

Bureau Veritas Certification
Holding SAS



BUREAU
VERITAS



BUREAU
VERITAS

CERTIFICATION

Reviewed

Init

Effect

Date: *24/08/2011*

DETERMINATION ~~REPORT~~ INTERNATIONAL PAPER

DETERMINATION OF THE
“INSTALLATION OF A MULTI-FUEL BOILER AT
CJSC “INTERNATIONAL PAPER” (FORMER
SVETOGORSK PPM) FOR WASTE BIOMASS
UTILIZATION AND ENERGY GENERATION FOR
OWN NEEDS, SVETOGORSK, RUSSIA”

REPORT No. RUSSIA-DET/0100/2010

REVISION No. 02

BUREAU VERITAS CERTIFICATION



Determination Report on JI project

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

Date of first issue: 23/08/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: CJSC “International Paper”	Client ref.: Mr. Sergej Karchevsky

Summary:

Bureau Veritas Certification has made the determination of the project “Installation of a multi-fuel boiler at CJSC “International Paper (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia” of company CJSC “International Paper”, located in Leningradskaya oblast, Vyborg district, Svetogorsk, Zavodskaya st.,17 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 of Clarification and Corrective Actions Requests (CL and CAR), 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 applies the appropriate baseline and monitoring methodology and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.: RUSSIA-det/0100/2010	Subject Group: JI
Project title: “Installation of a multi-fuel boiler at CJSC “International Paper (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”	
Work carried out by: Daniil Ukhanov – Lead verifier Svetlana Shabanova - Specialist	
Work reviewed by: Leonid Yaskin – Internal Technical Reviewer Anna Rudakova - Specialist	
Work approved by: Leonid Yaskin – Operational Manager	
Date of this revision: 24/08/2011	Rev. No.: 02
Number of pages: 57	

<input checked="" type="checkbox"/>	
<input type="checkbox"/>	Limited distribution
<input type="checkbox"/>	Unrestricted distribution

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

Abbreviations

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification
BWW	Bark and Wood Wastes
CAR	Corrective Action Request
CL	Clarification Request
CO ₂	Carbon Dioxide
CHPP	Combined Heat and Power Plant
CPP	Coal Preparation Plant
DDR	Draft Determination Report
DR	Document Review
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ERU	Emission Reduction Unit
GHG	Greenhouse House Gas(es)
IE	Independent Entity
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
NG	Natural gas
NGO	Non Governmental Organization
PDD	Project Design Document
PP	Project Participant
PPM	Pulp and Paper Mill
RF	Russian Federation
tCO ₂ e	Tonnes CO ₂ equivalent
UNFCCC	United Nations Framework Convention for Climate Change
WWS	Waste Water Sludge

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

Table of Contents		Page
1	INTRODUCTION	4
1.1	Objective	4
1.2	Scope	4
1.3	Determination team	5
2	METHODOLOGY	5
2.1	Review of Documents	5
2.2	Follow-up Interviews	6
2.3	Resolution of Clarification and Corrective Action Requests	7
3	PROJECT DESCRIPTION	8
4	DETERMINATION CONCLUSIONS	11
4.1	Project approvals by Parties involved (19-20)	11
4.2	Authorization of project participants by Parties involved (21)	11
4.3	Baseline setting (22-26)	11
4.4	Additionality (27-31)	13
4.5	Project boundary (32-33)	14
4.6	Crediting period (34)	15
4.7	Monitoring plan (35-39)	15
4.8	Leakage (40-41)	18
4.9	Estimation of emission reductions or enhancements of net removals (42-47)	18
4.10	Environmental impacts (48)	19
4.11	Stakeholder consultation (49)	20
4.12	Determination regarding small scale projects (50-57)	20
4.13	Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64)	20
4.14	Determination regarding programmes of activities (65-73)	20
5	SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES	20
6	DETERMINATION OPINION.....	20
7	REFERENCES	21
	DETERMINATION PROTOCOL	23



“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

1 INTRODUCTION

CJSC “International Paper” (hereafter called “International Paper”) has commissioned Bureau Veritas Certification to determine JI project “Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia” (hereafter called “the project”) located in the city of Svetogorsk, Leningrad region, Russian Federation.

