DETERMINATION REPORT

ECF PROJECT LTD.

DETERMINATION OF THE "TECHNICAL RE-EQUIPMENT OF TYUMEN' CHPP-1 WITH PUTTING INTO OPERATION OF A COMBINED-CYCLE GAS PLANT"

REPORT NO. RUSSIA-DET/0082/2010
REVISION 01

BUREAU VERITAS
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Bureau Veritas Certification Holding SAS

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REPORT NO: RUSSIA-DET/0082/2010 REV.1

Determination Report on JI project
"Technical re-equipment of Tyumen' CHPP-1 with putting into operation of a combined-cycle gas plant"

Date of first issue:	Organizational unit:
16/09/2010	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
ECF Project Ltd.	Mr. Gleb Anikin

Summary:

Bureau Veritas Certification was commissioned by ECF Project Ltd. to make the determination of the project "Technical re-equipment of Tyumen' CHPP-1 with putting into operation of a combined-cycle gas plant" 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 guidelines and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria. The owner of the project is • Open Joint-Stock Company "Fortum" (OJSC "Fortum"). ECF Project Ltd. being PDD developer coordinated the project and the determination process on behalf of the project owner.

The determination scope is defined as an independent and objective review of the project design document, the project's baseline, monitoring plan and other relevant documents, and consists of the following three phases: i) desk review of the project design document and particularly the baseline and monitoring plan; ii) follow-up 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), presented in Appendix A, Table 5. Taking into account this output, the project proponent has revised its project design document.

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

Report No.:	Subject Group:
RUSSIA/0082-2/2010	JI
Project title:	
"Technical re-equipment of Tyumen' CHPP-1 with putting into operation of a combined-cycle gas plant"	
Work carried out by:	
Leonid Yaskin - Lead Verifier Grigory Berdin – Lead Verifier	
Work verified by:	
Ivan Sokolov - Internal reviewer	
Work approved by:	
Flavio Gomes – Operational Manager	
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Indexing terms:

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Abbreviations

AIE	Accredited Independent Entity
BLS	Baseline Study
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CCGP	Combined-Cycle Gas Plant
CHPP	Combined Heat and Power Plant
CO_2	Carbon Dioxide
DDR	Draft Determination Report
DR	Document Review
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
GHG	Greenhouse House Gas(es)
I	Interview
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
IRCA	International Register of Certified Auditors
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MoV	Means of Verification
JSC	Joint Stock Company
MP	Monitoring Plan
NCSF	National Carbon Sequestration Foundation
OJSC	Open Joint Stock Company
NPV	Net Present Value
PCF	Prototype Carbon Fund (World Bank Carbon Finance Unit)
PDD	Project Design Document
PP	Project Participant
RF	Russian Federation
tCO2e	Tonnes CO2 equivalent
UNFCCC	United Nations Framework Convention for Climate Change
URES	Unified Regional Electricity System

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1 INTRODUCTION

ECF Project Ltd. has commissioned Bureau Veritas Certification to determine its JI project "Technical re-equipment of Tyumen' CHPP-1 with putting into operation of a combined-cycle gas plant", (hereafter called "the project") located located in the south-east part of Tyumen town, Tyumen Region, Russian Federation. ECF Project Ltd. being PDD developer coordinated the project and the determination process on behalf of the project owner.

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 purpose of the determination is to provide an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan, 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 meets 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 emission reduction 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 (PDD), the project's baseline study (BLS) and monitoring plan (MP) and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements for Joint Implementation (JI) projects, JI guidelines, in particular the verification procedure under the JI Supervisory Committee, JISC Guidance on criteria for baseline setting and monitoring, Guidelines for users of JI PDD Form, and associated interpretations. Bureau Veritas Certification has, based on the recommendations in the Validation and Verification Manual (IETA/PCF), employed a risk based approach in the determination process, focusing on the identification of significant risks for project implementation and generation of ERUs.

The determination is not meant to provide any consulting towards ECF Project Ltd. and OJSC "Fortum". However, stated requests for corrective actions may have provided input for improvement of the project design.

1.3 GHG Project Description (quoted by PDD Section A.2)

Purpose of the Project:

The purpose of the project is indicated as putting into operation of a combined-cycle gas plant unit at Tyumen CHPP-1 site. Implementation of the project allows to reduce the en-

ergy deficit in URES "Ural" and provide Tyumen town with stable electricity and heat supply.
The new CCGP unit with power 190 MW includes following main equipment:

- Gas turbine V 64.3 A from the company «Ansaldo»;
- Steam turbine T-130/160-12,8 from JSC « Power Machines Company»;
- Steam boiler E-500-13,8-560 GN, TKZ «Krasniy kotelschik».

Project Company:
OJSC "Fortum" is the Russian branch of the Finnish energy concern Fortum. The Company received the name in April 2009 as a result of the official renaming of the TGC-10 ".
OJSC "Fortum" is one of the leading manufacturers and suppliers of thermal and electrical energy in the Urals and Western Siberia. The total installed capacity of branches and affiliates of the company in electricity is around 2,800 MW and in thermal energy - 13 600 Gcal / h. Annual production of the company is 16 billion kWh of electricity and 22 million Gcal of thermal energy. As a result of large investment program, electricity will increase up to 2,300 MW.

Power plants of OJSC "Fortum" are located in the Urals and Western Siberia. The structure of the company currently consists of eight power plants. Five of them - in the Chelyabinsk region, three - in Tyumen. Electricity is supplied to the wholesale market. Thermal energy is realized on the local heat markets in cities where OJSC "Fortum" and its subsidiary - Ural Heat Distribution Company ", specializing in heat supply of various consumer groups.

The mission of the corporation Fortum accorting to it's web site is «Our energy improves life for present and future generations".

Situation existing prior to the starting date of the project:
Prior to the project implementation Tyumen CHPP-1 included following equipment: 1 unit CCGP, 3 turbines, 7 power boilers, 4 peak hot-water boiler. 100% of the fuel balance of the plant was/is natural gas. Installed power: Electric power of the plant - 472 MW, thermal power of the plant - 1411 Gcal/h.

Natural gas is the main and back-up fuel for the existent power boilers, blocks of the combined cycle plants st. №1, 2 and water boilers. The annual consumption of natural gas is 1547,1 mln. m3 per year. The fuel oil M-40 is used as emergency fuel for the water boilers.
Implementation of the project does not influence old equipment.

Baseline Scenario:
The baseline scenario is formulated as follows – If the project is not implemented (i.e. additional electricity will not be supplied to the grid) third parties which provide electricity to URES "Ural" and URES "Mid Volga" will cover the energy demand. The design amount of heat will be supplied by existing or new heat supply sources determined on the basis of investment programs of heat supply companies of city Tyumen.

Project Scenario:
The project scenario includes construction of the second generating unit at Tyumen CHPP-1. The new unit has 202 MW electric and 251,7 Gcal/h heat capacity. The annual production will amount around 1545 ths. MWh and 1840 ths. Gcal.
Natural gas is the main and back-up fuel. The annual fuel consumption is around 591 ths. tonnes of fuel equivalent.
The electricity generated by the project will be provided to the grid.

History of the Project:
"UES of Russia" (Unified Energy System of the Russian Federation) RJSC has started to get prepared for implementing the mechanisms of Kyoto Protocol long before its ratification in Russia. "UES of Russia" RJSC has made every effort to cooperate with the UNFCCC (United Nations Framework Convention on Climate Change). For those purposes, the Energy Carbon Fund was established in 2001 .

In 2007, the Energy Carbon Fund estimated whether it is possible to implement the project "Refurbishment of Tyumen CHPP-1 with a new 190 MW combined gas and steam turbine unit" .

On 24th August 2006 the Investment Commission of RAO "UES of Russia" approved the plan-timetable of realizing the investment project on construction of CCGT at Tyumen CHPP-1

On February 04, 2008 the CJSC "KVARZ-Tyumen" was chosen as the general subcontractor of constructing the power unit CCGT-190 at Tyumen CHPP-1 .
On March 12, 2008 the Shareholders Agreement to realize the investment program was signed between RAO "UES of Russia", OAO "SO UES" and Fortum Russia BV.
On September 25, 2008 Fortum, the Russian Territorial Generating Company No. 10 (TGC-10) and ECF Project Ltd. (subsidiary of Energy Carbon Fund) had signed an agreement according to which Fortum would purchase approximately 1.5 million tones of emission reduction units (ERU) from TGC-10.

The purchase agreement is based on the Memorandum of Understanding between Fortum and United Energy Systems of Russia (RAO UES) in 2006, and it is the biggest of its kind ever made in Russia. The ERUs purchased cover approximately half of Fortum's annual CO2 emissions and their value is approximately EUR 70 million based on the current market value of Certified Emission Units in developing countries.

1.4 Determination team

The determination team consists of the following personnel:

Grigory Berdin
Bureau Veritas Certification – Team Leader, Lead Verifier

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.

The determination consisted of the following three phases:

i) desk review of the project design document and the baseline and monitoring plan;
ii) site visit and interviews with project owner and PDD developer on 08/07/2010;
iii) resolution of outstanding issues with ECF Project Ltd. (ref. to Appendix A Table 5 with CAR's and CL's) and the issuance of the determination report and opinion.

In order to ensure transparency, a determination protocol was customized for the project, according to the Determination and Verification Manual (IETA/PCF).

The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating 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 independent entity will document how a particular requirement has been validated and the result of the determination.

The original determination protocol consists of five tables. The different columns in these tables are described in Figure 1.
The completed determination protocol is enclosed in Appendix A to this report. It consists of four tables. Table 3 for "Baseline and Monitoring Methodologies" is omitted because the project participants established JI specific approach that is in accordance with appendix B of the JI Guidelines and because the questions regarding the used approach are presented in Table 2. Additionally Table 6 "List of inadequacies" was added to describe minor inadequacies which do not influence understanding of the project, formulae and calculations.

Determination Protocol Table 1: Mandatory Requirements			
Requirement	**Reference**	**Conclusion**	**Cross reference**
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** or a **Clarification Request (CL)** of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Determination Report.	Used to refer to the relevant protocol questions in Tables 2, 3 and 4 to show how the specific requirement is validated. This is to ensure a transparent determination process.

Determination Protocol Table 2: Requirements checklist				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 3: Baseline and Monitoring Methodologies				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements of baseline and monitoring methodologies should be met. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 4: Legal requirements				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The national legal requirements the project must meet.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report corrective action and clarifications requests	**Ref. to checklist question in tables 1/2/3/4**	**Summary of project owner response**	**Determination conclusion**
If the conclusions from the Determination are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 1-4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the determination team should be summarized in this section.	This section should summarize the determination team's responses and final conclusions. The conclusions should also be included in Tables 1-4 under "Final Conclusion".

Figure 1 Determination protocol tables

2.1 Review of Documents

ECF Project Ltd. provided Bureau Veritas Certification (BVC) on 24/05/2010 the Project Design Document (PDD) Version 01 dated 30/11/2009 together with supporting documentation including calculation of GHG emission and investment analysis.

