Validation Report

JBS S/A

VALIDATION OF THE CDM-PROJECT:

Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Vilhena Unit

REPORT NO. 1170523

2008, July 29

TÜV SÜD Industrie Service GmbH
Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
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Subject: Validation of a CDM Project	
Accredited TÜV SÜD Unit: TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 - 80686 Munich Federal Republic of Germany	TÜV SÜD Contract Partner: TÜV SÜD DO BRASIL – SERVIÇOS TÉCNICOS PARA A INDÚSTRIA E O MEIO AMBIENTE LTDA. Rua Henrique Monteiro n.90, 10.º andar ZIP 05423-020 - São Paulo Brazil
Client: JBS S/A Avenida Marginal Direita do Tietê, 500 São Paulo, ZIP 05118-100 Brazil	Project Site(s): Vilhena Facility: Rodovia BR 364, km 18 Distrito Industrial, Caixa Postal 441 ZIP 78995-000, Vilhena State of Rondonia, Brazil GPS coordinates of the general site (Source: PRAD – Plan for Recovery of Degraded Areas): Latitude: 12°43'41.08" Longitude: 60°10'10.49"
Project Title: Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Vilhena Unit	
Applied Methodology / Version: AMS III.I – Methane Recovery in Wastewater Treatment / version 6	**Scope(s): 13**
First PDD Version: Date of issuance: 2008-02-18 Version No.: 1 Starting Date of GSP 2008-02-23	**Final PDD version:** Date of issuance: 2008-07-25 Version No.: 4
Estimated Annual Emission Reduction:	**29,912 tCO2e**
Assessment Team Leader: Johann Thaler (TÜV SÜD do Brasil)	**Further Assessment Team Members:** ----------

Summary of the Validation Opinion:

☒ 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 all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively.

☐ The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.

Abbreviations

ACM	Approved Consolidated Methodology
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COD	Chemical Oxygen Demand
CR	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
GHG	Greenhouse gas(es)
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
PDD	Project Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

Table of Contents

1 INTRODUCTION

1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM-EB. The ultimate decision on the registration of a proposed project activity rests at the CDM Executive Board and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:

Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Vilhena Unit

1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- The Kyoto Protocol, in particular § 12
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Decisions by the EB published under http://cdm.unfccc.int
- Specific guidance by the EB published under http://cdm.unfccc.int
- Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodlogy (CDM-NM)
- The applied approved methodology
- The technical environment of the project (technical scope)
- Internal and national standards on monitoring and QA/QC
- Technical guideline and information on best practice

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

Once TÜV SÜD receives a first PDD version, it is made publicly available on the internet at TÜV SÜD's webpage as well as on the UNFCCC CDM-webpages for starting a 30 day global stakeholder consultation process (GSP). In case of any request a PDD might be revised (under certain conditions the GSP will be repeated) and the final PDD will form the basis for the final evaluation as presented by this report. Information on the first and on the final PDD version is presented at page 1.

The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual, an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

In order to ensure transparency, a validation protocol was customised for the project. TÜV SÜD developed a "cook-book" for methodology-specific checklists and protocol based on the templates presented by the Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below.

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

Validation Protocol Table 1: Conformity of Project Activity and PDD				
Checklist Topic / Question	***Reference***	***Comments***	***PDD in GSP***	***Final PDD***
The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further subdivided. The lowest level constitutes a checklist question / criterion.	*Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.*	*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. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any **Request** has to be substantiated within this column*	*Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (**þ**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the validation team has identified a need for further clarification.*	*Conclusions are presented in the same manner based on the assessment of the final PDD version.*

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective action requests	***Ref. to table 1***	***Summary of project owner response***	***Validation team conclusion***
If the conclusions from	*Reference to the*	*The responses given*	*This section should sum-*

table 1 are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	*checklist question number in Table 1 where the Corrective Action Request or Clarification Request is explained.*	*by the client or other project participants during the communications with the validation team should be summarised in this section.*	*marise the validation team's responses and final conclusions. The conclusions should also be included in Table 1, under "Final PDD".*

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	***Id. of CAR/CR 1***	***Explanation of the Conclusion for Denial***
If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.	*Identifier of the Request.*	*This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.*

2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body ensuring that the required skills are covered by the team. The Certification Body TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A)
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)

It is required that the sectoral scope linked to the methodology has to be covered by the assessment team.

The validation team was consisting of the following experts (the responsible Assessment Team Leader in written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Johann Thaler	**ATL**	**þ**	**þ**	**þ**

Johann Thaler graduated as Master of environmental Economy at the University of Augsburg. During his study he got first experiences in environmental management systems. His master thesis was about a fuel switch program in Brazil as a CDM project. Based in Brazil he has been working for TÜV SÜD as a GHG auditor on freelance basis since March 2005. He attended and successfully finished a ISO 14001 Environmental Management Internal Auditing Training.

2.2 Review of Documents

The first PDD version submitted by the client and additional background documents related to the project design and baseline were reviewed as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report.

2.3 Follow-up Interviews

On March 06, 2008 TÜV SÜD performed an interview on-site with project participants to confirm selected information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in the context of the on-site visit.

Name	Organisation
Giuliano Fabricio Conde	JBS, Environmental Coordinator
Angela Garcia	JBS, Environmental manager
Andréa Loyola	Instituto TOTUM, project developer
Sheila Guebara	Instituto TOTUM, project developer

2.4 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD`s positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarised in chapter 3 below and documented in more detail in the validation protocol in annex 1.

2.5 Internal Quality Control

As final step of a validation the validation report and the protocol have to undergo and internal quality control procedure by the Certification Body “climate and energy”, i.e. each report has to be approved either by the head of the certification body or his deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests at the decision of TÜV SÜD’s Certification Body whether a project will be submitted for requesting registration by the EB or not.

3 SUMMARY OF FINDINGS

As informed above all findings are summarized in table 2 of the attached validation protocol.

History of the validation process

The audit team has been provided with a draft PDD in February 2008. Based on this documentation a document review and a fact finding mission in form of an on-site audit has taken place. Afterwards the client decided to revise the PDD according to the CARs and CRs indicated in the audit process. The final PDD version 4 submitted in July 2008 serves as the basis for the assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM to achieve a reduction of anthropogenic GHG emissions by sources and to contribute to sustainable development.

Project description

The project activity aims to modify the effluent treatment system in JBS S/A slaughterhouse unit in Vilhena by altering the anaerobic lagoon treatment to an aerobic system which consists of a physico-chemical treatment by air diffusion avoiding methane emissions generated from the anaerobic lagoons. This modification in the wastewater treatment is responsible for the emissions reductions and is only viable due to the CER's income.

950 head of cattle are currently being slaughtered per day. The baseline scenario considers an increase of 163 % to a future average of 2,500 head of cattle per day which will produce an estimated daily flow rate of 6,250 m^3/day and 5,000 mg/L of COD. The treatment process will involve two separate filtering screens, a physical flotation system and the principal physico-chemical flotation system that presents an efficiency of about 80% of solid removal. The generated sludge (solid portion) generated throughout the entire process will then be used for aerobic soil application.

Besides avoiding methane emissions the proposed project activity will contribute to sustainable development by improving the quality of the effluent which will be discharged in the river and reduction of odour. Furthermore, the project activity will result in social benefits as e.g. more employment and local income distribution.

Findings

In total the assessment team expressed 26 Corrective Action Requests and 1 Clarification Request.

The key findings during the validation process were related to the provision of information which was missing or not updated in the PDD (amongst others purpose of the proposed project activity and its technical design, project boundary, applicability criteria, alternatives to the proposed project activity and development of the baseline). Besides, parameters were not complete and information regarding monitoring was revised and included. The project´s starting date was requested to be modified. The internal quality control by the Certification Body resulted in a final switch from the application of simple cost analysis to investment comparison analysis.

The evidence for CDM consideration was requested by the validation team as well as a monthly expansion plan of slaughtering figures in the Vilhena unit.

Considering these findings the PDD version 1 has been revised and the actual PDD version 4 is in compliance with the CDM requirements.

Baseline calculation

Baseline emissions are calculated as the amount of methane produced in the anaerobic system that is replaced by the aerobic system. The procedure defined unter category AMS III.H is applied.

The baseline emissions are determined using reliable assumptions. The parameters “volume of wastewater” and “chemical oxygen demand of the eflluent entering the lagoons (COD)” as the decisive parameters for the quantitative prognosis are based on slaughtering figures of 2,500 heads of cattle per day. This is equivalent to an increase of 163 % compared to the current figure of 950 cattle per day and will be achieved in August 2008, that means clearly before the starting date of the crediting period. Project participants explained convincingly during the on-site visit that such an increase reflects the reality and the increase is confirmed by the directory of JBS. COD was measured at the entrance point of the effluent into the first anaerobic lagoon.

Further data for the baseline calculations consist of default values defined as per the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Such default values include “methane correction factor for the wastewater treatment in anaerobic lagoons, “methane producing capacity for the wastewater” and “Global Warming Potential for methane”.