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

1.1 Objective

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



“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

1.3 Determination team

The determination team consists of the following personnel:

Daniil Ukhanov

Bureau Veritas Certification Climate Change Lead Verifier

Svetlana Shabanova

Bureau Veritas Certification Climate Change Specialist

This determination report was reviewed by:

Leonid Yaskin

Bureau Veritas Certification, Internal reviewer

Anna Rudakova

Bureau Veritas Certification Climate Change Specialist

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by International Paper and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint



“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

implementation project design document form Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, DVM Clarifications on Determination Requirements to be checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, International Paper revised the original PDD v.03 dated 04/09/2010, its revised version 4.0 dated 18/02/2011 and the final version v.4.3 dated 18/08/2011.

The first deliverable of the document review was the Determination Protocol Version 01 dated 11/11/2010 which contained 44 CARs and 5 CLs. The second deliverable of the document review was the Determination Protocol Version 02 dated 11/03/2011 which contained 14 CARs and 3 CLs.

The determination findings presented in this Determination Report Version 01 and Appendix A relate to the project as described in the PDD versions 04 (revised) and version 4.3 (final) dated 18/08/11.

2.2 Follow-up Interviews

On 01/04/2011 Bureau Veritas Certification lead verifier D.Ukhanov performed a site-visit. Interviews with the project participant CJSC “International Paper” and the PDD developer CCGS LLC were conducted to confirm the selected information and to clarify some issues identified in the document review. Representatives of CJSC “International Paper” and the PDD Developer CCGS were interviewed (see References). The main topics of the interviews are summarized in Table 1.

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

Table 1 Interview topics

Interviewed organization	Interview topics
CJSC International Paper	<ul style="list-style-type: none"> ➤ Reasoning for project implementation ➤ Project management organization ➤ Project history and Implementation schedule ➤ Baseline scenario ➤ Barriers and uncommon practice ➤ Project scenario ➤ Emission calculation ➤ Investment issues ➤ Commissioning and proven trials ➤ Capacity issues ➤ Environmental permissions ➤ Environmental Impact Assessment
CONSULTANT CCGS	<ul style="list-style-type: none"> ➤ Baseline scenario ➤ Barriers and uncommon practice ➤ Project scenario ➤ Investment issues
Stakeholders	➤ N/A

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.

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

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

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

3 PROJECT DESCRIPTION (quoted by PDD)

The project is aimed at utilization of high-moisture and low-calorific waste biomass – bark and wood wastes (BWW) and waste water sludge (WWS) – by its combustion in multi-fuel fluidized bed boiler to generate heat and electricity for internal needs of CJSC “International paper” (former Svetogorsk pulp and paper mill) and minimize waste landfilling.

Substitution of fossil fuel (natural gas) with renewable biomass and reduction of biomass dumping volumes lead to greenhouse gases (GHG) emission reductions.

The main products of CJSC “International Paper” are office and offset paper. The raw material of paper production is pulp which is produced at the same enterprise. Pulp cooking process uses pulp chips. Production of pulp chips at the Mill’s wood preparation facilities yields large quantities of BWW, generally consisting of bark produced during pulp wood debarking.

WWS contains sludge from primary sedimentation tanks and surplus activated sludge from secondary sedimentation tanks at the biological waste water treatment plant, as well as pulp screenings supplied from the pulp cooking line.

BWW, and especially WWS, are difficult-to-burn fuels mainly due to their high moisture content which accounts for the low reactivity and low calorific value of fuel. By the time this project was launched (2000) biomass waste had not been used at the enterprise for energy generation purpose.

Prior to the project implementation BWW were disposed at the nearby dump, some part of it was sold to third parties. Part of WWS, prior to the project, was fired in a special incinerator without energy generation and with addition of fossil fuel for flame stabilization, some WWS was used for production of fiberboard, and the rest was disposed at the dump.

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

It should be noted that sale of wastes to third parties and their use in manufacturing of products yielded nothing but losses to Svetogorsk PPM. Besides, third-party buyers informed Svetogorsk PPM of prompt termination of BWB purchases from the Mill due to expansion of their own sawmilling capacities and due to the high cost of transportation. The WWS incinerator was almost 100% worn out and was due for decommissioning; installation of a new incinerator required significant investments; operation of the incinerator entailed high annual costs. Fiberboards were of low quality and in little demand.

