Bureau Veritas Certification Holding SAS





# DETERMINATION REPORT OJSC «FORTUM»

# DETERMINATION OF THE BUILDING OF TWO NEW COMBINED GAS AND STEAM TURBINE UNITS ON NYAGAN TPP

REPORT NO. RUSSIA-DET/0090/2010

BUREAU VERITAS CERTIFICATION

### **BUREAU VERITAS CERTIFICATION**

21/01/2011

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| Client:<br>ECF Project Ltd.   | Client ref.:<br>Mr. Gleb A   | Anikin   |   |
| Summary: Bureau Veritas Certification has made the turbine units on Nyagan TPP" project of Khanty-Mansiysk Autonomous Okrug, Rus as criteria given to provide for consistent properties of the Kyoto Protocol, the JI rules Committee, as well as the host country criter. The determination scope is defined as an the project's baseline study, monitoring project by three phases: i) desk review of the project with project stakeholders; iii) resolution of and opinion. The overall determination, conducted using Bureau Veritas Certification. | Energy Cassian Federa<br>roject opera<br>and modali<br>eria.  independe<br>blan and oth<br>design and<br>butstanding<br>from Conti | arbon Fund Project Ltd. located ation on the basis of UNFCCC ations, monitoring and reporting. Ities and the subsequent decision and objective review of the part of the baseline and monitoring places and the issuance of the ract Review to Determination | d in the city of Nyagan, criteria for the JI, as well UNFCCC criteria refer to ons by the JI Supervisory project design document, onsisted of the following an; ii) follow-up interviews final determination report |
| The first output of the determination proce CAR), presented in Appendix A. Taking design document.  In summary, it is Bureau Veritas Certification baseline setting and monitoring and meets  | into accour  | nt this output, the project prop that the project correctly applie   | onent revised its project s Guidance on criteria for  |
| country criteria.   |  | - VI - 12 - 2 - 200 - 21 - 21 - 21 - 21 - 21   |   |
| Report No.: RUSSIA-det/0090/2010 Subject Group: JI  |  | No distribution without Client or responsible organization   | out permission from the zational unit   |
| "Building of two new combined gas a turbine units on Nyagan TPP"  | ind steam  | Limited distribution   |   |
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### 1 INTRODUCTION

Energy Carbon Fund Project Ltd. (hereafter referred as 'ECF Project Ltd.') has commissioned Bureau Veritas Certification to determine its JI project "Building of two new combined gas and steam turbine units on Nyagan TPP" (hereafter called "the project") at the city of Nyagan, Khanty-Mansiysk Autonomous Okrug, Russian Federation.

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

### 1.1 Objective

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and 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 emissions reductions units (ERUs).

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

### 1.2 Scope

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

The determination is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

### 1.3 Determination team

The determination team consists of the following personnel:

Leonid Yaskin

Bureau Veritas Certification, Team Leader, Climate Change Lead Verifier



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Daniil Ukhanov

Bureau Veritas Certification, Climate Change Team Member Lead Verifier

This determination report was reviewed by:

Ivan Sokolov Bureau Veritas Certification, Internal reviewer

### 2 METHODOLOGY

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

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

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

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

### 2.1 Review of Documents

The Project Design Document (PDD) submitted by ECF Project Ltd. and additional background documents related to the project design and baseline. i.e. country Law, Guidelines for users of the ioint implementation project design document form, Approved methodology and/or Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, ECF Project Ltd. revised the PDD and resubmitted it on 14/01/2011.

The determination findings presented in this report relate to the project as described in the PDD versions 02-07.



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### 2.2 Follow-up Interviews

On 21/01/2010 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of JSC "Fortum" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

| Interviewed organization | Interview topics  |
|--------------------------|---|
| JSC "Fortum"             | <ul> <li>Status of the projects as on today; implementation schedules; starting date of the crediting period.</li> <li>Verification of fuel availability data indicated in PDD.</li> <li>Availability of reserve fuel pipeline.</li> <li>Competency and training programs for the staff.</li> </ul> |
| ECF Project Ltd.         | <ul> <li>Plausible baseline scenarios;</li> <li>Additionality of the project (why it is not a baseline);</li> <li>Calculation of electricity grid emission factor.</li> </ul>   |

# 2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Request (CAR) is issued, where:

- (a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions:
- (b) The JI requirements have not been met;
- (c) There is a risk that emission reductions cannot be monitored or calculated.

The determination team may also issue Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable JI requirements have been met.



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The determination team may also issue Forward Action Request (FAR), informing the project participants of an issue that needs to be reviewed during the verification.

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

### 3 PROJECT DESCRIPTION

Situation existing prior to the starting date of the project Construction of Nyagan TPP started in 80th of the last century, but then it was put on hold.

### Project scenario

Construction of the first stage Nyagan TPP - three steam-condensing power capacity of 418 MW each, the total capacity - 1,254 MW. The construction of two CCGT at Nyagan TPP is considered in the framework of JI. The third CCGT will be built and put into commercial operation after 2012. Nyagan TPP will operate on natural gas. The source of water of Nyagan TPP is the river Nyagan-Yugan occurring in the vicinity of industrial area stations. For water supply Nyagan TPP proposed organization of the reservoir.

Each CCGT of Nyagan TPP will consist of the following equipment:

- Gas turbine SGT5-4000F from the company «Siemens»;
- Steam turbine SST5-3000 from the company «Siemens»;
- Horizontal heat recovery boiler from the company «EmAlyans».

### The purpose of the project:

- Provide coverage of the growing electricity consumption in the region.
- Improve reliability Uraysko Nyagan energy unit.
- Create a framework for future development of the Polar and Polar Urals.
- Prevent the development of energy deficiency in the Khanty-Mansiysk.

The project leads to generation of employment.

Greenhouse gas emissions will be reduced due to the displacement of electricity from the grid produced by fossil fuel power plants by the electricity generated by Nyagan TPP that will produce electricity with lower carbon intensity in comparison with electricity from the grid.

### Baseline scenario

The baseline scenario is based on the assumption that if the project is not implemented (i.e. additional electricity will not be supplied to the grid)

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third parties will cover the energy demand. A description of the baseline scenario and confirmation thereof is presented in Section B.

### Brief 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 "Building of two new combined gas and steam turbine units on Nyagan TPP".

On 26 January 2007 the Investment Commission of RAO "UES of Russia" approved the plan-timetable of realizing the investment project on construction of CCGT at Nyagan TPP.

On December, 2007 the CJSC "E4 Group" was chosen as the general subcontractor of constructing the power units at Nyagan TPP.

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.

The ERUs will come from Joint Implementation projects conducted at TGC-1's production facilities during the Kyoto Period (2008-2012) of the European Emissions Trading Scheme. Fortum can use the received ERUs to cover part of its own emissions once these projects are completed and their emission reduction has been verified.



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In 2006, "UES of Russia" RJSC developed "The Master Plan for placing power plants up to 2020". This Master Plan is virtually a consolidated investment that was prepared based on the plans developed by those plants themselves and was later approved by the Government of the Russian Federation (the Government of the Russian Federation Executive Order No. 215-r of February 22, 2008). JSC "TGC-10" (TGK stands for Territorial Generating Company) was founded in March 2005 as part of Russia's power industry reform. JSCs "Tyumenenergo", "Chelyabenergo" and "Kurganenergo" acted as founders of TGC-10. On October 1, 2005 the company started its operating activity. On December 2006 TGC-10 completed the merging of its assets and establishment of an integrated operating company, which is a legal successor in rights and obligations of the merged legal entities. In connection with closing down "UES of Russia" RJSC, the company inherited the investment plans of "UES of Russia" RJSC. However, it is not obliged to implement them. On March 2008 Finnish company Fortum became a strategic investor in TGK -10, acquiring 76.5% stakes through an auction conducted by RAO "UES of Russia" and the additional issue of shares. As a result of mandatory offer made by the minority shareholders under the requirements of Russian legislation, the share of Fortum in TGC-10 reached about 95% (including shares of 100% subsidiary TGC-10).

Even though the project is part of "The Master Plan for placing power plants up to 2020", JSC "Fortum" has no obligations to the state to implement it. The Master Plan does not provide a list of companies, the facilities of which are its part. Therefore, in case the schedule to put new power facilities in operation is not followed to, the state cannot impose penalties on any of such companies. It is also confirmed by the fact that actual deadlines and volumes for putting new power plants in operation considerably differs from those in the Master Plan.

### 4 DETERMINATION CONCLUSIONS

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

The findings from the desk review of the original project design documents and the findings from the interview are described in the Determination Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 21 Corrective Action Requests and 2 Clarification Requests.

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



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### 4.1 Project approvals by Parties involved (19-20)

The project has no approvals by the Host Party, therefore CAR 01 remains pending.

A written project approval by the sponsor Party Finland is not available yet and should be provided to the AIE when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines. It has not been provided to AIE at the determination stage.

## 4.2 Authorization of project participants by Parties involved (21)

The participation of JSC "Fortum", ECF Project Ltd. and Fortum Power and Heat Oy listed as project participants in the PDD is not authorized by the Parties because the project approvals by the Parties were not received.

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

### 4.3 Baseline setting (22-26)

The PDD explicitly indicates that using a methodology for baseline setting and monitoring developed in accordance with appendix B of the JI guidelines (hereinafter referred to as JI specific approach) was the selected approach for identifying the baseline.

### JI specific approach

The PDD provides a detailed theoretical description in a complete and transparent manner, as well as justification, that the baseline is established:

By listing and describing the following plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one:

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 "Mid Volga":

Alternative 3: The electricity to be generated by project is provided by the other new energy units of URES "Ural" and URES "Mid Volga";

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 "Mid Volga". Justified as the baseline.

By taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project



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sector. In this context, the following key factors that affect a baseline are taken into account:

- (a) Projects using gas turbine technologies shall be exclusively applied during modernization and new construction at thermal power plants running on natural gas as indicated in "General Scheme of Allocation of Energy Objects up to 2020 approved by the Government of the Russian Federation (Order of February 22 2008 #215);
- (b) The economic situation in the energy generation is described as follows: "there are many old energy units in Russia. In accordance with CJSC "Agency of Energy Balances in the power industry" estimation approximately 10 GW of old capacities (lifetime expired several years ago) has to be dismantled by 2015 (3.9 GW by 2010). At the same time their forecast assumes the electricity demand growth will be 27.3 GW in 2012 in comparison with 2009."

### 4.4 Additionality (27-31)

JI specific approach

The most recent version 05.2 of the "Tool for the demonstration and assessment of additionality" approved by the CDM Executive Board is used to demonstrate additionality. All explanations, descriptions and analyses are made in accordance with the selected tool.

Additionality proofs are provided. Additionality is demonstrated appropriately by providing the proofs as follows:

- (a) the benchmark analysis and sensitivity analysis have shown that the project's IRR is well below the substantiated benchmark;
- (b) the common practice analysis has shown that the proposed JI project does not represent a widely observed practice in the geographical area concerned.

Additionality is demonstrated appropriately as a result of the analysis using the approach chosen.

### 4.5 Project boundary (32-33)

JI specific approach

The project boundary defined in the PDD, which is on Figure B.3.2, encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:



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- (i) Under the control of the project participants (such as on-site natural gas combustion);
- (ii) Reasonably attributable to the project (there are no such sources); and
- (iii) Significant, i.e., as a rule of thumb, would by each source account on average per year over the crediting period for more than 1 per cent of the annual average anthropogenic emissions by sources of GHGs, or exceed an amount of 2,000 tonnes of CO2 equivalent, whichever is lower.

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD.

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

4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project began, and the starting date is 26/01/2007, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 25 years and 300 months.

The PDD states the length of the crediting period in years and months, which is 1 year (12 months), and its starting date as 01/12/2012, which is on the date the first emission reductions generated by the project.

The PDD states that the crediting period for the issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project.

The PDD states that the extension of its crediting period beyond 2012 is subject to the host Party approval, and the estimates of emission reductions presented separately for those until 2012 and those after 2012 in all relevant sections of the PDD.

4.7 Monitoring plan (35-39)

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

JI specific approach



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The monitoring plan describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance, such as: project emissions, annual quantity of natural gas consumed at the new CCGT units, CO2 emission coefficient of natural gas, net calorific value per volume unit of natural gas, emission factor for natural gas, baseline emissions, annual electricity supply generated by CCGT #1 and CCGT #2, baseline grid emission factor.

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. be clearly connected with the effect to be measured), and that provide a transparent picture of the emission reductions to be monitored such as those listed in PDD Sections D.1.1.1 and D.1.1.3.

The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC, as appropriate (project and baseline emissions, electricity generation, emission factors for grid and natural gas, net calorific value of natural gas, etc.).

The monitoring plan explicitly and clearly distinguishes:

- (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, e.g. baseline grid emission factor, emission factor for natural gas.
- (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination (there are no such parameters).
- (iii) Data and parameters that are monitored throughout the crediting period, such as (annual quantity of natural gas consumed at the new CCGT units, net calorific value per volume unit of natural gas, annual electricity supply generated by CCGT#1 and CCGT#2).

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording, such as metering of natural gas flow and electricity supply metering.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions or direct monitoring of emission reductions from the project, leakage, as



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appropriate, such as described in Section D.1.1.2 and Section D.1.1.4 of PDD.

The monitoring plan presents the quality assurance and control procedures for the monitoring process. All the procedures are described in Section D.2 of PDD. This includes, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities described in Section D.3 of PDD.

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

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources (e.g. official statistics, expert judgment, proprietary data, IPCC, commercial and scientific literature etc.).

### 4.8 Leakage (40-41)

### JI specific approach

The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains which sources of leakage are to be calculated (there are no such leakage), and which can be neglected, such as fugitive CH4 emissions associated with fuel extraction, processing, liquefaction, transportation, re-gasification and distribution of natural gas used in the project plant and fossil fuels in the grid in the absence of the project.

### 4.9 Estimation of emission reductions (42-47)

### JI specific approach

The PDD indicates assessment of emissions in the baseline scenario and in the project scenario as the approach chosen to estimate the emission reductions generated by the project.

The PDD provides the ex ante estimates of:

- (a) Emissions for the project scenario (within the project boundary), which are 1,016,698 tons of CO2eq;
- (b) Leakage, as applicable, which are 0 tons of CO2eq;



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- (c) Emissions for the baseline scenario (within the project boundary), which are 1,615,433 tons of CO2eq;
- (d) Emission reductions or enhancements of net removals adjusted by leakage (based on (a)-(c) above), which are 598,735 tons of CO2eq.

The estimates referred to above are given:

- (a) On an annual basis;
- (b) From 01/01/2012 to 31/12/2012, covering the whole crediting period;
- (c) On a source-by-source/sink-by-sink basis;
- (d) For CO2;
- (e) In tonnes of CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol;

The formulae used for calculating the estimates referred above, which are (1)-(8), are consistent throughout the PDD.

For calculating the estimates referred to above, key factors, e.g. emission factors from exact stations of URES "Ural" and URES "Mid Volga", etc. influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating the estimates referred to above, such as Guidelines for National Greenhouse Gas Inventories, IPCC 2006, Rosstat RF are clearly identified, reliable and transparent.

Emission factors, such as emission factor for natural gas combustion, baseline grid emission factor, were selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

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

The estimates referred to above are consistent throughout the PDD.

The annual average of estimated emission reductions over the crediting period is calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period, and multiplying by twelve.

The PDD in Section E includes an illustrative ex ante emissions calculation.



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4.10 Environmental impacts (48)

The PDD lists and attaches documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party, such as Federal Laws # 174"On the Environmental Expertise" and # 190 "The Construction Code of RF".

The PDD provides conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party, if the analysis referred to above indicates that the environmental impacts are considered significant by the project participants or the host Party.

### 4.11 Stakeholder consultation (49)

Stakeholder consultation was not undertaken as it is not required by the host party.

- 4.12 Determination regarding small scale projects (50-57) Not applicable.
- 4.13 Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64)
  Not applicable.
- 4.14 Determination regarding programmes of activities (65-73) Not applicable.
- 5 SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES

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

### 6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the "Building of two new combined gas and steam turbine units on Nyagan TPP" Project in RF. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The determination consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii)



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follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final determination report and opinion.

Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides investment analysis and common practice analysis, to determine that the project activity itself is not the baseline scenario.

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

The review of the project design documentation version 07 and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria.

The determination revealed two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party. If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 07 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

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

### 7 REFERENCES

### Category 1 Documents:

Documents provided by Type the name of the company that relate directly to the GHG components of the project.

- /1/ PDD "Building of two new combined gas and steam turbine units on Nyagan TPP", Version 02, 17/09/2010.
- /2/ Spreadsheet "Calculation".
- /3/ Spreadsheet "Nyagan TPP v2".

### Category 2 Documents:



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

- /1/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.
- "Tool for the demonstration and assessment of additionally" (Version 05.2), CDM – Executive Board.
- /3/ Permission # 41-10 on pollutants emission into the atmosphere for Nyagan TPP.
- /4/ Positive conclusion of State Expertise #490-08/XME-0624/03 for construction place of Nyagan TPP.
- /5/ Letter from Energy Carbon Fund to TGK-10 concerning the GHG potential of the project.
- /6/ Business plan on construction of energy CCGT energy units #1,2,3 on Nyagan TPP JSC "TGK-10"
- 17/ Letter from Gazprom company concerning the natural gas supply of Nyagan TPP.
- /8/ Annex 3 Photographical report from the construction place, November 2010.

### Persons interviewed:

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

- /1/ A. Sorokin ECF Project Ltd., Head of JI project development group;
- O. Kuznetsova JSC Fortum, Head environmental and working safety engineer in investment program department;
- /3/ M. Shabalin JSC Fortum, Head of Nyagan TPP;
- 14/ T. Syarkkya JSC Fortum, Nyagan TPP's project manager.

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