Determination Report

Determination of the ”Energy Efficiency Investment Programme at Svilocell Pulp Mill” in Bulgaria

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Summary:

The Certification Body "Climate and Energy" of TÜV SÜD Industrie Service GmbH, has been ordered by the European Bank for Reconstruction and Development (EBRD) in London, UK to determine the above mentioned project.

The determination of this project has been performed by document reviews, interviews by e-mail and on-site inspections, audits at the locations of the project and interviews at the offices of the project owner.

As the result of this procedure, it can not be confirmed that the submitted project documentation is in line with all requirements set by the Marrakech Accords and the Kyoto Protocol and relevant guidelines of Bulgarian Designated National Authority. This opinion is caused by the sole remaining outstanding issues regarding the Letter of Approvals of the involved Annex-I-Parties.

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of emission reductions of 85 840 tons CO_{2e} (AAUs) in the year 2007 and 682 143 tons CO_{2e} (to be issued as ERUs) in the intended crediting period from 2008 – 2012 represents a reasonable estimation using the assumptions given by the project documents.

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Abbreviations

BOD	Biological Oxygen Demand
CAR	Corrective action request
CR	Clarification request
DOE	Designated Operational Entity
DP	Determination Protocol
EBRD	European Bank for Reconstruction and Development
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
ERU	Emission Reduction Unit
GHG	Greenhouse gas(es)
IRR	Internal Rate of Return
JI	Joint Implementation
KP	Kyoto Protocol
MoEW	Bulgaria Ministry of Environment and Water
MP	Monitoring Plan
MS	Management System
NGO	Non Governmental Organisation
NPV	Net Present Value
PDD	Project Design Document
EnEff-Programme	Energy Efficiency Investment Programme at Svilocell Pulp Mill
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

The EBRD, London in United Kingdom has commissioned TÜV SÜD Industrie Service GmbH to conduct a determination of the "Energy Efficiency Investment Programme at Svilocell Pulp Mill" (EnEff-Programme) with regard to the relevant requirements for JI project activities. The determination serves as a conformity test of the project design and is a requirement for all JI projects. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions (in particular ERUs - in the first commitment period under the Kyoto Protocol).

UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords.

1.2 Scope

The determination scope is defined as an independent and objective review of the project design document (PDD), the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has, based on the recommendations in the Validation and Verification Manual (see www.vvmanual.info), employed a risk-based approach in the determination, focusing on the identification of significant risks for project implementation and the generation of emission reductions

This report is based on the PDD which has been issued February 09, 2006. The draft version from December 23, 2005 was published on the website of www.netinform.de. Potential stakeholders have been invited for commenting by using the Climate-L announcement list service.According to CARs and CRs indicated in the audit process the client decided to revise the PDD. The final version submitted in March 2006 serves as the basis for the final conclusions presented herewith.

1.3 GHG Project Description

The project foresees the implementation of a series of energy efficiency measures to reduce the energy consumptions of steam, heat and electricity of Svilocell, a wood processing company, whose main final product is sulphate bleached pulp.

The objective of the project is to minimise consumption of steam, heat and electricity and further on to use high energetic steam for generating electricity by a steam turbine. Besides own generated steam Svilocell is supplied with electricity from the public grid and with steam from adjacent CHP Plant and Biomass Plant, which are not owned by Svilocell. The overall objective of the JI project is to generate emission reductions (ERUs and AAUs).

The owner of Sulphate Bleached Pulp Mill, which is the production site where the energy efficiency measures are to be implemented, has set-up a new registered trademark called Svilocell Co. that took over the operations of Svilosa. Svilocell is situated 3.5 km northwest of the town of Svishtov, on the banks of the river Danube.

The individual measures/subprojects are shortly described below:

I. Replacement of cyclone evaporator with a new super concentrator for Soda Recovery Boiler (SRB)

II. Replacement of a barometric condensers with plate heat exchangers in evaporating systems for black liquor

III. Installation of frequency control drives on 4 electric motors

IV. Installation of a back pressure steam turbine instead of putting the steam inside the throttling valves

V. Installation of a blow down heat recovery system

VI. Shift of production from pulp blocks to pulp sheets

Each measure above can be implemented independently from each other.
The baseline scenario is reflected mainly by the emissions from use of off-site generation (coal fired boilers) to produce steam and further on there are indirect off-site emissions by electricity consumption.

The EnEff-Programme is foreseen to start in June 2006 with the commissioning of the energy efficiency measure VII, shift of production from pulp blocks to pulp sheets. All measures will be implemented until end of June 2007.
The Project Participant of the Host Country is Svilocell Co., owned by Svilosa AD, as owner of permits and licenses. Svilocell will supply the Emission Reduction Units ERUs and Assigned Amount Units AAUs. The expected buyer of emission reductions is the EBRD.
The project documentation, especially the determination and application of baseline and monitoring methodologies, has been developed by MWH S.p.A, Milano in Italy.

2 METHODOLOGY

In order to ensure transparency, a determination protocol was customised for the project, according to the Validation and Verification Manual (VVM). The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The determination protocol serves the following purposes:

- It organises, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent determination process where TÜV SÜD has documented how a particular requirement has been validated and the result of the determination.

The determination protocol consists for this project of three tables. The different columns in these tables are described in Figure 1.

The completed determination protocol is enclosed in Annex 1 to this report.

Determination Protocol Table 1: Mandatory Requirements			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the determination report. **O** is used in case of an outstanding, currently not solvable issue, **AI** means Additional Information is required.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent determination process.*

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

Determination Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action and additional Information requests	***Ref. to checklist question in table 2***	***Summary of project owner response***	***Determination conclusion***
If the conclusions from the draft determination are either a Corrective Action Request or a Clarification or Additional Information Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification or Additional Information Request is explained.*	*The responses given by the Client or other project participants during the communications with the independent entity should be summarised in this section.*	*This section should summarise the independent entity's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

2.1 Review of Documents

The project participants submitted a PDD and additional background documents related to the project design and baseline. A review for all these documents has been performed in order to identify all issues for discussion during the follow-up interviews on-site and by phone or email.

2.2 Follow-up Interviews

On January 11 - 13, 2006 TÜV SÜD performed on-site and email interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the Bulgarian company "Svilocell" (project owner) have been interviewed.

The main topics of the interviews are summarised in Table 1. The complete and detailed list of all persons interviewed is enclosed in Appendix 2 to this report.

Table 1: Interview topics

Interviewed organisation	Interview topics
MWH	Project design, baseline, monitoring plan, environmental impacts, additionality, monitoring procedures, Energy Sector, Approval of the project, JI-Guidelines
Svilocell	Project design, baseline, monitoring plan, environmental impacts, permits and licenses, stakeholder comments, additionality, monitoring procedures, calibration of the measurement equipment, documentation, archiving of data, Energy Sector, Approval of the project

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified in order to achieve a positive conclusion during the assessment process. Clarification Requests raised by TÜV SÜD have been resolved in most parts by the "Response Table" submitted February 9, 2006 prepared by MWH. Furthermore additional documents have been submitted separately in order to provide the required evidences. To guarantee the transparency of the determination process, the concerns raised are and the response given are summarised in chapter 3 below. The whole process is documented in more detail in the final determination protocol in Annex 1.

3 DETERMINATION FINDINGS

In the following sections the findings of the final determination are stated. The determination findings for each determination subject are presented as follows:

1) The findings from the desk review of the project design document and the findings from interviews during the follow up visit are summarised. A more detailed record of these findings can be found in the Determination Protocol in Annex 1.

2) Where TÜV SÜD has identified issues that needed clarification or that represented a risk to the fulfilment of the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Annex 1.

3) Where Clarification and Corrective Action Requests have been issued, the response by the project participants to resolve these requests is summarized in the final determination report.

4) The final conclusions of the determination are presented consecutively.

3.1 Project Design

3.1.1 General Findings

There is no official form to be used in the context of the PDD development of JI projects besides the guidance given under the CDM. The submitted PDD as well as its revision are considered to cover all aspects necessary to describe the project and to assess its conformity with the underlying regulations.