The completeness check made by BVC revealed some deviations of the PDD from the JISC format. Therefore, ECF Project Ltd. was requested to remake the PDD in conformity to JI PPD Form. BVC received the finally remade PDD Version 02 dated 25/05/2010. This version of PDD was made publicly available for public comments on Bureau Veritas Certification RUS website from 1 June 2010 till 30 June 2010.

PDD Version 02 and supporting documentation as well as additional background documents related to the project design, baseline, and monitoring plan, such as Kyoto Protocol, host Country laws and regulations, JI guidelines, JISC Guidance on criteria for baseline setting and monitoring, and Guidelines for users of the JI PDD Form were reviewed.

The final deliverable of the document review was the Draft Determination Report (DDR) Version 2 dated 10/08/2010 with 24 CAR's and 2 CL's.

PDD developer ECF Project Ltd. issued iteratively four batches of responses to BVC requests which were eventually embedded in the amended PDD Version 06 dated 14/09/2010.

The determination findings presented in this Determination Report Version 1 and Appendix A relate to the project as described in the PDD Version 01 (initial) and Version 06 (final).

2.2 Follow-up Interviews

Bureau Veritas Certification Lead Verifier Grigory Berdin conducted a site visit to the project site on 08/07/2010. On-site interviews with the project participant and ECF Project Ltd. were conducted to confirm the selected information and to resolve issues identified in the document review. The interview topics are listed in Table 7. The interviewed persons are listed in Section 6 References.

Table 7 Interview topics

Date/ Site/ Inter-viewed organization	Interview topics
08/07/2010 OJSC "Fortum" production office, Chelyabinsk town Sites: OJSC "Fortum" production office, Chelyabinsk town Organisations: OJSC "Fortum" ECF Project Ltd.	1. History of the project. 2. Starting date of the project (the date on which the implementation or construction or real action of the project has begun). 3. Substantiation of the operational lifetime of the project. 4. Substantiation that the project could not occur as the baseline scenario. 5. Distinctions of the project activity from similar activities. 6. Technical design document. 7. Verification of specific fuels consumption coefficients for project and baseline scenario; 8. IRR and NPV of the project as per the feasibility study and technical design in comparison with investment analysis in PDD. Capital costs and breakdown of operational costs of the project. 9. Operational and management structure. Responsibilities, roles, authorities (for verification stage). 10. Expertise of Environmental Impact Assessment Documentation. 11. Permits for air emissions at the construction and exploitation phases. 12. Public hearings, if any. 13. Training programme for the staff. 14. Pending issues.

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 followed on by the project participants for Bureau Veritas Certification positive conclusion on the project design.

Corrective Actions Requests (CAR) are issued, where:

i) there is a clear deviation concerning the implementation of the project as defined the PDD;
ii) requirements set by the Methodological Procedure or qualifications in a verification opinion have not been met; or
iii) there is a risk that the project would not be able to deliver high quality ERUs.

Clarification Requests (CL) are issued where:

iv) additional information is needed to fully clarify an issue.

DDR Version 2 summarising Bureau Veritas Certification's findings of the desk document review reported 24 CAR's and 2 CL's. The amendments made by ECF Project Ltd. to the PDD and summarised in PDD Version 06 dated 14/09/2010 satisfactorily addressed the verifier's requests. As a result, the Determination Report Version 1 was issued on

16/09/2010 and sent, together with the final PDD Version 06 to BVC Internal Technical Reviewer (ITR) for review. ITR did not raise any points of concern.

To guarantee the transparency of the determination process, the CAR's raised are summarized in Appendix A, Table 5.

3 DETERMINATION FINDINGS

In the following sections, the findings of the determination are presented for each determination subject as follows:

i) the findings from the desk review of the original project design document and the findings from interviews during the conference call are summarized. A more detailed record of these findings can be found in the Appendix A Determination Protocol.
ii) where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the determination protocol criteria or the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated in the in Appendix A Determination Protocol.
iii) where Clarification and Corrective Action Requests have been issued, the response by the project participants to resolve these requests is summarized in Appendix A Table 5.
iv) the conclusions of the determination are presented consecutively.

3.1 Project Design

The purpose of the project is putting into operation of a 190 MW combined-cycle gas plant unit at Tyumen CHPP-1 site to increase the reliability and quality of the heat and electricity supply of the residential and industrial sectors of Tyumen using modern technology.

The power generating unit of the combined cycle plant 190 MW st. 2 as a part of Tyumen' CHPP-1 is done by the gas rejection scheme of the gas-turbine unit to the power boiler and intended for production of electric and heat power. Combination of steam-turbine and gas-turbine units, united by the common technological cycle, allows for the reduction of heat loss and exhaust gases of gas-turbine units, use of turbine gases as a heated oxidizing substance while burning the fuel in the steam boiler, obtaining additional heat and electric power by means of partial replacement of regeneration of the steam turbine plants which will result in increasing the efficiency output of the power plant.

The new unit has 202 MW electric and 251,7 Gcal/h heat capacity. The annual production will amount around 1545 ths. MWh and 1840 ths. Gcal.

Natural gas is the main and back-up fuel. The annual fuel consumption is around 591 ths. tonnes of fuel equivalent.

The new unit will provide electricity to the grid. Implementation of the project allows to reduce the energy deficit in URES "Ural" and provide Tyumen town with stable electricity and heat supply.
The new CCGP unit with power 190 MW includes following main equipment:

- Gas turbine V 64.3 A, produced by «AnsaldoEnergia» (Italy). The gas turbine unit of high capacity with single shaft, cold drive and annular combustion chamber runs on gas fuel;
- Steam boiler E-500-13,8-560 GN, produced by JSK TKZ «Krasniy kotelschik». Power generating steam boiler E-500-13,8-560 GN (model TGE – 435 – A/PGU) is intended for operation as a part of combined cycle plant with gas turbine V64.3 produced by «AnsaldoEnergia» (Italy). The boiler with natural circulation, single-drum, gas-proof for operating under pressurization;
- Steam-turbine plant T-130/160-12.8, produced by JSC «Power machines» Saint-Petersburg. Steam-turbine district heating plant T-130/160-12,8 is intended for operation as a part of steam gas power generating unit CCGT-190. The turbine represents tandem twin-cylinder unit consisted of single-flow cylinder with high pressure and double-flow cylinder with low pressure.

The project is the greenfield state-of-the-art facility which positively influences the environment.

Reduction of GHG emissions will occur due to substitution of the electrical energy produced by the existing thermal power plants of the region and neighboring energy systems, where the emissions level per one unit of generated electrical energy is higher, as compared to the the electrical energy generated by the new unit of Tyumen' CHPP-1.

Construction of the second power unit started in October 2007 and it is planned for comisioning on September 2010. The project technology is unlikely to be substituted by other or more efficient technologies within the project period.

The project is expected to provide the reduction of GHG emissions by 997,625 tCO2e over the crediting period 2010-2012.

The identified areas of concern as to Project Design, PP's response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CAR 01 – CAR 07 and CL 01).

The project has no approvals by the Parties involved, therefore CAR 01 remains pending.

No areas of concern were identified as to Project Duration / Crediting Period.

3.2 Baseline and Additionality

A JI specific approach regarding baseline setting and additionality demonstration and assessment has been developed in accordance with JISC Guidance on criteria for baseline setting and monitoring (Version 02). In accordance with paragraph 24 of this Guidance, the

baseline is identified by listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one.

Four alternative scenarios were considered for the project activity:
- Alternative 1: The proposed project not developed as a JI project;
- Alternative 2: The electricity to be generated by project is provided by the other existing plants of URES "Ural" and URES "Volga"[*]. The heat to be generated by project is provided by newly constructed boilers and by increasing the load on the existing boiler equipment heating network of the city of Tyumen as well as by existing heat equipment of Tyumen CHPP-1 and Tyumen CHPP-2;
- Alternative 3: The electricity to be generated by project is provided by the other new energy units of URES "Ural" and URES "Volga". The heat to be generated by project is provided by newly constructed boilers and by increasing the load on the existing boiler equipment heating network of the city of Tyumen as well as by existing heat equipment of Tyumen CHPP-1 and Tyumen CHPP-2;
- Alternative 4: The electricity to be generated by project is provided by the other existing plants and the other new energy units of URES "Ural" and URES "Volga". The heat to be generated by project is provided by newly constructed boilers and by increasing the load on the existing boiler equipment heating network of the city of Tyumen as well as by existing heat equipment of Tyumen CHPP-1 and Tyumen CHPP-2.
After the assessment and screening of the Alternatives, only Alternative 4 was left as reasonable and feasible As a result, Alternative 4 it was selected as the plausible scenario thus representing the baseline.

Technological data and parameters that define the baseline were determined during the site visit.

The "Tool for the demonstration and assessment of additionality" (version 05.2) approved by the CDM Executive Board was used in order to prove the project additionality. Upon the proof of the additionality, the following series of steps is stipulated by the tool:

1. Identification of alternatives to the project activity consistent with current laws and regulations;
2. Investment analysis (including the sensitivity analysis);
3. Barrier analysis;
4. Common practice analysis.

To assess the project's additionality the steps one, two and four were implemented accordingly. Step 3 – barrier analysis is omitted, according to the tool it is not mandatory if the step 2 is implemented.
In Section B.2, it is demonstrated that the project without JI registration is not a plausible baseline scenario since it does not meet the benchmark for profitability. A supporting spreadsheet containing all assumptions and calculations was made available to the verifier.

[*] See Justification of the project boundary Appendix 2 and Section B.3

Common practice analysis demonstrates that at the time of decision-making Combined-Cycle Gas Plant technologies were not widespread throughout Russian Federation.

The identified areas of concern as to Baseline and Additionality, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 08 – CAR 18 and CL 02).

3.3 Monitoring Plan

A JI specific approach regarding monitoring has been developed in accordance with the JISC Guidance on criteria for baseline setting and monitoring (Version 02).

Option 1 – "Monitoring of the emissions in the project scenario and the baseline scenario" was chosen. All categories of data to be collected in order to monitor GHG emission reductions from the project are described in required details.

All categories of data to be collected in order to monitor GHG emissions from the project and determine the baseline GHG emissions are described in required details. The parameters which are monitored throughout the crediting period include natural gas consumption, electricity output, heat output and net caloric value of natural gas. The baseline grid emission factor is calculated and fixed ex ante (Annex 2). Natural gas emission factor is taken from 2006 IPCC v.2 ch.1. Formulae for estimation of GHG emissions and calculation of grid emission factor are clearly described.

The monitoring approach explicitly and clearly distinguishes:
a) 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; and
b) Data and parameters that are monitored throughout the crediting period.

All categories of data to be collected in order to monitor GHG emission reductions from the project are described in required details.

Leakages where excluded for the purposes of simplification and conservatism. It is proven in PDD that under the baseline scenario leakages are higher in comparison with the project scenario thus their exclusion is conservative.

Operational and management structure that OJSC "Fortum" implements to monitor emission reduction is clearly described in the PDD. Monitoring related quality control and quality assurance procedures are outlined subject to checking at the verification phase.

