this project underwent. Please clarify whether any stakeholder consultation was arranged as part of EIA undertaken in accordance with the above requirement.	49	Response 1 State Environmental Expertise has not been provided, see the Letter.	Conclusion on the response 1 Closed upon the review of documents provided
FAR 01 Please specify the procedures to be followed if expected data are unavailable			