The Technical Description presented in the PDD gives a good overview of the project's system. The foreseen technology does reflect current good practice for saving energy and efficient generation of electricity and cooling. The project uses technology that goes beyond the state of the art in the host country. Moreover it is unlikely that the foreseen project technology will be substituted during the crediting period by a still more efficient technology.

Bulgaria has ratified the Kyoto Protocol on August 15th 2002. The Ministry for Environment and Water MoEW was appointed as national focal point of Bulgaria and has issued National JI-Guidelines "How to develop a climate change project and leverage the carbon benefits" (http://www.moew.government.bg/recent_doc/international/climate/Brochure_JI_eng.pdf).

The project starting date is clearly defined as well as the crediting period which will cover the years 2008-2012 in accordance with the first commitment period (generation of ERUs) and the year 2007 (generation of AAUs).

Under regular conditions the operational lifetime of the project will exceed this indicated time frame.

The Bulgarian National Focal Point has issued a Letter of Endorsement which shows in principle the support of the project.

3.1.2 Issued CARs/CRs

Corrective Action Request (CAR1):

It is envisaged that the project has to be approved by both countries (Netherlands and Bulgaria) at the end of the validation process. Written letters of approval were not available at the time of this determination.

Response:

The Approvals will be provided at the end of the validation.

Corrective Action Request (CAR2):

The definition of project boundaries presented in the PDD gives an overview about the overall project's boundaries, but it is not clearly distinguished between the individual subprojects. The description of boundaries should be described in more detail with individual subprojects.

The consumption of heavy fuel and diesel has to be monitored after the implementation of energy efficiency measures.

Response:

Heavy fuel and diesel consumption are included in project boundary (see B.4) and monitoring plan of the revised PDD (see D.3.3.9). HFO consumption is included in the Monitoring Plan and eventual drifts could be easily monitored.
Project boundaries are discussed in details within each individual sub-project (from B.3.3.1 to B.3.3.7).

3.1.3 Conclusion

The project status is in a comparative early stage; therefore the project does not yet fulfil formally all belonging criteria set for the approval of JI-projects. The Letter of Approvals by both parties, investor and host country, shall be submitted to TÜV SÜD at time of its availability. In case the issuance of ERUs will be done under the "First Track JI"- regime, there is no requirement to provide the validator such a LoA in order to forward it to the Supervisory Committee. Under that circumstance the issue can be considered to be resolved otherwise it will be considered as an outstanding issue requiring a final revision of this validation report.

The overall project and its subprojects are described and clearly defined including the individual subproject boundaries. The consumption of heavy fuel and diesel is foreseen to be monitored even after the implementation of energy efficiency measures.

The foreseen technology does reflect current good practice for saving energy and efficient generation of electricity and cooling. The project uses technology that goes beyond the state of

the art in the host country. It is moreover very unlikely that the foreseseen project technology will be substituted during the crediting period by a still more efficient technology .

The PDD contains information how training, operating, controlling, maintenance will be organized and managed. The aspects regarding future responsibilities and quality assurance are fixed.

3.2 Baseline

3.2.1 Findings

The baseline of the Svilocell EnEff Programme is established in a project-specific manner. The emission reductions result from generating more steam through higher efficiency of Soda Recovery Boiler, less demanding steam and heat, and saving electricity for motor drives and cooling system and generating electricity by an additional back pressure steam turbine which replaces electricity generation by the Bulgarian grid.

Because of the independent subprojects and because of the specific characteristics of the individual subprojects it is necessary to apply for each subproject its own eligible methodology.

The use of the methodology AMS-II.D."Energy efficiency and fuel switching measures for industrial facilities" is not applicable for all of the subprojects.

The baselines take into account the Bulgarian JI-Guidelines, NEK-Baseline Study, the IPCC Good Practice Guidance in National Greenhouse Gas Inventories and the major national and/or sectoral policies, macro-economic trends and political developments. Relevant key factors are described and their impact on the baseline and the project risk is evaluated.

The NEK-baseline Study is applicable for the emissions of electricity sector. The NEK – Baseline Study is approved by Bulgarian National Focal Point. This study determines combined margin Emission Factor (BEF). The application of NEK – Baseline Study is according to Small Scale CDM-Methodology.

The additionality of the whole project was proven by a barrier test according to the Attachment A to Appendix B of the simplified modalities and procedures for SSC projects. It is reliable shown that the "BAU-Alternative" (expanding the production without relevant energy efficient measures) was not realized because lack of funds. The feasibility study for the "BAU-investment programme" was performed in 2003. Together with additional energy efficiency measures and approval as a JI project Svilocell would obtain the loan for financing the BAU investment programme and energy efficiency project. Even in the case of obtaining usual prices for the generated emission reductions the carbon credits itself can contribute the main part of refinancing the energy efficiency investment.

The PDD shows in particular that there is a lack of awareness and local expertise in terms of energy efficiency improvement.

3.2.2 Issued CARs/CRs

Corrective Action Request (CAR3):

It is not discussed, whether the chosen methodology is applicable, especially regarding compliance to small scale criteria.

Hence it should be demonstrated whether specific measures can be conducted independently from each other. Subprojects should be defined. For each individual subproject has to be chosen eligible methodologies. Further it has to be proven for which subproject the SSC-Methodology AMS II.D can be applied.

Response:

Applicability and baseline methodologies discussed for each sub-project (from B.3.3.1 to B.3.3.7)

Corrective Action Request (CAR4):

The baseline scenario does take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations. However it is not shown in detail which baseline emission factor for the electricity grid is used and why the chosen factor is eligible for this project.

Response:

Simple Adjusted OM+BM methodology used for electricity emission factor (see E.1.2.1 and Annex 4)

Clarification Request (CR1):

It is mentioned in the PDD that it is expected to generate enough income to satisfy debt service and return on equity. Investment volume is shown by two loan agreements with 28 Mio€ at all for the project activities

With Financial plan it should be shown that with generation of ERUs enough income is created to satisfy debt service and return on equity.

Response:

Based on additionality approach explained at A.4.4, the applicable methodology refers to step 3 "Barriers analyses".

Corrective Action Request (CAR5):

The demonstration that project activity itself is not a likely baseline scenario is done by qualitative assessment of two different potential options (with or without project activity). The options are discussed with relevant key factors and indications are given of why the non-project option is more likely.

Further it is clarified that the project activity is not common practice in the proposed area of implementation and that it is not required by regulations.

Because of several subprojects it should be shown that each subproject itself is not a likely baseline scenario. For non SSC-Projects the Additionality Tool for CDM-Projects should be applied.

Response:

According to A.4.4 the methodology used to assess additionality refers to project portfolio approach rather than a sub-projects approach. The Additionality tool is applied.

Corrective Action Request (CAR6):

The emissions of the independent CHP-power plant for the production of steam supplied to Svilosa are not clear to evaluate with the delivered data. An analysis of risks to the baseline is not mentioned in the PDD.

A risk-analysis to the baseline should be mentioned in the PDD. B.2.8. A risk analysis including main baseline parameters has been prepared for each sub-projects (see from B.3.3.1 to B.3.3.8)

Response:

> A risk analysis including main baseline parameters has been prepared for each sub-projects. The relevant data from CHP-owner will be provided.

3.2.3 Conclusion

The added baseline methodologies are applicable for the reduction of steam demand and electricity demand. Regarding the emissions of electricity sector the application of NEK – Baseline Study is now according to Standard Scale CDM-Methodology.

Nevertheless the NEK – Baseline Study itself, does not correspond exactly to CDM-Methodology because

- "Operating Margin EF" is calculated without consideration of the power plants, which are covered by the build margin.

- "Build Margin EF" is calculated without consideration of the "build" nuclear power plant units.

In case the issuance of ERUs will be done under the First Track JI"- regime, there is no requirement to comply to CDM-Methodology. Under that circumstance the issue can be considered to be resolved otherwise it should be noticed that this issue will probably require a further revision of the baseline determination.

The additionality of the whole project is proven by "Tool for the demonstration and assessment of additionality". This guideline provides for a stepwise approach to show and assess additionality of the project activity. It is reliable shown that the BAU-Alternative (expanding the production without relevant energy efficient measures) was not realized because lack of funds. If the income of carbon credits are included the project becomes economically viable.

The discussed issues are considered to be resolved. Hence the project is in compliance with the requirements.