The identified areas of concern as to Monitoring Plan, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 19 and CAR 20).

3.4 Calculation of GHG Emissions

Formulae used for calculation of GHG emissions are presented in PDD Section B, Section D and in Annex 2. Input data for calculations and the calculations are presented in the comprehensive excel spreadsheet, which was made available to the verifier. The final calculations are observed as accurate. The results are summarized in Section E.

The calculated amount of project emission reduction over the crediting period 2010 - 2012 is 997,625 tCO2e. The annual average emission reduction is 332,545 tCO2e.

The identified areas of concern as to calculation of GHG emissions, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 21 and CAR 22).

3.5 Environmental Impacts

Verifiers studied environmental impacts assessment during the site visit. It was observed that OJSC "Fortum" had granted positive conclusions from the regional office of Glavgosexpertiza, in Ekaterinburg town, Sverdlovsk region. OJSC "Fortum" also granted permissions on emission of pollutants into the atmosphere.

The project related environmental documents are in compliance with the state environmental and sanitary-epidemiological standards. The State Ecological Examination of the project did not identify any non-compliance issues with regards to the Russian Federation legislation and normative documents relating to the environmental protection. The project complies with all environmental laws, and emissions are well within legal limits.

The identified areas of concern as to Environmental Impacts, PP's response and BV Certification's conclusion is described in Appendix A Table 5 (refer to CAR 23).

3.6 Comments by Local Stakeholders

No comments of concern were received from local stakeholders.

The identified areas of concern as to Comments by Local Stakeholders, PP's response and BV Certification's conclusion is described in Appendix A Table 5 (refer to CAR 24).

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

PDD Version 02 dated 25/05/2010 was made publicly available for public comments on Bureau Veritas Certification RUS website from 1 June 2010 till 30 June 2010. No comments have been received.

5 DETERMINATION OPINION

Bureau Veritas Certification has been engaged by ECF Project Ltd. to perform a determination of the JI project "Technical re-equipment of Tyumen' CHPP-1 with putting into operation of a combined-cycle gas plant" owned by OJSC "Fortum". The determination was performed on the basis of UNFCCC criteria for JI projects, in particular the verification procedures under the JI Supervisory Committee, as well as host country criteria and the criteria given to provide for consistent project operations, monitoring and reporting.

The determination is based on the information made available to us and on the engagement conditions detailed in this report. The determination has been performed using a risk-based approach as described above. The only purpose of the report is its use for the formal approval of the project under JI mechanism. Hence, Bureau Veritas Certification cannot be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

The determination consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) project site visit and follow-up interviews with the project participant and PDD developer; iii) the issuance of the determination report and opinion.

The review of the project design documentation, the subsequent follow-up interviews, and the resolution of the Corrective Action Requests have provided Bureau Veritas Certification with the sufficient evidences to determine the fulfilment of the above stated criteria and to demonstrate that the project is additional.

The investment and common practice analyses demonstrate that the proposed project activity is not a likely 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 it is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

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 (Russian Federation). 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 06 dated 14 September 2010 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

Bureau Veritas Certification thus recommends this project for the formal approval by the RF Ministry for Economic Development as the JI project in accordance with the RF Government Decree # 843 dated 28/10/2009 and the Order of the RF Ministry for Economic Development # 485 dated 23/11/2009.

6 REFERENCES

Reviewed document or type of Information available before the site visit

1.	PDD "Technical re-equipment of Tyumen' CHP-1 with putting into operation of a combined-cycle gas plant", Version 02, dated 25 May 2010.
2.	Guidelines for Users of the Joint Implementation Project Design Document Form. Version 04, JISC.
3.	JI Guidelines. Annex to decision 9/CMP.1.
4.	JISC Guidance on criteria for baseline setting and monitoring. Version 02.
5.	Methodological Tool "Combined tool to identify the baseline scenario and demonstrate additionality". Version 02.2
6.	Methodological Tool "Tool to calculate the emission factor for an electricity system", Version 02
7.	Excel spreadsheet with emission reductions calculation and investment analysis
8.	2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2, Energy (http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.htm).
9.	General scheme for allocation of power objects up to 2020, approved by the RF government order # 215-p dated 22/02/2008.

Reviewed document or type of Information obtained at the site visit

1.	Project Design of Tyumen CHP-1 reconstruction
2.	Permission on reconstruction of Tyument CHP-1 dated 16.04.2007
3.	Positive conclusion by Glavgosexpertiza No. 436-09/EGE-0988/01 dated 02.12.2009
4.	Permission on pollutant emissions into the atmosphere
5.	Positive sanitary and epidemiological inspection report
6.	Project of maximum allowable emissions into the atmosphere
7.	Permissions on emissions and their limits
8.	Implementation schedule
9.	Protocol of investment decision making
10.	Passports for the gas and steam turbines and for the boiler
11.	Contracts on equipment purchasing for the gas and steam turbines and for the boiler
12.	Measurement devices passports

Persons interviewed:

1.	Tkachenko Evgenia – OJSC "Fortum", JI Manager
2.	Kuznetzova Olga - OJSC "Fortum", Chief engineer, industrial safety and ecology, local JI Manager
3.	Afonenko Anzhelika – Tyumen CHPP-1 Leading ecology engineer
4.	Alexey Sorokin – ECF Project Ltd., JI consultant

APPENDIX A: DETERMINATION PROTOCOL

Table 1 Mandatory Requirements for Joint Implementation (JI) Project Activities

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
1. The project shall have the approval of the Parties involved.	Kyoto Protocol Article 6.1 (a)	**CAR 01**. The project has no approval of the host Party. Verifiers' Note: JISC Glossary of JI terms/Version 01 defines the following: a) At least the written project approval(s) by the host Party(ies) should be provided to the AIE and made available to the secretariat by the AIE when submitting the determination report regarding the PDD for publication in accordance with paragraph 34 of the JI guidelines; (b) At least one written project approval by a Party involved in the JI project, other than the host Party(ies), should be provided	Table 2 Section A.5.

		to the AIE and made available to the secretariat by the AIE when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines, at the latest.	
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur.	Kyoto Protocol Article 6.1 (b)	OK	Table 2 Section B.2.1
3. The sponsor Party shall not acquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7.	Kyoto Protocol Article 6.1 (c)	OK	N/A
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3.	Kyoto Protocol Article 6.1 (d)	OK	N/A
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects.	Marrakech Accords, JI Modalities, §20	OK	The Russian national focal point is the Ministry of Economic Development. The Russian national guidelines and procedures are established by the "Regulation of realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change". Approved by the RF Government Decree # 843

			of 28/10/2009 "About measures on realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change".
6. The host Party shall be a Party to the Kyoto Protocol.	Marrakech Accords, JI Modalities, §21(a)/24	OK	Russia has ratified the Kyoto Protocol by Federal Law N 128-ФЗ dd. 04/11/04
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts.	Marrakech Accords, JI Modalities, §21(b)/24	OK	The Russian Federation's assigned amount has been calculated and recorded In the 5th National Communication dated 12/02/10.
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4.	Marrakech Accords, JI Modalities, §21(d)/24	OK	Russian Federation has established the GHG Registry by the RF Government Decree N 215-p dated 20/02/06.
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination.	Marrakech Accords, JI Modalities, §31	OK	ECF Project Ltd. has submitted the PDD Version 01 dated 30 November 2009 to Bureau Veritas Certification, which contains all information needed

			for determination.
10. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments.	Marrakech Accords, JI Modalities, §32	OK	PDD Version 02 dated 25 May 2010 was made publicly available for comments on Bureau Veritas Certification RUS website from 01 June 2010 till 30 June 2010.
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the host Party, an environmental impact assessment in accordance with procedures as required by the host Party shall be carried out.	Marrakech Accords, JI Modalities, §33(d)	OK	Table 2, Section F
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B

15. The project shall have an appropriate monitoring plan.	Marrakech Accords, JI Modalities, §33(c)	OK	Table 2, Section D
16. A project participant is a legal entity authorized by a Party involved to participate in the JI project.	"Glossary of Joint Implementation Terms", Version 02.	The Russian project participant will be authorised by the Host Party through the issuance of the approval for the project. Conclusion is pending a follow-up on CAR 01. Refer to Verifiers' Note in 1 above.	Table 2, Section A

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of the project					
A.1. Title of the project					
A.1.1. Is the title of the project presented?	1,2	DR	The title of the project is: "Technical re-equipment of Tyumen' CHP-1 with putting into operation of a combined-cycle gas plant". The Sectoral Scope is identified in the PDD as: (1) Energy industries (renewable/non-renewable sources).		OK
A.1.2. Is the current version number of the document presented?	1,2	DR	PDD Version 02 was reviewed.		OK
A.1.3. Is the date when the document was completed presented?	1,2	DR	PDD Version 02 is dated 25/05/2010.		OK
A.2. Description of the project					
A.2.1. Is the purpose of the project included?	1,2	DR	The purpose of the project is defined in PDD Section A.2 as follows: "increasing the generating capacity of JSC "Fortum", covering the heat and electric loads of housing and public utilities and industrial enterprises in the city of Tyumen' due to replacement of morally and physically worn-out equipment by reconstruction using the high tech-nologies of gas turbine units on the basis of the Tyumen' CHP -1".	CAR 02 CAR 03 CAR 04	OK OK OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			The project scenario is described in sufficient details as per [2]. **CAR 02.** Section A.2 does not provide a concise, summarizing explanation of the history of the project (including its JI component) as required by [2]. Description of the baseline scenario is incomplete; please explicitly indicate the baseline scenario regarding heat and electricity supply. Please also reduce Section A.2 to two pages. **CAR 03.** Please provide the appropriate reference for the study made by "The engineering team on the budgeted balance of the electric power in RAO UES of Russia" which shows the Tyumen region as energy deficient. **CAR 04.** The baseline description in Section A.2 is loose. It is unclear what is meant, neighboring URESes or Regional Dispatching Offices in the URES "Ural" (it is stated that Tyumen region is energy deficient). Please formulate the baseline scenario accurately. Please also correct/reduce to a one the description of the "project electricity system".		
A.2.2. Is it explained how the proposed project reduces greenhouse gas emissions?	1,2	DR	It is explained in PDD Section A.4.3 and Section B.1.		OK
A.3. Project participants					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A.3.1. Are project participants and Party(ies) involved in the project listed?	1,2	DR	e Russian Federation. Legal entities of Party A are OJSC "Fortum" and ECF Project Ltd. Party B is Finland. Legal entity of Party B is Fortum Power and Heat Oy.		OK
A.3.2. The data of the project participants is presented in tabular format?	1,2	DR	The data of the project participants is presented in the tabular format as required by [2].		OK
A.3.3. Is contact information provided in Annex 1 of the PDD?	1,2	DR	The contact information is provided in PDD Annex 1.		OK
A.3.4. Is it indicated, if it is the case, if the Party involved is a host Party?	1,2	DR	Russian Federation is indicated as a host Party.		OK
A.4. Technical description of the project					
A.4.1. Location of the project activity					
A.4.1.1. Host Party(ies)	1,2	DR	The Russian Federation is indicated as the host Party in the PDD Section A.4.1.1.		OK
A.4.1.2. Region/State/Province	1,2	DR	The Tyumen Region.		OK
A.4.1.3. City/Town/Community etc.	1,2	DR	The City of Tyumen.		OK
A.4.1.4. Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page).	1,2	DR	PDD Sections A.4.1 and A.4.1.4 define in detail the physical location of the project activity, including information allowing the unique identification of the project site – Tyumen CHP-1. The Tyumen CHP-1 is located in the south-eastern part of Tyumen at a distance of 6.5 km from the centre of the city in the industrial zone	CL 01	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			of the Leninskiy district. Legal address of the enterprise is: 625023, Tyumenskiy region, Tyumen', Odesskaya street, 1. **CL 01.** Please clarify the source of CHP-1 geographical coordinates appointed in Section A.4.1 of PDD (57009' of the northern latitude; 65032' of the eastern longitude).		
A.4.2. Technology(ies) to be employed, or measures, operations or actions to be implemented by the project					
A.4.2.1. Does the project design engineering reflect current good practices?	1,2	DR	The project design engineering reflects current good practices of using combined cycle gas turbine plant (CCGT) for high-efficiency heat and electricity generation on natural gas. Verifiers observe that CCGT technology is a technology which is more efficient than commonly used technologies for heat and electricity generation in Russian Federation.		OK
A.4.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1,2	DR	The project uses state-of-the-art technology for producing electric and thermal energy by combustion of natural gas. The mechanical part of CCGP consists of a gas turbine V64.3 produced by "AnsaldoEnergia" (Italy); Steam boiler E-500-13,8-560 GN produced by JSK TKZ "Krasniy kotelshik" and Steam-turbine plant T-130/160-12,8 Produced by JSC "Silovie ma-	CAR 05	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			chiny" Saint-Petersburg. Relevant technical data for the main equipment as well as production data of CHP-01 are presented in Section A.4.2 of PDD as per [2]. Data were checked by verifiers with the project design and found correct. The implementation schedule is presented in Section A.4.2 of PDD as per [2]. **CAR 05.** According to the information obtained by verifiers during the site visit, the dates of implementation were changed. Please update the implementation schedule (Table A.4.2.5, p.9) according to the last available data.		
A.4.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1,2	DR	The project technology is unlikely to be substituted by other or more efficient technologies within the project period.		OK
A.4.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1,2	DR	The project involves trainings of personal necessary for the exploitation of the new CCGT unit. The trainings are implemented according to the equipment purchase agreements and are inseparable parts of them. Verifiers checked these agreements, training protocols and provided interviews to confirm that appropriate trainings are/will be implemented.		OK
A.4.2.5. Does the project make provisions for meet-	1,2	DR	The information regarding trainings is included		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
ing training and maintenance needs?			in Section A.4.2 of PDD as per [2].		
A.4.3. 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					
A.4.3.1. Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	1,2	DR	It is explained in PDD Section A.4.3 that the reduction of GHG emission will occur due to substitution of electricity from the grid by electricity from new high-efficient CCGT technology. The largest share of electricity from grid is produced on common steam turbine power plants which have a higher factor of CO2 emissions per unit of electric energy than electricity generated by CCGP technology. The verifiers observe this explanation as correct with one reservation: the reasoning applies to the no/low heat load season. **CAR 06.** Section A.4.3 does not contain information regarding emission reductions due to heat generation at the new CCGS unit whereas the project generates also emission reductions from new high efficient heat generation which is indicated in other sections of PDD.	CAR 06	OK
A.4.3.2. Is it provided the estimation of emission reductions over the crediting period?	1,2	DR	**CAR 07.** As per 8th of July 2010 (the date of the site visit) the new CCGT unit is not put into op-	CAR 07	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			eration and according to the PDD the project starts to generate emission reductions from 1st of June 2010. Please update the ex-ante emission reduction calculation according to the to the last available data.		
A.4.3.3. Is it provided the estimated annual reduction for the chosen credit period in tCO_2e?	1,2	DR	Conclusion is pending also a follow-up on CAR 07.	Pending	OK
A.4.3.4. Are the data from questions A.4.3.2 to A.4.3.3 above presented in tabular format?	1,2	DR	The data are presented in the tabular format as required by [2]. Refer to PDD Section A.4.3.1.		OK
A.5. Project approval by the Parties involved					
A.5.1. Are written project approvals by the Parties involved attached?	1,2	DR	Written project approvals by the Parties involved are not received. Refer to CAR 01 in Table 1. Conclusion is pending also a follow-up on CAR 01.	Pending	OK
B. Baseline					
B.1. Description and justification of the baseline chosen					
B.1.1. Is the chosen baseline described?	1,2, 4,5,6	DR	According to the clause 9 of JISC Guidance on criteria for baseline setting and monitoring, version 02, project participants applies JI specific approach to establish the baseline. **CAR 08.** - A detailed theoretical description of the baseline in a complete and transparent manner as well as a justification in accordance with paragraph 23 through 29 of the Guidance on	CAR 08 CAR 09 CAR 10 CAR 11	OK OK OK OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			criteria for baseline setting and monitoring v.02 is not provided; - Alternative scenarios A.2 and A.3 do not correlate with descriptions and calculations throughout PDD; - Annex 2 does not contain a summary of the key elements of the baseline in tabular form; - Grid electricity generation is not the alternative available for project participant, hence it cannot be considered as the alternative under Combined tool for identification of baseline scenario and demonstration of additionality v. 02.2; - The assessment of barriers lacks transparency and it is not explained how JI registration helps to alleviate the existing barriers; - Description of baseline scenario throughout PDD does not include production of heat; - Descriptions of the baseline differentiate throughout PDD (especially throughout Section B.1). E.g. it is stated on p.17 that the baseline includes construction of new boiler houses and electricity would be supplied from the grid. This combination was not analyzed during the baseline establishment. Please correct accordingly. **CAR 09.** Obsolete version 01.1 of "Tool to cal-		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			culate the emission factor for an electricity system" is mentioned in Section B.1 of PDD. **CAR 10.** Please correct mistakes/flaws listed below: - Description of QA/QC procedures for $FC_{i,y}$ is incorrect; - Description of parameter η_{boiler} (p.18) is insufficient ("efficiency of boilers" – which boilers?); - Description of parameter $EG_{P,y}$ is incorrect since it is electricity supply but not generation, the same pertains to the heat; - No "QA/QC procedures (to be) implemented" are established for $FC_{f,y}$ (p.21); - "fuel 'f' consumption/NCV/EF" are mentioned in the description field of $FC_{f,y}$, $EF_{CO2,f,y}$ and $NCV_{f,y}$ whereas "natural gas" should be; - Residual oil is added to *"value of data applied" field for* $NCV_{f,y}$ and $EF_{CO2,f,y}$ whereas only natural gas consumption is envisaged in the project. **CAR 11.** The efficiency of boilers which would produce heat energy in the baseline scenario (93.3% - parameter η_{boiler}) is taken equal to the efficiency of steam boiler used in the project. This approach should be justified in a transpar-		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			ent manner.		
B.1.2. Is it justified the choice of the applicable baseline for the project category?	1,2,4	DR	Conclusion is pending a response to CAR 08.	Pending	OK
B.1.3. Is it described how the methodology is applied in the context of the project?	1,2	DR	Inapplicable since a JI specific approach is used.		OK
B.1.4. Are the basic assumptions of the baseline methodology in the context of the project activity presented (See Annex 2)?	1,2	DR	**CAR 12.** The excel spreadsheet with calculation of the baseline emission factor contains following major flaws/mistakes: - Calculation of the Operating Margin is incorrect, wrong fields are summed (in the raw 263 the result of multiplication of the raws 90 and 91 is summed whereas the result of multiplication of the raws 105 and 106 should be); - The calculation of the share of imported electricity from the URES "Mid-Volga" to the URES "Ural" is incorrect because of the wrong parameter of the generated electricity used for the URES "Ural" (22 818.60 mln. kWh is used whereas 228 186 mln. kWh should be); - data in following cells are not in accordance with initial data provided to verifiers – J207;F140;G140;I101. **CAR 13.** The description of the electricity baseline emission factor estimation in Annex 2 contains following major flaws/mistakes: - Table Anx.2.1 is not in compliance with the	CAR 12 CAR 13	OK OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			data from the excel spreadsheet; - The description of the Step 4 of the [6] is fully incorrect. It is stated that option B was chosen whereas in fact option A is applied in the excel spreadsheet. Please correct accordingly.		
B.1.5. Is all literature and sources clearly referenced?	1,2	DR	Relevant literature and sources are generally referenced through the text of PDD.		OK
B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the JI project					
B.2.1. Is the proposed project activity additional?	1,2,5	DR	**CAR 14.** It is stated in Section B.2 of PDD that "Tool for the demonstration and assessment of additionality", version 05.2 is used to assess the additionality of the project but in fact, the Section B.2 does not contain any steps stipulated by the tool. **CAR 15.** The common practice analysis is incomplete since an analysis of an existing similar unit commissioned on Tyumen CHPP-1 in 2003 was not provided. **CL 02.** Please clarify the source of information for the project's cost - EUR 214,1 mln. (exchange rate of Central Bank of Russia 36.971 RUB/€ as of 1 July 2008). With the unresolved CAR 08, CAR 12 and CAR 13 the verifiers cannot conclude that additional-	CAR 14 CAR 15 CL 02	OK OK OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			ity of the project activity is demonstrated.		
B.2.2. Is the baseline scenario described?	1,2	DR	The baseline scenario is described in PDD Section B.1. Refer to B.1.3 above.		OK
B.2.3. Is the project scenario described?	1,2	DR	The project scenario is described in sufficient detail in PDD Sections A.4.2 and B.1.		OK
B.2.4. Is an analysis showing why the emissions in the baseline scenario would likely exceed the emissions in the project scenario included?	1,2	DR	Conclusion is pending a response to CAR 14 and CAR 15.	Pending	OK
B.2.5. Is it demonstrated that the project activity itself is not a likely baseline scenario?	1,2	DR	Conclusion is pending a response to CAR 08, CAR 14 and CAR 15.	Pending	OK
B.2.6. Are national policies and circumstances relevant to the baseline of the proposed project activity summarized?	1,2	DR	**CAR 16.** Establishment of the baseline is carried out without due taking into account of the "General Scheme of Allocation of Energy Objects up to 2020" [9], which refers to construction of two PGU(T)-190 at Tyumen CHPP-1 in 2006-2010 (General Scheme Annex 6 Table 5). Date of the completion of the baseline study is 30/11/2009.	CAR 16	OK
