DRAFT-Determination Report

Determination of the ”Methane gas Capture and Electricity Production at Kubratovo Wastewater Treatment, Sofia Bulgaria”

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Summary:

The Certification Body "Climate and Energy" of TÜV Industrie Service GmbH TÜV SÜD Group, 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 260771 tons CO_{2e} (AAUs) in the years 2006 and 2007 and 994160 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
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
Sofiyska Voda JI Project	Methane gas Capture and Electricity Production at Kubratovo Wastewater Treatment, Sofia Bulgaria
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

The EBRD, London in United Kingdom has commissioned TÜV Industrie Service GmbH TÜV SÜD Group to conduct a determination of the "Methane gas Capture and Electricity Production at Kubratovo Wastewater Treatment, Sofia Bulgaria" (Sofiyska Voda JI Project) 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 July, 2005. The version from July, 2005 was published on the website of www.netinform.de. According to CARs and CRs indicated in the audit process the client decided to revise the PDD. The final version submitted in January 2005 serves as the basis for the final conclusions presented herewith.

1.3 GHG Project Description

The project foresees the refurbishment of 4 old and so far not used digesters (7.000 m³ each) , the provision of digester gas distribution to the engine house, gas engine cogeneration units and an excess gas flare system. The digester gas can also be used in the existing but revisioned oil-fired boilers.

The objective of the project is to capture methane gas emissions and to maximise generation of electricity and heat from the gas engines thereby reducing the electricity demand of the plant produced from fossil fuel and heat from burning of diesel fuel. Electricity not used for own consumption will be supplied to the public grid.

The Kubratovo wastewater treatment plant (ca. 15.000 t/a Biological Oxygen Demand BOD in 2004) is located some 20 km outside the centre of Sofia the capital of Bulgaria in the district of Kubratovo next to the River Iskar. Adjacent to the digestion plant are the sludge holding tanks and sludge drying beds.

The baseline scenario is reflected mainly by the emissions from disposal of sludge on-site drying beds average and the emissions from use of on-site generation (oil fired boilers) to produce heat. Further on there are indirect off-site emissions by electricity consumption.

The project – installation of the methane gas capture and electricity production - has started in September 2004. All measures will be implemented until end of December 2006. The starting date of the cogeneration units is foreseen on the beginning of January 2007.

The Project Participant of the Host Country is Sofiyska Voda, owned by Municipality of Sofia, as owner of permits and licenses. Sofiyska Voda will supply the Emission Reduction Units ERUs. The project documentation has been developed by United Utilities Plc. Birchwood, Warrington in the United Kingdom.

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 December 2nd, 2005 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 "Sofiyska Voda" (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
Sofiyska Voda	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, JI-Guidelines

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 Paper" submitted December 23, 2005 prepared by Sofiyska Voda. 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 foreseen technology does reflect current good practice for capturing of methane gas in waste water treatment plants and for generation of electricity and heat using digester gas. 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).

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 exact size of the cogeneration unit is not mentioned. It could be defined after having sufficient experiences with biogas production of the digesters. This is reasonable. The given figures of gas production are plausible and conservative.

The PDD should show the two phases of the project, without and with the cogeneration units. If not, the crediting period must be adjusted.

Response:

> The revised PDD describes the two stages of the project. Both are postponed in comparison with the original version. The crediting period is adjusted too.

Clarification Request (CR1):

The suppliers are and will be obliged to organize training for responsible maintenance staff.

The operator should deliver documents of already conducted trainings and the plan for the foreseen trainings.

Response:

> The training programme was conducted as per the plan along with the main contractor. As per the Bulgarian practices there is no obligation after a training course a participant list to be signed. The entire staff has been trained (it is obligatory). Training porgramme, two operation manuals used for the training and safety instructions and safety procedures were delivered.

Corrective Action Request (CAR3):

The PDD does not describe the foreseen training and maintenance needs during the operation of biodigester and cogeneration unit. The aspects regarding future responsibilities are not mentioned.

The PDD should give a short overview about the aspects training and maintenance needs of the project.

Response:

> All respective maintenance activities in regards to the digesters maintenance are submitted by the Supplier of the technology and are part of the Project Design. All maintenance activities in terms with the CHP unit will be presented after the CHP supplier is appointed.

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 foreseen technology does reflect current good practice for generation of electricity using digester gas. 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 Bulgarian "Sofiyska Voda JI Project" is established in a project-specific manner. The emission reductions result from the captured methane gas, the replacement of electricity generation by the Bulgarian grid and the replacement of heat generation by oil-fired boilers. Regarding the replacement of electricity generation by the Bulgarian Grid the approved CDM Methodology ASM-I.D. "Renewable Electricity Generation for a grid" was chosen.

The baseline does 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 used approach for capturing the digester gas and heat generation is transparent, reproducible and conservative and is according the IPCC Guidance. It delivers emission factors for this baseline, which are considered to be appropriate.

The additionality of the project is proven by demonstrating that the project is financial additional. It is reliable shown that the BAU-Alternative is more financial attractive (parameter NPV) than with implementing the project. If the income of carbon credits are included the project becomes economically viable.

The PDD shows in particular that there is a lack of local expertise in terms of operating and maintaining cogeneration units.

The on-site assessment has given a special focus on the environmental additionality and on the price risks, which strongly depends on the foreseen national quota system which does not guarantee certain prices for a longer term.

3.2.2 Issued CARs/CRs

Corrective Action Request (CAR4):

Regarding emissions in the electricity sector the PDD does not sufficiently describe and reference the necessary variables. In the PDD should be described in more detail how the emissions are determined and calculated. References have to be added.

Response:

> A description of baseline methodology and Calculation of baseline was provided and is described in the revised PDD (page 30, 31, 32). Annex 19 is cancelled and Annex 18 revised.

Corrective action request (CAR5):

The estimated biological oxygen demand BOD of 20,000 tons for the year 2006 does not seem to be very conservative. In 2004 the BOD was about 15,000 tons/y. The average increase rate during the last three years was nearly about 7%. Conservative assumption should be used and mentioned for calculating the BOD-Baseline.

Response:

> In the revised PDD – page 28 - baseline emissions have been recalculated using conservative assumptions.

Clarification Request (CR2):

The additionality of the project is proven by Financial Additionality which is quite appropriate. The costs for refurbishment of the digester should be clarified and proven. The expenses for electricity and fuel in the near future should be proven.

Response:

> The relevant pages of the contract between Sofiyska Voda and the supplier show the amount of main investment costs. Invoices for gas and electricity for the year 2004 were provided.

Clarification Request (CR3):

Contract or LoI regarding connection to the grid are not signed yet.

The Contract regarding connection to the grid for feeding in electricity to the grid should be prepared as far as possible.

Response:

> The PDD cites an extract from the Bulgaria Energy Law stating the Public electricity supplier is obliged to buy the entire electricity generated by renewable energy sources. Apart from that Sofiyska Voda AD shall look for a Letter of Intent with the Bulgarian National Electricity company.

3.2.3 Conclusion

The added baseline methodology is in principle 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.

Nevertheless the NEK – Baseline Study, 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 and the pumped storage HPP.

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 re-estimated baseline emissions regarding methane emissions (BOD-Baseline) can be considered now as sufficient conservative.

The given figures regarding financial additionality are confirmed by respective proofs. In principle the NEK is obliged to buy the entire electricity generated by renewable. It remains furthermore the risk of postponing the implementation of the grid connection.

All given responses to the indicated CARs and CRs are resolving the belonging issues. The project fulfils the criteria on baselines as set for the approval of JI-projects.

3.3 Duration of the Project

The project starting date is exactly defined as construction starting. The crediting period in terms of Kyoto Protocol could be defined as being from 2008 – 2012 as maximum in accordance with the first commitment period defined in the Kyoto Protocol. The operational lifetime of foreseen technology will be longer than the crediting period.

3.3.1 Findings

Corrective Action request: (CAR6):

The PDD does not define the date of commissioning. The operational lifetime of the project is not announced. The PDD should exactly define the dates of commissioning of digesters and cogeneration unit. The operational lifetime of the project should be mentioned.

Response:

> The PDD revised stating the operational lifetime, digester commissioning date and the CHP commissioning date. The commissioning dates of digester and cogeneration units are exactly defined. The digesters will start operation at the beginning of April 2006. The commissioning date of cogeneration unit is foreseen at the January 1, 2007.

Corrective Action request: (CAR7):

The project's crediting time should be clearly defined and indicated in the PDD.

Response:

> The PDD revised – page 5 – stating the Project crediting period.

3.3.2 Conclusions

The commissioning dates of digester and cogeneration units are exactly defined. The digesters will start operation at the beginning of April 2006. The commissioning date of cogeneration unit is foreseen at the January 1, 2007.

The start of overall crediting period of the project is exactly defined; it begins at April 1, 2006. 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 is in compliance with the requirements.

3.4 Monitoring Plan

3.4.1 Findings

The monitoring methodology does reflect current good practice and is supported by the monitored and recorded data. The monitoring provisions are in line with 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.

3.4.2 Issued CARs/CRs

Corrective Action Request (CAR8):

Besides the fuel demand for emergency cases to fire the steam boilers the relevant data are foreseen in the monitoring plan. The fuel demand for emergency cases should be added to the monitoring methodology.

Response:

In the PDD revised – page 40 – the fuel demand for emergency cases was applied to the monitoring methodology and added to the monitoring parameters.

Clarification Request (CR4):

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 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.

Response:

The PDD revised – page 43 – takes into consideration the reduced allowances to be emitted within the EU Emission trading scheme. It should be discussed with the MoEW during the process of application for LoA.

Corrective Action Request CAR9:

Besides the import and export of electricity to and from the grid the relevant data are foreseen in the monitoring plan. Further the annual amount of waste water is not indicated in table 9.1 as monitoring parameter.

Imported / exported amount of electricity to and from the grid and the fuel demand for emergency cases should be added to the monitoring methodology. Annual amount of waste water is to be indicated in table 9.1 as monitoring parameter.

Response:

The monitoring methodology revised – page 40. Exported/imported electricity added to the monitoring parameters. Annual amount of wastewater added to the monitoring parameters.

Clarification request (CR5):

The aspects regarding future authorities and responsibilities within Sofia Water are not fixed yet. The future authorities and responsibilities within Sofia Water for the production and use of biogas should be provided to the audit team.

Response:

The PDD revised – page 41, 42 – stating the future responsibilities for the production and usage of Biogas.

Clarification request (CR6):

The aspects regarding future authorities and responsibilities for registration, monitoring, calculating and reporting within Sofia Water are not fixed yet. The future authorities and responsibilities for registration, monitoring, calculating, reporting and internal audits within Sofia Water should be provided to the audit team.

Response:

The PDD revised – page 41, 42, 43 – stating the future responsibilities for registration, monitoring, calculating and reporting.

Clarification request (CR7):

No procedures are identified yet for training of monitoring and reporting personnel. The procedures regarding training of monitoring and reporting personnel should be provided to the audit team.

Response:

PDD revised – page 42, 43 – stating the needs and procedures for training of monitoring and training personnel.

Corrective action Request (CAR10):

No procedures are identified yet checking the recorded monitoring data, corrections and for replacing missing data. The procedures checking the recorded monitoring data, making corrections and for replacing missing data should be fixed.

Response:

PDD revised – page 41, 42, 43 – stating the needs of checking the recorded monitoring data, corrections and for replacing missing data.

3.4.3 Conclusion

The missing monitoring parameters are added in the revised monitoring plan. The project emission of diesel demand for emergency cases and the net electricity generation of the CHP itself ("CHP outlet") will be monitored.

The MoEW is aware about the issue of double-issueing 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 Sofia Water are reasonable and mentioned in the revised PDD. Further the PDD revised is stating the needs and procedures for training of monitoring and training personnel. The needs of checking the recorded monitoring data, corrections and for replacing missing data are mentioned too.

The discussed issues are considered to be resolved.

3.5 Calculation of GHG Emissions

3.5.1 Findings

The project's spatial boundaries are clearly described.

The applied baseline emission factor of electricity grid is according to NEK-Baseline Study.

Uncertainties in the GHG emissions estimates are addressed in the documentation.

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

No such requests have been issued.

3.5.3 Conclusion

According to the added monitoring parameters (See corrective action request CAR8 and CAR9) the diesel demand and the additional electricity demand for the CHP cogeneration units itself are foreseen within the calculation which is based on a spreadsheet (Annex 18).

The calculation is based on a spreadsheet, which is described and used by the monitoring plan. All figures and links have been checked. No error has been detected. All input data is derived either from literature or from historic and forecasted data on treated waste water, digester gas production, fuel demand, electricity and heat production, which has been verified during this assessment.

The project does fulfil yet all the prescribed requirements completely.

3.6 Environmental Impacts

3.6.1 Findings

The analysis of the environmental impacts is sufficient. There are no significant negative environmental impacts recognised. Requirements for an EIA regarding this type of project do not exist in the host country. The Regional Environmental Directorate confirmed this, and although gave a number of general requirements for the projects. Construction permits were issued, which take environmental issues into account.

3.6.2 Issued CARs/CRs

Clarification Request (CR8):

Construction License 2003 should be provided to the audit team.

Response:

A copy of the construction licence was submitted to the audit team.

3.6.3 Conclusion

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. Sofiyska voda were prepared to hold a public meeting but it was not required. No comments have been received, which would have required any further action. Sofiyska voda received from the local mayor a letter with no objection.

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 November 22nd , 2005 to December 21st .

No comments have been received in this period.

5 DETERMINATION OPINION

TÜV SÜD has performed a determination of the "Sofiyska Voda JI Project" 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 a remaining issue concerning the required letters of approval. Under the condition that this 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 260771 tons CO_{2e} (AAUs) in the years 2006 and 2007 and 994160 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, 2006-01-25

Michael Rumberg

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Munich, 2006-01-25

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Determination Protocol

Determination Reference List