3.3 Duration of the Project

3.3.1 Findings

In the PDD (draft version) the project starting date was not exactly fixed, because neither the exact date was specified nor what would happen with that date.

The crediting period was not clearly defined, too. Neither the exact date nor the distinction between Kyoto-period and the time before.

In contrast the estimated operational lifetime of 20 years was defined and the time frame is reasonable.

Corrective Action request: (CAR7):

The starting date of project and the crediting period should be clearly fixed and defined. Starting date of project activity and starting date of crediting period are independent dates apart from that the crediting period can not start earlier than the project activity.

Response:

Dates were corrected as required in real time during the site visit (see C.1-C.2-C.4)

The PDD revised indicates starting date of project activity with the commissioning of the first energy efficiency measure. The commissioning date of new pulp sheet line is envisaged to be in June 2006. The start of overall crediting period of the project is exactly defined; it begins at January1, 2007. The length of of overall crediting period is fixed and the Kyoto-period is mentioned.

3.3.2 Conclusions

The commissioning dates of the first project activity is now defined. The project activity will start operation at the beginning of June 2006.

The start of overall crediting period of the project is exactly defined. The length of the crediting period is six years (from 2007 to 2012 inclusive) and will start from 1st January 2007. It is distinguished between the Kyoto period 2008-2012 in accordance with the first commitment period defined in the Kyoto Protocol., when ERUs can be generated and the period before 2008, when only AAUs can be created. The project seeks Assigned Amount Units (AAUs) for 2007 and Emission Reduction Units (ERUs) under Art.6 of the Kyoto Protocol for a 5-year period from 2008 to 2012.

The discussed issues are considered to be resolved. Hence the project is in compliance with the requirements.

3.4 Monitoring Plan

3.4.1 Findings

The used monitoring methodologies do reflect current good practice and will be supported by the monitored and recorded data. It is possible to monitor and measure the specified project GHG indicators. Besides few exceptions (see below) the monitoring provisions are in line with the respective baseline methodologies and the project boundaries.

Indicators for project emissions have been defined and will be monitored.

Leakage emissions are not monitored according to the monitoring plan as there are no emissions to be expected.

Some transport emissions and emissions during construction have to be assessed. These emissions are not considered to be monitored.

Procedures are identified for training of monitoring personnel.

3.4.2 Issued CARs/CRs

Clarification Request (CR2):

CHP operators have to confirm data for the delivered steam, used fuel and fuel demand, emission factor of steam. It should be clarified if the CHP operator will provide and confirm data for delivered steam, used fuel and fuel demand, emission factor of steam..

Response:

The CHP operator will provide and confirm data for delivered steam, used fuel and fuel demand, emission factor of steam on annual basis. Electricity emission factors are included in the monitoring plan (see D.3.3.1 and E.1.2.1).

Corrective Action Request (CAR8):

Practicability has been discussed on site especially for SVP-03. A new methodology and monitoring plan was accepted from each side and is foreseen to describe in the revised PDD. All the other methodologies are clear and accepted by operators.

For SVP-03 a renewed methodology and monitoring plan should be described in the revised PDD.

Response:

The new monitoring methodology has been applied as agreed (see D.3.3.4 and Annex 3)

Corrective Action Request CAR9:

The PDD does not contain any analysis of monitoring errors or uncertainties. Possible monitoring errors or uncertainties should be analysed. If necessary, mitigation measures have to be defined.

Response:

Table including requirements for QA QC procedure for monitoring of errors and uncertainties has been included (see D.4 and D.5.1).

Corrective Action Request (CAR10):

Additional measuring instruments as yet foreseen are necessary:

- Flow meter for blow down rate
- Data transmission from VFD to control panel
- Net-electricity generation of additional steam turbine

Response:

Required parameters were already included but they have been better specified (see D.3.3.4, D.3.3.5 and D.3.3.6)

Clarification request (CR3):

No indicators have been defined and no leakage emissions are monitored according to the monitoring plan as there are no emissions to be expected.

Nevertheless it should be regarded, that due reduced steam consumption from CHP Plant and reduced electricity demand from the grid the electricity sector would indirectly need less allowances to emit within the EU Emissions Trading System. Hence by preparing the national allocation plan the Bulgarian JI projects must be taken into consideration. Letter of Endorsement should be provided to the audit team.

Response:

This item is well known, under control and it is being discussed with Ministry of Environment and Water for future actions. Letter of Support is included to PDD as Annex 5.

Corrective Action Request (CAR11):

Besides the heavy fuel demand and production of pulp the relevant data are foreseen in the monitoring plan. Hence the fuel demand for start-up operation and emergency cases should be added to the monitoring plan. The production of pulp should be added to the monitoring plan, too.

Response:

The fuel demand for start-up operation and emergency cases and production of pulp has been added to the monitoring plan (see table D.1)

Corrective Action Request (CAR12):

It should be clarified that with

- "Electricity purchased from the grid" EQE stands for the annual balance of imported and exported electricity. and
- "Electricity generated from steam turbine" stands for net-generation of steam turbine; so the internal demand for auxiliaries will be regarded.

Response:

It has been clarified that

- "Electricity purchased from the grid" EQE stands for the annual balance of imported and exported electricity, and
- "Electricity generated from steam turbine" stands for net-generation of steam turbine; so the internal demand for auxiliaries will be regarded. (see Table D.1)

Clarification Request (CR4):

It should be clarified who will be the trainer of initial staff training (see D.5.2)

Response:

The trainer for the initial staff training will be a team composed of MWH specialists and energy experts already involved in the energy efficiency training programme (see D.5.3)

Corrective Action Request (CAR13):

The PDD does not describe any procedures for calibration/ adjustment of monitoring equipment. Procedures for calibration/ adjustment of monitoring equipment should be described.

Response:

All monitoring equipment will be included in the existing procedure, "Maintenance and control of monitoring equipment", that regulates calibration of monitoring equipment and is integral part of its ISO 9001 certified Quality Management System. (see D.4).

Clarification request (CR5):

Svilocell is working on an approved ISO 14001 (UMS). Proof of an approved UMS according ISO 14001 should provided to the validation team.

Response:

ISO 14001 certification is attached as Annex 6 (see also D.4)

3.4.3 Conclusion

The monitoring methodologies have been revised. The project emission of heavy fuel oil (HFO) for start up operations, the diesel demand and the net electricity generation of the back pressure turbine itself will be monitored. With revising the baseline methodologies new questions and clarification has been raised, which are listed below:

Requirements for QA/QC procedure for monitoring of errors and uncertainties are now included. Further the MP will constitute integral part of Svilocell Quality Management and will be embedded in overall Standard Operating Procedures at Svilocell.

The monitoring provisions are in line with the respective baseline methodologies and the project boundaries.

The MoEW is aware about the issue of double-issuing of ERUs and Allowances. Bulgaria is planning to set aside a reserve for electricity producing JI projects (deducted from the allowances of the electricity sector) in order to avoid indirect double counting. This reserve will include the ERUs in the PDDs of the approved projects, the endorsed projects, and some new projects.

The aspects regarding future authorities and responsibilities within Svilocell are reasonable and mentioned in the revised PDD. The responsibility and procedures for the training of monitoring personnel are defined. The needs of checking the recorded monitoring data, corrections and for replacing missing data are mentioned, too.

Procedures which regulate calibration of monitoring equipment are described. The procedures are integral part of its ISO 9001 certified Quality Management System. Further on Svilocell is working on an approved ISO 14001 (UMS).

The discussed issues are considered to be resolved. Hence the project is in compliance with the requirements.

3.5 Calculation of GHG Emissions

3.5.1 Findings

Besides CAR2 and the Conclusions of Monitoring Plan the project's spatial boundaries are clearly described. The calculations of GHG emissions are transparently demonstrated in the Annexes 1, 2 and 3.

According the response of CAR4 the applied baseline emission factor of electricity grid is according to NEK-Baseline Study.

Leakage calculations are not requested. No further aspects of leakage have been identified.

Thus, the project will result in fewer GHG emissions than the baseline scenario.

3.5.2 Issued CARs/CRs

Corrective Action Request (CAR14):

Uncertainties in the GHG estimates are not mentioned, yet. It should be described if uncertainties in the emissions estimates have to be addressed.