Disposal of biomass waste at dumps is common practice for Russian pulp and paper industry and does not violate any Russian legislation. Since BWB and WWS utilization as fuel entails numerous difficulties, there are extensive dumping areas next to every pulp mill in Russia, including Svetogorsk PPM. The Mill had all required permits for disposal of BWB and WWS at dumps.

The required amount of heat for industrial purposes was produced by generating units of Svetogorsk PPM’s energy complex consisting of CHPP-3 and CHPP-4. The fuel used is black liquor, natural gas and some amount of residual fuel oil. As a rule, the proportion of fossil fuel that is consumed to cover energy demand is significant at Russian PPMs. The steam produced by black liquor recovery boilers and gas-fired power boilers is fed to the steam turbines which partially meet the Mill’s power demand. The lacking amount of electricity is purchased from the grid.

In view of the above, further continuation of the existing situation with BWB and WWS handling in all its aspects was not possible. The only acceptable waste handling alternative for the company, without the joint implementation mechanism, was their disposal at landfills.

Further use of the existing energy capacities could meet the heat requirements of Svetogorsk PPM. Technical condition of boilers at CHPP-3 and CHPP-4 could be preserved at the same level for a number of years by carrying out relatively inexpensive routine maintenance. The main fuel for production of the required amount of steam is natural gas.

The project proposes installation at CHPP-4 of a new multi-fuel (biomass) boiler running on bark and wood waste and other organic waste generated by Svetogorsk PPM. The boiler was manufactured and mounted by Kvaerner Pulping Oy. The boiler deploys the technology of bubbling fluidized bed combustion. This technology allows for fluctuations in supply of different solid types of biomass fuel of variable moisture and helps to

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

avoid the dependence on fossil fuels. The maximum possible steam output of the boiler when solid fuel is fired without addition of natural gas is 114 tonnes per hour, and when natural gas is used – 150 tonnes per hour. Fly ash is collected in an electrostatic precipitator.

Apart from the boiler itself it was necessary to build a biofuel preparation and feeding system. BWW are fed to the multi-fuel boiler from the Mill’s wood preparation facilities by conveyors and pneumatically. Low-concentration WWS is pumped to a special dewatering plant. The mixture of BWW and dewatered (down to 70% moisture content) WWS is fed to the boiler by a conveyor.

The project enables utilization of 251 thousand tonnes of BWW and 106 thousand tonnes of WWS per year for heat and electricity generation. This means that dumping of BWW and WWS from the Mill’s production site is almost completely avoided.

Reduction in natural gas consumption at Svetogorsk PPM by 67 million m³ per year.

Optimization of the Mill’s energy generation scheme, enhancement of its reliability and efficiency.

Mitigation of negative environmental impact, including reduction in GHG emissions (CO₂ and CH₄) by 326 thousand tCO₂e per year.

The first contract for supply of the multi-fuel boiler was signed with Kvaerner Pulping Oy on February 23, 2000, which is the starting date of the project. Construction and installation works under the project were completed in August 2001. After completion of start up and adjustment works, the boiler was put into operation in October 2001.

The capital investments in the project amounted to \$28 million.

When deciding whether to implement the project, the management of Svetogorsk PPM from the very beginning considered the possibility of doing it as a carbon project in order to ensure acceptable return on investments. Even before the project was commenced (2000), this issue was discussed with the Autonomous Non-Commercial Organization “Environmental Investment Center”. Since the Kyoto Protocol came into effect (2005) and up until now the issues pertaining to preparation of the project design document (PDD) were discussed with ICF International,



“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

and since recently also with CCGS LLC (2010), which led to the development of this PDD.

4 DETERMINATION CONCLUSIONS

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

The findings from the desk review of the original project design documents and the findings from interviews during the follow up 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 14 Corrective Action Requests and 3 Clarification Requests.

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

4.1 Project approvals by Parties involved (19-20)

The project has no approvals by the Host Party, therefore CAR 02 remains pending.

A written project approval by Party B 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. It has not been provided to AIE at the determination stage.

4.2 Authorization of project participants by Parties involved (21)

The participation for CJSC “International Paper” listed as project participant in the PDD is not authorized by the Host Party because the project approval by the Host Party was not received. Party B is not determined.

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

4.3 Baseline setting (22-26)

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

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

JI specific approach

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

- (a) By listing and describing the following plausible future scenarios (in three groups) on the basis of conservative assumptions and selecting the most plausible being Alternative H1, Alternative B4 and Alternative S4:

The following alternatives of heat (steam) production were identified:

- H1. Continuation of the current situation;
- H2. Flaring of drained methane;
- H3. Heat production from coal;
- H4. Purchase of heat from third-party suppliers;
- H5. Project activity without joint implementation mechanism.

The following alternatives of BWV handling were identified:

- B.1 Continuation of the current situation;
- B.2 BWV sale to third parties;
- B.3 Use of BWV in manufacture of products;
- B.4 Dumping of BWV;
- B.5 Project activity without joint implementation mechanism.

The following alternatives of WWS handling were identified:

- S.1 Continuation of the current situation;
- S.2 Use of WWS in manufacture of products;
- S.3 Incineration of WWS without energy generation;
- S.4 Dumping of WWS;
- S.5 Project activity without joint implementation mechanism.

After screening H1, B4 and S4 alternatives were left as the most plausible, namely:

- H1) Continuation of the current situation (production of heat by energy generating complex of Svetogorsk PPM);
- B4) Dumping of BWV;
- S4) Dumping of WWS.

- (b) Taking into account relevant key factors that affect a baseline, such as sectoral reform policies and legislation, economic situation in pulp and paper mill sector in terms of BWV and WWS utilization, heat and electricity generation.

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

- (c) By taking into account key factors that affect a baseline, such as sectoral reform policies and legislation, economic situation in pulp and paper mills sector in terms of BWW and WWS utilization, availability of capital, prices of wastes dumping.
- (d) Generally in a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors
- (e) Taking into account of uncertainties and using conservative assumptions.
- (f) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure.
- (g) By drawing of the list of standard variables contained in appendix B to Guidance on criteria for baseline and monitoring.

All explanations, descriptions and analyses pertaining to the baseline in the PDD are made in accordance with the referenced JI specific approach and the baseline is identified appropriately.

Outstanding issues related to Baseline setting (22-26), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 03 - CAR 06, CL 01).

The issued CARs concern:

Conservativeness of fuel consumption value by multi-fuel boiler (CAR 03);
Annex B is not under format of PDD (CAR 04);

The transparency of references (CAR 05);

The table in B.1 lack of parameters necessary for baseline setting (CAR 06);

The issued CL concerns:

The type of landfill (CL 01).

4.4 Additionality (27-31)

JI specific approach

Traceable and transparent information showing that 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 reductions of anthropogenic emissions by sources of GHGs was provided In PDD Section B.2.

The PDD developer provides a justification of the applicability of the approach with a clear and transparent description, as per item 4.3 above. PDD developer described and scrutinized plausible alternative scenarios which have been provided in Section B.1 (refer to item 4.3 above).



“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

Justification of additionality has been done in several steps. As a preface to the additionality proofs a barrier analysis is carried out, the steps are as follows:

- 1) Description and analysis of the alternatives (refer to Section B.1);
- 2) Investment analysis (including sensitivity analysis);
- 3) Common practice analysis.

The key additionality proofs were the results of the investment analysis and common practice analysis. The investment analysis shows that the project (sum of Scenario H5,B5,S5) with capital investment 28 mln \$ has IRR=12,94% lower than chosen benchmark (IRR=15%), hence it is not financially attractive. The sensitivity analysis of variations of key parameters (investment costs, natural gas price, consumption of waste biomass, price of GHG emission reduction) confirms the conclusion of the basic investment analysis.

The spreadsheet with the investment and sensitivity analyses was made available for the verifier, and Bureau Veritas Certification will submit it to JISC at the final determination as the supporting documentation.

The common practice analysis has reasonably shown that the proposed JI project does not represent a widely observed practice in the geographical area concerned.

The verifier determined that additionality is demonstrated appropriately as a result of the analysis using the approach chosen.

Outstanding issues related to Additionality (27-31), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 07, 08, 15 and CL 02).

The issued CARs concern:

Risk value estimation (CAR 07);

Justification of parameters used in investment analysis (CAR 08);

The currency of investment analysis and benchmark (CAR 15).

The issued CL concerns:

The evaluation of property tax payments (CL 02).

4.5 Project boundary (32-33)

JI specific approach

The project boundary defined in the PDD, Section B.3, Figure B.3-1 and B.3-2 for project and baseline scenario accordingly, encompasses all

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

- (i) Under the control of the project participants such as:
 - Additional combustion of natural gas in power steam boilers;
 - Emissions from anaerobic decomposition of BWW at dump;
 - Emissions from anaerobic decomposition of WWS at dump;
 - Emissions from transportation of BWW and WWS to the dumps, combustion of diesel fuel;
 - Combustion of natural gas in multi-fuel boiler;
 - Consumption of electricity by transportation facilities and preparation of BWW and WWS processes;
- (ii) Reasonably attributable to the project such as:
 - Production, processing, storage, delivery and distribution of natural gas, fugitive emissions.
- (iii) Significant such as:
 - All the sources mentioned above, except emissions from transportation of BWW and WWS to the dumps, combustion of diesel fuel and consumption of electricity by transportation facilities and preparation of BWW and WWS processes.

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD, Section B.3.

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

4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project began, and the starting date is 23/02/2000, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 20 years or 240 months.

The PDD states the length of the crediting period in years and months, which is 5 years or 60 months, and its starting date as 01/01/2008, which is on the date the first emission reductions are generated by the project.

4.7 Monitoring plan (35-39)

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

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

JI specific approach

The monitoring plan describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance, such as:

- Volume consumption of natural gas in multi-fuel boiler;
- Average net calorific value of natural gas;
- Mass consumption of BWB in multi-fuel boiler;
- Mass consumption of WWS in multi-fuel boiler;
- Heat production by multi-fuel boiler.

Remainder factors and key characteristics are listed in the PDD, Sections D.1.1.1 for the project and Section D.1.1.3 for the baseline.

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 those listed in the PDD, Sections D.1.1.1 and D.1.1.3.

The monitoring plan is developed subject to the list of standard variables contained in appendix B of “Guidance on criteria for baseline setting and monitoring” developed by the JISC.

All categories of data to be collected in order to monitor GHG emissions from the project and determine the baseline of GHG emissions (Option 1) are described in required details.

The monitoring plan explicitly and clearly distinguishes:

- (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as:
- Default values of moisture content of BWB and WWS;
 - Lignin fraction of C for BWB and WWS;
 - Decomposition rate constant for BWB and WWS;
 - Organic carbon content in BWB and WWS on dry basis;
 - Conversion factor from kg carbon to landfill gas quantity;
 - Generation factor;
 - Percentage of the stockpile under aerobic conditions;

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

- Methane oxidation factor;
 - Methane concentration in biogas;
 - Density of methane;
 - CO₂ emission factor for natural gas.
 - Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination (there are no such parameters).
- (ii) Data and parameters that are monitored throughout the crediting period, such as those presented in Section D.1.1.1 for the project, Section D.1.1.3 for the baseline.

Step-by-step application of the used approach for monitoring is described in PDD Section D including monitoring procedures, formulae, parameters, data sources etc.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording; please refer to PDD, Section D.1.1.1, Section D.1.1.3.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions, as appropriate, such as formula in Section D.1.1.4 for baseline emissions (Formula D.1-4 – D.1-9), Section D.1.1.2 for project emissions (Formula D.1-1 – D.1-3).

The monitoring plan presents the quality assurance and control procedures for the monitoring process, all the QC/QA procedures are specified in PDD Section D.2

The procedures include, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. The operating and management structure for GHG monitoring is described in PDD Section D.3, Fig. D.4-2 and Table D.4-1. The responsibilities and the authority regarding the monitoring activities are provided in a tabular form within the Section D.3.

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

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured but not including data that are calculated with equations.

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.

Outstanding issues related to Monitoring plan (35-39), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 09- CAR 11).

The issued CARs concern:

The format of PDD sections CAR 09;

The reference to the appropriate law CAR 10;

The maintenance with the monitored data CAR 11.

4.8 Leakage (40-41)

JI specific approach

The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains that the estimation of leakage is neglected from conservative reasons because the leakage in project scenario is less than in baseline scenario.(see Section B.1 and B.3)

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

JI specific approach

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

The PDD provides the ex ante estimates of:

- (a) Emissions for the project scenario (within the project boundary), which are 306,747 tons of CO₂eq;
- (b) Leakage are considered zero;
- (c) Emissions for the baseline scenario (within the project boundary), which are 1,937,744 tons of CO₂eq;
- (d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are 1,630,997 tons of CO₂eq.

Reporting period: From 01/01/2008 to 31/12/2012.

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

The formulae used for calculating the estimates are referred in the PDD, Sections D.1.1.2, D.1.1.4, D.1.4.

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

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

The estimates referred to above are consistent throughout the PDD.

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

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

Outstanding issue related to Estimation (42-47), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 12).

The issued CAR concern:

The justification of natural gas volumes (CAR 12).

4.10 Environmental impacts (48)

The PDD lists and attaches documentation on the analysis of the environmental impacts of the project (transboundary impacts are insignificant), in accordance with procedures as determined by the host Party, such as the Federal Law “On the Environmental protection #7-FZ”.

The PDD provides conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party.

Outstanding issue related to Environmental impacts (48), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 13-14 and CL 03).

The issued CARs concern:

The reduction of pollutant emissions (CAR 13);

The transboundary effects (CAR 14)



“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

The issued CL concern:

The amount of sulphur dioxide emissions (CL 03)

4.11 Stakeholder consultation (49)

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

4.12 Determination regarding small scale projects (50-57)

Not applicable.

4.13 Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64)

Not applicable.

4.14 Determination regarding programmes of activities (65-73)

Not applicable.

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

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

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the “Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia” Project in Russia. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

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



“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

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

The review of the project design documentation and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfilment of the 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 4.3 dated 18/08/2011 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

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

7 REFERENCES

Category 1 Documents:

Documents provided by CJSC “International Paper” and CCGS that relate directly to the GHG components of the project.

- /1/ “Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”, PDD Version 4.3 dated 18/08/2011.
- /2/ Excel spreadsheet with calculation of emission reduction “SvetogorskPPM_model_en_ver 4.2”.
- /3/ Excel spreadsheet with investments calculation “economic Sveto EN ver 4.3”

Category 2 Documents:

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

- /1/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.

“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

- /2/ JISC Guidance on criteria for baseline setting and monitoring. Version 02.
- /3/ Glossary of Joint Implementation terms. Version 02, JISC.
- /4/ 2006 IPCC Guidelines on National Greenhouse Gas Inventories, Volume 2, Energy.
- /5/ “Regulation of realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change”. Approved by the RF Government Decree # 843 of 28/10/2009 “About measures on realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change”.
- /6/ Methane and Nitrous Oxide Emissions from Biomass Waste Stockpiles, PCFplus Research, World Bank, August 2002.
- /7/ Operational Guidelines for Project Design Documents of Joint Implementation Projects. Volume 1. General Guidelines. Version 2.3. Ministry of Economic Affairs of the Netherlands. May 2004.
- /8/ Approved consolidated baseline and monitoring methodology ACM0009 «Consolidated baseline and monitoring methodology for fuel switching from coal or petroleum fuel to natural gas» Version 03.2. CDM Executive Board.
- /9/ Methodological tool to determine the baseline efficiency of thermal or electric energy generation systems. Version 01. CDM Executive Board.
- /10/ Installation of Multi-Fuel Boiler. Detailed Design. CJSC “Giprobum”, Saint-Petersburg, 2000.
- /11/ Technical specification of the bubbling fluidized bed boiler, Kvaerner Pulping, 2000.
- /12/ Methodological tool to determine project emissions from flaring gases containing methane. CDM Executive Board.
- /13/ Letter concerning the positive conclusion of State ecological expertise for the project #101-2875 from 28.05.00.
- /14/ 2002 Capital and Repair Budget Projected Results Financial Highlights & Summary of facility Effect.
- /15/ 6 TP forms of the boiler house work for 2008, 2009, 2010.
- /16/ Preliminary cash flow IP note.

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/ N. Bondarenko – Director Environmental Health and Safety, CJSC



“Installation of a multi-fuel boiler at CJSC “International Paper” (former Svetogorsk PPM) for waste biomass utilization and energy generation for own needs, Svetogorsk, Russia”

- “International Paper”;
- /2/ A. Golubev – Chief Engineer Energy, CJSC “International Paper”;
 - /3/ A. Andreev – Manager #3 Recovery and Bark Boilers, CJSC “International Paper”;
 - /4/ I. Trokhina – Chief accountant, CJSC “International Paper”;
 - /5/ A. Vedernikov – Deputy Head of Ecology, CJSC “International Paper”;
 - /6/ M. Ivanov – Manager of Wastes Storage, CJSC “International Paper”;
 - /7/ A. Samorodov – Director, Project Development, CCGS LLC.