B.3. Description of how the definition of the project boundary is applied to the project activity					
B.3.1. Are the project's spatial (geographical) boundaries clearly defined?			The project's spatial (geographical) boundaries are defined in PDD Section B.3. **CAR 17.** Emissions from heat generation in the baseline scenario are not included in project boundary. Please correct accordingly. **CAR 18.** The whole CHPP-1 is included in the	CAR 17 CAR 18	OK OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			project boundary. According to the descriptions throughout PDD only the new CCGT unit should be included. Please correct accordingly Emissions of CH_4 and N_2O are excluded from both the baseline and the project scenario. Verifiers observe that it is conservative.		
B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline					
B.4.1. Is the date of the baseline setting presented (in DD/MM/YYYY)?	1,2	DR	The date of the baseline setting is presented in DD/MM/YYYY format.		OK
B.4.2. Is the contact information provided?	1,2	DR	Following entities are responsible for baseline setting: - ECF Project Ltd. Full contact information is provided in PDD Annex 1.		OK
B.4.3. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	It is indicated that ECF Project Ltd is a project participant listed in Annex 1 of PDD.		OK
C. Duration of the project and crediting period					
C.1. Starting date of the project					
C.1.1. Is the project's starting date clearly defined?	1,2	DR	The starting date of the project is indicated as 01/05/2007.		OK
C.2. Expected operational lifetime of the project					
C.2.1. Is the project's operational lifetime clearly defined	1,2	DR	The project's operational lifetime is defined in		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
in years and months?			years and months as required by [2].		
C.3. Length of the crediting period					
C.3.1. Is the length of the crediting period specified in years and months?	1,2	DR	The length of the crediting period is specified in years and months as required by [2]. Conclusion is pending a response to CAR 07.	Pending	OK
D. Monitoring Plan					
D.1. Description of monitoring plan chosen					
D.1.1. Is the monitoring plan defined?	1,2, 4	DR	It is explicitly indicated that JI specific approach is used to establish the monitoring plan. The monitoring plan is described in sufficient details in PDD Section D.1.		OK
D.1.2. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario.	1,2	DR	Option 1 is chosen.		OK
D.1.3. Data to be collected in order to monitor emissions from the project, and how these data will be archived.	1,2	DR	Data to be collected in order to monitor emissions from the project is presented in PDD Section D.1.1.1. Collected data is as follows: - P2 -amount of natural gas combusted at new CCGT unit (measured); - P4 - NCV of natural gas or other fuel (estimated); - P5 - emission factor of natural (estimated). All this data is collected in the frame of the existing information acquisition and recording sys-		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			tem.		
D.1.4. Description of the formulae used to estimate project emissions (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2	DR	Formulae for the estimation of CO2 emissions from natural gas combustion are presented in PDD Section D.1.1.2. The formulae are observed as correct. **CAR 19.** The section D.1.1.2 of PDD does not contain formulae or description how annual NCV value is calculated from twelve monthly values.	CAR 19	OK
D.1.5. Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be collected and archived.	1,2	DR	Data to be collected in order to monitor baseline emissions is presented in PDD Section D.1.1.3. Collected data is as follows: - B2- electricity produced by new CCGT unit; - B4 – heat produced by new CCGT unit. **CAR 20.** Different boiler efficiencies are mentioned in Section D.1.1.4 (93.5%) and in Section B.1 (93.3%).	CAR 20	OK
D.1.6. Description of the formulae used to estimate baseline emissions (for each gas, source etc, emissions in units of CO2 equivalent).	1,2	DR	The formulae are presented in PDD Section D.1.1.4. The formulae are observed as generally correct.		OK
D.1.7. Option 2 – Direct monitoring of emissions reductions from the project (values should be consistent with those in section E)	1,2	DR	Not applicable.		OK
D.1.8. Data to be collected in order to monitor emission reductions from the project, and how these data	1,2	DR	Not applicable.		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
will be archived.					
D.1.9. Description of the formulae used to calculate emission reductions from the project (for each gas, source etc; emissions/emission reductions in units of CO2 equivalent).	1,2	DR	Not applicable.		OK
D.1.10. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project.	1,2	DR	It is stated in Section D.1.3 of PDD that leakages were not taken into account for simplicity and because it represents conservative approach. This approach was observed by verifiers as correct and conservative.		OK
D.1.11. Description of the formulae used to estimate leakage (for each gas, source etc,; emissions in units of CO2 equivalent).	1,2	DR	Not applicable.		OK
D.1.12. Description of the formulae used to estimate emission reductions for the project (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2	DR	The formula is given in section D.1.4: $ER_y = BE_y - PE_y$		OK
D.1.13. Is information on the collection and archiving of information on the environmental impacts of the project provided?	1,2	DR	It is stated that according to national requirements the Ecology Division of Tyumen CHPP-1 collects and archives the data of pollutant emissions and sinks and waste products. It prepares the reports of pollutant emissions and sinks and waste products on quarterly and annually and submits the reports to State Organization of Environmental Supervision. Also it is stated that Tyumen CHPP-1 submits pollutant emission and sinks data to Rosstat RF in ac-		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			cordance with statistic forms. Verifiers observed during the site visit that Tyumen CHPP-1 has developed a project of maximum allowable emissions into the atmosphere, granted permission on emission into the atmosphere and positive sanitary and epidemiological inspection report.		
D.1.14. Is reference to the relevant host Party regulation(s) provided?	1,2	DR	References to the relevant host Party regulation are provided in Section D.1.5 as per [2].		OK
D.1.15. If not applicable, is it stated so?	1,2	DR	Not applicable.		OK
D.2. Qualitative control (QC) and quality assurance (QA) procedures undertaken for data monitored					
D.2.1. Are there quality control and quality assurance procedures to be used in the monitoring of the measured data established?	1,2	DR	Quality control and quality assurance procedures are observed as appropriate. Refer to PDD Section D.2.		OK
D.3. Please describe of the operational and management structure that the project operator will apply in implementing the monitoring plan					
D.3.1. Is it described briefly the operational and management structure that the project participants(s) will implement in order to monitor emission reduction and any leakage effects generated by the project.	1,2	DR	A brief description of the project management responsibility is provided.		OK
D.4. Name of person(s)/entity(ies) establishing the monitoring plan					
D.4.1. Is the contact information provided?	1,2	DR	Following entities are responsible for monitoring		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			plan establishing: - JSC "Fortum"; - ECF Project Ltd. Full contact information is provided in PDD Annex 1.		
D.4.2. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	It is indicated that entities are also project participants listed in Annex 1 of PDD.		OK
***E.* Estimation of greenhouse gases emission reductions**					
E.1. Estimated project emissions					
E.1.1. Are described the formulae used to estimate anthropogenic emissions by source of GHGs due to the project?	1,2	DR	The formulae to calculate project emissions are presented and described in PDD Section B.1 and Section D.1.1.2. The formulae were checked and found as correct.		OK
E.1.2. Is there a description of calculation of GHG project emissions in accordance with the Formula specified in for the applicable project category?	1,2,7	DR	The excel spreadsheet, with calculations of GHG project emissions, provided to verifiers was checked and found incorrect. **CAR 21.** Calculations of project emissions in [7] are incorrect because of a wrong annual fuel consumption value - 430 763 t.c.e. According to the project design and Table A.4.2.4 the value should be 519 240 t.c.e.	CAR 21	OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1,2	DR	There is no explicit indication that conservative assumptions were made.		OK
E.2. Estimated leakage					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
E.2.1. Are described the Formulae used to estimate leakage due to the project activity where required?	1,2	DR	Not applicable.		OK
E.2.2. Is there a description of calculation of leakage in accordance with the Formula specified in for the applicable project category?	1,2	DR	Not applicable.		OK
E.2.3. Have conservative assumptions been used to calculate leakage?	1,2	DR	Not applicable.		OK
E.3. The sum of E.1 and E.2.					
E.3.1. Does the sum of E.1. and E.2. represent the project activity emissions?	1,2	DR	As no leakage is taken, E1+E2=E1.		OK
E.4. Estimated baseline emissions					
E.4.1. Are described the Formulae used to estimate the anthropogenic emissions by source of GHGs in the baseline using the baseline methodology for the applicable project category?	1,2	DR	The formulae to calculate baseline emissions are presented and described in PDD Section B.1 and Section D.1.1.4. The formulae were checked and found as correct.		OK
E.4.2. Is there a description of calculation of GHG baseline emissions in accordance with the formula specified for the applicable project category?	1,2,7	DR	The excel spreadsheet, with calculations of GHG baseline emissions, provided to verifiers was checked and found incorrect. **CAR 22.** Calculations of baseline emissions in [7] are incorrect because of: - A wrong value of annual electricity output from the new CCGT unit. The value 1 005 480 MW*h/year is used whereas 1 445 670 MW*h/year should be according to the the project design and Table A.4.2.4;	CAR 22	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			- A wrong value of annual heat output from the new CCGT unit. The value 1 428 000 Gcal/year is used whereas 1 837 600 Gcal/year should be according to the the project design and Table A.4.2.4; - A discrepancy in the values of baseline boiler efficiency. The value 93.5% is used in [7] whereas 93.3% is mentioned in Section B.1 of PDD and in the project design.		
E.4.3. Have conservative assumptions been used to calculate baseline GHG emissions?	1,2	DR	There is no explicit indication that conservative assumptions were made.		OK
E.5. Difference between E.4. and E.3. representing the emission reductions of the project					
E.5.1. Does the difference between E.4. and E.3. represent the emission reductions due to the project during a given period?	1,2	DR	Yes, it does. Refer to PDD Section E.5.		OK
E.6. Table providing values obtained when applying Formulae above					
E.6.1. Is there a table providing values of total CO_2 abated?	1,2	DR	PDD Section E.6 provides the total values of project emissions, leakage and baseline emissions.		OK
***F.* Environmental Impacts**					
F.1. Documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
F.1.1. Has an analysis of the environmental impacts of the project been sufficiently described?	1,2	DR	Analysis of the environmental impacts of the project is presented in PDD Section F1. **CAR 23.** The Section F.1 contains an analysis of environmental impact of the whole CHPP-1 (e.g. including pollutants from furnace fuel burning). According to the descriptions throughout PDD only the new CCGT unit should be included.	CAR 23	OK
F.1.2. Are there any host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1,2	DR	Environmental Impact Assessment (EIA) was done by Tyumen CHPP-1 according to the Russian legislation. The EIA was checked during the site visit and found appropriate. Verifiers observed during the site visit that Tyumen CHPP-1 has developed a project of maximum allowable emissions into the atmosphere, granted permission on emission into the atmosphere and positive sanitary and epidemiological inspection report.		OK
F.1.3. Are the requirements of the National Focal Point being met?	1,2	DR	The National Focal Point (MED) issued an Order dated 23/11/2009 # 485 which requires the inclusion in the submitted project documentation (not PDD) a short description of the EIA carried out in accordance with the established order. Verifiers observe that given EIA is available this requirement will be met.		OK
F.1.4. Will the project create any adverse environmental effects?	1,2	DR	The project will generate the following major contaminants of atmospheric air: - Nitrogen oxides;		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			- Carbon oxides. Environmental documentation was checked during the site visit and found appropriate. Please refer to F.3 above. According to the EIA, the project's emissions into the atmosphere will not overcame limits appointed in permission on emission into the atmosphere.		
F.1.5. Are transboundary environmental impacts considered in the analysis?	1,2	DR	As per paragraph 2.9 of the Order of the State Committee dated 16/05/2000 #372 "On approval of EIA in RF" transboundary environmental impacts should be assessed, if applicable. It is stated in PDD that the project does not have transboundary environmental impacts. This was confirmed by verifiers during the site visit by checking the EIA, it does not contain any transboundary environmental impacts..		OK
F.1.6. Have identified environmental impacts been addressed in the project design?	1,2	DR	Please refer to F.1.2		OK
F.2. If environmental impacts are considered significant by the project participants or the host Party, provision of conclusions and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party					
F.2.1. Has an analysis of the environmental impacts of	1,2	DR	The analysis of the environmental impacts of		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
the project been sufficiently described?			the project is sufficiently described in PDD Sections F.1 and F.2		
***G.* Stakeholders' comments**					
G.1. Information on stakeholders' comments on the project, as appropriate					
G.1.1. Is there a list of stakeholders from whom comments on the project have been received?	1,2	DR	**CAR 24.** Please provide information if comments from local stakeholders were received. If not applicable, please state so.	CAR 24	OK
G.1.2. The nature of comments is provided?	1,2	DR	Refer to G.1.1.	Pending	OK
G.1.3. Has due account been taken of any stakeholder comments received?	1,2	DR	Refer to G.1.1.	Pending	OK

Table 4 Legal requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Legal requirements					
1.1. Is the project activity environmentally licensed by the competent authority?	1	DR, I	Please refer to F.1.2 above		OK
1.2. Are there conditions of the environmental permit? In case of yes, are they already being met?	1	DR, I	Please refer to F.1.2 above		OK
1.3. Is the project in line with relevant legislation and plans in the host country?	1	DR, I	Yes, the project is in line with relevant legislation and plans in the host country.		OK

Table 5 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
CAR 01 The project has no approval of the host Party.	Table 1	N/A	Conclusion is pending.
CAR 02 Section A.2 does not provide a concise, summarizing explanation of the history of the project (including its JI component) as required by [2]. Description of the baseline scenario is incomplete; please explicitly indicate the baseline scenario regarding heat and electricity supply. Please also reduce Section A.2 to two pages.	A.2.1	Response 1 dated 06.07.10 Section A.2 in PDD was updated. Response 2 dated 13.08.10 Please find enclosed documents in PDF.	Conclusion on Response 1 History of the project was described sufficiently. The description of the baseline was updated accordingly. Please provide documents mentioned in the footnotes 3,4 and 5 (p.3). The CAR will be closed after the documents are provided. Conclusion on Response 2 Documents mentioned in the footnotes 3,4 and 5 were provided to verifiers. Verifiers checked their adequacy. The CAR is closed based on documents provided to verifiers.
CAR 03 Please provide the appropriate reference for the study made by "The engineering team on the budgeted balance of the electric power in	A.2.1	Response 1 dated 06.08.10 Section A.2 in PDD was updated.	Conclusion on Response 1 The CAR is withdrawn since the information mentioned in CAR 03 was deleted from PDD.

RAO UES of Russia" which shows the Tyumen region as energy deficient.			
CAR 04 The baseline description in Section A.2 is loose. It is unclear what is meant, neighboring URESes or Regional Dispatching Offices in the URES "Ural" (it is stated that Tyumen region is energy deficient). Please formulate the baseline scenario accurately.	A.2.1	<u>Response 1 dated 06.08.10</u> Section A.2 in PDD was updated. <u>Response 2 dated 13.08.10</u> Section A.2 in PDD was updated.	<u>Conclusion on Response 1</u> The description of the baseline scenario was not corrected accordingly. In Section A.2 of PDD it is stated that "The energy companies within the same regional energy system (URES "Ural") can increase electricity generation" whereas in Section A.4.3 it is stated that the URES "Ural" is energy defficient. It is also seen from the excel spreadsheet that URES "Ural" imports electricity from URES "Mid Volga". Please provide consistency of the baseline's descriptions throughout the PDD. The CAR will be closed after due correction. <u>Conclusion on Response 2</u> Consistency between baseline descriptions was provided. This CAR is closed based on adequate corrections implemented to PDD.
CAR 05 According to the information obtained by verifiers during the site visit, the dates of imple-	A.4.2.2	<u>Response 1 dated 06.08.10</u> Amendments were made to PDD. See p. 9	<u>Conclusion on Response 1</u> Please provide the amended implementation schedule which was

mentation were changed. Please update the implementation schedule (Table A.4.2.5, p.9) according to the last available data.		Response 2 dated 13.08.10 See p. 9 and enclosed file "Implementation Schedule 07 2010.pdf"	requested during the site visit. Conclusion on Response 2 The amended implementation schedule was provided to verifiers. Data in PDD was cross checked with the schedule and found as appropriate. This CAR is closed based on adequate corrections implemented to PDD and evidences provided to verifiers.
CAR 06 Section A.4.3 does not contain information regarding emission reductions due to heat generation at the new CCGS unit whereas the project generates also emission reductions from new high efficient heat generation which is indicated in other sections of PDD.	A.4.3.1	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 10 Response 2 dated 13.08.10 Amendments were made to PDD. See p. 10	Conclusion on Response 1 Although some information regarding heat was added in Section A.4.3 of PDD it is still not explained how emission reductions due to heat generation will be achieved. The CAR will be closed after due correction. Conclusion on Response 2 This CAR is closed based on adequate corrections implemented to PDD.
CAR 07 As per 8th of July 2010 (the date of the site visit) the new CCGT unit is not put into operation and according to the PDD the project starts to generate emission reductions from	A.4.3.2	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 11 and Section E	Conclusion on Response 1 Conclusion is pending a response to CAR 05. Conclusion on Response 2

1st of June 2010. Please update the ex-ante emission reduction calculation according to the to the last available data.		Response 2 dated 13.08.10 Amendments were made to PDD. See CAR 05	The ex-ante emission reduction calculation was updated acording to the latest implementation schedule. PDD and excel spreadsheet with calculations were updated accordingly. This CAR is closed based on adequate corrections implemented to PDD and excel spreadsheet with calculations.
CAR 08 - A detailed theoretical description of the baseline in a complete and transparent manner as well as a justification in accordance with paragraph 23 through 29 of the Guidance on criteria for baseline setting and monitoring v.02 is not provided; - Alternative scenarios A.2 and A.3 do not correlate with descriptions and calculations throughout PDD; - Annex 2 does not contain a summary of the key elements of the baseline in tabular form; - Grid electricity generation is not the alternative available for project participant, hence it cannot be considered as the alternative under Combined tool for identification of baseline scenario and demonstration of additionality v. 02.2;	B.1.1	Response 1 dated 06.08.10 Amendments were made to Section B.1. and Annex 2. See p.61 Response 2 dated 13.08.10 Amendments were made to Section B.1. and Annex 2. - The Section "Applicability" was deleted from PDD. - See p. 13-15; 22 - See p. 15 - See p. 13-15; 22; 49 Response 3 dated 07.09.10 Amendments were made to PDD. See excel spreadsheet and p. 13-14, Section E.	Conclusion on Response 1 The Section B.1 of PDD was fully remade. It was explicitly indicated that JI specific approach is used. The table with key parameters was added to Annex 2 of PDD. The updated justification of the baseline scenario contains following flaws/mistakes: - The section "Applicability" (p.13) does not make sense. It is stated that JI specific approach is used and it does not have mentioned in the section "Applicability" conditions. Therewith "Yuzhnaya CHPP" and "residual fuel" are incorrectly mentioned in this section; - The alternatives and their analysis presented in Section B.1 of

- The assessment of barriers lacks transparency and it is not explained how JI registration helps to alleviate the existing barriers; - Description of baseline scenario throughout PDD does not include production of heat; - Descriptions of the baseline differentiate throughout PDD (especially throughout Section B.1). E.g. it is stated on p.17 that the baseline includes construction of new boiler houses and electricity would be supplied from the grid. This combination was not analyzed during the baseline establishment. Please correct accordingly.			PDD still do not include heat what is incorrect; - Whereas Alternative 3 is indicated as "The electricity to be generated by project is provided by the other new energy units of URES "Ural" URES "Northwest" which has no connection with current project was assessed (please refer to p. 15); - The fact that URES "Ural" is energy defficient and it imports electricity from URES "Mid Volga" is not taken into account for identification and assessment of the alternatives. This CAR will be closed after due correction. <u>Conclusion on Response 2</u> All flaws mentioned above except the last one were corrected accordingly. Since URES "Ural" is energy deficient it cannot increase production on existing power plants whereas URES "Volga" can. Thus the share of electricity import from URES "Volga" should increase (now it is about 4%) what will lead to lowering of the baseline emission factor (OM

			for URES "Volga" is about 0.53 tCO_2/MWh whereas for URES "Ural" it is about 0.61 tCO_2/MWh). Heat was added to alternatives 1,2 and 3, but no assessment of it is provided. This CAR remains open. <u>Conclusion on Response 3</u> The fact that URES "Volga" can not increase electricity generation on existing power plants was correctly accounted in the emission reductions calculations. A conservative assumption that energy deficit will be covered by URES "Volga" was introduced. Emission reductions were recalculated accurately and verifirs confirm their adequacy. This CAR is closed based on adequate corrections and amendments implemented to PDD and excel spreadsheet with calculations.
CAR 09 Obsolete version 01.1 of "Tool to calculate the emission factor for an electricity system" is mentioned in Section B.1 of PDD.	B.1.1	<u>Response 1 dated 06.08.10</u> Amendments were made to PDD. See p. 12	<u>Conclusion on Response 1</u> This CAR is closed based on adequate corrections implemented to PDD.
CAR 10 Please correct mistakes/flaws listed below:	B.1.1	<u>Response 1 dated 06.08.10</u> Amendments were made to PDD. See	<u>Conclusion on Response 1</u> This CAR is closed based on ade-

- Description of QA/QC procedures for $FC_{i,y}$ is incorrect; - Description of parameter η_{boiler} (p.18) is insufficient ("efficiency of boilers" – which boilers?); - Description of parameter $EG_{P,y}$ is incorrect since it is electricity supply but not generation, the same pertains to the heat; - No "QA/QC procedures (to be) implemented" are established for $FC_{f,y}$ (p.21); - "fuel 'f' consumption/NCV/EF" are mentioned in the description field of $FC_{f,y}$, $EF_{CO2,f,y}$ and $NCV_{f,y}$ whereas "natural gas" should be; - Residual oil is added to *"value of data applied" field for* $NCV_{f,y}$ and $EF_{CO2,f,y}$ whereas only natural gas consumption is envisaged in the project.		- p. 17 - p. 18 - p. 20 - p. 21 - p. 21 - p. 21	quate corrections implemented to PDD.
CAR 11 The efficiency of boilers which would produce heat energy in the baseline scenario (93.3% - parameter η_{boiler}) is taken equal to the efficiency of steam boiler used in the project. This approach should be justified in a transparent manner.	B.1.1	<u>Response 1 dated 06.08.10</u> Amendments were made to PDD. See p. 18	<u>Conclusion on Response 1</u> The justification for η_{boiler} parameter is accepted by verifiers. This CAR is closed.
CAR 12 The excel spreadsheet with calculation of the baseline emission factor contains following major flaws/mistakes:	B.1.4	<u>Response 1 dated 06.08.10</u> Amendments were made to excel spreadsheet	<u>Conclusion on Response 1</u> The excel spreadsheet with calculation of the baseline emission factor was corrected accordingly.

- Calculation of the Operating Margin is incorrect, wrong fields are summed (in the raw 263 the result of multiplication of the raws 90 and 91 is summed whereas the result of multiplication of the raws 105 and 106 should be); - The calculation of the share of imported electricity from the URES "Mid-Volga" to the URES "Ural" is incorrect because of the wrong parameter of the generated electricity used for the URES "Ural" (22 818.60 mln. kWh is used whereas 228 186 mln. kWh should be); - Data in following cells are not in accordance with initial data provided to verifiers – J207;F140;G140;I101.			This CAR is closed.
CAR 13 The description of the electricity baseline emission factor estimation in Annex 2 contains following major flaws/mistakes: - Table Anx.2.1 is not in compliance with the data from the excel spreadsheet; - The description of the Step 4 of the [6] is fully incorrect. It is stated that option B was chosen whereas in fact option A is applied in the excel spreadsheet. Please correct accordingly.	B.1.4	<u>Response 1 dated 06.08.10</u> Amendments were made to PDD. See - p. 52 - p. 54 <u>Response 2 dated 13.08.10</u> Amendments were made to PDD. See p. 54 <u>Response 3 dated 07.09.10</u> Amendments were made to PDD. - See p. 57	<u>Conclusion on Response 1</u> The response is not accepted. Table Anx.2.1 is still not in compliance with the data from the excel spreadsheet. The description of the Step 4 of the [6] is still fully incorrect. This CAR will be closed after due correction. <u>Conclusion on Response 2</u> The updated Step 4 contains following flaws/mistakes: - Description for $FC_{i.m.y}$ in formula

		- The section "Exclusion off-grid power plants data" was deleted from PDD. - See p.54.	(2) is incorrect; - The section "Exclusion off-grid power plants data" does not make sence and should be deleted. - Table Anx.2.1 is still not in compliance with the data from the excel spreadsheet. This CAR will be closed after due correction. <u>Conclusion on Response 3</u> This CAR is closed based on adequate corrections implemented to PDD.
CAR 14 It is stated in Section B.2 of PDD that "Tool for the demonstration and assessment of additionality", version 05.2 is used to assess the additionality of the project but in fact, the Section B.2 does not contain any steps stipulated by the tool.	B.2.1	<u>Response 1 dated 06.08.10</u> Amendments were made to Section B.2 of PDD <u>Response 2 dated 13.08.10</u> Amendments were made to PDD. The Investment analysis was updated based on the Business Plan developed by TGK-10 in 2007. See p. 23-25 of PDD, file "Бизнес-план Тюменская ТЭЦ-1" and excel file "ПГУ-2 (Тюмень ТЭЦ-1).xls <u>Response 3 dated 07.09.10</u>	<u>Conclusion on Response 1</u> The assessment of additionality was re-made basing on the "Tool for the demonstration andbassessment of additionality", version 05.2. In general the assessment is observed by verifiers as correct. The investment analysis contains following flaws/mistakes: - The Central Bank RF interest rate of 13 % does not correspont to the the time of the investment analysis (11.11.2008). The interest rate of 12 % should

		The Investment analysis was updated based on the Business Plan developed by TGK-10 in 2007. See p. 23-25 of PDD, file "Бизнес-план Тюменская ТЭЦ-1" and excel file "ПГУ-2 (Тюмень ТЭЦ-1).xls <u>Response 4 dated 14.09.10</u> Amendments were made to PDD. See p.23-25	be; - Application of 3% country risk premium is not justified. It is also stated that this premium comprises inflation what is incorrect since the Central Bank RF interest rate already includes inflation premium; - The investment analysis in PDD does not take into account that two scenarios with 11.7% and 12.7% IRR values are considered in Feasibility Study of Tyumen CHPP-1, CCGT No.2. Part 13; - It is wrongly stated that NPV of the project is negative (p.24); - Please provide transparent calculations of the sensitivity analysis. This CAR will be closed after due correction. <u>Conclusion on Response 2</u> The updated investment analysis contains following flaws/mistakes: - The negative results of sensitivity analysis were not analyzed and explained appropriately. The statement that electricity ta-

			riffs are regulated does not make sense until the tariff is officially set; - The investment analysis in PDD does not take into account that two scenarios with 11.7% and 12.7% IRR values are considered in Feasibility Study of Tyumen CHPP-1, CCGT No.2. Part 13; - It is incorrect to state that NPV of the project is negative (p.24); - Please provide transparent calculations of the sensitivity analysis. The file "Бизнес-план Тюменская ТЭЦ-1" and the excel file "ПГУ-2 (Тюмень ТЭЦ-1).xls were not enclosed to the response 2. Please provide them. <u>Conclusion on Response 3</u> AI issues indicated in the Conclusion on Response 2 were closed sucessfuly exept one. The explanation of negative results of sensitivity analysis does not make sense. It is stated that *"The results of calculation show that with an increase in electricity tariff by 5%*

			IRR higher than the discount rate. However, taking into account that electricity tariffs are regulated by the Federal Tariff Service, this scenario is unlikely". According to the data from Federal State Statistics Service* electricity price rose for more than 10% each year after 1998. The CAR remains open. Conclusion on Response 4 This CAR is closed based on adequate amendments and additions implemented to PDD.
CAR 15 The common practice analysis is incomplete since an analysis of an existing similar unit commissioned on Tyumen CHPP-1 in 2003 was not provided.	B.2.1	Response 1 dated 06.08.10 Amendments were made to PDD. See p.25	Conclusion on Response 1 An analysis of an existing similar unit commissioned on Tyumen CHPP-1 in 2003 was provided. The analysis is observed by verifiers as appropriate. This CAR is closed.
CAR 16 Establishment of the baseline is carried out without due taking into account of the "General Scheme of Allocation of Energy Objects up to 2020" [9], which refers to construction of	B.2.6	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 14, 50	Conclusion on Response 1 An sufficient explanation of how the "General Scheme of Allocation of Energy Objects up to 2020" [9] correlates with the project was in-

* http://www.gks.ru/free_doc/new_site/prices/prom/tab4.htm

two PGU(T)-190 at Tyumen CHPP-1 in 2006-2010 (General Scheme Annex 6 Table 5). Date of the completion of the baseline study is 30/11/2009.			cluded in PDD. This CAR is closed based on adequate amendments made to the PDD.
CAR 17 Emissions from heat generation in the baseline scenario are not included in project boundary. Please correct accordingly.	B.3.1	<u>Response 1 dated 06.08.10</u> Amendments were made to PDD. See p. 26 <u>Response 2 dated 13.08.10</u> Amendments were made to PDD. See p. 27	<u>Conclusion on Response 1</u> The response is not accepted. Heat generation is not included in Figure B.3.2 and Table B.3.1. This CAR will be closed after due correction. <u>Conclusion on Response 2</u> Figure B.3.2 and Table B.3.1. were updated accordingly. This CAR is closed based on adequate amendments made to PDD.
CAR 18 The whole CHPP-1 is included in the project boundary. According to the descriptions throughout PDD only the new CCGT unit should be included. Please correct accordingly.	B.3.1	<u>Response 1 dated 06.08.10</u> Amendments were made to PDD. See p. 27	<u>Conclusion on Response 1</u> This CAR is closed based on adequate corrections implemented to PDD.
CAR 19 The section D.1.1.2 of PDD does not contain formulae or description how annual NCV value is calculated from twelve monthly values.	D.1.4	<u>Response 1 dated 06.08.10</u> Amendments were made to PDD. See p. 33	<u>Conclusion on Response 1</u> An appropriate description of how an annual NCV of natural gas is calculated was added to Section D.1.1.2 of PDD. This CAR is closed based on ade-

			quate amendments made to the PDD.
CAR 20 Different boiler efficiencies are mentioned in Section D.1.1.4 (93.5%) and in Section B.1 (93.3%).	D.1.5	Response 1 dated 06.08.10 Amendments were made to PDD. See Section D.1.1.4	Conclusion on Response 1 This CAR is closed based on adequate correction made to the PDD.
CAR 21 Calculations of project emissions in [7] are incorrect because of a incorrect annual fuel consumption value - 430 763 t.c.e. According to the project design and Table A.4.2.4 the value should be 519 240 t.c.e.	E.1.2	Response 1 dated 06.08.10 Amendments were made to excel spreadsheet, and PDD. See Table A.4.2.4 of PDD	Conclusion on Response 1 This CAR is closed based on adequate corrections implemented to the excel spreadsheet with calculations.
CAR 22 Calculations of baseline emissions in [7] are incorrect because of: - An incorrect value of annual electricity output from the new CCGT unit. The value 1 005 480 MW*h/year is used whereas 1 445 670 MW*h/year should be according to the project design and Table A.4.2.4; - An incorrect value of annual heat output from the new CCGT unit. The value 1 428 000 Gcal/year is used whereas 1 837 600 Gcal/year should be according to the project design and Table A.4.2.4; - A discrepancy in the values of baseline boiler efficiency. The value 93.5% is used in [7] whereas 93.3% is mentioned in Section	E.4.2	Response 1 dated 06.08.10 Amendments were made to excel spreadsheet, and PDD. See Section E of PDD	Conclusion on Response 1 This CAR is closed based on adequate corrections implemented to the excel spreadsheet with calculations.

B.1 of PDD and in the project design.			
CAR 23 The Section F.1 contains an analysis of environmental impact of the whole CHPP-1 (e.g. including pollutants from furnace fuel burning). According to the descriptions throughout PDD only the new CCGT unit should be included.	F.1.1	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 42 Response 2 dated 13.08.10 Amendments were made to PDD. See p. 42	Conclusion on Response 1 The response is not accepted. This CAR will be closed after due correction. Conclusion on Response 2 This CAR is closed based on adequate amendments made to the PDD.
CAR 24 Please provide information if comments from local stakeholders were received. If not applicable, please state so.	G.1.1	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 44-46	Conclusion on Response 1 This CAR is closed based on adequate corrections implemented to PDD.
CL 01 Please clarify the source of CHP-1 geographical coordinates appointed in Section A.4.1 of PDD (57009' of the northern latitude; 65032' of the eastern longitude).	A.4.1.4	Please see http://ru.wikipedia.org/wiki/Тюмень Response 2 dated 13.08.10 Amendments were made to PDD. See p. 5 and http://maps.yandex.ru	Conclusion on Response 1 The response is not accepted. Geographical coordinates of Tyumen city does not correspond to geographical coordinates of Tyumen CHPP -1. Please indicate geographical coordinates of Tyumen CHPP-1. This CL will be closed after due correction. Conclusion on Response 2 Geographical coordinates of Tyumen CHPP -1 were corrected accordingly. Verifiers checked the

			coordinates against http://maps.yandex.ru and found they as correct. This CL is closed based on adequate correction made to the PDD.
Draft report clarifications and corrective action requests by determination team subsequent to the results of a site visit and response 1			
CL 02 Please clarify the source of information for the project's cost - EUR 214,1 mln. (exchange rate of Central Bank of Russia 36.971 RUB/€ as of 1 July 2008).	B.2.1	Response 2 dated 13.08.10 Amendments were made to PDD. See p. 23. The source of information – Business Plan developed by TGK-10 in 2007. Response 3 dated 07.09.10 Please see Business Plan developed by TGK-10 in 2007	Conclusion on Response 1 Please provide the mentioned business plan. This CL will be closed after the information is cross-checked with the business plan. Conclusion on Response 2 The business plan was provided to verifiers. Verifiers checked the document and cross-checked it with the data from PDD. This CL is closed based on documents provided to verifiers.

Table 6 Resolution of Inadequacies

Inadequacies requested by determination team to be corrected	Page No in PDD	Summary of project owner response	Determination team conclusion
1. Please change the term "Sector" to "Sectoral scope".	Section A.1, p.2	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 2	Conclusion on Response 1 The inadequacy was corrected accordingly.

Inadequacies requested by determination team to be corrected	Page No in PDD	Summary of project owner response	Determination team conclusion
2. "Nominal output of working steam is mentioned in Table A.4.2.3" for the steam turbine. Please correct to "consumption".	p.8	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 8	Conclusion on Response 1 The inadequacy was corrected accordingly.
3. The dimension of specific consumption of fuel equivalent for thermal efficiency in Table A.4.2.4 is kg.f.e/kWh. kg.c.e/Gcal should be. Please also correct f.e to c.e throughout PDD.	p.8	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 8	Conclusion on Response 1 The inadequacy was corrected accordingly.
4. The phrase "The basic fuel used on Tyumen' CHP-1 is natural gas. Residual fuel oil is used as reserve fuel for boilers and natural gas as reserve fuel for gas turbines. Note that since residual fuel have higher emissions factor compared to the main fuel, natural gas, any use of the residual fuel would increase project emissions, and reduce emissions reductions. This is therefore conservative." is inadequate because neither project or baseline emissions are connected with residual fuel oil consumption. Please correct accordingly.	p.13	Response 1 dated 06.08.10 Amendments were made to PDD. Section B was updated	Conclusion on Response 1 The inadequacy was corrected accordingly.
5. "OA/QC procedures" are mentioned in all tables in Section B.1 instead of "QA/QC procedures".	p.18-22	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 18-22	Conclusion on Response 1 The inadequacy was corrected accordingly.
6. Please correct names of parameters $EG_{P,y}$ and $HG_{P,y}$ to $EG_{PJ,y}$ and $HG_{PJ,y}$ because the second names of parameters are used	p.20	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 20	Conclusion on Response 1 The inadequacy was corrected

Inadequacies requested by determination team to be corrected	Page No in PDD	Summary of project owner response	Determination team conclusion
further in the PDD.			accordingly.
7. Heat generation is wrongly mentioned in the field "Justification f the choice of data or description of measurement methods and procedures (to be) applied" for the $EG_{P,y}$(electricity).	p.20	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 20	Conclusion on Response 1 The inadequacy was corrected accordingly.
8. Sale of electricity is wrongly mentioned in the field "QA/QC procedures (to be) applied" for the $HG_{P,y}$ (heat).	p.21	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 20	Conclusion on Response 1 The inadequacy was corrected accordingly.
9. The dimension GJ/t is used for natural gas NCV whereas GJ/m3 should be.	p.21	Response 1 dated 06.08.10 Amendments were made to PDD. See p. 21	Conclusion on Response 1 The inadequacy was corrected accordingly.
10. Please provide consistency between parameters names in Section D.1.1.1 and Section D.1.1.3 (e.g. the NCV parameter names differs in Section D.1.1.1 and D.1.1.3).		Response 1 dated 06.08.10 Amendments were made to PDD. See Section D.1.1.1	Conclusion on Response 1 The inadequacy was corrected accordingly.
11. The abbreviation "CCTG" is used in Section B.3 of PDD. Please correct to "CCGT"		Response 1 dated 06.08.10 Amendments were made to PDD. See Section B.3	Conclusion on Response 1 The inadequacy was corrected accordingly.
12. Descriptions for the parameters B2 and B4 are incorrect. In Section D.1.1.3 it is not stated that these parameters relate to the new CCGT unit. In Section D.1.1.4 it is wrongly stated that these parameters are annual Tyumen CHP-1 heat and electricity production. Please correct the descriptions		Response 1 dated 06.08.10 Amendments were made to PDD. See Sections D.1.1.3 and D.1.1.4	Conclusion on Response 1 The inadequacy was corrected accordingly.

Inadequacies requested by determination team to be corrected	Page No in PDD	Summary of project owner response	Determination team conclusion
accordingly.			
13. JI Team and Data Team are entangled on Figure D.3.1. Please shift them between themselves.	p.39	The phrase "Data Team" was deleted from the text Response 2 dated 13.08.10 Amendments were made to PDD. See p. 40 Response 3 dated 07.09.10 Amendments were made to PDD. JI Team and Data Team were shifted between themselves. See p. 41	Conclusion on Response 1 The inadequacy was not corrected accordingly. Conclusion on Response 2 The inadequacy was not corrected accordingly. Conclusion on Response 3 The inadequacy was corrected accordingly.
14. Please delete the blank page.	p.36	The blank page was deleted	Conclusion on Response 1 The inadequacy was corrected accordingly.
15. Combined Heat and Power Plants are wrongly named by the abbreviations "CUP", "CHP", etc. throughout PDD. Please correct to "CHPP".		Response 1 dated 06.08.10 Amendments were made throughout the PDD	Conclusion on Response 1 The inadequacy was corrected accordingly.
16. "$C0_2$" – with zero are used throughout PDD. Please correct to "CO_2" with the letter O.		Response 1 dated 06.08.10 Amendments were made throughout the PDD	Conclusion on Response 1 The inadequacy was corrected accordingly.
17. Please delete absurd text "URES "Ural" is located in 11 regions of the Rus-	p.47	Response 1 dated 06.08.10	Conclusion on Response 1 The inadequacy was corrected

Inadequacies requested by determination team to be corrected	Page No in PDD	Summary of project owner response	Determination team conclusion
sian Federation Ural Federal District: Saint-Petersburg, Murmansk, Kaliningrad, Leningrad, Novgorod, Pskov and Arkhangelsk regions, the republics of Karelia and Komi, Nenets autonomous district."		The wrong text was deleted	accordingly.
18. Step 3: Calculation of emissions of the baseline scenario *To establish the emissions associated with the baseline scenario a baseline emission factor has been calculated in accordance with article 21 of the Guidance and using the CDM Tool "Tool to calculate the emission factor for an electricity system", version 02 with some deviations. The using of this CDM Tool for baseline emission factor calculation is described in the Annex 2. And the baseline emission calculation methodology using the CDM is described in the Section D.1.1.4*. This sentence does not make sense. Please also correct the same sentence on p.17.	p.16 p.17	Response 2 dated 13.08.10 Amendments were made to PDD. See p. 16,17	Conclusion on Response 1 The inadequacy was corrected accordingly.
19. The sentence "Also project foresees combustion of natural gas (as primary fuel) and residual fuel oil (as reserve fuel) in peak load boilers." is inadequate because the project does not include any peak boilers.	p.16	Response 2 dated 13.08.10 Amendments were made to PDD. See p. 16.	Conclusion on Response 1 The inadequacy was corrected accordingly.
20. The sentence in Section "Baseline emisions" – *"The reconstructed plant or*	p.16	Response 2 dated 13.08.10	Conclusion on Response 1

Inadequacies requested by determination team to be corrected	Page No in PDD	Summary of project owner response	Determination team conclusion
additional unit can change heat and power output of plant. Moreover heat and power output depends on power deficit or excess in region, number of heat consumers, ambient temperatures etc. So there is considerable uncertainty relating to which type of other power and heat generation is substituted by the power and heat generation of the project plant." does not make sence. Please delete it.		The wrong sentence was deleted from PDD. See p. 16.	The inadequacy was corrected accordingly.
21. Description for $COEF_{NG,y}$ is inadequate.	p.16	Response 2 dated 13.08.10 Amendments were made to PDD. See p. 16.	Conclusion on Response 1 The inadequacy was corrected accordingly.
22. Description for $EF_{CO2,NG,y}$ is inadequate.	p.16	Response 2 dated 13.08.10 Amendments were made to PDD. See p. 16.	Conclusion on Response 1 The inadequacy was corrected accordingly.
23. Please correct the name of parameter FC_y to $FC_{NG,y}$	p. 32	Response 2 dated 13.08.10 Amendments were made to PDD. See p. 33. Response 3 dated 07.09.10 Amendments were made to PDD. See p. 34.	Conclusion on Response 1 The inadequacy was not corrected accordingly. Conclusion on Response 2 The inadequacy was corrected accordingly.

Appendix B: Determination Team's CV's

Mr. Leonid Yaskin, PhD (thermal engineering)

Lead Verifier

Bureau Veritas Certification Rus General Director, Climate Change Local Manager, Lead Auditor, IRCA Lead Tutor,

He has over 30 years of experience in heat and power R&D, engineering, and management, environmental science and investment analysis of projects. He worked in Krrzhizhanovsky Power Engineering Institute, All-Russian Teploelectroproject Institute, JSC Energoperspectiva. He worked for 8 years on behalf of European Commission as a monitor of Technical Assistance Projects. He is a Lead auditor of Bureau Veritas Certification for Quality Management Systems (IRCA registered), Environmental Management System (IRCA registered), Occupational Health and Safety Management System (IRCA registered). He performed over 250 audits since 2002. Also he is a Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and a Lead Tutor of the IRCA registered OHSAS 18001 Lead Auditor Training Course. He is an Assuror of Social Reports. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and was/is involved in the determination of over 60 JI projects.

Grigory Berdin. (accounting, analysis, inspection and audit)

Lead Verifier

Bureau Veritas Certification Rus

He has over 4 years of experience in implementing of JI & CDM projects. He was developer of more than 10 PDDs in different sectors. He was responsible for supervision of technical implementation for more than 30 JI projects on regional natural gas leakage reduction at distribution pipelines and for 5 JI projects of other types.

He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he was/is involved in the determination/verification of 15 JI projects.

Ivan G. Sokolov, Dr. Sci. (biology, microbiology)

Internal Technical Reviewer

Climate Change Lead Verifier, Internal Technical Reviewer, Bureau Veritas Certification Holding SAS Local Climate Change Product Manager for Ukraine.

He has over 25 years of experience in Research Institute in the field of biochemistry, biotechnology, and microbiology. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered), Quality Management System (IRCA registered), Occupational Health and Safety Management System, and Food Safety Management System. He performed over 140 audits since 1999. Also he is Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and Lead Tutor of the IRCA registered ISO 9000 QMS Lead Auditor Training Course. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the determination/verification of 50 JI projects.