Response:

> According to results of risk analysis to baseline, uncertainties on GHG estimates for baseline emissions and project activity emissions have been calculated for each sub-project and for the project portfolio. Worst case and best case emission scenarios have been compared to project activity emission scenario (see from B.3.3.1 to B.3.3.8)

3.5.3 Conclusion

According to the added monitoring parameters (See corrective action request CAR2) the diesel demand and the additional electricity demand for the back pressure turbine are regarded within the calculation which is based on a spreadsheet (Annex 1, 2, 3).

The calculation is based on a spreadsheet, which is described and used by the monitoring plan. All figures and links have been checked. All input data are derived either from literature or from historic and forecasted data on flow of black liquor, pulp production, steam and electricity consumption, electricity generation, efficiencies and working hours, which have been verified during this assessment.

The project does fulfil all the prescribed requirements completely.

3.6 Environmental Impacts

3.6.1 Findings

The analysis of the environmental impacts was provided. There are no significant negative environmental impacts recognised.

3.6.2 Issued CARs/CRs

Clarification Request (CR6):

The summary of Environmental Analysis, the environmental permission or/and construction permit should be delivered as far as available to the validation team.

Response

> Svilocell made an inquiry to the Ministry of Environment and Waters and they answered that an environmental analysis was not required for the new projects. With regard to environmental and construction permit, application has been already submitted and the permit is likely to be issued in mid 2006.

3.6.3 Conclusion

Ministry of Environment and Waters confirmed that an environmental analysis was not required for the new projects. Construction permits were expected in mid 2006, which take environmental issues into account.

The project fulfils all prescribed requirements completely.

3.7 Local stakeholder process

3.7.1 Findings

Authorities and stakeholders have been consulted during the process of approval of the project. The project participants applied for an approval of the local mayor, who announced the project. The extension project was also published in Local Newspapers and on Internet (company website of Svilosa). No comments or specific objections were received during public consultation.

3.7.2 Issued CARs/CRs

No such requests have been issued.

3.7.3 Conclusion

The project fulfils all the prescribed requirements completely.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project design document on its website for 30 days from December 23, 2005 to January 21st, 2006 .

No comments have been received in this period.

Industrie Service

5 DETERMINATION OPINION

TÜV SÜD has performed a determination of the "Energy Efficiency Investment Programme at Svilocell Pulp Mill", Bulgaria" in Bulgaria. The determination was performed on the basis of relevant JI criteria.

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria.

There is one remaining issue concerning the required letters of approval. Under the condition that these issue will be rectified sufficiently it is our opinion, that the project meets all relevant UNFCCC requirements for JI.

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amounts of emission reductions of tons 85 840 CO_{2e} (AAUs) in the year 2007 and 682 143 tons CO_{2e} (to be issued as ERUs) in the intended crediting period from 2008 – 2012 (to be issued as ERUs) represent a realistic estimation using the assumptions given by the project documents. As these figures will depend on the future performance of the project, this confirmation gives no guarantee on the realisation.

The determination is based on the information made available to us and the engagement conditions detailed in this report. The determination has been performed using a risk-based approach as described above. The only purpose of the report is its use during the registration process as JI project. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

Munich, 2006-05-03

Werner Betzenbichler

Head of Certification Body "Climate and Energy"

Munich, 2006-05-03

Klaus Nürnberger

Responsible Project Manager

Industrie Service

Determination Protocol

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

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	**CAR 1** <u>Corrective Action Request:</u> The Approvals should be provided at the end of the validation.	It is envisaged that the project will be approved by both countries (Bulgaria and The Netherlands) at the end of the validation process. The Bulgarian National Focal Point has issued a Letter of Endorsement which shows in principle the support of the project. Svilosa envisaged submitting the Letters of Approval to the validator.
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur	Kyoto Protocol Article 6.1 (b)	☑	Table 2, Section B.2
3. The sponsor Party shall not aquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	☑	
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3	Kyoto Protocol Article 6.1 (d)	☑	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects	Marrakech Accords, JI Modalities, §20	☑	The Ministry for Environment and Water MoEW was appointed as national focal point of Bulgaria and has issued National JI-Guidelines ”How to develop a climate change project and leverage the carbon benefits”
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	☑	Verified at UNFCCC website
7. The host Party’s assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts	Marrakech Accords, JI Modalities, §21(b)/24	☑	Third National Communication is available
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4	Marrakech Accords, JI Modalities, §21(d)/24	☑	This issue can not be answered by now as such as the JI system is not installed yet.
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination	Marrakech Accords, JI Modalities, §31	☑	A PDD has been submitted in December 2005, which contains the most relevant information.

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
10. The project desing document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments	Marrakech Accords, JI Modalities, §32	☑	The project design document was made publicly available from December 23rd, 2005 to January 21st. No comments have been received.
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out	Marrakech Accords, JI Modalities, §33(d)	☑	Table 2, Section F
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project	Marrakech Accords, JI Modalities, Appendix B	☑	Table 2, Section B.2
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, JI Modalities, Appendix B	☑	Table 2, Section B.2
14. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, JI Modalities, Appendix B	☑	Table 2, Section B.2
15. The project shall have an appropriate monitoring plan	Marrakech Accords, JI Modalities, §33(c)	☑	Table 2, Section D

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity The project design is assessed.					
A.1. Project Boundaries Project boundaries are the limits and borders defining the GHG emission reduction project.					
A.1.1. Are the project’s spatial (geographical) boundaries clearly defined?	2, 8, 12 (A.4.1.3.), 13	DR, I	The project’s spatial boundaries are clearly described for the project installation. Svilosa Pulp mill is located near the town of Svishtov, on the banks of the river Danube, Bulgaria	☑	☑
A.1.2. Are the project’s system (components and facilities used to mitigate GHGs) boundaries clearly defined?	1, 2, 8, 12 (B.4.), 13	DR, I	The definition of project boundaries presented in the PDD gives an overview about the overall project’s boundaries, but it is not clearly distinguished between the individual subprojects. See Table B.1: Direct on-site emissions and Figure B.5. Operational Boundaries <u>Corrective Action Request:</u> The description of boundaries should be described in more detail with individual	CAR2	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			subprojects. The consumption of heavy fuel and diesel has to be monitored after the implementation of energy efficiency measures.		
A.2. Technology to be employed Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.					
A.2.1. Does the project design engineering reflect current good practices?	2, 8, 12	DR, I	Yes it does, technological and usual good practices of increasing energy efficiency	☑	☑
A.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	2, 7, 12 (Table A.4, A.4.4. 1), 13	DR, I	Yes, Mainly state of the art is used by the subprojects I, II, III, IV, V, VI The technology results in significantly improved technologies: I, II, III, VI (!!)	☑	☑
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2, 7, 12, 13	DR, I	It is not likely that the project technology will be substituted by a more efficient technology. Additional projects could be possible.	☑	☑
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	2, 5, 6, 12 (B.3.2	DR, I	The project does not require extensive but continuous training; project by project and in energy management.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	.6.), 13				
A.2.5. Does the project make provisions for meeting training and maintenance needs?	2, 5, 6, 12 (B.3.2 .6), 13	DR, I	Yes, an energy management training is foreseen.	☑	☑
B. Project Baseline The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.					
B.1. Baseline Methodology It is assessed whether the project applies an appropriate baseline methodology.					
B.1.1. Is the discussion and selection of the baseline methodology transparent?	1, 2, 3, 5,12, 13	DR, I	No. It is not discussed, whether the chosen methodology is applicable, especially regarding compliance to small scale criteria. Corrective action request: It should be demonstrated whether specific measures can be conducted independently from each other. Subprojects should be defined. For each individual subproject has to be chosen eligible methodologies. Further it has to be proven whether SSC-	CAR3	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			Methodology AMS II.D is eligible.		
B.1.2. Does the baseline methodology specify data sources and assumptions?	7, 12, 13	DR, I	Yes it does, data sources have been specified during Energy Audit 2005, assumptions too, details Table D.1; D.3. Annex2	☑	☑
B.1.3. Does the baseline methodology sufficiently describe the underlying rationale for the algorithm/formulae used to determine baseline emissions (e.g. marginal vs. average, etc.)	1, 2, 7, 12, 13	DR, I	For three main categories of emissions reductions and each measure details E.1. Annex1	☑	☑
B.1.4. Does the baseline methodology specify types of variables used (e.g. fuels used, fuel consumption rates, etc)?	1, 2, 7, 12, 13	DR, I	That was done for each energy efficiency measure E.1.	☑	☑
B.1.5. Does the baseline methodology specify the spatial level of data (local, regional, national)?	2, 12, 13	DR, I	All spatial levels are considered to be appropriate. details D.3	☑	☑
B.2. Baseline Determination The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	1, 2, 3, 5,12, 13	DR, I	Yes, the application of the chosen methodologies and the discussion and determination of the chosen baselines are transparent.	☑	☑