The proposed project activity considers as project emissions “emissions on account of electricity consumption” and “emissions from the aerobic wastewater treatment”. “Emissions from anaerobic decay of the sludge” are considered as zero, as the sludge is not disposed to decay anaerobically in a landfill without methane recovery, but used for aerobic soil application.

Emissions on account of electricity consumption are estimated by the electricity consumed by the project activity devices times the emissions factor for the South-Southeast-Midwest interconnected grid. Devices and its consumption have been verified by the validation team. The emissions factor calculation has been submitted to the validation team and its correctness may be confirmed by the validation team. The emissions factor of 0.2826 tCO2/MWh is according to the Brazilian DNA applicable to projects which have been uploaded to the GSP until June 19, 2008, as it is the case of the proposed project activity. Thus, the application of 0.2826 tCO2/MWh is correct and appropriate. Emissions from the aerobic wastewater treatment are based on the formula of baseline emissions, however instead of using the methane correction factor for the wastewater treatment in anaerobic lagoons, it is applied the default value for the methane correction factor for the wastewater treatment in aerobic systems.

Leakage is not involved in the proposed project activity, as all the equipment installed in the Vilhena unit is new and no equipment is being transferred from another activity.

All default values have been correctly applied and in the case where a selection of different options was possible, the chosen values are appropriate.

The baseline scenario is the continuation of the current effluent treatment system, that means that in the absence of the proposed project activity, degradable organic matter in wastewater is treated in anaerobic lagoons and methane is emitted to the atmosphere.

Additionality

The additionality of the project was checked carefully. In doing so the assessment team has put the main focus on the following issues.

The validation team verified that CDM was seriously considered in the decision to proceed with the project activity. The framework contract between JBS S/A and Instituto Totum Ltda., dated 18/04/2007, was submitted to the validation team and is clearly dated before the project´s starting date. The begin of the project activity is on September 04, 2007, the date of the commercial approval of the project equipment´s purchase.

Project participants decided to apply the "Tool for the demonstration and assessment of additionality" in order to demonstrate additionality.
In step 1a) alternatives to the proposed project activity are identified. Step 1b) exlcudes those alternatives which are not in line with laws or regulations. After step 1b) and consideration of plausibility of alternatives only two alternatives, namely the continuation of the status-quo as baseline scenario, (effluent treatment with an anaerobic open lagoon system and without methane recovery), however with a readjustment to the current slaughtering scenario of 2,500 head of cattle per day in order to meet legal requirements and the proposed project activity without CDM consideration are left over.

Step 2, the investment analysis (investment comparison analysis) shows, why the proposed project activity without CDM would not have been realized. The baseline scenario considering a readjustment of the anaerobic lagoons in order to receive the effluents of 2,500 head of cattle per day (here called: future baseline scenario) is compared with the proposed project activity (installation of an aerobic wastewater treatment system) in an investment comparison analysis. As the investment into the future baseline scenario is much less than that into the proposed project activity, consequently the Net Present Value (NPV) of the proposed project activity is about by 75% more negative than that of the future baseline scenario. The input data for the investment comparison analysis as well as the NPV calculation have been verified by the validation team. Some of the input data have been evidenced by purchase agreement and proposals (in the case of the proposed project activity) and others were estimated by the environmental manager of Vilhena unit based on local costs and experience from other units. The validation team with its sectoral expertise may confirm that the applied values, both investment and operation and maintenance costs, are in a reasonable range and reflect market price reality. The validation team may confirm the correctness of the NPV calculation. Both alternatives have a negative NPV, whereas the NPV of the proposed project activity is about by 75% more negative than that of the future baseline scenario. It clearly shows, that the proposed project activity could not be implemented without CER income, since all the financial support is given by CDM registration of the project.

Both NPV calculation sheet as well as cost compilation sheet will be uploaded together with the PDD.

Step 3, barrier analysis, is not applied, as additionality is already demonstrated by using step 2.

Step 4, the common practice analysis, describes the proposed project activity as first of its kind applied in a cattle slaughterhouse in the host country. According to a study developed by *FIESP*[1] (published 2006) and in addition to the best of knowledge of the project owners there are no Brazilian slaughterhouses that own a physico-chemical treatment by air diffusion. The only aerobic treatments in use in cattle slaughterhouses in Brazil are biological filters, bio disks and processes

[1] *Federação das Indústrias do Estado de São Paulo (Industrial Federation from the State of São Paulo)*

such as activated sludge, which are from the technological point of view quite different to the technology used in the proposed project activity.

To conclude the additionality assessment it may be stated that the proposed project activity is without doubt additional.

The project boundary, the project´s starting date as well as the starting date of the crediting period are clearly defined in the last submitted PDD.

Monitoring

The final PDD includes all relevant parameters to be monitored in order to determine baseline and project emissions. Baseline as well as project emissions will be monitored as according to the requirements of the methodology AMS III-I, version 6.

The amount of COD treated in the wastewater treatment plant will be monthly analysed in an external laboratory, which follows the *Standard Methods for Examination of Water & Wastewater.* The analyses will be taken from the equalization tank where both lines will be mixed together.

The volume of wastewater flow entering the flotation system will be measured each hour using an analogical flow meter. Monthly averages will be available.

The yearly amount of sludge produced will be directly measured by weighing arriving trucks (empty without sludge) and leaving trucks (carrying the sludge). The difference between both weights will result in the amount of sludge produced. The scale follows standard calibration procedures. The end-use of the sludge has to be monitored, that means it has to be checked in the verification whether sludge is really applied to land and whether there are no project emissions from sludge.

In the case of project emissions, the electricity consumption will not be measured by a meter, since it would not be financially feasible to install an energy meter since electricity consumption for the project equipment is not very significant. Electricity consumption is conservatively based on equipments maximum capacity and in order to get project emissions on account of electricity, this electricity consumption is multiplied with the ex-ante for the whole crediting period determined emissions factor of 0.2826 tCO2/MWh. Emissions from the aerobic wastewater treatment are monitored through the wastewater flow and COD.

Ambient average temperature at the project site will be monitored through official data from Vilhena monitoring station SEDAM.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

<table>
<tr><td colspan="2">webpage:

http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=4777&Ebene1_ID=26&Ebene2_ID=1353&mode=1</td></tr>
<tr><td colspan="2">Starting date of the global stakeholder consultation process:
2008-02-23</td></tr>
<tr><td>Comment submitted by:
No comments</td><td>Issues raised:
-</td></tr>
<tr><td colspan="2">Response by TÜV SÜD:
-</td></tr>
</table>

5 VALIDATION OPINION

TÜV SÜD has performed a validation of the following proposed CDM project activity:

Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Vilhena Unit

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. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.

An analysis as provided by the applied methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

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

Munich, 2008-07-29

Abhishek Goyal

Deputy Head Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Fortaleza, 2008-07-29

Johann Thaler

Assessment Team Leader

Annex 1: Validation Protocol

Validation Protocol

Project Title: Project: Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Vilhena Unit
Date of Completion: 29/07/2008
Number of Pages: 1
Report N° 1170523

Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A. General description of small-scale project activity				
A.1. Title of the small-scale project activity				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1,2	Yes. The project title clearly enables to identify the unique CDM activity.	þ	þ
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1,2	Yes. It is indicated version 1 dated 18/02/2008.	þ	þ
A.1.3. Is this consistent with the time line of the project's history?	1,2	Yes. It is consistent with the time line of the project´s history. Version 1 (18/02/2008) was submitted to the GSP.	þ	þ
A.2. Description of the small-scale project activity				
A.2.1. Is the description delivering a transparent overview of the project activities?	1,2	**Corrective Action Request No.1.** 1. It is not clear according to the description of A.2. how the proposed project activity will reduce CO2 emissions. Please explain. 2. It is not explained in A.2. how the proposed project activity contributes to sustainable development. Please add. 3. The purpose of the proposed project activity should be more retraceable.	CAR 1	þ
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1,2,5,6, 13-17	The pre-project situation is characterised as the following: Effluents from the red and the green line pass (separately) through a filtering screen where big solid particles are removed. After that they pass a solid separator before they enter together the first and in sequence the second anaerobic lagoon. After that the effluents pass through a 3rd facultative lagoon and a 4th polishing lagoon before they enter to the river.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		The following documents have been submitted to the validation team during the on-site visit, proving that the project description is in compliance with the actual situation or planning: 1. Layouts of the existing anerobic lagoons system (Dimensions: 1st lagoon: 66x35,50x4,50 m, 2nd lagoon: 64x37,50x4,50, 3rd lagoon: 112x62x2m, 4th lagoon: 120x83x1,50m) 2. Environmental operational license 3. Request for the renewal of the environmental operational license 4. Electronical Commercial Approval (04.09.2007) about the purchase of the project equipment 5. Technical characteristics of the project equipment (FAST (manufacturer)) 6. Plan for environmental control ("Plano de controle ambiental") including the existing anaerobic lagoon system and the future aerobic project system 7. Photos evidencing the existance of anaerobic lagoons The visual inspection by the validation team confirmed the existance of an anaerobic lagoon system and on-going works of the proposed project activity.		
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1,2	See A.2.1.	**See CAR 1**	**þ**
A.2.4. Is all information presented consistent	1,2	The information presented is consistent with details provided by	**See**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
with details provided by further chapters of the PDD?		further chapters of the PDD. However, see A.2.1.	**CAR 1**	
A.2.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance?	1,2,6	See A.2.1. and A.4.2.3.	**See CAR 1** **See CAR 2**	**þ**
A.2.6. Is the brief explanation how the project will reduce greenhouse gas emission transparent and suitable?	1,2	See A.2.1.	**See CAR 1**	**þ**
A.3. Project participants				
A.3.1. Is the form required for the indication of project participants correctly applied?	1,2	Yes. The form required for the indication of project participants is correctly applied.	**þ**	**þ**
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1,2,7	A declaration of the voluntary participation at the CDM project activity signed by JBS S/A and Instituto TOTUM has been submitted to the validation team.	**þ**	**þ**
A.3.3. Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1,2	Yes. The information on project participants is consistent with Annex 1 of the PDD.	**þ**	**þ**
A.4. Technical description of the small-scale project activity				
A.4.1. *Location of the small-scale project activity*				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1,2, 12	The PDD indicates the address of the project site as well as the GPS coordinates from Google Earth. .	**þ**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1,2,8	The official registry of land purchase (where the project will be implemented) has been presented to the validation team. It is clearly ensured that the project proponents can implement the project at the site.	þ	þ
A.4.2. *Type and category(ies) and technology/measure of the small-scale project activity*				
A.4.2.1. To which type(s) does the project activity belong to? Is the type correctly identified and indicated?	1,2	The project activity falls under the Type (III): Other project activities. The type is correctly identified.	þ	þ
A.4.2.2. To which category (ies) does the project activity belong to? Is the category correctly identified and indicated?	1,2, 22	The project activity belongs to Category I: Methane Recovery in Wastewater Treatment. The category is correctly identified and inciated. However, the name of the methodology had not been correct in version 1 of the PDD (A.4.2.) and was corrected during the on-site audit.	þ	þ
A.4.2.3. Does the technical design of the project activity reflect current good practices?	1,2,6	The technical design of the project activity has been explained in detail to the validation team during the on-site visit. The proposed project activity consists of an aerobic treatment system, which is a completely new technology applied to a slaughterhouse replacing the current good practice of anaerobic lagoons. The technical design is not sufficiently described in the PDD. **Corrective Action Request No.2.** Please describe in detail the technical design of the project activity as it was described to validation team and project developer during the on-site visit.	**CAR 2**	þ
A.4.2.4. Does the implementation of the project activity require any technology transfer	1,2	According to the information provided on-site, the equipment for flotation system is imported from the Netherlands, all the other	**CAR 3**	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
from Annex-I-countries to the host country (ies)?		project equipment is manufactured domestically in the host country. The PDD provides no information that some equipment is imported from Annex-I-countries and that other parts are manufactured domestically. **Corrective Action Request No.3.** Information about technology transferred from other countries and/or manufactured domestically is missing in the PDD. Please provide respective information.		
A.4.2.5. Is the technology implemented by the project activity environmentally safe?	1,2	The technology implemented by the project activity will eliminate negative environmental impacts which are related with the current anaerobic lagoons system. According to information given by FAST (the manufacturer of one part of the equipment and responsible for the complete assembling), the technology implemented by the project activity is environmentally safe. **Corrective Action Request No.4.** Please provide information in the PDD that the technology implemented by the project activity is environmentally safe.	**CAR 4**	**þ**
A.4.2.6. Is the information provided in compliance with actual situation or planning?	1,2	See A.4.2.4., A.4.2.5.	**See CAR 3** **See CAR 4**	**þ**
A.4.2.7. Does the project use state of the art technology and / or does the technology result in a significantly better performance	1,2	The project uses a technology which is the first of its kind for slaughterhouses. The information whether it will significantly result in a better performance than any commonly used technology will	**þ**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
than any commonly used technologies in the host country?		be only available after implementation of the project.		
A.4.2.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1,2	The project technology is not likely to be substituted by other or more efficient technologies within the project period.	þ	þ
A.4.2.9. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1,2,6	The project requires initial training and maintenance efforts. The company "FAST", responsible for manufacturing parts of the equipment and complete assembling, will provide initial training and maintenance efforts to the local staff. Besides, regular internal training is planned. .	þ	þ
A.4.2.10. Is information available on the demand and requirements for training and maintenance?	1,2,6	See A.4.2.9.	þ	þ
A.4.2.11. Is a schedule available for the implementation of the project and are there any risks for delays?	1,2,9	A schedule for the implemenation of the project has been presented to the validation team. There are no significant risks for delays. However, no information regarding a time schedule is provided in the PDD. **Corrective Action Request No.5.** A time schedule for the implementation of the CDM project activity should be presented in the PDD.	**CAR 5**	þ
A.4.3. *Estimated amount of emission reductions over the chosen crediting period*				
A.4.3.1. Is the form required for the indication of projected emission reductions correctly applied?	1,2	Yes. The form required for the indication of projected emission reductions is correctly applied.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.4.3.2. Are the figures provided consistent with other data presented in the PDD?	1,2	Yes. The figures provided are consistent with other data presented in the PDD.	þ	þ
A.4.3.3. Are the figures consistent with the small-scale criteria for the used Type?	1,2	The limit for emission reductions is 60.000 t CO2 annually. The proposed project activity is below this limit.	þ	þ
A.4.4. *Public funding of the small-scale project activity*				
A.4.4.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1,2	No public funding is involved in the project activity. The project has been financed 100 % with own equity.	þ	þ
A.4.4.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1,2	The information is consistent with the one given in Annex 2 of the PDD.	þ	þ
A.4.5. *Confirmation that the small-scale project activity is not a debundled component of a large scale project activity*				
A.4.5.1. Is there a registered small-scale CDM project activity or an application to register another small-scale CDM project activity: with the following characteristics:	1,2	**Corrective Action Request No.6.** A.4.5. should mention the debundling criteria (project participant, project category/technology, registered within previous two years and boundary within 1 km of the project boundary). Debundling checklist / Yes / No the same project participants? / Yes In the same project category and technology/measure? / Yes Registered within previous two years? Or in registration process? / Yes Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration? / No	CAR 6	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.4.5.2. If the answer to all the above question is '**Yes**' then does the total size of the small scale project activity combined with previously registered small scale CDM project activity exceeds the limits of small scale CDM project activities?	---	Not applicable.	þ	þ
B. Application of a baseline and monitoring methodology				
B.1. Title and reference of the approved baseline and monitoring methodology applied to the small-scale project activity				
B.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1,2, 22	It is clearly indicated methodology AMS III.I, Version 6. However, the name of the methodology is not correct. **Corrective Action Request No.7.** The name of the methodology has to be modified to "Avoidance of methane production in wastewater treatment through replacement of anerobic lagoons by aerobic systems".	**CAR 7**	þ
B.1.1.2. Is the applied version the most recent one and / or is this version still applicable?	1,2, 22	Version 6 of AMS III.I is the most recent version at the time of submission of the PDD for the GSP.	þ	þ
B.2. Justification of the choice of the methodology and why it is applicable to the project activity				
B.2.1. Is the applied methodology considered the most appropriate one?	1,2, 22	Yes. The applied methodology is the most appropriate one.	þ	þ
Integrate the required amount of sub-checklists on the applicability criteria as given by the applied methodology and comment on at least every line answered with "No";				
B.2.1.1. Criterion 1: Project comprises measures that avoid the production of methane from biogenic organic matter in	1,2,6 ,17, 22	**Corrective Action Request No.8.** Criteria 1-3 have to be mentioned in the PDD and the applicability to the proposed project activity has to be demonstrated.	**CAR 8**	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
wastewaters being treated in anerobic lagoons.		Applicability checklist: Yes / No / NA Criterion discussed in the PDD? No Compliance provable? Yes Compliance verified? Yes Means of validation: Technical characteristics of the project equipment (FAST), visual inspection, photos		
B.2.1.2.Criterion 2: The project activity substitutes anaerobic lagoons by aerobic systems	1,2, 16, 22	See B.2.1.1. Applicability checklist: Yes / No / NA Criterion discussed in the PDD? No Compliance provable? Yes Compliance verified? Yes Means of validation: on-site visual inspection, Plan for environmental control (“Plano de controle ambiental”)	**See CAR 8**	**þ**
B.2.1.3.Criterion 3: The project activity does not recover or combust methane in wastewater treatment facilities (unlike III.H)	1,2,6 ,22	See B.2.1.1 Applicability checklist: Yes / No / NA Criterion discussed in the PDD? No Compliance provable? Yes Compliance verified? Yes Means of validation: Technical characteristics of the project equipment (FAST)	**See CAR 8**	**þ**
B.2.1.4.Criterion 4: Are the projected emission reductions less than or equal to 60,000 tonnes CO_2 equivalent per annum?	1,2,3 ,22	Applicability checklist: Yes / No / NA Criterion discussed in the PDD? Yes Compliance provable? Yes Compliance verified? Yes	**þ**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Compliance verified? Yes Means of validation: calculations (Wastewater Calculus_JBS_Vilhena)		
B.3. Description of the project boundary				
B.3.1. Does the project boundary include physical, geographical site where the wastewater treatment takes place?	1,2, 22	Yes. The project boundary includes the physical, geographical site where the wastewater treatment takes place.	**þ**	**þ**
B.3.2. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1,2, 22	The spatial and technological boundary is not clearly limited in the PDD. **Corrective Action Request No.9.** The spatial and technological boundary should be revised in the PDD.	**CAR 9**	**þ**
B.4. Details of baseline and its development				
B.4.1. Has the most recent version of the addtionality tool been applied?	1,2, 21, 22	Yes. The most recent version (version 4) of the additionality tool is applied.	**þ**	**þ**
B.4.2. Have realistic and credible alternatives been identified providing comparable outputs or services? (step 1a) May this list considered to be complete?	1,2, 21, 22	Realistic and credible alternatives have been identified in the PDD. The following alternatives are mentioned in the PDD: a) The untreated wastewater being discharged into sea, river, lake, stagnant sewer or flowing sewer b) Installation of organic digesters with methane capture and combustion	**CAR 10**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		c) Maintenance of current effluent treatment with an-aerobic open lagoons system and without methane recovery d) Installation of an aerobic wastewater treatment system, without CDM consideration During the on-site visit it has been identified that another alternative is the "installation of another type of aerobic wastewater treatment system such as biological filters, bio disks and processes like activated sludge", which is however not mentioned in the PDD. **Corrective Action Request No.10.** 1. Please include the alternative "installation of another type of aerobic wastewater treatment system such as biological filters, bio disks and processes like activated sludge" and explain why it is not the baseline scenario. 2. Please describe the development of the baseline in B.4. of the PDD.		
B.4.3. Is the project activity without CDM included in these alternatives? (step 1a)	1,2, 21, 22	Yes. The project activity without CDM is included in the indicated alternatives.	þ	þ
B.4.4. Have applicable regulatory or legal requirements been identified?	1,2, 21, 22	Yes. The alternative "Untreated wastewaster is being directly discharged into sea, river, lake, stagnant sewer or flowing sewer" is not in line with the legislation.	þ	þ
B.4.5. Is a discussion provided for all identi-	1,2,	Sub-step 1b mentions that "No law or regulation restricts	CAR	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
fied alternatives concerning the compliance with applicable laws and regulations? (step 1b)	21, 22	tation of any of the proposed scenarios". This is not correct, as the first alternative "Untreated wastewaster is being directly discharged into sea, river, lake, stagnant sewer or flowing sewer" is not in conformance with the legislation. **Corrective Action Request No.11.** It has to be mentioned in sub-step 1.b) that the alternative "Untreated wastewaster is being directly discharged into sea, river, lake, stagnant sewer or flowing sewer" is not in conformance with the law.	**11**	
B.4.6. Does the project identify correctly and excludes those options not in line with regulatory or legal requirements?	1,2, 21, 22	See B.4.5.	**See CAR 11**	**þ**
B.4.7. In case the PDD argues that specific laws are not enforced in the country or region: Is evidence available concerning that statement? (step 1b)	---	Not applicable.	**þ**	**þ**
B.4.8. Does the selected baseline scenario correspond to the selected project scenario as per section B.2 above?	1,2, 21, 22	Yes. The selected baseline scenario corresponds to the selected project scenario as per section B.2 above.	**þ**	**þ**
B.4.9. Is the identified baseline scenario in line with regulatory or legal requirements?	1,2, 21, 22	Yes. The identified baseline scenario is in line with regulatory or legal requirements.	**þ**	**þ**
B.4.10. Does the PDD identify the most likely baseline scenario in absence of the project	1,2,	Yes. The baseline scenario is the situation where, in the absence of the project activity, degradable organic matter in wastewater is	**þ**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
activity?	21, 22	treated in anaerobic lagoons and methane is emitted to the atmosphere.		
B.4.11. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc?	1,2, 10, 21, 22	The study developed by São Paulo's State Government, FIESP (Industrial Federation of the State of São Paulo), CETESB (Environmental Technological Company) and SMA (Environmental Office) – Environmental Technical Guide on swine and cattle slaughterhouses – Cleaner Production Series (*Guia Técnico Ambiental de Abates (bovinos e suínos) – Série P+L*) from 2006 indicates that the most common effluent treatment found is the anaerobic system. The study has been submitted to the validation team.	**þ**	**þ**
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):				
Integrate questions concerning the determination of the additionality when applying the "additionality tool"; Replace blue text, if necessary				
B.5.1. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1,2, 20, 21, 22	The PDD has chosen the simple cost analysis. See B.5.2.	**See CAR 12**	**þ**
B.5.2. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1,2, 20, 21, 22	1. During the on-site visit the validation team was informed that possibly sludge will be used as a fuel for the operation of the boiler. As this would substitute wood as fuel oil, possibly economic benefits others than CDM income would be generated. 2. Not all the costs mentioned in the simple cost analysis have been retraceable during the on-site visit and it seems	**CAR 12**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		that some of them are inconsistent with the raw data. **Corrective Action Request No.12.** 1. Please revise the applicability of the simple cost analysis in the case that sludge is used as fuel for the boiler operation. 2. Please submit a revised excel sheet for the simple cost analysis.		
B.5.3. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1,2, 20, 21, 22	Not applicable.	þ	þ
B.5.4. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1,2, 20 21, 22	Not applicable.	þ	þ
B.5.5. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	1,2, 20 21, 22	Not applicable.	þ	þ
B.5.6. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1,2, 20 21, 22	Not applicable.	þ	þ
B.5.7. In case of applying step 3 (barrier	1,2,	Not applicable.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	21, 22			
B.5.8. In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1,2, 21, 22	See B.5.7.	**þ**	**þ**
B.5.9. In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1,2, 21, 22	See B.5.7.	**þ**	**þ**
B.5.10. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?	1,2, 21, 22	1. According to information given in the PDD, the only aerobic treatment implemented in cattle slaughterhouses are biological filters, bio disks and processes such as activated sludge. However, it is not clear what the exact difference between the proposed project activity and other aerobic treatment system is. 2. Besides, during the on-site visit FAST (company responsible for manufacturing some parts of the equipment and complete assembling) has informed in a telephone conversation that similar aerobic treatment systems have been implemented, however not in slaugtherhouses. **Corrective Action Request No.13.** 1. Please explain the exact differences between the proposed project activity and other aerobic treatment systems like bio disks, biological filters and processes such as activated sludge. 2. Please explain the exact differences of already other implemented aerobic treatment systems implemented by	**CAR 13**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		FAST to the proposed project activity.		
B.5.11. If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?	1,2, 21, 22	See B.5.10.	**See CAR 13**	**þ**
If the additionality tool has not been used please answer B.5.13 to B.5.18				
B.5.12. If the starting date of the project activity is before the date of validation, is evidence available to prove that incentive from the CDM was seriously considered in the decision to proceed with the project activity?	1,2,5	It has not been submitted a clear evidence to the validation team yet evidencing that CDM has been seriously considered in the decision to proceed with the project activity. **Corrective Action Request No.14.** Please submit a clear evidence showing that CDM has been considered before project start (04.09.2007).	**CAR 14**	**þ**
B.5.13. Is a complete list of barriers developed that prevents the project activity to occur?	--	Not applicable.	**þ**	**þ**
B.5.14. Does this list include at least one of the following barriers?	--	Not applicable. Barrier / Discussed? / Verifiable? Investment Technological Due to prevailing practice Other	**þ**	**þ**
B.5.15. Does the discussion sufficiently take into account relevant national and/or sectoral policies?	--	Not applicable.	**þ**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.5.16. Is transparent and documented evidence provided on the existence and significance of these barriers?	--	Not applicable.	þ	þ
B.5.17. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?	--	Not applicable.	þ	þ
B.6. Emissions reductions				
Integrate questions concerning methodological choices and selection of options, if necessary				
B.6.1. *Explanation of methodological choices*				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1,2, 22	Yes. Procedures are applied by the proposed project activity as explained in the methodology.	þ	þ
B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	1,2, 22	**Corrective Action Request No.15.** 1. Regarding the emissions factor: It should be explicitly mentioned in B.6.1. which option of AMS I-D is chosen for the calculation of the emissions factor 2. The formula for methane emissions from the anaerobic decay of the final sludge generated in the wastewater system in the year "y" should be mentioned, even though the value is zero.	**CAR 15**	þ
B.6.1.3. Determination of project emissions (Comment on any line answered "No")				
a. Component 1: CO2 emissions related to the power used by the project activity facilities. Emission factors for grid electricity or diesel fuel use shall be calculated as de-	1,2, 22	Project emission checklist: Yes / No Component discussed in the PDD? Yes Formulae correctly applied? Yes	**See CAR 15**	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
scribed in category I.D.		However, see B.6.1.2.		
b. Component 2: Methane emissions during the aerobic wastewater treatment	1,2, 22	Project emission checklist: Yes / No Component discussed in the PDD? Yes Formulae correctly applied? Yes	þ	þ
c. Component 3: Methane emissions from the decay of the sludge generated by the aerobic systems, if the sludge is disposed to decay anaerobically in a landfill without methane recovery.	1,2, 22	See B.6.1.2. Project emission checklist: Yes / No Component discussed in the PDD? No Formulae correctly applied? No	**See CAR 15**	þ
B.6.1.4. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1,2, 22	Yes. The formula required for the determination of baseline emissions is correctly presented, enabling a complete identification of parameter to be used and/or monitored.	þ	þ
B.6.1.5. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1,2, 22	Yes. The formulae required for the determination of project emissions are correctly presented. However, see B.6.1.2.	**See CAR 15**	þ
B.6.1.6. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1,2, 22	Not applicable as there are no leakage emissions in the project activity.	þ	þ
B.6.1.7. Are the formulae required for the de-	1,2,	The formula for the determination of emission reductions is cor-	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
termination of emission reductions correctly presented?	22	rectly presented in B.6.3. of the PDD.		
B.6.2. *Data and parameters that are available at validation*				
B.6.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1,2, 22	The list of parameters presented in chapter B.6.2. is considered to be complete.	þ	þ
B.6.2.2. Comment on any line answered with "No"				
B.6.2.2.1. Parameter Title: ECp,y energy or diesel consumption in the year "y" by the project activity.	-----	Not applicable / See chapter B.7.1.	þ	þ
B.6.2.2.2. Parameter Title: EFe,y emission factor for energy generation / diesel consumption	1,2, 22		þ	þ

Data Checklist	Yes / No / NA
Title in line with methodology?	
Data unit correctly expressed?	
Appropriate description of parameter?	
Source clearly referenced?	
Correct value provided?	
Has this value been verified?	
Choice of data correctly justified?	
Measurement method correctly described?	

Data Checklist	Yes / No / NA
Title in line with methodology?	Yes
Data unit correctly expressed?	Yes
Appropriate description of parameter?	Yes
Source clearly referenced?	Yes

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Source clearly referenced? Yes Correct value provided? Yes Has this value been verified? Yes Choice of data correctly justified? Yes Measurement method correctly described? Yes		
B.6.2.2.3. Parameter Title: $Q_{ww,y,m}$ Volume of wastewater treated during the months m, during year "y", for the months with ambient average temperature above 15°C (m3)	------	Not applicable / See chapter B.7.1. Data Checklist | Yes / No / NA Title in line with methodology? Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described?	þ	þ
B.6.2.2.4. Parameter Title: $COD_{y,m}$ Chemical oxygen demand of the effluent entering the lagoons in the year y (tonnes/m3) for the months with ambient average temperature above 15°C.	------	Not applicable / See chapter B.7.1. Data Checklist | Yes / No / NA Title in line with methodology? Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described?	þ	þ

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<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>B.6.2.2.5. Parameter Title:
$B_{o,ww}$ methane producing capacity of the wastewater (IPCC default value for domestic wastewater of 0.21 kg CH4/kg.COD)</td><td>1,2, 22, 23, 24</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.6.2.2.6. Parameter Title:
$MCF_{aerobic}$ methane correction factor for the wastewater treatment in aerobic systems (MCF higher value of 0.1 for well managed systems, or 0.4 for poorly managed or overloaded systems as per table III.H.1 in category III.H)</td><td>1,2, 22, 23, 24</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.6.2.2.7. Parameter Title:</td><td>------</td><td>Not applicable / See chapter B.7.1.</td><td>þ</td><td>þ</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
S_y – amount of sludge generated by the wastewater treatment in the year y (tonnes).		Data Checklist / Yes / No / NA Title in line with methodology? N/A Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described?		
B.6.2.2.8. Parameter Title: $DOC_{y,s}$ – Degradable organic content of the sludge generated by the wastewater treatment in the year y (fraction). It shall be measured by sampling and analysis of the sludge produced, and estimated ex-ante using the IPCC default values of 0.05 for domestic sludge (wet basis, considering a default dry matter content of 10 percent) or 0.09 for industrial sludge (wet basis, assuming dry matter content of 35 percent).	------	Not applicable. Data Checklist / Yes / No / NA Title in line with methodology? N/A Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described?	þ	þ
B.6.2.2.9. Parameter Title: MCF_s – methane correction factor of	------	Not applicable. Data Checklist / Yes / No / NA Title in line with methodology? N/A	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
the landfill that receives the final sludge, estimated as described in category AMS III.G.		Title in line with methodology? N/A Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described?		
B.6.2.2.10. Parameter Title: DOC_F – fraction of DOC dissimi-lated to biogas (IPCC default value is 0.5).	------	Not applicable. Data Checklist / Yes / No / NA Title in line with methodology? N/A Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described?	þ	þ
B.6.2.2.11. Parameter Title: F – fraction of CH_4 in landfill gas (IPCC default is 0.5).	------	Not applicable. Data Checklist / Yes / No / NA Title in line with methodology? N/A Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced?	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Source clearly referenced? | Correct value provided? | Has this value been verified? | Choice of data correctly justified? | Measurement method correctly described? |		
B.6.2.2.12.Parameter Title: MCF_{lagoon} methane correction factor for the wastewater treatment in an-aerobic lagoons (MCF lower value of 0.8 as per table III.H.1 under AMS III.H).	1,2, 22, 23, 24	Data Checklist | Yes / No / NA Title in line with methodology? | Yes Data unit correctly expressed? | Yes Appropriate description of parameter? | Yes Source clearly referenced? | Yes Correct value provided? | Yes Has this value been verified? | Yes Choice of data correctly justified? | Yes Measurement method correctly described? | Yes	þ	þ
B.6.2.2.13.Parameter Title: GWP_CH4 Global Warming Poten-tial for methane	1,2, 22, 23, 24	Data Checklist | Yes / No / NA Title in line with methodology? | Yes Data unit correctly expressed? | Yes Appropriate description of parameter? | Yes Source clearly referenced? | Yes Correct value provided? | Yes Has this value been verified? | Yes Choice of data correctly justified? | Yes	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Choice of data correctly justified? Yes Measurement method correctly described? Yes		
B.6.3. *Ex-ante calculation of emission reductions*				
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1,2, 22	The projection is based on the same procedures as used for future monitoring.	þ	þ
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1,2,3	The GHG calculations are documented in a complete and transparent manner in the PDD as well as in the calculation sheet "Wastewater Calculus_JBS_Vilhena".	þ	þ
B.6.3.3. If there is more than one component of the project activity, then are emission reduction calculations provided separately for each component?	------	Not applicable as there is only one component of the project activity.	þ	þ
B.6.3.4. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1,2	The data is consistent with data in other sections of the PDD.	þ	þ
B.6.4. *Summary of the ex-ante estimation of emission reductions*				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1,2	Yes. The project will result in fewer GHG emissions than the baseline scenario.	þ	þ
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1,2	The table required for the indication of projected emission reductions is correctly applied.	þ	þ
B.6.4.3. If the project activity involves more than one component, is separate table included for each of the component.	-----	Not applicable.	þ	þ
B.6.4.4. Do these values comply with small-	1,2,	The values comply with small-scale criteria for every year.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
scale criteria for every year?	22			
B.6.4.5.Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1,2,9	See A.4.2.11.	**See CAR 5**	**þ**
B.6.4.6.Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1,2	The data provided in this section is consistent with data in other sections of the PDD.	**þ**	**þ**
B.7. Application of the monitoring methodology and description of the monitoring plan				
B.7.1. *Data and parameters monitored*				
B.7.1.1.Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1,2, 22	The list of parameters presented in B.7.1. is considered to be complete.	**þ**	**þ**
B.7.1.2.Comment on any line answered with "No"				
B.7.1.2.1. Parameter Title: $Q_{ww,y,m}$ Volume of wastewater treated during the months m, during year "y", for the months with ambient average temperature above 15°C (m3)	1,2, 22	**Corrective Action Request No.16.** Regarding the parameter "$Q_{ww,y,m}$ Volume of wastewater treated during the months m, during year "y"": Source (not measured by project developer, but by project owner) and QA/QC procedures have to be revised; correct reference to standards and accuracy have to be added. Besides, it has to be mentioned that the value refers to future slaughtering figures of 2.500 head of cattle per day. Please indicate the slaughtering figure today and the increase in %. Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes	**CAR 16**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Appropriate description of parameter? Yes Source clearly referenced? No Correct value provided for estimation? Yes Has this value been verified? Yes Measurement method correctly described? Yes Correct reference to standards? No Indication of accuracy provided? No QA/QC procedures described? Yes QA/QC procedures appropriate? No		
B.7.1.2.2. Parameter Title: S_y – amount of sludge generated by the wastewater treatment in the year y (tonnes).	1,2, 22	**Corrective Action Request No.17.** Regarding the parameter "S_y – amount of sludge generated by the wastewater treatment in the year y": Data unit, value, measurement method, QA/QC procedures and comment should be revised; the accuracy and the exact reference to standards should be added. Monitoring Checklist — Yes / No Title in line with methodology? Yes Data unit correctly expressed? No Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? No Has this value been verified? Yes Measurement method correctly described? No Correct reference to standards? No Indication of accuracy provided? No QA/QC procedures described? No QA/QC procedures appropriate? No	**CAR 17**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		QA/QC procedures appropriate? — No		
B.7.1.2.3. Parameter Title: $COD_{y,m}$ Chemical oxygen demand of the effluent entering the lagoons in the year y (tonnes/m3) for the months with ambient average temperature above 15°C.	1,2, 11, 22	**Corrective Action Request No.18.** 1. Please describe at what point the analysis, which provides the value for estimation of emission reductions were taken and the point where future analysis will be taken. 2. It has to be mentioned that the value refers to future slaughtering figures of 2.500 head of cattle per day. Please indicate the slaughtering figure today and the increase in %. Monitoring Checklist — Yes / No Title in line with methodology? — Yes Data unit correctly expressed? — Yes Appropriate description of parameter? — Yes Source clearly referenced? — Yes Correct value provided for estimation? — Yes Has this value been verified? — Yes Measurement method correctly described? — No Correct reference to standards? — Yes Indication of accuracy provided? — Yes QA/QC procedures described? — Yes QA/QC procedures appropriate? — Yes Some more specifications of the parameter have been included during the on-site visit into B.7.1 of the PDD.	**CAR 18**	**þ**
B.7.1.2.4. Parameter Title: $DOC_{y,s}$– Degradable organic con-	------	Not applicable Monitoring Checklist — Yes / No Title in line with methodology?	**þ**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
tent of the sludge generated by the wastewater treatment in the year y (fraction). It shall be measured by sampling and analysis of the sludge produced.		Title in line with methodology? Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided for estimation? Has this value been verified? Measurement method correctly described? Correct reference to standards? Indication of accuracy provided? QA/QC procedures described? QA/QC procedures appropriate?		
B.7.1.2.5. Parameter Title: Ambient average temperature at the project site in month *m* in the year "y"	1,2, 22, 26	Some more specifications of the parameter have been included during the on-site visit into B.7.1 of the PDD. Monitoring Checklist: Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? Yes Has this value been verified? Yes Measurement method correctly described? Yes Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes	**þ**	**þ**

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>B.7.1.2.6. Parameter Title:
ECp,y energy or diesel consumption in the year “y” by the project activity.</td><td>1,2,6 ,22</td><td>Some more specifications of the parameter have been included during the on-site visit into B.7.1. of the PDD. The value has been slightly corrected.
<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.7.1.2.7. EFe,y emission factor for energy generation / diesel consumption</td><td>------</td><td>Not applicable, as EF is applied ex-ante.
<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided for estimation?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr><tr><td>Correct reference to standards?</td><td></td></tr><tr><td>Indication of accuracy provided?</td><td></td></tr></table></td><td>þ</td><td>þ</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Indication of accuracy provided? / QA/QC procedures described? / QA/QC procedures appropriate?		
B.7.2. *Description of the monitoring plan*				
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1,2	The operational and management structure is described in the PDD. An organigram of the operational and management structure has been included into the PDD during the on-site visit.	þ	þ
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1,2	Yes. The dedicated CDM Manager of the project developer is responsible for checking the data (according to a formal procedure) and the CDM Manager will be responsible for managing the collection, storage and archiving of all data and records.	þ	þ
B.7.2.3. If the project activity is under a programme of activities, are the conditions for use of this methodology in a project activity under a programme of activities applied?	------	Not applicable.	þ	þ
B.7.2.4. Does the monitoring plan provide current good monitoring practice?	1,2	Data collection, equipment calibration and QA/QC procedures are not adequately explained in B.7.2. of the PDD. **Corrective Action Request No.19.** The monitoring plan of the PDD should describe data collection, equipment calibration and QA/QC procedures for all parameters to be monitored.	**CAR 19**	þ
B.7.2.5. If applicable: Does annex 4 provide	1,2	Annex 4 provides some more useful information enabling a better	**See**	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
useful information enabling a better understanding of the envisioned monitoring provisions?		understanding of the envisioned monitoring provisions. However, see B.7.2.4.	**CAR 19**	
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)				
B.8.1.1. Is there any indication of a date when the baseline was determined?	1,2	Yes. It is indicated 18/02/ 2008 when the baseline was determined.	**þ**	**þ**
B.8.1.2. Has dd/mm/yyyy format been used to indicate the date.	1,2	Yes. The format dd/mm/yyyy has been used to indicate the date.	**þ**	**þ**
B.8.1.3. Is this consistent with the time line of the PDD history?	1,2	Yes. It is consistent with the time line of the PDD history.	**þ**	**þ**
B.8.1.4. Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1,2	Yes. The information on the persons (Mr Carlos Henrique Delpupo, Miss. Sheila Guebara de Souza and Miss Andrea Marilia Loyola) and entity (Instituto TOTUM) responsible for the application of the baseline and monitoring methodology is provided consistent with the actual situation.	**þ**	**þ**
B.8.1.5. Is information provided whether this person / entity is also considered a project participant?	1,2	The information was not provided in version 1 of the PDD. During the on-site visit the information has been included into the PDD.	**þ**	**þ**
C. Duration of the project activity / crediting period				
C.1. Duration of the project activity				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1,2,5	**Corrective Action Request No.20.** 1. The project´s starting date should be modified to the date when the purchase of the project equipment was approved	**CAR 20**	**þ**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		by the supply manager on September 04, 2007. From that date the project may be considered as irreversible without big financial losses. 2. The operational lifetime of the proposed project activity indicated in the PDD should be evidenced.		
C.2. Choice of the crediting period and related information				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1,2	It is chosen a renewable crediting period of 7 years. The start of the crediting period is indicated with 01/08/2008. This is reasonable.	þ	þ
C.2.2. Has dd/mm/yyyy format been used to indicate the start date of the crediting period.	1,2	The format dd/mm/yyyy has been correctly indicated.	þ	þ
D. Environmental impacts				
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved? If yes answer also D.1.2 to D.1.4	1,2, 18	There is no EIA necessary for this kind of project activity. This has been confirmed on-site by verifying Article 2 of the CONAMA Resolution n°1 /23/01/1986.	þ	þ
D.1.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1,2	Environmental impacts are sufficiently described in the PDD.	þ	þ
D.1.3. Will the project create any adverse environmental effects?	1,2	The environmental impacts related to this project activity are not considered significant.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
D.1.4. Were transboundary environmental impacts identified in the analysis?	1,2	No transboundary environmental impacts are involved with the project activity. The PDD informs about it.	þ	þ
D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1,2	See D.1.2. and D.1.4.	þ	þ
D.2.2. Does the project comply with environmental legislation in the host country?	1,2, 13, 15	The project complies with the environmental legislation in the host country. The valid operational licence as well as the request for a new operational licence including the proposed project activity have been presented to the validation team during the on-site visit. **Corrective Action Request No.21.** Please include information about environmental licences into the PDD.	**CAR 21**	þ
E. Stakeholders' comments				
E.1.Brief description how comments by local stakeholders have been invited and compiled				
E.1.1. Have relevant stakeholders been consulted?	1,2, 25	Yes. Relevant stakeholders have been consulted in February 2008. Confirmations about receipt of the letters have been presented to the validation team during the on-site visit. The only confirmation still missing is the one from the Brazilian Forum of NGOs. **Corrective Action Request No.22.** The confirmation about receipt of the letter from the Brazilian Fo-	**CAR 22**	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		rum should be still submitted to the validation team.		
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1,2, 25	The invitation letters were handed out personally or sent by postal (in the case of Brazilian Forum of NGOs).	þ	þ
E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1,2	The Brazilian DNA gives guidance how the local stakeholder process has to be conducted. The validation team may confirm that the process has been performed as required.	þ	þ
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1,2	Yes. The undertaken stakeholder process that was carried out is described in a complete and transparent manner.	þ	þ
E.2. Summary of the comments received				
E.2.1. Is a summary of the received stakeholder comments provided?	1,2	There have been no comments received so far. **Clarification Request No. 1.** The validation team should be informed if stakeholder comments have been received.	**CR 1**	þ
E.3. Report on how due account was taken of any comments received				
E.3.1. Has due account been taken of any stakeholder comments received?	1,2	See E.2.1.	**See CR 1**	þ
F. Annexes 1 - 4				
F.1. Annex 1: Contact Information				
F.1.1. Is the information provided consistent with the one given under section A.3?	1,2	Yes. The information provided in Annex 1 is consistent with the one given in A.3.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
F.1.2. Is the information on all private participants and directly involved Parties presented?	1,2	Yes. Information on all private participants is presented.	þ	þ
F.2. Annex 2: Information regarding public funding				
F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1,2	There is no public funding involved.	þ	þ
F.2.2. If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1,2	Not applicable as no public funding involved.	þ	þ
F.3. Annex 3: Baseline information				
F.3.1. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	------	Not applicable, as no additional information is provided.	þ	þ
F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	------	Not applicable.	þ	þ
F.3.3. Does the additional information substantiate / support statements given in other sections of the PDD?	------	Not applicable.	þ	þ
F.4. Annex 4: Monitoring information				
F.4.1. If additional background information on monitoring is provided: Is this informa-	1,2	Yes. Additional background information is consistent with data presented in other sections of the PDD.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
tion consistent with data presented in other sections of the PDD?				
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1,2	See B.7.2.4.	**See CAR 19**	**þ**
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1,2	See B.7.2.4.	**See CAR 19**	**þ**

Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action re-quests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
Corrective Action Request No.1. 1. It is not clear according to the description of A.2. how the proposed project activity will reduce CO2 emissions. Please explain. 2. It is not explained in A.2. how the proposed project activity contributes to sustainable development. Please add. 3. The purpose of the proposed project activity should be more retraceable.	A.2.1.	**Answer 25.04.2008:** **1.** Information regarding GHG emission reduction added in section A.2 of the PDD. **2.** Information added in the last paragraph of section A.2 of the PDD. **3.** The project activity was more detailed and structured throughout section A.2 of the PDD. **Answer 05.05.2008:** **1.** The increase was added to section A.2. of the PDD. **2.** Further information was added in the final paragraph of section A.2.	**Conclusion 27.04.2008:** 1. Information how the proposed project activity will reduce CO2 emissions is provided in the last submitted PDD. However, the baseline mentioned in A.2. should consider the increase of slaughtered animals to 2,500 heads per day. 2. The contribution to sustainable development should be discussed in more detail in A.2. of the PDD. 3. The purpose of the proposed project activity is retraceable in the last submitted PDD. **Conclusion 06.05.2008:** 1. The increase to 2,500 slaughtered animals per day has been considered in the baseline scenario of the last

			submitted PDD. 2. The last submitted PDD explains how the proposed project activity contributes to sustainable development. **CAR 1 is considered to be resolved. þ**
Corrective Action Request No.2. Please describe in detail the technical design of the project activity as it was described to validation team and project developer during the on-site visit.	A.4.2.3.	**Answer 25.04.2008:** The applied technology in the project activity was detailed in section A.2 following the provided explanation from the project developer and added throughout the PDD. **Answer 05.05.2008:** The detailed version of the technology applied was placed in section A.4.2. and a shorter version can now be found in section A.2.	**Conclusion 27.04.2008:** The detailed description of the applied technology should be mentioned rather in A.4.2. than in A.2.. A.2. should give just a short overview about the applied technology. Please revise. **Conclusion 06.05.2008:** The detailed description of the applied technology is applied in A.4.2. of the last submitted PDD. **CAR 2 is considered to be resolved. þ**
Corrective Action Request No.3. Information about technology transferred from other countries and/or manufactured domestically is missing in the PDD. Please provide respective information.	A.4.2.4.	**Answer 25.04.2008:** Information regarding technology transference was added in section A.4.2. of the PDD.	**Conclusion 27.04.2008:** No technology transfer is involved. Information was provided in A.4.2. of the last submitted PDD. **CAR 3 is considered to be resolved. þ**

Corrective Action Request No.4. Please provide information in the PDD that the technology implemented by the project activity is environmentally safe.	A.4.2.5.	**Answer 25.04.2008:** Information added in the final paragraph of section A.4.2 of the PDD. **Answer 05.05.2008:** The information regarding how the technology implemented is environmentally safe was added in section A.4.2. of the PDD.	**Conclusion 27.04.2008:** Finally it is nothing said in A.4.2. of the PDD whether and why the technology implemented is environmentally safe. Please describe. **Conclusion 06.05.2008:** Information about environmental safety has been revised in the last submitted PDD. **CAR 4 is considered to be resolved. þ**
Corrective Action Request No.5. A time schedule for the implementation of the CDM project activity should be presented in the PDD.	A.4.2.11	**Answer 25.04.2008:** A time schedule was added to the PDD in section A.4.2.	**Conclusion 27.04.2008:** The time schedule was included in the last submitted PDD. **CAR 5 is considered to be resolved. þ**
Corrective Action Request No.6. A.4.5. should mention the debundling criteria (project participant, project category/technology, registered within previous two years and boundary within 1 km of the project boundary).	A.4.5.1.	**Answer 25.04.2008:** The debundling criteria were added in section A.4.5 of the PDD.	**Conclusion 27.04.2008:** Debundling criteria were added in the last submitted PDD. **CAR 6 is considered to be resolved. þ**
Corrective Action Request No.7. The name of the methodology has to be modified to "Avoidance of methane production in wastewater	B.1.1.1.	**Answer 25.04.2008:** The name of the methodology was altered in section B.1 of the PDD.	**Conclusion 27.04.2008:** The name of the methodology is correct in the last

treatment through replacement of anerobic lagoons by aerobic systems".		B.1 of the PDD.	ogy is correct in the last submitted PDD. **CAR 7 is considered to be resolved. þ**
Corrective Action Request No.8. Criteria 1-3 have to be mentioned in the PDD and the applicability to the proposed project activity has to be demonstrated.	B.2.1.1.	**Answer 25.04.2008:** The detailed technical characteristics of the equipment from FAST are in a document provided by FAST which is attached to the protocol. (Annex CAR 8)	**Conclusion 27.04.2008:** Applicability criteria are mentioned in the last submitted PDD. **CAR 8 is considered to be resolved. þ**
Corrective Action Request No.9. The spatial and technological boundary should be revised in the PDD.	B.3.2.	**Answer 25.04.2008:** A schematic diagram of the aerobic system for effluent treatment applied in the project activity which encompasses the project boundary was added in the section B.3 of the PDD. **Answer 05.05.2008:** We do not agree with the validation team's opinion once the title of figure 2 clearly illustrates that it is not related to the project boundary. This scheme is meant to detail what a slaughterhouse process involves in order to clarify someone's vision on the process. But to avoid any further disagreement the figure was placed in section A.2.	**Conclusion 27.04.2008:** It is quite confusing in the opinion of the validation team to indicate Figure 2 in chapter "Project boundary". Someone could interprete Figure 2 as project boundary. Please make it more transparent that Figure 2 is not the project boundary or take it from this chapter. **Conclusion 06.05.2008:** The figure was placed in section A.2., thus **CAR 9 is considered to be resolved. þ**
Corrective Action Request No.10. 1. Please include the alternative "installation of another type of aerobic wastewater treatment system such as biological filters, bio disks and processes like	B.4.2.	**Answer 25.04.2008:** 1. ***Option 3 -*** *Installation of another aerobic wastewater treatment system such as biological filters, bio disks (rotating biological contactors)*	**Conclusion 27.04.2008:** 1. The requested alternative "installation of another type of aerobic wastewater treatment

activated sludge" and explain why it is not the baseline scenario. 2. Please describe the development of the baseline in B.4. of the PDD.		*and processes like activated sludge* - this was added to section B.4 and B.5 of the PDD. 2. B.4 was re-structured and additional information was added in order to better develop the baseline scenario. **Answer 05.05.2008:** **1.** In section B.4 an explanation was detailed on why the aerobic treatments are not considered as an alternative to the baseline scenario.	system such as biological filters, bio disks and processes like activated sludge" was included in the last submitted PDD. However, it is not explained at all why this alternative is not the baseline scenario. Please revise. 2. The development of the baseline was described in B.4. of the last submitted PDD. **Conclusion 06.05.2008:** Explanation may be considered as sufficient in the last submitted PDD. **CAR 10 is considered to be resolved. þ**
Corrective Action Request No.11. It has to be mentioned in sub-step 1.b) that the alternative "Untreated wastewaster is being directly discharged into sea, river, lake, stagnant sewer or flowing sewer" is not in conformance with the law.	B.4.5.	**Answer 25.04.2008:** Section B.4 of the PDD was altered and the required information was added. **Answer 05.05.2008:** English revised in section B.4.	**Conclusion 27.04.2008:** English is not clear. Please revise. **Conclusion 06.05.2008:** English was revised in section B.4. of the last submitted PDD. **CAR 11 is considered to be resolved. þ**
Corrective Action Request No.12. .	B.5.2.	**Answer 25.04.2008:**	**Conclusion 27.04.2008:**

1. Please revise the applicability of the simple cost analysis in the case that sludge is used as fuel for the boiler operation. 2. Please submit a revised excel sheet for the simple cost analysis.		1. The sludge will not be used as fuel for the boiler operation. 2. The calculation sheet was substituted by the Commercial proposal of FAST (Annex CAR12). **Answer 05.05.2008:** **2.** The costs involved in the installation and construction are not included once the construction is still going on. If I write values that can not be evidenced that will be a problem so I would rather not include the costs without definition.	1. As sludge will not be used as fuel for the boiler operation, the simple cost analysis may continue to be used. 2. Installment/Construction costs are not considered in the simple cost analysis. Project participants should inform why not. Please indicate explicitly that no other benefits are generated by the proposed project activity than CDM related income. **Conclusion 06.05.2008:** Answer regarding installation and construction costs may be accepted due to conservativeness. The last submitted PDD mentions that all financial support arises from the CDM. **CAR 12 is considered to be resolved. Please refer also to CAR 25. þ**
Corrective Action Request No.13. 1. Please explain the exact differences between the proposed project activity and other aerobic treatment systems like bio disks, biological filters and processes such as activated sludge.	B.5.10.	**Answer 25.04.2008:** 1. The various types of aerobic systems were detailed in section B.4 of the PDD and the studies used are attached to the protocol. (Annex CAR13_A, CAR13_B, CAR13_C)	**Conclusion 27.04.2008:** 1. Project participants explain other aerobic treatment systems like bio disks, biological filters and processes such as

2. Please explain the exact differences of already other implemented aerobic treatment systems implemented by FAST to the proposed project activity.		2. The already existing aerobic flotation systems were described in section B.5 of the PDD and the differences between the existing flotation system and the one provided by FAST were explained in section B.5 of the PDD. **Answer 05.05.2008:** **1.** The drawings are meant to clearly explain the differences between the many aerobic systems. The differences were more detailed in section B.4.	activated sludge, however exact differences to the proposed project activity are not illustrated. Please explicitly explain the differences as this is important to show that the proposed project activity is not common practice. 2. See item 1. **Conclusion 06.05.2008:** Differences of other aerobic systems have been clearly demonstrated in the last submitted PDD. **CAR 13 is considered to be resolved. þ**
Corrective Action Request No.14. Please submit a clear evidence showing that CDM has been considered before project start (04.09.2007).	B.5.12.	**Answer 25.04.2008:** Attached to protocol. (Annex CAR14_page 6) **Answer 21.05.2008:** Translated pages have been submitted to the DOE.	**Conclusion 27.04.2008:** The relevant pages of the proposal and contract have to be submitted in English language to the validation team. The translated pages have to be clearly referenced and will be submitted together with the validation report to the EB. **Conclusion 21.05.2008:** Relevant pages of the document evidencing CDM consideration have been submit-

			ted in English language to the validation team. **CAR 14 is considered to be resolved. þ**
Corrective Action Request No.15. 1. Regarding the emissions factor: It should be explicitly mentioned in B.6.1. which option of AMS I-D is chosen for the calculation of the emissions factor 2. The formula for methane emissions from the anaerobic decay of the final sludge generated in the wastewater system in the year "y" should be mentioned, even though the value is zero.	B.6.1.2.	**Answer 25.04.2008:** 1. As already stated in the PDD in section B.6.2 the emission factor applied is prepared by project developers in Brazil following the tool methodology "**Tool to calculate the emission factor for an electricity system"**. Therefore there is no need to specify the options provided by AMS I.D. 2. The formula related to the project emissions from the decay of sludge was added to section B.6.1.	**Conclusion 27.04.2008:** 1. The validation team accepts the answer as the "Tool to calculate the emission factor for an electricity system" is applied and methodology AMS I.D. refers to this Tool. 2. Formula for methane emissions from the anaerobic decay of the final sludge was added in the last submitted PDD. **CAR 15 is considered to be resolved. þ**
Corrective Action Request No.16. Regarding the parameter "$Q_{ww,y,m}$ Volume of wastewater treated during the months m, during year "y"": Source (not measured by project developer, but by project owner) and QA/QC procedures have to be revised; correct reference to standards and accuracy have to be added. Besides, it has to be mentioned that the value refers to future slaughtering figures of 2.500 head of cattle per day. Please indicate the slaughtering figure today and the increase in %.	B.7.1.2.1.	**Answer 25.04.2008:** In section B.7.1 of the PDD the contents of the table regarding the parameter $Q_{ww,y,m}$ was modified according to what was said on site by the project owners. **Answer 05.05.2008:** Information was added in section B.7.1 in the value of data ($Q_{ww,y,m}$). We understand that the information was quite confusing so the information was clarified. The description refers to months and years as determined by the methodology.	**Conclusion 27.04.2008:** The explanation in value has to be revised. Please refer to "future slaughtering figures of 2.500 head of cattle per day". Please indicate the slaughtering figure today and the increase in % as requested in CAR 18. QA/QC procedures have not been revised yet: -It is not clear whether the

			hydric meter is the analogical meter or another flow meter. Please explain more transparent. -Besides, it is not clear what is meant with a "conservative approach" will be used based on the volume of wastewater in m^3 / hour". The analogical meters always measures per hour. Please explain. Why does the description refer to months and years? Please clarify. **Conclusion 06.05.2008:** All requested changings/addings have been realized in the last submitted PDD. **CAR 16 is considered to be resolved. þ**
Corrective Action Request No.17. Regarding the parameter "S_y – amount of sludge generated by the wastewater treatment in the year y": Data unit, value, measurement method, QA/QC procedures and comment should be revised; the accuracy and the exact reference to standards should be added.	B.7.1.2.2.	**Answer 25.04.2008:** In section B.7.1 of the PDD the contents of the table regarding the parameter S_y was modified according to what was said on site by the project owners. **Answer 05.05.2008:** Value was revised in section B.7.1. The value 5320 t was altered to 5472 t. B.7.1 and B.7.2 were revised.	**Conclusion 27.04.2008:** It is not clear why two different values are indicated: 5320 t and 5472 t. Please revise. Further on, it should be clearly mentioned that the sludge will be used aerobically in the fields of farmers (and not anerobically in land-

			fills). Measurement method should be revised: the methodology clearly indicates that sludge should be directly measured by weight or indirectly by its volume and density. Project particpants have used a mix of both. Please revise also in B.7.2. Even though accuracy is not exactly available yet, at least a rough idea of accuracy should be given (something like low or high accuracy). **Conclusion 06.05.2008:** Specifications of the parameter "S_y – amount of sludge generated by the wastewater treatment in the year y" have been revised in the last submitted PDD. **CAR 17 is considered to be resolved. þ**

Corrective Action Request No.18. 1. Please describe at what point the analysis, which provides the value for estimation of emission reductions were taken and the point where future analysis will be taken. 2. It has to be mentioned that the value refers to future slaughtering figures of 2.500 head of cattle per day. Please indicate the slaughtering figure today and the increase in %.	B.7.1.2.3.	**Answer 25.04.2008:** 1. The information regarding where the COD is measured today and where it will be measured in the aerobic system is detailed in the table regarding the data Σ **($COD_{y,m}$)** in section B.7.1. 2. Information added in section B.7.1 of the PDD in the table regarding the data Σ **($COD_{y,m}$).**	**Conclusion 27.04.2008:** Requested information has been provided in the last submitted PDD. **CAR 18 is considered to be resolved. þ**
Corrective Action Request No.19. The monitoring plan of the PDD should describe data collection, equipment calibration and QA/QC procedures for all parameters to be monitored.	B.7.2.4.	**Answer 25.04.2008:** The monitoring plan was detailed in section B.7.2 and in Annex 4. **Answer 05.05.2008:** The roles were explained in section B.7.2. The organigram is from Friboi and in terms of CDM Giuliano will assume all the monitoring responsibilities which is detailed in section B.7.2. **Flow rate** was removed from the QA/QC procedures to avoid further confusion. Yes, the flow rate will be measured with an analogical meter. Annex 4 was altered.	**Conclusion 27.04.2008:** -Roles and responsibilities of the environmental analyst and corporate environmental manager should be still explained. -Please include the CDM manager into the organigram as the main person responsible for CDM monitoring. Industrial manager and environmental coordinator may be taken out of the organigram as it is the same person. Otherwise it is very confusing. -QA/QC procedures mention "The water analysis that determines the **COD** and **flow rate** will be sent to an accred-

			ited laboratory…". What does in that context "flow rate" mean? How is it possible that a water analysis done by a laboratory determines the flow rate? Flow rate will be measured by the analogical meter. Please clarify. - Regarding Annex 4, item Data collection, it is mentioned "The wastewater will be collected manually. The sample will be made from the effluent that enters the flotation system." It is not clear at all to the validation team what is meant. