DETERMINATION REPORT

CJSC NATIONAL CARBON SEQUESTRATION FOUNDATION

DETERMINATION OF THE GHG EMISSION REDUCTION THROUGH THE COMMISSIONING OF BIOGAS-FUELLED MINI-HPPS AT THE KURIANOVO AND LYUBERTSY WASTE WATER TREATMENT FACILITIES OF THE MGUP MOSVODOKANAL

REPORT NO. RUSSIA-DET/0086/2010
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BUREAU VERITAS CERTIFICATION

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REPORT NO: RUSSIA-DET/0086/2010

Determination Report on JI project

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Date of first issue:	Organizational unit:
09/12/2010	Bureau Veritas Certification Holding SAS
Client:	Client ref.:
NATIONAL CARBON SEQUESTRATION FOUNDATION	Mr. Marat Latypov

Summary:

Bureau Veritas Certification has made the determination of the "GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal" project by National Carbon Sequestration Foundation located in the city of Moscow, Russian Federation on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up 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 Determination protocol with identified corrective action requests and clarification requests (CARs and CLs), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

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

Report No.:	Subject Group:
RUSSIA-det/0086/2010	JI
Project title: "GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"	
Work carried out by: Vladimir Lukin – Lead verifier	
Work verified by: Leonid Yaskin – Internal Technical Reviewer	
Work approved by: Flavio Gomes – Operational Manager	

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Abbreviations

Flavio Gomes – BVC Operational Manager

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CL	Clarification Request
CO_2	Carbon Dioxide
DDR	Draft Determination Report
DR	Document Review
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
GHG	Greenhouse House Gas(es)
HFO	Heavy fuel oil
IRR	Internal Rate of Return
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
KOS	Kurianovskaya wastewater treatment plant
LOS	Luberetskaya wastewater treatment plant
LLC	Limited liability company
MP	Monitoring plan
MGUP	Moscow State Unitary Enterprise
NCSF	National Carbon Sequestration Found
NG	Natural gas
NPV	Net Present Value
PDD	Project Design Document
OJSC	Open Joint Stock Company
PP	Project Participant
RF	Russian Federation
tCO2e	Tonnes CO2 equivalent
UNFCCC	United Nations Framework Convention for Climate Change

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1 INTRODUCTION

CJSC National Carbon Sequestration Foundation (hereafter referred as 'NCSF') has commissioned Bureau Veritas Certification to determine its JI project "GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal" (hereafter referred 'the project') located in the city of Moscow, 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 GHG Project Description (quoted by PDD Section A.2)

Project purposes:

- Improving of the energy efficiency of waste water treatment facilities;
- GHG emission reduction.

Project tasks:

- To increase the reliability of the electricity supply through the independent electricity supply of blowers which support the vitality of biological solids;
- To utilize the biogas with full use of heat in the technological scheme;
- To reduce the electricity consumption from power grid.

Situation existing prior to the starting date of the project

MGUP Mosvodokanal provides the service of the water supply and sewerage. Treatment facilities in Kurianovo (hereinafter referred as KOS) and treatment facilities in Lyubertsy (hereinafter referred as LOS) are affiliates of the MGUP Mosvodokanal and provide the sewerage service. The project capacity of the KOS is 3 125 million m3 of the treated water per day, the project capacity of the LOS is 3 million m3. The source of the power supply for KOS and LOS is the regional power grid. The heat is provided by own boiler, which burns biogas and natural gas.

The sewage water treatment bring about the sludge. The fermentation of the liquid sludge allows to cut down expenses due to the shrinkage of the sludge for subsequent processing. The biogas is a by-product of the sludge fermentation in methane-tanks and contains 65% methane. The MGUP Mosvodokanal has 44 methane-tanks with total volume 280 thousand m3: KOS - 24 and LOS - 20. Since 1998 the MGUP Mosvodokanal carries out the integrated reconstruction which leads increasing of the biogas production in 1,7 times. At the time the biogas production is equal to 250 thousand m3 per day (more than 90 million m3 per year).

Baseline

The biogas from methane-tanks is turned to the boiler-house for the heat production needing for treatment facilities. The missing heat is compensated with the natural gas consumption. The baseline supposes that the required quantity of the electricity will be provided from the regional power grid.

Energy flows for LOS are considered beginning from 2012 because the commissioning of the mini-HPP "Lyubertsy" will be in September 2011.

Project scenario

Project scenario provides for the construction of mini-HPPs in KOS and LOS. The project electrical capacity of each mini-HPP is 10 MW, the project heat rate is 8 MW. Mini-HPPs use biogas from methane-tanks. Mini-HPP KOS supersedes 45% of electricity and 30% of heat. Mini-HPP LOS supersedes 53% of electricity and 12% of heat. Part of the biogas used before the Project in boiler-house will be used on mini-HPPs. It will lead to the increasing of the natural gas consumption. Thus, the Project will reduce electricity consumption from the grid and increase the natural gas consumption.

The Project realization allows to reduce **92 637** t of CO2-eq for the period 2009-2012.

Project history

MGUP Mosvodokanal has the surplus biogas on the treatment facilities. It is possible thanks to the reconstruction of methane-tanks in 1998. The idea of implementation of the generating capacity operate on the biogas had been discussing in MGUP Mosvodokanal since 2002. First estimation of the emission reduction had been done in 2005 after the meeting with experts of the Russian carbon fund (Denmark). (See the minute of 12 May 2005). Design and survey works and technical and economic assessment showed an approximate volume of CAPEX. Because of large CAPEX it was allowed in 2006 to invite investors for this Project. Potential investors were informed about the approximate CAPEX and indirect income like ERU income. In early 2007 WTE Wassertechnik GmbH in the person of the LLC EFN Eco Service decide to invest this project. The ex-ante assessment shows that the Project is not attractive. Nevertheless possible GHG reduction was determinative factor for the WTE Group. The project started in 2007. The first emission reductions had been obtained in 2009.

1.4 Determination team

The determination team consists of the following personnel:

Dr. Vladimir Lukin
Bureau Veritas Certification, Climate Change Lead Verifier

This determination report was reviewed by:
Dr. Leonid Yaskin,
Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Project Design Document (PDD) ver. 1.0 dd. 27.07.2010 was submitted by NCSF to BVC on 02/09/2010. The PDD along with additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by an Accredited Independent Entity were reviewed.

The first deliverable of the document review was the Draft Determination Report (DDR) version 1.0 with CAR's and CL's which was submitted to NCSF on 29/09/2010.
To address Bureau Veritas Certification corrective action and clarification requests, NCSF revised the PDD and resubmitted its 2nd version along with responses to the verifier's requests made in DDR on 16/11/2010. Having reviewed this feedback, Bureau Veritas Certification issued DDR version 2.0 dated 29/11/2010 with clarifications why some of issues remained open.
The latest revision of PDD ver.03 along with final responses to CARs and CLs was submitted to BVC on 01/12/2010 which was accepted by Bureau Veritas Certification.

The determination findings presented in this report relate to the project as described in the
PDD version 01 dd. 27.07.2010
PDD version 02 dd. 16.11.2010, and
PDD version 03 dd. 01.12.2010.

2.2 Follow-up Interviews

To confirm selected information and to resolve issues identified in the document review on-site interviews with project stakeholders was performed by Bureau Veritas Certification performed on 25/10/2010. Representatives of MGUP Mosvodokanal, LLC EFN Eco service and NCSF were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
MGUP Mosvodokanal	➢ Project implementation schedule; current status of the project; starting date of the project; ➢ Start of crediting period; ➢ Prior JI consideration; ➢ Official approval of project activity. State Expertise Conclusion and official permit for project start. ➢ Energy output and fuel consumption, historical records and forecasted heat and power demands, verification of production data, fuel and electricity data in PDD. ➢ Operational lifetime of the project and baseline equipment. ➢ Baseline selection. Analysis of plausible alternatives for proposed project activity. Determination on whether the baseline represents the realistic and feasible scenario which would have occured in the absence of project. ➢ Compliance to the local environmental legal requirements. Environmental licenses and permits. ➢ Common practice. ➢ Environmental Impact Assessment Documentation. ➢ Stakeholders' comments. Host country requirements for arrangement of consultations with public representatives. The nature of comments received and how they have been addressed.
LLC EFN Eco Service	➢ Technical details of project. ➢ Project boundary. Project and baseline GHG emission sources. ➢ Monitoring plan. Measuring equipment, ➢ QC/QA procedures, ➢ authority and responsibility distribution,
Consultant NCSF	➢ Plausible baseline scenarios ➢ Investment analysis. ➢ The investment parameters and main assumptions of the proposed project activity. ➢ ER calculation

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.

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 DETERMINATION CONCLUSIONS

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

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit 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, 9 Clarification Requests and 2 Further Action Requests.

The numbers in brackets at the end of each section name correspond to the relevant DVM paragraphs

3.1 Project approvals by Parties involved (19-20)

The project has no approval by the Host Party, therefore CAR 01 was issued and remains open.

A written project approval by the Party other than the Host Party has not been provided to AIE at the determination stage. It should be provided 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.

3.2 Authorization of project participants by Parties involved (21)

The participation for MGUP Mosvodokanal, and LLC EFN Eco service 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 approval.

3.3 Baseline setting (22-26)

JI specific approach has chosen for baseline setting in accordance with paragraph 9 (a) of the Guidance on criteria for baseline setting and monitoring ver. 2.0. The baseline has been established in accordance with appendix B of the JI guidelines.

JI specific approach

The baseline scenario has been established on the basis of analysis of selected alternatives for heat and power supply of KOS and LOS wastewater treatment plants. Key factors affecting these alternatives with regard to technology used, environmental impacts and financial feasibility were considered.

The relevant national and/or sectoral policies that may affect a baseline have been taken into account. All alternatives are in compliance with the applicable legal and regulatory requirements of the Russian Federation.

On the basis of alternative analysis two alternatives were selected:

1/ Continuation of the current situation, including:

1.a. the electricity consumption from the regional power grid, and
1.b. the heat consumption from the boiler houses;

2/ The project activity without being registered as a JI activity, including:

2.a. generation of the electricity on mini-HPP with GE Jenbacher engines, and

2.b. generation of power on mini-HPP with GE Jenbacher engines.

The third alternative - cogeneration based on the biogas and heavy fuel oil combustion was excluded from consideration due to technical obstacle related to construction of HFO storage tanks.

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 most plausible scenarios and taking into account relevant national and/or sectoral policies and circumstances.
Identified areas of concern as to the baseline setting, PP's responses and BV Certification's conclusions are described in Appendix A (refer to CAR 02, CAR 03, CAR 04, CAR 05, CAR 06, CL 05 and CL 06)

3.4 Additionality (27-31)

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 or method.

The investment analysis was applied to demonstrate that the project activity without JI registration is not economically feasible.
All input values were selected for investment analysis using conservative assumptions and confirmed by reliable evidence
Total investments are confirmed with the bidding documentation issued by MGUP Mosvodokanal for the construction of mini HPP at LOS and KOS /6/, /7/;
The tariffs for heat and natural gas were officially established by the Moscow Regional Energy Committee and checked against information published at its official website /8/.
The power tariffs are determined on the basis of the bidding documentation /6/ /7/.
The biogas prices were confirmed by the agreement on the mutual energy resourcing between MGUP Mosvodokanal and WTE company /1/.
Depreciation scheme were accounted according to the Russian national official accountant procedure /9/.
The residual value of non depreciated assets was added as cash inflow in the last year for investment analysis.
Project operation lifetime as of 180 000 hours was officially confirmed by the letter from equipment supplier GE Jenbacher GmbH & Co OHG /22/.
All references were checked and found reliable.

The proposed approach to additionality demonstration and assessment applies the investment and sensitivity analyses of the project investment activity. The calculations on the spreadsheet annexed to PDD show that the project is not economically attractive without ERU sale.

The baseline scenario assumes continuation of the existing practice of electricity supply from the national grid and heat production by the own boiler houses.
The project activity does not represent the business as usual. As it was demonstrated through the common practice analysis and confirmed by the interview with MGUp Mosvodokanal managers there are no activities similar to the proposed project in terms of technology and scale implemented on wastewater treatment plants in Russia. The analysis of the relevant construction standard SNiP 2.04.03-85 "Sewerage. External infrastructure installations» demonstrates that the biogas heat generation is the only way of biogas utilization. The power production technology is not considered.
The JI status and the relevant revenues from ERU were considered to be the key factor for project realization prior the project implementation start. As it was found during the interview with PP and document review the first estimation of emission reduction were decided to be made in 2005 prior JI as confirmed by the protocol of technical experts meeting dd.12/05/2005 /02/at the stage of project idea elaboration.
On the basis of the above analysis, the GHG emission reductions generated by the implementation of the proposed project are found to be additional to those that might have otherwise occurred.
Identified areas of concern as to Baseline and Additionality, PP's responses and BV Certification's conclusions are described in Appendix A (refer to CAR 07 and CL 07).
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3.5 Project boundary (32-33)

JI specific approach

The project boundary as defined in the PDD encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

i/ Under the control of the project participants, /ii/ reasonably attributable to the project 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.
Identified GHG emission sources include CO2 emissions from NG and HFO combustion at the boiler houses and GHG emissions from the national power grid.
Emissions from HFO combustion at the boiler houses in the baseline was not considered as baseline emission sources that was accepted as conservative approach.
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The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD.

It was demonstrated through the ER calculation that N2O and CH4 emissions from combustion of natural gas and HFO are negligible and can be excluded from project boundary. The ex-ante estimation of emissions was verified on the basis of review of internal reports provided by the Energy Department of MGUP Mosvodokanal /5/, /11/.
The AIE determined the project boundary by:
a) review of ER calculation, and
b)Assessment of documentation ref. /5/, /11/.
c) Observations of the physical site and equipment during the site visit undertaken.

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.

Identified areas of concern as to project boundary, PP's responses and BV Certification's conclusions are described in Appendix A (refer to CAR 08 and CAR 09).

3.6 Crediting period (34)

The project started on 05/04/2007 when the investment contract (contract on mutual energy resources delivery /1/) was signed between MGUP Mosvodokanal and WTE Wassertechnik GmbH.

The length of the crediting period is defined as 3 years and 10 months starting from 01/03/2009. The crediting period started after the date when the first emission reductions were achieved. The biogas running cogenerators at KOS were launched in February'09 that was confirmed by interview with LLC EFN Eco sevice managers and the review of internal reports on energy production from mini HPP at KOS for 2009 provided on site /05/.

The project operation lifetime is determined as 180 000 hours. That is officially confirmed by the letter from equipment manufacturer GE Jenbacher GmbH & Co OHG /22/.

3.7 Monitoring plan (35-39)

The JI specific approach was chosen to determine the monitoring plan.

JI specific approach

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 parameters which are necessary to be monitored for ER estimation include the following:

- annual production of heat from mini HPPs
- annual production of power from mini HPs
- annual production of heat from boiler houses
- annual consumption of biogas at the HPPs
- annual consumption of different fuel types (NG, biogas and HFO) at the boiler houses;
- NCV values for different fuel types (biogas, NG and HFO).

The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC, as appropriate (project and baseline emissions and their components, and relevant CO2 emission factors).

The monitoring plan explicitly and clearly distinguishes:

1/ Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as:

- **emission factors for natural gas and heavy fuel oil**, determined on the basis of IPCC 2006 guidelines;
- **grid emission factor for electricity production at the plant concluded to the Russian National power grid**, determined on the basis of Operational Guidelines for Project Design Documents of Joint Implementation Project. Volume 1: General guidelines, Ministry of Economic Affairs of the Netherlands, May 2004. This approach is found conservative on the basis of review of two other JI projects successfully underwent determination: "Construction of a new CCGT plant in Tereshkovo, Moscow" and "Construction of a new CCGT plant in Kozhukhovo, Moscow" and the comparison with result of recently developed research study in Russian Energy sector made by European bank of Reconstruction and Development /12/ where EF calculated for the UES Center is proposed to be varying from 0.640 to 0.657 tCO2/ MWh that is higher than the values proposed in ERUPT's study.
- **Baseline efficiency of boilers at the boiler houses at LOS and KOS** determined on the basis of technical testing reports /20/ performed in 2010.

2/ Data and parameters that are monitored throughout the crediting period, such as annual production of power and heat by mini HPPs as well as bio-gas, NG and HFO consumption.

The Monitoring plan does not apply any 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.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording including metering of heat and power production with standard metering equipment, metering of HFO, natural gas and biogas consumption, and laboratory testing of NCV values for each fuel type.

The monitoring plan represents the current good monitoring practice. It uses standard monitoring routines regulated by the relevant sector specific national standards, guidance and methodologies referred to in the PDD.

The functionality of monitoring system has been checked through the review of metering equipment installed at the mini HPP at KOS which had already been commissioned by the time of site visit) and through the review of manufacturers' certificates, passports and calibration records provided on site for each type of meters.

Electricity production metering system at mini HPP KOS:
6 Electricity meters of СЭТ – 4ТМ.03 type is used for power production metering. All meters were calibrated prior the installation in 2009 -2010. Calibration periodicity is once per 10 years according to the national standard.

Heat production metering system at mini HPP KOS includes /24/:
Thermal energy production by mini HPP KOS is metered with the metering complexes including two heat counters WIS.T TC 200-0-2-1 ser. #25118 and #03149 with maximum uncertainty level – 1.85% set of thermometers KTPTR 05, and vortex flowmeter Trio-Wirl with accuracy of 0.5%. All equipment are calibrated with relevant periodicity established by manufacturers' certificates.

Biogas consumption metering system/25/
The biogas consumed by mini HPP at KOS is metered by Binder Combomass flowmeter ser. C080291 calibrated on 30/04/2009. Uncertainty level is defined in the Methodology of biogas volume metering as 2.5%.
Steam production metering system /26/
Steam produced by Mini HPP KOS is metered with TRIO Wirl FS4000 vortex heat counter calibrated on 24/03/2009. Uncertainty level – 0.5%

Heat production metering system at the boiler houses LOS and KOS /27/

Heat counters WIS.T #39512 and #17985 are used for metering of heat production at boiler houses at LOS and KOS. Maximum uncertainty level for this type of meters is defined as 1.85% according to manufacturer's certificate. Calibration periodicity is four years. The meters were calibrated in 2008-2009.

Natural gas consumption metering system at KOS /28/
includes NG metering complex SG-EKvz-T-0.1-800/1.6 ser. #2502151 including corrector EK260 ser. # 50305292, Gas flow meter SG 16-M-800 ser. #3060070, adapter EF260. The gas metering station is undergone calibration once per 5 years according to manufacturers manual. Calibration periodicity for gas flow meter is 3 years. Gas flowmeter has been calibrated on 16/09/2009.

Natural gas consumption metering system at LOS /29/
The natural gas consumption metering system at LOS includes metering complex RS-SPA_M #08345. calibrated on 21/04/2008. The level of uncertainty is 1.5% and corrector SPG761 ser.#9893 calibrated on 31/01/2008 with uncertainty level of 0.02%. The relevance of metering system is confirmed by the positive conclusion of metrological expertise. Total maximum uncertainty of NG metering is 2.1%

HFO consumption
HFO is consumed by boilers in the boiler houses LOS and KOS primarily for the periodic testing as required by the operational reglament. As per interview with MGUP Mosvodokanal Energy department representatives HFO consumption is estimated on the basis of the amount of HFO based heat production, NCV of HFO and estimated boiler efficiency.

NCV values for NG and HFO are determined by fuel suppliers using standard laboratory techniques.

NCV of biogas is evaluated on the basis of testing results obtained in the own accredited laboratory of MGUP Mosvodokanal.

The Monitoring system for energy production and biogas consumption at the LOS had not been installed by the time of site visit. To ensure the reliability of monitoring data collected at mini HPP LOS, its monitoring system shall be the subject for checking at the periodic verification stage.

The monitoring plan presents the quality assurance and control procedures for the monitoring process. This includes information on calibration and on how records on data and/or method validity and accuracy are kept.

The monitoring plan identifies the responsibilities and the authority regarding the monitoring activities. The Chief Energy Engineer Department of MGUP Mosvodokanal is responsible for the data collection and handling. The monitoring reports preparation is on the responsibility of the Innovation and New Technology Department of MGUP Mosvodokanal.

The monitoring plan indicates that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project. It is defined that the data will be archived in electronic and paper form.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions/removals such as those straightforward formulae provided in PDD Sections D.1.1.2 and D.1.1.4, with reference to Annex 2.

Identified areas of concern as to Monitoring Plan, PP's responses and BV Certification's conclusions are described in Appendix A (refer to CARs 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and CL 08).

3.8 Leakage (40-41)

JI specific approach

It is appropriately explained by applying of conservative method of ER calculation that the potential leakage attributable to enhanced NG consumption envisaged by the project are negligible.

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

JI specific approach

The emission reductions are estimated as the difference between project and baseline emissions.

The PDD provides the ex ante estimates of emission reductions from the project (within the project boundary) equal to 92 637 tons of CO2eq for the crediting period;

The estimates referred to above are given:

(a) On an annual basis;

(b) From 01/03/2009 to 31/12/2012 covering the whole crediting period;

(c) On a source-by-source basis;

(d) For CO2 as the only GHG emitted.

(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 of ER are presented in Section D PDD, are consistent throughout the PDD.

Project emissions are estimated on the basis of NG and HFO consumption forecast taken from heat and power production/fuel consumption balance for 2009-2012 provided on site /5/, /11/. Fuel consumption for period of 2010-2012 is estimated on the basis of heat and power demands of KOS and LOS, country specific default values of NCV for NG and HFO, actual values of NCV for biogas /21/ and heat and power production efficiency of mini HPP and boilers estimated on the basis of project design data /19/ and technical testing results /20/.

The baseline emissions from electricity consumption are estimated by multiplying of grid emission factor by the amount of electricity consumed from the grid which is equal to that produced by the mini HPPs in the project scenario.
The baseline emissions from NG and HFO combustion are estimated as the volume of NG and HFO multiplied by the respective Emission factors.
The volume of the fossil fuels that would have been combusted in the baseline is estimated on the basis of heat demands, actual values for NCV of NG and HFO and efficiency of boiler houses assessed through the regular technical testing of boilers

Emission factors, such as those mentioned in Section 3.7 above were selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

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

The PDD Section E includes the illustrative ex-ante emissions calculation.

Identified areas of concern as to ER calculation, PP's responses and BV Certification's conclusions are described in Appendix A (refer to CAR 20).

3.10 Environmental impacts (48)

The environmental impacts of the project, including transboundary impacts were assessed as the part of project design and officially approved in accordance with procedure as determined by the Federal Law #190 "The Construction Code of RF".

The project envisages installation of two biogas running mini HPPs and partial shift from biogas to NG at the boiler houses. The main environmental effect is related to enhanced air pollutant emissions generate through the combustion of additional volume of natural gas at the boiler house. The project activity is associated with enhanced generated by wood waste combustion in heat generators providing heat for technological needs of pellet production plant and enhanced power consumption from the regional grid.

The officially approved Environmental Impact Assessment /15/ indicates that there are no significant adverse environmental impacts resulting from implementation of project activity.

The compliance of proposed project activity to applicable norms and regulations is confirmed by State Expertise conclusion /16/, /31/. The company has received the official permit for air pollutant emissions /17/.

All documentary evidence were provided to the auditor and reviewed as the part of determination process. Thus the compliance to local environmental requirements was assured.

Identified area of concern as to Environmental impact assessment, PP's response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CAR 21).

3.11 Stakeholder consultation (49)

Nevertheless official stakeholder consultation procedure is not mandatory as per Russian National legislation stakeholders were informed on the proposed project activity through the publication of relevant information at the official website of MGUP Mosvodokanal. The web site has contact information for collection of comments and feedbacks from stakeholders. No comments were received.

Identified area of concern as to Stakeholder consultation, PP's response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CL 09).

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

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

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

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

According to the Verification procedure under the Article 6 Supervisory Committee, Bureau Veritas Certification published the PDD Version 1.0 on BVC site *www.bureauveritas. ru* on 13.09.2010 and invited comments within the period from 13.09.2010 to 12.10.2010 by Parties, stakeholders and non-governmental organizations.

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

5 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the "GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal" project. The determination was performed on the basis of UNFCCC criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant/s used JI specific approach for demonstration of the additionality. 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 03) 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 03 meets all the relevant UNFCCC requirements for the JI 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.

Bureau Veritas Certification Holding SAS

BUREAU VERITAS CERTIFICATION Reviewed Init Date: 14/12/2010

6 REFERENCES

Category 1 Documents:
Documents provided by Global Carbon BV that relate directly to the GHG components of the project.

/1/ PDD "GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal",
a/ version 01, dd. 27.07.2010.
b/ version 02. dd. 16.11.2010;
c/ version 03, dd. 01.12.2010

/2/ Emission reduction calculation spreadsheet

/3/ Investment analysis spreadsheet

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

/1/ Contract on the mutual delivery of energy resources concluded between MGUP Mosvodokanal and WTE Wassertechnik GmbH dd. 05/04/2007

/2/ Minutes of technical meeting MGUP Mosvodokanal dd. 12/05/2005

/3/ Commissioning certificate of HPP at KOS issued by Mosgosstrojnadzor (25.11.2009)

/4/ Certificate of registration of LLC "EVN Eco Service" in the Federal register of legal entities

/5/ Report on the power production by cogeneration units installed at KOS and LOS signed by the Deputy Head of Energy Engineer Department Mr. Shilovsky V.V.

/6/ Bidding documentation on the open international auction on the right to conclude the contract on realization of investment project of designing and construction of biogas running mini-HPP for Kurianovskaya wastewater treatment plant. 2005

/7/ Bidding documentation on the open international auction on the right to conclude the contract on realization of investment project of designing and construction of biogas running mini-HPP and fermented sludge dryer for Lyuberetskaya wastewater treatment plant. 2007

/8/ http://rek.mos.ru/tarifs/ official website of Moscow regional tariff committee.

/9/ RF Governmental resolution #1 dd.01/01/2002 "on classification of main assets being included into the depreciation groups"

/10/ Operation of investments. Ed. Sheremet V.V. M., "Upper school", 1998.

/11/ Heat energy/ fuel balances for LOS and KOS for the period 2008-2012. (actual data for 2009 and forecast for 2010-2012) approved by the Deputy of the Chief Energy Engineer Department Head Mr. Khrustaleov K.A.

/12/ Research study: Development of the electricity carbon emission factors for Russia, April, 2010 by European Bank of Reconstruction and Development

/13/ positive Conclusion of, № 99-P5/07 IGE dd. 05/10/2007 issued by MOSKOMEKSPERTIZA

/14/ Conclusion of industrial safety examination (positive) № 98/06B-321-PB dd. 2007 issued by "ROSTEHEKSPERTIZA"

/15/ Environmental Impact Assessment (summary of emissions from the mini-HPP KOS)

/16/ Conclusion on compliance of the completed project to requirements of technical regulations and project documentation #939-P/30C dd. 19/12/2008 issued by MOSGOSSTRINADZOR

/17/ Permit for emissions from the project dd. 31.03.2010 #50649

/18/ Permit for construction (27.03.2008)

/19/ Project design note (2006)

/20/ The Regime cards – testing reports of boilers installed in the boiler houses at KOS and LOS dd. 2010

/21/ Biogas content data (04.07.2007)

/22/ The letter from GE Energy dd. 11/11/2011 Life time of GE Jenbacher equipment JMC 620

/23/ List of power, heat and biogas meters

/24/ Documentation for heat metering system installed at HPP KOS:

- Project design assignment for the design of heat metering;
- Heat meter location diagram;
- Heat meters certificates for vortex flow meter Trio Wirl ser. # 240157149/X001;
- Passport of VIST 03149 heat meter;
- Passport of VIST 25118 heat meter;
- Certificate of calibration dd. 24/03/2009 valid till 24/03/2011;
- Passport of set of platinum thermometers KTPTP -05;

/25/ Documentation for Biogas metering system installed at mini HPP at KOS:

- Combimass flow meter ser. # C080291;
- Biogas volume metering methodology;
- Accreditation certificate of measuring methodology for measuring biogas volume and consumption;
- Diagram of COMBIMASS gas meter location;
- Certificate of compliance with Gosstandart of COMBIMASS flow meters;
- Calibration certificate dd. 30/04/2009 valid till 30/04/2011;
- Certificate of measurement of inside diameter of pipeline at biogas meter;

/26/ Documentation for Steam production metering system installed at Mini HPP at KOS:
- Diagram of location of steam flow meter
- Certificate of condition and usage of measuring equipment and compliance with requirements of instruction manual for steam meter
- Certificate of measurement of inside diameter of pipeline at steam meter
- Information for passport of steam meter
- Permit for usage of steam meter

/27/ Documentation for Heat production metering system at the boiler houses at LOS at KOS .
- Heat counter WIS.T ser. # 39512 manufacturer's certificate.
- Calibration records logbook. Latest calibration dd. 01/11/2007
- Heat counter WIS.T ser. # 17985 manufacturer's certificate.
- Calibration records logbook. Latest calibration dd. 12/12/2008

/28/ Documentation for Natural Gas consumption metering system at KOS:
Gas metering station certificate for Gas metering complex SG-EKvz

/29/ Documentation for Natural Gas consumption metering system at LOS:
- Metrological expertise conclusion for NG consumption metering station # 77/3899-08 dd. 09/06/2008;
- Calibration certificate #033358 dd/ 19/04/2010 valid till 19/04/2012.

/30/ LOS – State Expertise conclusion (positive) on the compliance of Capital Construction Object: Mini HPP with sludge drying installation on the biogas at Lyubertsy wastewater treatment plant, #77-1-4-0408-10 issued by Moskomexpertisa, dd. 24/05/2010

/31/ LOS -Construction permit from Mosgosstrohnadzor # RU77166000-005244 dd. 02/08/2010

/32/ 2-tp wastes Statistical Reporting Forms for 2008-2009

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/	Kozlov M.N. – MGUP Mosvodokanal, Head of New Technology and Innovation Department
/2/	Melkumyan A.M. – MGUP Mosvodokanal KOS,, Head of Metrological Department
/3/	Grechishnikov V.G. – LLC EFN Eco Service, technical director
/4/	Grishechkin I.K. – – LLC EFN Eco Service, Project manager
/5/	Zhivluk N.Y. – MGUP Mosvodokanal, Chief Spechialist
/6/	Domozhakov D.I. – MGUP Mosvodokanal, Senior Manager of New Technology and Innovation Department
/7/	Timokhina N.S. - MGUP Mosvodokanal KOS, Chief specialist
/8/	Khamidov M.G. - MGUP Mosvodokanal, The Head of Sewage department
/9/	Chichkanov A.A. – MGUP Mosvodokanal, PU Mosochistvod, The Deputy Head of Operation
/10/	Kalashnikova E.G. – MGUP Mosvodokanal, Engineer on Environmental issues
/11/	Filimonova E.G. – MGUP Mosvodokanal, PU Mosochistvod, Engineer on Environmental issues
/12/	Khrustaleov K.A. - MGUP Mosvodokanal, Deputy Head of Energy department.
/13/	Bugdaeva A. - National Carbon Sequestration Foundation (NCSF), Project development Department, Senior expert.

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APPENDIX A: COMPANY JI PROJECT DETERMINATION PROTOCOL

Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 02)

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
Guidelines for JI PDD Form Users Section A General description of the project					
A.2 Description of the project					
A.2	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description). Is the history of the project (incl. its JI component) briefly summarized?	The Project's purposes are the Improving of the energy efficiency of waste water treatment facilities, and GHG emission reduction. The situation existed prior the project start along with brief description of project and baseline scenario are represented in section A.2. **CL 01.** PDD sec. A.2 reads "in 2006 it was decided to attract investors for the construction of mini-HPP on KOS and LOS". Please demonstrate JI consideration in course of decision elaboration in 2006.	**CL 01** The idea of implementation of the generating capacity operate on the biogas had been discussing in MGUP Mosvodokanal since 2002. First estimation of the emission reduction had been done in 2005 after the meeting with experts of the Russian carbon fund (Denmark). (See the minute of 12 May 2005). It was decided in 2006 to invite investors for this Project after design and survey works and technical and economic	CL 01 The prior JI consideration in 2005 has been confirmed by the protocol of technical experts meeting dd.12/05/2005 /2/. It was decided to estimate the emission reduction potential of project prior to start the bidding process and investment attraction. CL 01 is closed	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			assessment. Therefore potential investors were informed about the capital cost and indirect income (ERU income).		
A.3 Project participants					
A.3	Are project participants and Party(ies) involved in the project listed? Is contact information provided in Annex 1 of the PDD?	Host Party is the Russian Federation. Legal entities for A1 are MGUP Mosvodokanal and EVN Unvelt Service GmbH. The contact information is provided in PDD Annex 1. **CL 02.** Please clarify if EVN Unvelt Service GmbH represents a Russian Legal Entity and does not represent a sponsor party.	**CL 02.** "EVN Umvelt Service GmbH" is called LLC "EFN Eco service". This company is resident of the Russian Federation and has OGRN number 1077746007756.	CL 02 LLC "EFN Eco Service" is the affiliate of EVN Unwelt service" registered in Russia that was confirmed by the certificate of official registration /04/ checked during the site visit.	OK
A.4.2. Technologies to be employed, or measures, operations or actions to be implemented by the project					
A.4.2	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described?	Section A.4.2 PDD provides description of technology and measures to be implemented to gain proposed emission reductions. **CL 03.** The flowchart presented at the figure in sec. A.4.2. does not show any other heat consumers	**CL 03.** The flowchart is updated and include the additional unit "Heat for other subdivisions" **CL 04.** The PDD is corrected in accordance with following correct schedule:	CL03 The scheme of energy and technology flows in Project of mini-HPP was revised. The outside energy consumers were included. The flowchat in revised PDD v.2 represents	OK

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

<table>
<tr><th>Guidelines for JI PDD Form Users or DVM Paragraph</th><th>Check Item</th><th>Initial finding</th><th>Response from project participants</th><th>Review of project Participants' action</th><th>Conclusion</th></tr>
<tr><td></td><td></td><td>but the methane tank. Please clarify whether there are any other heat consumers.

CL 04. Project implementation schedule given in section A.2. is not consistent to dates in table A.5. The text reads that the design and survey work at LOS started in 2009 whereas table A.5. indicates the start of these works on 01/08/2008.</td><td><table><tr><th></th><th>Mini-HPP "Kurianovo"</th></tr><tr><td>Design and survey work</td><td>01.01.2007 – 31.12.2007</td></tr><tr><td>Installation and construction work</td><td>01.01.2008 – 31.12.2008</td></tr><tr><td>Commissioning</td><td>01.01.2009 – 01.03.2009</td></tr><tr><td>Putting into operation</td><td>01.03.2009</td></tr></table><table><tr><th></th><th>Mini-HPP "Lyubertsy"</th></tr><tr><td>Design and survey work</td><td>01.08.2008 – 01.05.2010</td></tr><tr><td>Installation and construction work</td><td>01.08.2010 – 01.08.2011</td></tr><tr><td>Commissioning</td><td>01.08.2011 – 01.09.2011</td></tr><tr><td>Putting into operation</td><td>01.09.2011</td></tr></table></td><td>the actual technological scheme confirmed through the site visit.
CL 03 is closed.

CL 04.
The information included into PDD version 3 has been confirmed by the documentary evidence provided on site /18/, /19/, /5/. CL 04 is closed</td><td></td></tr>
<tr><td colspan="6">A.5. Project approval by the Parties involved</td></tr>
<tr><td>A.5</td><td>Is written project approvals by the Parties involved attached?</td><td>CAR 01. The project has no approval of the host Party.
The project approval by the Host Party will be provided after the determination of the PDD.</td><td>CAR 01.
The project approval by the Host Party will be provided after the determination of the PDD. On 28.10.2009 the Rus-</td><td>CAR 01 remains open until the LoA is issued.</td><td>Pending</td></tr>
</table>

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			sian Government issued Decree № 843 and Regulations "On Realization of Article 6 of Kyoto Protocol to United Nations Framework Convention on Climate Change". Under Regulations a project proponent should submit an application to Sberbank of Russian Federation, that is nominated as Operator of Carbon Units (OCU). The application should include PDD, Determination Expert Opinion, the justification of environmental and energy efficiency criteria, the availability of technical and financial potential, estimated economic and social effects and other . After consideration and evaluation of the application OCU forwards recommendations on the project application to Coordination Centre, i.e. the Ministry of Economic Develop-		

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			ment of Russian Federation. Coordination Centre should make a decision of the approval of the project.		
DVM					
Project approvals by Parties					
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	No, pending a response to CAR 01.	N/A	N/A	Pending
19	Does the PDD identify at least the host Party as a "Party involved"?	Host Party is the Russian Federation. Legal entity for A1 are MGUP Mosvodokanal and EVN Unwelt Service GmbH. Party B will be determined after the project approval by host country.	N/A	N/A	OK
19	Has the DFP of the host Party issued a written project approval?	No, pending a response to CAR 01.	N/A	N/A	Pending
20	Are all the written project approvals by Parties involved unconditional?	No approvals from parties involved. Pending a response to CAR 01.	N/A	N/A	Pending
Authorization of project participants by Parties involved					
21	Is each of the legal entities	Pending a response to CL 01	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: − A written project approval by a Party involved, explicitly indicating the name of the legal entity? or − Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	CL 01 is closed.			
Baseline setting					
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? − JI specific approach − Approved CDM methodology approach	JI specific approach is used	N/A	N/A	OK
JI specific approach only					
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	Yes, PDD provides an explicit theoretical description.	N/A	N/A	OK
23	Does the PDD provide justifi-	(a) Following alternatives are	**CAR 02.**	CAR 02	OK

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	cation that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? − Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors? (d) Taking into account of uncertainties and using conservative assumptions? (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to	listed in PDD sec. B.1. 1. Continuation of the current situation i.e. the electricity consumption from the regional power grid; 2. The Project (without being registered as a JI activity); 3. Generation of electricity and heat on mini-HPPs with using of Russian origin engines burned the biogas and residual oil; 4. Generation of electricity and heat on mini-HPPs with using of gas turbine engines (b) None of these alternatives contradict the applicable legal norms. The key factors affecting baseline include: Technical and technological factor, Environmental impact, Administrative and normative, Financial and investment.	**1/** The fact that the biogas is burned without natural gas is excluded from the barrier analysis. The updated PDD contains following: "Influence is significant. The designing was complicate due following reasons: - the synchronization with grid is a mandatory requirement; - the biogas content is unstable and as consequence the demand to the cleaning unit is raised; - trained staff is required" **2/** The implementation of alternative 3 is difficult because this alternative requires the designing of the additional storage volume for heavy fuel oil. **3/** The alternative 4 is excluded in the updated PDD.	1/ The project faces the technical barrier related to unstable biogas composition. 2/Description of technical factor affecting alternative 2 is found acceptable and reasonable.. 3/,4/ and 6/ are not effective as the alternative 4 was excluded from alternative analysis as impossible. 5/ The revised PDD conains correct description of environmental factor. 7/Financial and investment factors were not considered for alternative 3 as this alternative was considered technically unfeasible. It is	

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	force majeure? (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?	**CAR 02.** With regard to key factors affecting baseline please justify the following points of concern: 1/ what technical/ technological effect is assumed to be caused by the fact that biogas is burned without natural gas in alt. 2; 2/ how the necessity of residual fuel will affect the implementation of alternative 3; 3/ The link provided in analysis of key factors for alternative 4 testify that there are no turbines that could operate on biogas. Please justify what key factors are meant here. 4/ The statement 'gas turbine engines have not sufficient total heat and power efficiency' is wrong. The turbines with a wide	**4/** "Gas turbine engines have not sufficient total heat and power efficiency" is correct statement because the question is the total and synchronous efficiency - heat efficiency plus power efficiency. **5/** It's accepted. The description of environmental effect for alternative 2 in updated PDD is "This alternative will lead to the increasing of pollutant emissions" **6/** The alternative 4 is excluded in the updated PDD. **7/** CAPEX for the alternative 3 is not accessed because this alternative was excluded at the stage of the technical analysis. The alternative 4 is excluded in the updated PDD.	acceptable. CAR 02 is closed. CAR 03 PDD was revised. All parameters were included into section B.1. CAR 03 is closed. CL 05. On the basis of review of applicable regulations and normative enactments the continuation of situation existing prior the project is eligible. CL 05 is closed CL 06 The boiler efficiency is confirmed by the results of testing performed in 2010 /20/. This pa-	

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		range of efficiency are available at the market. Please clarify what is the heat efficiency of turbine engine. 5/ Inconsistent description of environmental effect for alternative 2: the project will result in local pollutant emission enhancement due to additional amount of NG that will be burned at boiler houses to meet heat demand; 6/ Description of environmental effect for alt. 4 is self contradictory. If this alt. cause increasing emission env. effect does exist; 7/ Evaluation of financial & inv. Influence for alt.3 & 4 is vague as the CAPEX is not assessed. **CAR 03.** Grid emission factor, NCV for NG and biogas, EF for NG are not mentioned among baseline key parameters in sec-	**CAR 03** It's accepted. In updated PDD this parameters are mentioned. **CL 05.** There are not specific government regulations. The existing SNiP 2.04.03-85 "Sewerage. External infrastructure installations» reads that the biogas from the treatment facilities should be used for the heat supply. The Moscow government regulation #176-PP "About the development of water supply and sewerage systems of Moscow for 2020" reads that power supply facilities will be developed at the expense of private investors. MGUP Mosvodokanal is allowed to burn the excess biogas in baseline scenario because resulting CO2 from the flaring is not regulated by the environmental regulations.	rameter is to be determined once and not a subject for monitoring through the crediting period. CL 06 is closed	

<table>
<tr><th>Guidelines for JI PDD Form Users or DVM Paragraph</th><th>Check Item</th><th>Initial finding</th><th>Response from project participants</th><th>Review of project Participants' action</th><th>Conclusion</th></tr>
<tr><td></td><td></td><td>tion B.1.

CL 05. Please demonstrate how the relevant national/sectoral policies regulating energy supply of waste water treatment were taken into account.
(c) The baseline is established on a transparent manner.
(d) Uncertainties for key baseline parameters were identified.

The conservativeness of the baseline parameters shall be discussed under the following CARs:
CL 06. Please clarify the source for baseline boiler efficiency values. The excel sheet provides different value for boiler houses - (85.81% for KOS and 88.60 for LOS) whereas the PDD states identical efficiency for both BHs. The efficiency is stated constant disregarding to heat load Please demonstrate the conservativeness of this assumption.</td><td>"Green tariffs" do not act in Russian Federation.

CL 06.
The updated PDD and the excel sheet with ERU calculation contain detailed information about the computation of the correct value of the boiler efficiency both for KOS and LOS. Parameter charts are performed for three type of fuel: natural gas (NG), gas from methane-tanks (biogas) and heavy fuel oil (HFO).
<table>
<tr><td>boiler efficiency</td><td>NG</td><td>87,52%</td></tr>
<tr><td>KOS</td><td>HFO</td><td>86,25%</td></tr>
<tr><td></td><td>biogas</td><td>86,70%</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>boiler efficiency</td><td>NG</td><td>86,25%</td></tr>
<tr><td>LOS</td><td>HFO</td><td>84,37%</td></tr>
<tr><td></td><td>biogas</td><td>85,70%</td></tr>
</table>
A parameter chart is usually</td><td></td><td></td></tr>
</table>

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		(e) Emission reductions are not earned due to decrease of activity outside the project. (f) Standard variables are applied. **SV 01.** • Electricity production is confirmed by the review of the report on energy consumption and the forecast for 2010-2012 /05/; • Heat generation is checked and confirmed by the calculation of heat/fuel balances /11/ approved by the Deputy of Chief Engineer's Department Head. • Biogas consumption in boiler house is confirmed by the calculation of heat/fuel balances /11/; • Boiler efficiency is con-	performed once two years in accordance with Russian regulation. Updated PDD contains the data from last charts (of last quarter 2010). Next tests will be at the end of 2012 which is end of crediting period. The contrastive analysis of current and previous charts shows that the value of the boiler efficiency changed insignificant. Therefore it's conservative and acceptably to fix the parameter "boiler efficiency" as the parameter which is "not monitored throughout the crediting period, but are determined only once" for the period 2009-2012.		

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		firmed by the review of the regular testing reports performed in 2010./20/; **SV 02.** Check and collect the evidence for NCV of biogas and NG. For ex-ante calculation the default values for NCV of NG (8000 Kcal/m3), HFO (9800 Kcal/m3) are taken from the internal energy/fuel balances provided on site /11/. The NCV for biogas (22,614 MJ/m3 or 5200 Kcal/m3) at KOS is taken from the results of laboratory testing /21/ provided on site.			
24	If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above?	Tool for the demonstration and assessment of additionality (version 05.2) is applied. **CAR 04.** According to the Tool for the demonstration and assessment of additionality (version 05.2) the alternatives for each output of project activity should be identified separately. As the project results in heat and power	**CAR 04.** Alternative 1a. Continuation of the current situation i.e. the electricity consumption from the regional power grid Alternative 1b. Continuation of the current situation i.e. the heat consumption from the boiler house Alternative 2a. The Project (without being registered as a	CAR 04 in the revised PDD ver. 2 the alternatives for heat and power supply are described separately. CAR 04 is closed. CAR 05 The investment analysis in the form of excel sheet	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		generation please provide separate description of alternatives for each of these outputs. The Investment analysis sheet is not available. **CAR 05.** Please provide the investment analysis in the form allowing to trace all assumptions and formulae applied. **CAR 06.** Common practice analysis is not convincing. The occurrence of the activity similar to project is not clearly described. Only activities similar to project in terms of country, region, technology, scale, and environment should be taken into consideration in the common practice analysis.	JI activity), i.e. the generation of the electricity on mini-HPP with GE Jenbacher engines Alternative 2b. The Project (without being registered as a JI activity), i.e. the generation of the heat on mini-HPP with GE Jenbacher engines **CAR 05.** Investment analysis has been provided to BV along with documentation confirming the input values. **CAR 06.** The project is unique and there are no any similar projects in Russia. - The existing SNiP 2.04.03-85 "Sewerage. External infrastructure installations» reads that the biogas from treatment facilities should be used for the heat supply. Therefore	was provided to auditor. All input values were checked against reliable sources: Total investments are confirmed with the bidding documentation /6/, /7/, tariffs for heat, electricity and natural gas were officially established and checked against information published at the official website of Moscow regional energy committee http://rek.mos.ru/tarifs/ /8/. The power tariffs are determined on the basis of bidding documentation /6/ /7/. The biogas prices were confirmed by	

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			treatment facilities use generally the biogas in own boiler-house for the heat generation; - KOS and LOS are the biggest treatment facilities in Russian Federation and MGUP Mosvodokanal has enough volume of the biogas after the reconstruction of methane-tanks for the implementing of mini-HPPs; - the mini-HPPs KOS and LOS burn only the biogas and this Project is first cogeneration project on the biogas with such electrical power in Eastern Europe; - mini-HPP s on KOS and LOS are synchronized with the grid and can compensate a failure in the grid.	the agreement between Mosvodokanal and EVN Unvelt Service /1/. Depreciation scheme were accounted according to the official accountant procedure /9/. The residual value of non depreciated assets was added as cash inflow in the last year for investment analysis. The value of discount rate was estimated using standard methodology /10/. CAR 05 is closed CAR 06 It was confirmed through the both interview with	

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
				MGUP Mosvodokanal managers and review of available internet sources that there are no any other projects similar to the proposed project activity in terms of scale and technology implemented in Russia.	

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	The Grid Emission Factor for Russia was used for calculation of both project and baseline emissions **CAR 07.** the Grid emission factor is taken from Operational Guidelines for Project Design Documents of Joint Implementation Project. Volume 1: General guidelines, Ministry of Economic Affairs of the Netherlands, May 2004, Table B2, page 43. The grid Emission Factor is estimated on the basis of data on power generation and fossil fuel consumption at both CHPPs and TPPs. This approach is not acceptable for baseline grid emission factor as of following reasons: 1/CHPPs included in the calculation are limited in power output generation which is strongly depends on the covered heat load and hence could not be deemed participating in power output regulation. Hence, they should	**CAR 07.** Application of the Grid emission factor from Operational Guidelines for Project Design Documents of Joint Implementation Project. Volume 1: General guidelines, Ministry of Economic Affairs of the Netherlands, May 2004, Table B2, page 43. (hereinafter referred to as ERUPT factor) is correct. The application of ERUPT factor can be assumed acceptably because this factor are applied for the calculation of GHG emissions in the baseline in determined PDDs: - Construction of a new CCGT plant in Tereshkovo, Moscow; - Construction of a new CCGT plant in Kozhukhovo, Moscow	CAR 07 is closed as the values for grid emission factor used for **baseline emissions calculation** are found conservative on the basis of comparison with the most recent data in Research study in Russian Energy sector made by European bank of Reconstruction and Development /12/ where EF calculated for the UES Center is proposed to be varying from 0.640 to 0.657 tCO2/ MWh.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		not be taken into account when determining the grid emission factor. 2/ Grid emission factor calculated for the whole Russia includes coal based generation whereas the power generation in Moscow region and United Energy System Centre" is almost totally gas based. Hence the application of the grid emission factor estimated on the basis of coal based generation leads to overestimation of baseline emissions and could not be accepted as conservative approach. Please provide estimation of grid EF on the basis of conservative assumptions.			
Additionality					
JI specific approach only					
28	Does the PDD indicate which of the following approaches for demonstrating additionality is used?	Tool for the demonstration and assessment of additionality version 05.2 is used.	N/A	N/A	OK

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	(a) Provision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving addition-	Pending a response to CARs 05, 06 and 07. CARs 05, 06 and 07 are closed			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	ality approved by the CDM Executive Board".				
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	The approach prescribed by the Tool for the demonstration and assessment of additionality version 05.2 is followed. Pending a response to CARs 05, 06 and 07. CARs 05, 06 and 07 are closed	N/A	N/A	OK
29 (b)	Are additionality proofs provided?	Investment analysis is chosen to demonstrate the additionality. Pending a response to CARs 05, 06 and 07. CARs 05, 06 and 07 are closed	N/A	N/A	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	Pending a response to CARs 05, 06 and 07. CARs 05, 06 and 07 are closed	N/A	N/A	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the	Pending a response to CARs 05, 06 and 07. CARs 05, 06 and 07 are closed	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	selected tool or method?				
Project boundary (applicable except for JI LULUCF projects					
JI specific approach only					
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: (i) Under the control of the project participants? (ii) Reasonably attributable to the project? (iii) Significant?	PDD provides description of project emission sources in section B 3. Project boundary comprises GHG Emissions from consumption of electricity generated at the grid connected fossil fuel running power plants and natural gas combustion at the HPP and boiler houses.	N/A	N/A	OK
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	**CAR 08.** Emissions from heavy fuel oil are not considered. Heavy fuel oil is used at the boiler houses as the reserve fuel. **SV 03** Check the fossil fuel types and amounts used at the boiler house There are three fuel types are used in the boiler houses at KOS and LOS: Biogas, Heavy fuel oil (HFO) and	**CAR 08.** Emissions from heavy fuel oil are considered in project emissions updated PDD and are not considered in baseline for the conservativeness. Project emissions from heavy fuel oil are equal to: - KOS – 282.83 t CO2 - LOS – 1680.3 t CO2.	CAR 08 The emissions from fuel oil consumption have been considered in section "E. 1. Estimated project emissions". CAR 08 is closed	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		Natural Gas. The amount of fuel to be combusted in the boiler house has been checked through the review of internal fuel consumption reports. As per interview with Deputy Head of Chief Energy Engineer Department of KOS Mr.Khrustaleov HFO is used as reserve fuel at the boiler houses and is combusted once a year for testing purposes. The volumes of fuels combusted in boiler houses and the forecasted fuel demands are provided in the internal heat energy/fuel balance for 2009-2012 y /11/.			
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	Pending a response to CAR 08 CAR 08 is closed	N/A	N/A	OK

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	**CAR 09.** The reason for exclusion of GHG for the project activity is not appropriately stated in table B.4. The main emission sources are not indicated. Pending a response to CAR 08 CAR 08 is closed	**CAR 09.** The explanation and the calculation for exclusion of GHG for the project activity is provided to auditor. CH4 and N2O make insignificant contribution (less than 1%) to total GHG emission. See the spread sheet calculation of the emission reduction and the table 2.2 "Default emission factors for stationary combustion in the energy industries" in IPCC Guidelines for National Greenhouse Gas Inventories, 2006, Volume 2, Chapter 2.	CAR 09 The CH4 and N2O emissions caused by project activity were not considered in emission reduction calculation as negligible. The negligibility (less than 1% of total emissions) was demonstrated through the additional calculations provided in the ER calculation spreadsheet. CAR 09 is closed.	OK
Crediting period					
34 (a)	Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	The starting date is defined as January 01, 2007 **CL 07.** Please provide the documentary evidence such as relevant board decision, contracts, official permissions, information from equipment manufacturer etc.	**CL 07.** 1/ First estimation of the emission reduction was done in 2005 after the meeting with experts of the Russian carbon fund (Denmark). (See the minute of 12 May 2005). Potential investors were informed	CL 07 1/ According to the minutes of technical meeting MGUP Mosvodokanal dd. 12/05/2005 /2/ it was decided to estimate the emission reduc-	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		to confirm: 1/ Preliminary JI consideration as a decisive factor for project implementation. 2/ The starting date – January 01, 2007, which shall be the date where real actions to implement the project started. 3/ The start of crediting period which was on or after the day when emissions reduction began – March 01, 2008. 4/ Project operation lifetime – 15 years.	about the approximate CAPEX and indirect income like ERU income. 2/ The starting date is April 05 2007. 3/ The start of crediting period which was on or after the day when emissions reduction began – March 01, 2008. 4/ Project operation lifetime – 180 000 hours or 20.5 years.	tion potential attributable to the project as the part of feasibility study. The possible income from ERU was considered as the part of project economical feasibility. As per interview with head of innovations and new techniques department of MGUP MVK Mr. Kozlov M.N. since 2005 Mosvodokanal has been undertaking continuous actions to seek JI status for the project implementation including the negotiation with consultants and project developers. 2/The starting date 05/04/2007 is de-	

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
				fined as the date when the investment contract (contract on mutual energy re-sources delivery /1/) was signed between MGUP Mosvodokanal and WTE Wassertechnik GmbH. 3/ The biogas run-ning cogenerators at KOS were launched in February'09 That is confirmed with internal report pro-vided on site /4/. 4/ Project operation lifetime as of 180 000 hours was officially confirmed by the letter from equipment supplier GE Jenbacher GmbH & Co OHG /22/. Operational	

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
				lifetime was justified in revised PDD ver. 3. CL 07 is closed on the basis of document review.	
34 (a)	Is the starting date after the beginning of 2000?	Yes.	N/A	N/A	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	Operational lifetime is defined as 180 000 hours – 20.5 years. Conclusion is pending a response to CL 07. CL 07 is closed	N/A	N/A	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	The length of crediting period is defined as 3 years and 10 months starting from 01/03/2010.	N/A	N/A	OK
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	Pending a response to CL 07. CL 07 is closed.	N/A	N/A	OK
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the	Yes, crediting period started on 01 March '09	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	beginning of 2008 and does not extend beyond the operational lifetime of the project?				
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	N/A			
Monitoring plan					
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	PDD states that JI specific approach is used.	N/A	N/A	OK
JI specific approach only					

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
36 (a)	Does the monitoring plan describe: − All relevant factors and key characteristics that will be monitored? − The period in which they will be monitored? − All decisive factors for the control and reporting of project performance?	The monitoring plan covers the parameters to be monitored on site. **CAR 10.** 1/Monitoring plan does not include following parameters: - NCV of NG, - NCV of HFO, - NCV of biogas - Consumption of HFO - Grid emission factor, - Emission factor for NG - Emission factor for HFO 2/ The meaning of the parameter heat content in the steam and its application for ER calculation is vague.	**CAR 10.** 1/Monitoring plan in updated PDD includes following parameters: - NCV of NG, - NCV of HFO, - NCV of biogas - Consumption of HFO - Grid emission factor, - Emission factor for NG - Emission factor for HFO 2/ The meaning of the parameter heat content in the steam is excluded.	CAR 10 Monitoring plan in the revised PDD was updated with the parameters actually used in ER calculations as requested. CAR 10 is closed.	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	Pending a response to CAR 10 **CAR 11**.. Annex 2 – Baseline information provides useless copy&paste from section B.1. Please justify	**CAR 11.** The baseline scenario is the continuation of current situation, i.e. the electricity consumption from the grid and the heat generation in boiler-house. It leads to the GHG emission from the consumption of electricity from grid and	CAR 11 is closed on the basis of the review of revised PDD ver. 3. Information on the baseline is presented in the Annex 2. All references given in this annex has been	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			the combustion of fuel (natural gas). GHG emission from the electricity consumption from grid in baseline is calculated on the basis of data from project scenario about the electricity consumption from mini-HPPs and grid. The sum of HPP and grid electricity is multiplied by the grid emission factor from Operational Guidelines for PDD of JI-Project (hereinafter referred to as ERUPT factor). The application of ERUPT factor can be assumed acceptably because this factor are applied for the calculation of GHG emissions in the baseline in determined PDDs: - Construction of a new CCGT plant in Tereshkovo, Moscow; - Construction of a	checked and found reliable.	

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			new CCGT plant in Kozhukhovo, Moscow GHG emission from the fuel combustion is GHG emission from the natural gas consumption. In accordance with the conservativeness principle GHG emission from the consumption of heavy fuel oil is excluded in the baseline scenario. The consumption of the natural gas is calculated taken into account all data from the heat balance. Total heat generation in HPP and boiler house in project scenario is assumed to be produced in the boiler – house.		
36 (b)	If default values are used: − Are accuracy and reasonableness carefully balanced in their selection? − Do the default values origi-	Default value for EF of NG combustion is used on the basis of IPCC. The source is recognized and supported with statistical data.	**CAR 12.** Heat content in steam is excluded.	CAR 12 is closed. The parameter heat content in the steam was excluded as irrelevant.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	nate from recognized sources? − Are the default values supported by statistical analyses providing reasonable confidence levels? − Are the default values presented in a transparent manner?	**CAR 12.** The source for the value of heat content in steam is not recognized. Pending a response to CAR 07 CAR 07 is closed			
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	**CAR 13.** The sources of data are not clearly stated in tables D.1.1.1. and D.1.1.3 as well as in section B.1. Unrecognizable figures and abbreviation are used. Please provide relevant justification.	**CAR 13.** The sources of data are corrected in updated PDD. The Monitoring plan was revised. The data sources were indicated without specification of meters and metering methodology for the parameters which are to be monitored through the crediting period.	CAR 13 Is closed on the basis of PDD ver.3 review.	OK
36 (b) (ii)	For other values, − Does the monitoring plan clearly indicate the precise references from which these values are taken?	Pending a response to CAR 13 CAR 13 is closed	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	− Is the conservativeness of the values provided justified?				
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	Monitoring plan does not specify the procedures for the cases where sources are unavailable. All parameters included in Monitoring plan are to be monitored in the framework of regular operational practice. **SV 04** Monitoring system reliability should be checked on site. Monitoring System has been checked on site through the review of documentation for meters installed at KOS. List of meters are provided on site by LLC EFN Eco service company /23/. **Electricity production metering system:** 6 Electricity meters СЭТ – 4ТМ.03 type are used for power production metering. Calibration periodicity is once per 10 years. **Heat production metering sys-**	FAR 01 The monitoring system has not been installed at the mini HPP LOS by the time of determination. The functionality and completeness of monitoring system for heat and power production and biogas consumption by mini HPP at LOS shall be subject for checking at the stage of verification.	N/A	FAR 01

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		tem /24/: Thermal energy production from cogenerators is metered with the heat counter WIS.T ser. #25118 and #03149 and vortex flowmeter Trio-Wirl accuracy is 0.5% The Heat Counter VIS.T TC 200-0-2-1. Maximum Uncertainty level – 1.85%. Calibrated 19/03/2009 /24/. Thermometers KTPTR 05. calibrated on 20/10/2008. **Biogas consumption metering system/25/** The biogas is metered by Binder Combomass flowmeter ser. C080291./25/ Uncertainty level is defined in the Methodology of biogas volume metering as 2.5% Calibrated on 30/04/2009 valid till 30/04/2011. **Steam production metering system /26/** Steam produced by Mini HPP KOS is metered with TRIO Wirl FS4000 vortex heat			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		counter calibrated on 24/03/2009. Uncertainty level – 0.5% **Heat production metering system at the boiler houses LOS and KOS /27/** Heat counters WIS.T #39512 and #17985 are used for metering of heat production at boilerhouses LOS and KOS. Maximum uncertainty level for this type of meters is defined as 1.85%. Intercalibration interval is four years. The meters have been calibrated in 2008-2009. **Natural gas consumption metering system at KOS /28/** includes NG metering complex SG-EKvz-T-0.1-800/1.6 ser. #2502151 including corrector EK260 ser. # 50305292, Gas flow meter SG 16-M-800 ser. #3060070, adapter EF260. The gas metering station shall be undergone calibration once per 5 years according to manufacturers manual. Intercalibration interval			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		for gas flow meter is 3 y. Gas flowmeter has been calibrated on 16/09/2009. **Natural gas consumption metering system at LOS /28/** The natural gas consumption metering system at LOS includes metering complex RS-SPA_M #08345. calibrated on 21/04/2008. The level of uncertainty is 1.5%. Corrector SPG761 ser.#9893 calibrated on 31/01/2008 with uncertainty level of 0.02% The relevance of metering system is confirmed by the positive conclusion of metrological expertise. Total maximum uncertainty of NG metering is 2.1% The Monitoring system at the LOS had not been installed by the time of site visit. It shall be the subject for checking at the periodic verification stage. .			
36 (b) (iv)	Are International System	Yes, SI units are used	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	Units (SI units) used?				
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	Yes, the project heat and power generation is used for baseline emission calculation. Pending a response to CAR 09. CAR 09 is closed.	N/A	N/A	OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	**CAR 14.** The monitoring plan for baseline parameters is not consistent with the list of baseline parameters presented in section B.1: - NG consumption by boiler house is not indicated in B.1. - Efficiency of boiler house is not indicated in monitoring plan - NCV of fuels - HFO consumption - EF for fuels and - Grid emission factor is indicated neither in sec. B.1 nor in sec. D.	**CAR 14.** The monitoring plan in updated PDD contains listed parameters	CAR 14 is closed on the basis of MP revision given in the revised PDD.	OK
36 (c)	Does the monitoring plan	**CAR 15.** Not applicable units are	**CAR 15.**	CAR 15 is closed on	OK

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	draw on the list of standard variables contained in ap-pendix B of "Guidance on criteria for baseline setting and monitoring"?	used for the volume of biogas entering mini HPP (Gcal), for heat output from boiler houses (tonnes) and heat output from mini HPP (tonnes per hour).	It's corrected - biogas t mini HPP – mln m3 - heat output from boiler houses – ths Gcal - heat output from mini HPP – ths Gcal	the basis of review of PDD ver. 2	

"GHG emission reduction through the commissioning of biogas-fuelled mini- HPPs at the Kurianovo and Lyubertsy waste water treatment facilities of the MGUP Mosvodokanal"

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored throughout the crediting period?	The parameters that are determined only once (and thus remain fixed throughout the crediting period) and data and parameters that are to be monitored throughout the crediting period are listed in section D.1. PDD	N/A	N/A	OK
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and	**CAR 16.** The methods of monitoring are not consistent. For example heat output from mini HPP is proposed to be metered with the	**CAR 16.** It's corrected Heat output from mini HPP is proposed to be metered with	CAR 16 is closed on the basis of review of PDD ver. 2	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	recording?	vortex flow meter which is not applicable.	the heat meter		
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/ removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	**CAR 17.** Algorithms and formulae presented in Monitoring plan for estimation of project and baseline emission reductions are not consistent with ER calculation. The baseline fuel consumption estimation is not traceable.	**CAR 17.** It's corrected GHG emission from NG consumption in baseline is calculated on the basis of gross heat from this fuel and GHG emission factor from 2006 IPCC. Gross NG heat is the net NG heat divided by the efficiency of boiler house to NG. The efficiency of boiler house to NG is estimated taken into account parameter charts. The net NG heat is the difference between total net heat in project and net biogas heat. The total net heat in project is the sum of heat generated in	CAR 17 The ER Calculation approach is clearly defined in the PDD ver. 2. Excel spreadsheet contains the calculation in traceable manner. All formulas used for ER calculation are in compliance with description given in the revised PDD. CAR 17 is closed.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			boiler house and heat generated in mini-HPP. The net biogas heat is calculated on the basis of total volume of biogas, NCV of biogas and boiler efficiency to biogas.		
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	Pending a response to CAR 17 CAR 17 is closed	N/A	N/A	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Pending a response to CAR 17 CAR 17 is closed	N/A	N/A	OK
36 (f) (iii)	Are all equations numbered?	Yes.	N/A	N/A	OK
36 (f) (iv)	Are all variables, with units indicated defined?	No, **CAR 18.** Relevant variables are not specified for monitoring parameters listed in tables D.1.1.1 and D.1.1.3 that render difficult the implication of formulae for baseline and project emission calculation.	**CAR 18.** Relevant variables are specified for monitoring parameters listed in tables D.1.1.1 and D.1.1.3	CAR 18 is closed on the basis of the review of changes made in the revised PDD (ver. 03)	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	Pending a response to CAR 07 CAR 07 is closed	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	**SV 05.** Check the uncertainty level for estimation of key parameters against the meters certificates. Uncertainty level is checked and confirmed through the review of certificates for the meters installed at KOS /24/ /25/ /26/ /27/ /28/	N/A	N/A	OK
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	Pending a response to CAR 17 CAR 17 is closed.	N/A	N/A	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	Pending a response to CAR 17 CAR 17 is closed	N/A	N/A	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	**SV 06.** Check if the monitoring is in line with current operational routines. Check the compliance of monitoring routines to applicable industrial standards and rules As per interview with specialists of LLC EFN Eco service and energy department of MGUP	N/A	N/A	OK

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		Mosvodokanal the monitoring system is in line with current routines and reflects the good practice. All metering systems used in the monitoring has the pattern approval certificates /24/, /25/, /26/ /27/ /28/.			
36 (f) (vii)	Are references provided as necessary?	**SV 07.** Check the original data sources for all parameters used for ER calculation. The ER calculations are made on the basis of actual heat and power production data from KOS for 2009 /5/, /11/ and forecasted heat and power demands for 2010-2012 /5/, /11/.	N/A	N/A	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Pending a response to CARs 14,15,17 and 18 CARs 14, 15, 17, and 18 are closed	N/A	N/A	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be	N/A			OK

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	addressed?				
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	The uncertainty is described in Table D.2 **SV 08.** Uncertainty of metering equipment shall be checked against manufacturer's certificates. Uncertainty level is checked and confirmed through the review of certificates for metering equipment /24/, /25/, /26/.	N/A	N/A	OK
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project? Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?	**SV 09.** Please check the reference to national monitoring standards used for monitoring routines provided in section D.2. The references to national standards provided in the PDD are reliable.	N/A	N/A	OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in	N/A			

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	a conservative manner?				
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?	**CAR 19.** QC/QA procedures are not specified for biogas consumption and heat production by boiler house.	**CAR 19.** QC/QA procedures for biogas consumption and heat production by boiler house are specified.	CAR 19 The PDD was updated with relevant information indicating the periodicity of calibration of meters used in the monitoring as required by law. These requirements have been checked against the references provided in revised PDD. CAR 19 is closed.	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	In general terms the operational and management structure for ER monitoring is described in PDD Section D.3. **SV 10.** The authority/ responsibility distribution for data collection, achieving and storing will be checked on site. The uncertainty/responsibility for the data collection, storing achieving and ER calculation reporting	N/A	N/A	OK

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		are described in the revised PDD (v.03). Generally all data flows are accumulated by Chief Energy Engineer Service and then transmitted to Innovation and New technology department responsible for monitoring report preparation.			
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	Monitoring techniques are in line with current operation routines.	N/A	N/A	OK
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?	Pending a response to CARs 13, 14, 16 and 17. CARs 13, 14, 16 and 17 are closed.	N/A	N/A	OK

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36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	**CL 08.** Please describe the monitoring data storage procedure. **SV 11.** the data storage procedure is to be checked on site. The data storage procedure has been checked on site. The Chief Energy Engineer Department of PU Mosochistvod is responsible for the final data collection. Then the data will be transferred to the Innovation and New technology department responsible for Monitoring report preparation.	**CL 08.** Operational structure of the project is the existing scheme of collection, transmission and storage of data. Reporting on the consumption of electricity, heat and natural gas on KOS and LOS is a duty of the Power Department (PU "Mosochistvod"). For the preparation of verification reports will be used the scheme shown in Fig. D.3. Following procedures are provided for the storage of data: The information of consumption of natural gas and consumption of electricity from power grid, the heat generation from boiler house and biogas into boiler house are read by expert of Power Department (PU "Mosochistvod") once per day. The summary	CL 08 PDD v.03 indicates that The information for the monitoring plan will be kept for two years after the last transfer of ERUs for the Project. CL 08 is closed	OK

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			report are collected in Power Department. Annual values are sent to the Department of new technique and development. The senior expert of the Department Of New Technique And Development prepare the table with all monitoring data. The operator of mini-HPP takes meter readings for "Biogas into mini-HPP", "Heat from mini-HPP (steam)", "Heat from mini-HPP (hot water)", "Electricity from mini-HPP" once per two hours. These values are accumulated in the ten-day report in the controller's office. Monthly summary reports are compared with MGUP "Mosvodokanal" and archived in accounts departments of LLC EFN Eco service and MGUP "Mosvodokanal". Annual val-		

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			ues are sent to the Department of new technique and development. The senior expert of the Department Of New Technique And Development prepare the table with all monitoring data. Net calorific value of biogas is estimated monthly by the laboratory of the MGUP "Mosvodokanal". Net calorific value of natural gas is in monthly passport from JSC Gazprom. Net calorific value of heavy fuel oil is provided once by supplier on the delivery. These values are collected in the Power Department (PU "Mosochistvod") . Consumption of heavy fuel oil is registered in the deed. This value is archiving in Power Department (PU "Mosochistvod"). Annual values are		

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			sent to the Department of new technique and development. The senior expert of the Department Of New Technique And Development prepare the table with all monitoring data.		
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	N/A			
Applicable to both JI specific approach and approved CDM methodology approach					
Leakage					
JI specific approach only					
40 (a)	Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated	Leakages are assumed to be zero.	N/A	N/A	OK

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	and which can be neglected?				
Estimation of emission reductions or enhancements of net removals					
42	Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the baseline scenario and in the project scenario (b) Direct assessment of emission reductions	Assessment of emissions in the baseline scenario and in the project scenario is chosen.	N/A	N/A	OK
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	The formulae to estimate project emissions are described in section D.1.1.2 Leakages are not considered Baseline emissions defined as CO2 emissions from natural gas consumption and from electricity consumed from the grid. Leakages are not considered.	N/A	N/A	OK

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44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	N/A			
45	For both approaches in 42 (a) Are the estimates in 43 or 44 given: (i) On a periodic basis? (ii) At least from the beginning until the end of the crediting period? (iii) On a source-by-source/sink-by-sink basis? (iv) For each GHG? (v) In tones of CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subse-	Estimates are given on the periodic basis from the beginning to the end of first crediting period. Not all sources are considered Pending a response to CAR 08 Emissions are estimated in tonnes of CO2 equvalent. Formulae to estimate the ER are not consistent Pending a response to CARs 04, 08, 11, 12, 13, 14 and 18 CARs 04, 08, 11, 12, 13, 14 and 18 are closed.	N/A	N/A	OK

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	quently revised in accordance with Article 5 of the Kyoto Protocol? (b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD? (c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate? (d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent? (e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing				

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	accuracy and reasonableness, and appropriately justified of the choice? (f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner? (g) Are the estimates in 43 or 44 consistent throughout the PDD? (h) Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?				
46	If the calculation of the baseline emissions or net removals is to be performed ex post, does the	Yes, PDD includes ex-ante estimation of baseline emissions. **CAR 20**. The excel sheet does	**CAR 20.** Data on gas consumption is taken from "Heat balance" of MGUP Mosvodokanal	CAR 20 is closed on the basis of review of the latest version of PDD (version 2.0)	OK

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	PDD include an illustrative ex ante emissions or net removals calculation?	not provide traceable calculation of the fuel consumption. It is not clear where the data on gas consumption is taken from and how NCV values for different fuels are used in calculation of ER. The formulae D.1.1.4.1.2.1.1 is wrong. Fuel consumption can not be calculated on the basis of heat output multiplied by efficiency and NCV. Fuel consumption is equal to heat produced divided by efficiency (not multiplied!) and multiplied by NCV.	The formulae D.1.1.4.1.2.1.1 is corrected.		
Environmental impacts					
48 (a)	Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	Analysis of the environmental impacts of the project is described in PDD Section F1. **CAR 21.** Adverse environmental effects being caused by project are not described in section F. **SV 12.** EIA and evidence for its official approval in accordance with/ procedure as determined by Host Part shall be checked on site.	**CAR 21.** The environmental impact of the Project is insignificant. It is confirmed by the positive conclusion of the ROSTEHKSPERTIZA. The Project activity does not break the environmental regulation. The construction place of the projected object is in-	CAR 21 Project has received an official approval confirming compliance to all national and loca environmental legislation /13/ - for KOS and /30/ - for LOS. CAR 21 is closed on the basis of review of	OK

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		EIA has been developed as the part of project design documentation /15/. It has undergone the State exertise procedure and received official approval (/13/for KOS and /30/ - for LOS) according to the relevant official procedure.	dustrial space of MGUP Mosvodokanal. The air-permit for mini-HPP KOS is within the bounds of environmental limits of MGUP Mosvodokanal. The project of the mini-HPP LOS started later than the project of the mini-HPP KOS and therefore is under consideration at present.	revised PDD v.03 and documentation collected during site visit.	
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	Under the RF Urban Development Code N 190-ФЗ, the project design for the proposed project activity including EIA as the part of project documentation should undergo the State Expertise to obtain official permission from local authorities. **SV 13.** The relevance and contents of licenses should be further checked out during site visit and document review. Permits for construction has been issued on the basis of official approval of project designs for KOS and LOS /18/ and /30/ respec-	FAR 02 The operation and environmental licenses for HPP at LOS shall be checked at the verification stage.	N/A	FAR 02

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		tively. The compliance to applicable construction norms, technical and industrial safety standards were confirmed for KOS by the compliance certificate /16/ and /14/. The environmental impacts through the air pollutant emissions were inventoried and the allowed by the official permit for emissions /17/.			
Stakeholder consultation					
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects have been received, if any? (b) The nature of the comments? (c) A description on whether	According to local legislation it is required to make the information of expected environmental impacts publicly available. The PDD section G states that Information about the Project has been posted on the MGUP Mosvodokanal's website. **CL 09.** Please describe the nature of stakeholders comments and how they were addressed.	**CL 09.** Information about the project was posted on the website MGUP Mosvodokanal 20 04 2006. Comments had not been received. http://www.mosvodokanal.ru/index.php?newsid=962. The duration of comments collection period was one month. Also tender documentation for	CL 09 The information and stakeholder consultation procedure complies to the RF legal requirements. Proper and comprehensive information on the project was made available for stakeholders. No comments were re-	OK

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	and how the comments have been addressed?	**SV 14.** Check and collect evidence to confirm the project has appropriate system of stakeholders informing and gathering of comments. Comprehensive information on project has been made publicly available for stakeholders through the Mosvodokanal official web-site. The site provides contact information for feedback allowing effective collection of comments. This system is sufficient to meet relevant local requirements defined by Federal Law 07-FZ on Environmental protection. The project does not envisage any serious environmental impact. No comments were received.	mini-HPP KOS and LOS is open and widely available. www.tender.mos.ru	ceived. CL 09 is closed	

Dr. Vladimir Lukin - Lead Verifier

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