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.2.2. Has the baseline been determined using conservative assumptions where possible?	1, 2, 7, 12, 13	DR, I	Mainly yes; especially the values of the parameters blow down rate 3%, steam parameters SRB, evaporation and back pressure steam turbine are conservative. Only the baseline emission factor for the electricity grid is not accurately according CDM methodologies. See below CAR4	☑	☑
B.2.3. Has the baseline been established on a project-specific basis?	1, 2, 7, 12, 13	DR, I	Yes, Energy audit 2005	☑	☑
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	1, 2, 7, 12, 13	DR, I	In principle yes. <u>Corrective action request:</u> However it is not shown which baseline emission factor for the electricity grid is used and why the chosen factor is eligible for this project.	CAR4	☑
B.2.5. Is the baseline determination compatible with the available data?	2, 12, 13	DR, I	Yes, The inspected data during on-site-assessment shows that besides subproject III (installation of frequency control drives) the selected baseline is based on available technical descriptions and annual reports.	☑	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.2.6. Does the selected baseline represent a likely scenario in the absence of the project?	2, 7, 9, 10, 12, 13	DR, I	Yes, the selected baseline represents the higher production output of 110.000 t/y pulp without the foreseen project activities	☑	☑
B.2.7. Is it demonstrated that the project activity itself is not a likely baseline scenario (e.g. through (a) a flow-chart or series of questions that lead to a narrowing of potential baseline options, (b) a qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely, (c) a qualitative or quantitative assessment of one or more barriers facing the proposed project activity or (d) an indication that the project type is not common practice in the proposed area of implementation, and not required by a Party’s legislation/regulations)?	1, 2, 7, 9, 10, 12, 13	DR, I	The feasibility study for the investment programme was performed in 2003. Because of lack of funds the programme was not implemented. EBRD required additional energy efficiency measures as prerequisites for financing the programme. It is mentioned in the PDD that it is expected to generate enough income to satisfy debt service and return on equity. Investment volume is shown by two loan agreements with 28 Mio€ at all for the project activities <u>Clarification Request:</u> With Financial plan it should be shown that with generation of ERUs enough income is created to satisfy debt service and return on equity The demonstration that project activity itself is not a likely baseline scenario is done by qualitative assessment of two different potential options (with or without project	CR1	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			activity). The options are discussed with relevant key factors and indications are given of why the non-project option is more likely. Further it is clarified that the project activity is not common practice in the proposed area of implementation and that it is not required by regulations. <u>Corrective action request:</u> Because of several subprojects it should be shown that each subproject itself is not a likely baseline scenario. For non SSC-Projects the Additionality Tool for CDM-Projects should be applied.	CAR5	
B.2.8. Have the major risks to the baseline been identified?	1, 2, 12, 13	DR, I	The emissions of the independent CHP-power plant for the production of steam supplied to Svilosa are not clear to evaluate with the delivered data. An analysis of risks to the baseline is not mentioned in the PDD. <u>Corrective Action Request:</u> A risk-analysis to the baseline should be mentioned in the PDD.	CAR6	☑
B.2.9. Is all literature and sources clearly referenced?	12, 13	DR, I	Yes.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
C. Duration of the Project/ Crediting Period It is assessed whether the temporary boundaries of the project are clearly defined.					
C.1.1. Are the project’s starting date and operational lifetime clearly defined and reasonable?	1, 2, 12, 13	DR, I	No, the starting date is not clearly defined. Neither the exact date nor what happens with that date. The estimated operational lifetime of 20 years is reasonable. <u>Corrective Action Request:</u> The starting date of the project and the crediting period should be clearly fixed and defined. Starting date of project activity and starting date of crediting period are independent dates besides crediting period can not start earlier than the project activity.	CAR7	☑
C.1.2. Is the project’s crediting time clearly defined?	1, 2, 12, 13	DR, I	No, the crediting period is not clearly defined. Neither the exact date nor the distinction between Kyoto-period and the time before. See above CAR 7	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D. Monitoring Plan The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.					
D.1. Monitoring Methodology It is assessed whether the project applies an appropriate monitoring methodology.					
D.1.1. Does the monitoring methodology reflect good monitoring and reporting practices?	1, 2, 12, 13	DR, I	Yes, besides consideration of above CARs, it follows the rules of an Energy Management.	☑	☑
D.1.2. Is the selected monitoring methodology supported by the monitored and recorded data?	1, 2, 12, 13	DR, I	In principle yes, but additional measuring instruments as foreseen are necessary and the implementation into existing process control systems see CAR10	☑	☑
D.1.3. Are the monitoring provisions in the monitoring methodology consistent with the project boundaries in the baseline study?	1, 2, 7, 12, 13	DR, I	Yes.	☑	☑
D.1.4. Have any needs for monitoring outside the project boundaries been evaluated and if so, included as applicable?	1, 2, 12, 13	DR, I	Yes, CHP operators have to confirm data for the delivered steam, used fuel and fuel demand, emission factor of steam. <u>Clarification Request:</u>	CR2	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			It should be clarified if the CHP operator will provide and confirm data for delivered steam, used fuel and fuel demand, emission factor of steam.		
D.1.5. Does the monitoring methodology allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions?	1, 2, 12, 13	DR, I	Yes, monitoring methodology allow reasonable calculation of GHG emissions.	☑	☑
D.1.6. Is the monitoring methodology clear and user friendly?	12, 13	DR, I	Practicability has been discussed on site especially for SVP-03. A new methodology and monitoring plan was accepted from each side and is foreseen to describe in the revised PDD. All the other methodologies are clear and accepted by operators. <u>Corrective Action Request:</u> For SVP-03 a renewed methodology and monitoring plan should be described in the revised PDD.	CAR8	☑
D.1.7. Does the methodology mitigate possible monitoring errors or uncertainties addressed?	1, 2, 12, 13	DR, I	The PDD does not contain any analysis of monitoring errors or uncertainties. <u>Corrective Action Request:</u> Possible monitoring errors or uncertainties should be analysed. If necessary, mitigation measures have to be defined.	CAR9	☑

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.2. Monitoring of Project Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	1, 2, 12, 13	DR, I	Yes, the monitoring plan provide for the collection and archiving of all relevant data.	☑	☑
D.2.2. Are the choices of project GHG indicators reasonable?	1, 2, 12, 13	DR, I	Besides the fuel demand for starting and emergency cases to fire the steam recovery boilers the relevant data are foreseen in the monitoring plan. See CAR2: The fuel demand for emergency cases should be added to the monitoring methodology.	☑	☑
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	1, 2, 12, 13	DR, I	Yes it will be possible: Corrective Action Request: Additional measuring instruments as foreseen are necessary - Flow meter for blow down rate - Data transmission from VFD to control panel	CAR10	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			- Net-electricity generation of additional steam turbine.		
D.2.4. Will the indicators enable comparison of project data and performance over time?	1, 2, 12, 13	DR, I	Yes, the chosen indicators determining project emissions do enable comparison of performance.	☑	☑
D.3. Monitoring of Leakage It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1, 2, 12, 13	DR, I	No indicators have been defined and no leakage emissions are monitored according to the monitoring plan as there are no emissions to be expected. Clarification Request: Nevertheless it should be regarded, that due reduced steam consumption from CHP Plant and reduced electricity demand from the grid the electricity sector would indirectly need less allowances to emit within the EU Emissions Trading System. Hence by preparing the national allocation plan the Bulgarian JI projects must be taken into consideration. Letter of Endorsement should be provided to the audit team.	CR3	☑

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.3.2. Have relevant indicators for GHG leakage been included?	1, 2, 12, 13	DR, I	See comment above.	☑	☑
D.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1, 2, 12, 13	DR, I	See comment above.	☑	☑
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	1, 2, 12, 13	DR, I	See comment above.	☑	☑
D.4. Monitoring of Baseline Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining the baseline emissions during the crediting period?	1, 2, 12, 13	DR, I	Besides the heavy fuel demand and production of pulp the relevant data are foreseen in the monitoring plan. Corrective Action Request: The fuel demand for start-up operation and emergency cases should be added to the monitoring plan. The production of pulp should be added to the monitoring plan. Corrective Action Request: It should be clarified that with - “Electricity purchased from the grid” EQ_E	 CAR11 CAR12	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			stands for the annual balance of imported and exported electricity. And - "Electricity generated from steam turbine" stands for net-generation of steam turbine; so the internal demand for auxiliaries will be regarded.		
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	1, 2, 12, 13	DR, I	Yes, besides CAR10, CAR11 and CAR12 above		
D.4.3. Will it be possible to monitor the specified baseline indicators?	1, 2, 12, 13	DR, I	Yes.	☑	☑
D.5. Monitoring of Environmental Impacts It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.					
D.5.1. Does the monitoring plan provide for the collection and archiving of relevant data on environmental impacts?	1, 2, 11, 12, 13,		No, it is shown that there are not any relevant environmental impacts. The construction permission which takes into consideration environmental aspects does not foresee any monitoring of environmental impacts.	☑	☑
D.5.2. Will it be possible to monitor the specified environmental impact indicators?	1, 2, 11,		See comment above	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	12, 13				
D.6. Project Management Planning It is checked that project implementation is properly prepared for and that critical arrangements are addressed.					
D.6.1. Is the authority and responsibility of project management clearly described?	1, 2, 12, 13		Yes, the Svilosa Pulp Mill as operator is responsible for the project.	☑	☑
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1, 2, 12, 13		Yes, the authority and responsibility for registration, monitoring, measurement and reporting is clearly described. The relevant person for collection the data and implementing the monitoring plan and reporting are specified.	☑	☑
D.6.3. Are procedures identified for training of monitoring personnel?	1, 2, 4, 5, 6, 12, 13		Yes, procedures are identified for training of monitoring personnel. <u>Clarification Request:</u> It should be clarified who will be the trainer of initial staff training (see D.5.2)	CR4	☑
D.6.4. Are procedures identified for emergency preparedness where emergencies can result in unintended emissions?	1, 2, 12, 13		Yes, besides above required heavy fuel demand no other unintended emissions must be regarded.	☑	☑
D.6.5. Are procedures identified for calibration of monitoring equipment?	1, 2, 12, 13		No, the PDD does not describe any procedures for calibration/adjustment of		☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			monitoring equipment. Corrective Action Request: Procedures for calibration/adjustment of monitoring equipment should be described.	CAR13	
D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?	1, 2, 12, 13		Yes, see comments above	☑	☑
D.6.7. Are procedures identified for monitoring, measurements and reporting?	1, 2, 12, 13		Yes, see comments above	☑	☑
D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)?	1, 2, 12, 13		Yes, see comments above	☑	☑
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	1, 2, 12, 13		Yes, see comments above	☑	☑
D.6.10. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	1, 2, 12, 13		Yes, Svilocell is working on an approved ISO 14001 (UMS). Clarification Request: Proof of an approved UMS according ISO 14001 should provided to the validation team.	CR5	☑
D.6.11. Are procedures identified for project performance reviews?	1, 2, 12, 13		Yes, see comments above	☑	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.6.12. Are procedures identified for corrective actions?	1, 2, 12, 13		Yes, see comments above	☑	☑
E. Calculation of GHG Emissions by Source It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.					
E.1. Predicted Project GHG Emissions The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	1, 2, 12, 13	DR, I	Yes, besides mentioned aspects in above CARs all aspects to GHG emissions are captured.	☑	☑
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	1, 2, 12, 13	DR, I	Yes, besides mentioned aspects in above CARs. The GHG calculations are documented.	☑	☑
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1, 2, 12, 13	DR, I	Yes.	☑	☑
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1, 2, 12, 13	DR, I	No, uncertainties in the GHG estimates are not mentioned. <u>Corrective Action Request:</u> It should be described if uncertainties in the	CAR14	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			emissions estimates have to be addressed.		
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	1, 2, 12, 13	DR, I	Yes.	☑	☑
E.2. Leakage Effect Emissions It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	1, 2, 12, 13	DR, I	Leakage calculations are not requested	☑	☑
E.2.2. Have these leakage effects been properly accounted for in calculations?	1, 2, 12, 13	DR, I	See comment above	☑	☑
E.2.3. Does the methodology for calculating leakage comply with existing good practice?	1, 2, 12, 13	DR, I	See comment above	☑	☑
E.2.4. Are the calculations documented in a complete and transparent manner?	1, 2, 12, 13	DR, I	See comment above	☑	☑
E.2.5. Have conservative assumptions been used when calculating leakage?	1, 2, 12, 13	DR, I	See comment above	☑	☑
E.2.6. Are uncertainties in the leakage estimates properly addressed?	1, 2, 12, 13	DR, I	See comment above	☑	☑

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
E.3. Baseline Emissions The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	1, 2, 12, 13	DR, I	Yes, besides mentioned aspects in above CARs all indicators for baseline emissions are captured.	☑	☑
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	1, 2, 12, 13	DR, I	Yes, besides mentioned aspects in CARs the baseline boundaries are clearly defined.	☑	☑
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	1, 2, 12, 13	DR, I	Yes.	☑	☑
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	1, 2, 12, 13	DR, I	Yes.	☑	☑
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	1, 2, 12, 13	DR, I	See CAR14		
E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	1, 2, 12, 13	DR, I	Yes	☑	☑

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
E.4. Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1, 2, 7 12, 13		Yes	☑	☑
F. Environmental Impacts Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.					
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	1, 2, 11, 12, 13	DR, I	Yes, especially for SRB details F.1	☑	☑
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1, 2, 11, 12, 13	DR, I	No EIA was required; nevertheless an environmental analysis was undertaken according EBRD´s requirements.	☑	☑
F.1.3. Will the project create any adverse environmental effects?	1, 2, 11, 12, 13	DR, I	No	☑	☑
F.1.4. Are transboundary environmental impacts considered in the analysis?	1, 2, 11,	DR, I	No, see comment above.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	12, 13				
F.1.5. Have identified environmental impacts been addressed in the project design?	1, 2, 11, 12, 13	DR, I	Despite non existing adverse impacts of this project activity, an Environmental Action Plan has been developed.	☑	☑
F.1.6. Does the project comply with environmental legislation in the host country?	1, 2, 11, 12, 13	DR, I	Yes, environmental assessment was done. There are no significant negative environmental impacts recognised. <u>Clarification Request:</u> The summary of Environmental Analysis, the environmental permission or/and construction permit should be delivered as far as available to the validation team.	CR6	☑

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
CAR 1	Table 1		The project status is in a comparative early stage; therefore the project does not yet fulfil formally all belonging criteria set for the approval of JI-projects. The Letter of Approvals by both parties, investor and host country, shall be submitted to TÜV SÜD at time of its availability. In case the issuance of ERUs will be done under the “First Track JI”- regime, there is no requirement to provide the validator such a LoA in order to forward it to the Supervisory Committee. Under that circumstance the issue can be considered to be resolved otherwise it will be considered as an outstanding issue requiring a final revision of this validation report.
CAR2 The description of boundaries should be described in more detail with individual subprojects.	A.1.2.	Project boundaries are discussed in details within each individual sub-project (from B.3.3.1 to B.3.3.7). These diagrams are indicative sketches of the project boundary, not a schematic diagram. All sketches are	The descriptions of boundaries are now described sufficiently detailed. The consumption of heavy fuel and diesel is foreseen to be monitored even

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
The emissions of start up operation in the baseline case and project case can not be assumed to be constant. The emissions of start up operation are maybe influenced by the project and by the operator. Hence the consumption of heavy fuel and diesel has to be monitored after the implementation of energy efficiency measures.		consistent and none of them includes detailed energy flows. Heavy fuel and diesel consumption is included in project boundary (see B.4) and monitoring plan (see D.3.3.9) The emissions of start up operation in the baseline and project case are not assumed to be constant, but EQUAL. Only fuel used for start-up operation is HFO in the SRB. HFO consumption never exceeded 0.3% of total SRB fuel consumption in last 3 years (SEE ENDNOTE OF PDD Section B.4 PAGE 44) GHG emissions due to HFO consumption in SRB are: 210.6 ton/yr x 3.11 tCO_2/t_{fuel}=655 tCO_2/yr It represents 0.3% of total emissions. Installation of super concentrator and replacement of Heat Exchangers do not affect at all start-up operations. Today start-up operations of the SRB are mainly due to down time caused by steam leakages in the system; the modernization of the SRB will	after the implementation of energy efficiency measures. This issue is considered to be resolved.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
		reduce leakages and therefore start and stop cycles of the boiler. The impact of the project activity on SRB start-up operations, if any would be positive, with consequent reduction of HFO consumption and GHG emissions. Exclusion of calculations of emissions due to HFO consumptions for start-up operations in the baseline and project activity represents a conservative approach HFO consumption is included in the Monitoring Plan and eventual drifts could be easily monitored Diesel is used only in the drying line (block pulps) and baseline and project emissions are calculated and monitored.	
CAR3 Applicability of chosen methodology. <u>Corrective action request::</u> It should be demonstrated whether specific measures can be conducted independently from each other. Subprojects should be defined. For each individual subproject has to be	B.1.1.	Applicability and baseline methodologies discussed for each sub-project (from B.3.3.1 to B.3.3.7)	The applicability of chosen methodology is sufficiently demonstrated. This issue is considered to be resolved.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
chosen eligible methodologies. Further it has to be proven whether SSC-Methodology AMS II.D is eligible.			
CAR4 The baseline scenario does take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations. However it is not shown in detail which baseline emission factor for the electricity grid is used and why the chosen factor is eligible for this project.	B.2.4.	Simple Adjusted OM+BM methodology used for electricity emission factor (see E.1.2.1 and Annex 4)	This issue is considered to be resolved.
CR1 It is mentioned in the PDD that it is expected to generate enough income to satisfy debt service and return on equity. Investment volume is shown by two loan agreements with 28 Mio€ at all for the project activities. The BAU-investment programme should not be directly linked to the implementation of energy efficiency	B.2.7.	Based on additionality approach explained at A.4.4, the applicable methodology refers to step 3 “Barriers analyses”; therefore this item is no more applicable. BAU-investment program is not directly linked to the implementation of Energy Efficiency Measures. In section A.4.4 paragraph “step 1” is reported that without availability of funds “company would only have invested €18.7 million. This program does not include the Energy Efficiency	The additionality is sufficiently proven by using “barrier analysis”. The BAU-investment programme can be accepted as the baseline scenario. This issue is considered to be resolved.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
measures and the approval as JI-Project. With Financial plan it should be shown that with generation of ERUs enough income is created to satisfy debt service and return on equity.		Project Activity”. This means that the BAU-investment programme is clearly the baseline scenario because its implementation is completely independent by the implementation of the energy efficiency measures. As shown in Table A.5 Svilocell has €20.7 million available from other funds and therefore the €18.8 million required to increase the production to the planned 110,000 ton/year (see table A.2) would be available even without the EBRD funds. Only after agreement on main loans Svilocell required EBRD including additional funds to implement energy efficiency measures planned since 2003 but never realized due to lack of funds. The only funds which availability is connected with the validation of the JI project are the €9.242 million that will permit the energy efficiency project to proceed	
CAR5 The demonstration that project activity itself is not a likely baseline scenario is done by qualitative	B.2.7.	EBRD in order to evaluate Svilocell request of additional funds for energy efficiency measures, required and independent audit to assess the goodness of their estimation	The Additionality tool is applied and refers to project portfolio approach. This issue is considered to be resolved.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
assessment of two different potential options (with or without project activity). The options are discussed with relevant key factors and indications are given of why the non-project option is more likely. Further it is clarified that the project activity is not common practice in the proposed area of implementation and that it is not required by regulations. <u>Corrective action request:</u> Because of several subprojects it should be shown that each subproject itself is not a likely baseline scenario. For non SSC-Projects the Additionality Tool for CDM-Projects should be applied.		and the feasibility of the measures. According to A.4.4 the methodology used to assess additionality refers to project portfolio approach rather than a sub-projects approach; therefore this item is no more applicable.	
CAR6 The emissions of the independent CHP-power plant for the production of steam supplied to Svilosa are not clear to evaluate with the delivered data.	B.2.8.	A risk analysis including main baseline parameters has been prepared for each sub-projects (see from B.3.3.1 to B.3.3.8)	A risk analysis including main baseline parameters has been prepared for each sub-project. The relevant data from CHP-owner will be provided. The 1% variation of blow down rate has a lower influence on the emission reductions as indicated in the PDD

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
An analysis of risks to the baseline is not mentioned in the PDD. Corrective Action Request: A risk-analysis to the baseline should be mentioned in the PDD.			(7,2 % instead of 17%), because the blow down rate for the baseline case is fixed by 3%.
CAR7 No, the starting date and the crediting period are not clearly defined. Neither the exact date nor what happens with that date. Corrective Action Request: The starting date of the project and the crediting period should be clearly fixed and defined. Starting date of project activity and starting date of crediting period are independent dates besides crediting period can not start earlier than the project activity.	C.1.2.	Corrected as required in real time during the site visit (see C.1-C.2-C.4)	The project activity will start in June 2006 with the commissioning of the first energy efficiency measure which is envisaged to be the shift from block pulp to sheet pulp. The project seeks Assigned Amount Units (AAUs) for 2007 and Emission Reduction Units (ERUs) under Art.6 of the Kyoto Protocol for a 5-year period from 2008 to 2012. The length of the crediting period is six years (from 2007 to 2012 inclusive) and will start from 1st January 2007. This issue is considered to be resolved.
CR2 CHP operators have to confirm data for the delivered steam, used fuel and fuel demand, emission factor of	D.1.2.	The CHP operator will provide and confirm data for delivered steam, used fuel and fuel demand, emission factor of steam on annual basis. Electricity emission factors is included in the monitoring plan (see D.3.3.1	This issue is considered to be resolved.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
steam. Clarification Request: It should be clarified if the CHP operator will provide and confirm data for delivered steam, used fuel and fuel demand, emission factor of steam.		and E.1.2.1)	
CAR8 Practicability has been discussed on site especially for SVP-03. A new methodology and monitoring plan was accepted from each side and is foreseen to describe in the revised PDD. All the other methodologies are clear and accepted by operators. For SVP-03 a renewed methodology and monitoring plan should be described in the revised PDD.	D.1.6.	The new monitoring methodology has been applied as agreed (see D.3.3.4 and Annex 3). Further it has been decided to exclude the subproject “Replacement of old refrigeration unit” from the PDD	The monitoring methodologies have been sufficiently revised. This issue is considered to be resolved.
CAR9 The PDD does not contain any analysis of monitoring errors or uncertainties. Corrective Action Request:	D.1.7.	Table including requirements for QA QC procedure for monitoring of errors and uncertainties has been included (see D.4 and D.5.1)	Requirements for QA QC procedure for monitoring of errors and uncertainties are now included. Further the MP will constitute integral part of Svilocell Quality Management and will be embedded in overall Standard

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
Possible monitoring errors or uncertainties should be analysed. If necessary, mitigation measures have to be defined.			Operating Procedures at Svilocell. This issue is considered to be resolved.
CAR10 <u>Corrective Action Request:</u> Additional measuring instruments as foreseen are necessary - Flow meter for blow down rate - Data transmission from VFD to control panel - Net-electricity generation of additional steam turbine	D.2.3.	Required parameters were already included but they have been better specified (see D.3.3.4, D.3.3.5 and D.3.3.6)	This issue is considered to be resolved.
CR3 No indicators have been defined and no leakage emissions are monitored according to the monitoring plan as there are no emissions to be expected. Nevertheless it should be regarded, that due reduced steam consumption from CHP Plant and	D.3.1.	This item is well known, under control and it is being discussed with Ministry of Environment and Water for future actions. Letter of Support is included to PDD as Annex 5.	This issue is considered to be resolved.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
reduced electricity demand from the grid the electricity sector would indirectly need less allowances to emit within the EU Emissions Trading System. Hence by preparing the national allocation plan the Bulgarian JI projects must be taken into consideration. Letter of Endorsement should be provided to the audit team.			
CAR11 Besides the heavy fuel demand and production of pulp the relevant data are foreseen in the monitoring plan. The fuel demand for start-up operation and emergency cases should be added to the monitoring plan. The production of pulp should be added to the monitoring plan.	D.4.1.	The fuel demand for start-up operation and emergency cases and production of pulp has been added to the monitoring plan (see table D.1)	The fuel demand for start-up operation and emergency cases and production of pulp has been added to the monitoring plan. This issue is considered to be resolved.
CAR12 It should be clarified that with - “Electricity purchased from the grid” EQ_E stands for the annual balance of imported	D.4.1.	It has been clarified that “Electricity purchased from the grid” EQ_E stands for the annual balance of imported and exported electricity, and “Electricity generated from steam turbine”	This issue is considered to be resolved.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
and exported electricity. and - “Electricity generated from steam turbine” stands for net-generation of steam turbine; so the internal demand for auxiliaries will be regarded.		stands for net-generation of steam turbine; so the internal demand for auxiliaries will be regarded. (see Table D.1)	
CR4 Procedures are identified for training of monitoring personnel. Nevertheless It should be clarified who will be the trainer of initial staff training (see D.5.2)	D.6.1.	The trainer for the initial staff training will be a team composed of MWH specialists and energy experts already involved in the energy efficiency training programme (see D.5.3)	The responsibility and procedures for the training of monitoring personnel are defined. This issue is considered to be resolved.
CAR13 The PDD does not describe any procedures for calibration/ adjustment of monitoring equipment. <u>Corrective Action Request:</u> Procedures for calibration/ adjustment of monitoring equipment should be described.	C.6.5.	All monitoring equipment will be included in the existing procedure, "Maintenance and control of monitoring equipment", that regulates calibration of monitoring equipment and is integral part of its ISO 9001 certified Quality Management System. (see D.4)	Procedures which regulate calibration of monitoring equipment are described. The procedures are integral part of its ISO 9001 certified Quality Management System. This issue is considered to be resolved.
CR5 Svilocell is working on an approved ISO 14001 (UMS).	D.6.10.	ISO 14001 certification is attached as Annex 6 (see also D.4)	This issue is considered to be resolved.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
Proof of an approved UMS according ISO 14001 should provided to the validation team.			
CAR14 Uncertainties in the GHG estimates are not mentioned, yet. It should be described if uncertainties in the emissions estimates have to be addressed.	E.1.4.	According to results of risk analysis to baseline, uncertainties on GHG estimates for baseline emissions and project activity emissions have been calculated for each sub-project and for the project portfolio. Worst case and best case emission scenarios have been compared to project activity emission scenario (see from B.3.3.1 to B.3.3.8)	This issue is considered to be resolved.
CR6 Environmental permission from administration is available. The summary of Environmental Analysis, the environmental permission or/and construction permit should be delivered to the validation team.	F.1.6.	Svilocell made an inquiry to the Ministry of Environment and Waters and they answered that an environmental analysis was not required for the new projects. With regard to environmental and construction permit, application has been already submitted and the permit is likely to be issued in mid 2006.	The answer of MoEW, that an EIA was not required, was provided to the audit team. This issue is considered to be resolved.

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Determination Reference List

Reference No.	Document or Type of Information
(1)	Interview at the offices of **TÜV SÜD in Munich**, Westendstr. 199 conducted on **11. January 2006** by auditing team TÜV SÜD **Validation team on-site:** TÜV Industrie Service / Werner Betzenbichler, Head of Carbon Management Service TÜV Industrie Service / Dipl.-Ing. Steffen Klein TUV Industrie Service / Dipl.-Ing. Klaus Nürnberger (Project Leader) **Interviewed persons:** MWH / Eugenio Ferro, Energy & Climate Change Programme Manager MWH / Marco Baldini, Environmental Engineer
(2)	On-site interview at the offices of **Svilosa AD, in Svishtov, Bulgaria** conducted on **12. and 13. Jan. 2006** by auditing team of TÜV SÜD **,** **Validation team on-site:** TÜV Industrie Service GmbH / Dipl.-Ing. Steffen Klein TUV SÜD Office Bulgaria / Stara Zagora –Dipl.-Ing.Peicho Peev **Interviewed persons:** look at "List of participants (CDM/JI) " Svilocell, Atanas Papazov, Managing Director of Investments Svilocell, Georgi Georgiev, Process Manager MWH / Eugenio Ferro, Energy & Climate Change Programme Manager MWH / Marco Baldini, Environmental Engineer
(3)	**Project Nr. 01 002 – Upgrading of the Svilosa Pulp Mill** - " Feasibility Study Test Cooking and Bleaching Confidental". **Swedish Consulting AB from 2002-05-20 rev.1** The purpose of this Feasibility Study is to supply SVILOSA with a base for decision concerning the rebuild of the pulp mill from a production of about 55.000 Adt/a bleached pulp to about the duble produkction.

Reference No.	Document or Type of Information
	Feasibility Study for rebuilding of present Svilosa Pulp. Mill for a production of 100.000- 120.000 Adt/year. This study inkludes a stady of the present process and a proposal for some process changes inkluding investment costs and also correspondending production costs. The test has included both test cooking and bleaching as such in this study.
(4)	**Equipment contract between F.L.SMITH AIRTECH A/S and SVILOSA AD** -98/ 00205 / 03-07-03 Rev.6 -98/ 00236 / 25-07-03 Rev.1 This contract is between F.L.Smith Airtech A/S , a company organized and existing under the laws of Denmark, having its principal office and Svilosa AD, a company organized and existing under the laws of Bulgaria, having its principal office. (Processes and equipment of electrostatic precipitators for reduction of particulate dust from a combined exhaust of PLANT.
(5)	**Contract between LENZING GmbH &Co.KG Austria /4860 Lenzing (LT) and Svilosa AD.** LT has made an offer for the supply of equipment and engineering for this project (Proposal Nr. 3320.4285, dated December 2002).This offer has been the basis for technical and commercial negotiations resulting in subject for implementation of the project. SVILOSA COMPANY intends to increase the production capacity for producing bleached pulp from 55.000tpy to 110.000tpy.This contract is made and entered into this 17th day of April,2003 by and between SVILOSA COMPANY, Svishtov Bulgaria and LENZING TECHNIK GmbH &Co.KG., a corporation only organised and existing principal office at A-4860 Lenzing, Austria.Target is to keep the total investment cost as low as possible by re-using existing hardware as well as second hand (if available) and under consideration of the raw-materials to be used now and in the future.
(6)	**Contract between SVILOSA AD and ANDRITZ OY, Helsinki, Finland** Contract from April 16, 2003 in Helsinki , Finland Subject of the contract : The seller undertakes to supply equipment and materials and provide advisory services for erection and start-up activities for the rebuild of the recovery boiler and new concentrator in accordance with this contract.The Contract included documents, which are an integral part.
(7)	**Energy Audit at SVILOSA Pulp Mill, Final Report**

Reference No.	Document or Type of Information
	June 2005, MWH
(8)	**Question List, On-Site-Validation at SVILOSA Pulp Mill** 12./13.01.2006, TÜV SÜD
(9)	**Loan Agreement between Svilosa AD and European Bank for Reconstruction and Development** Operation Number 35812, 22. November 2005
(10)	**Loan Agreement between Svilosa AD and Nordic Investment Bank** PIL 05/24, 12. December 2005
(11)	Letter of MoEW, which confirms that there is no need for an Environmental Impact Assessment, 10. April 2003
(12)	Project Design Document, published version, 23. December 2005
(13)	Project Design Document with 6 Annexes, final version, 29. March 2006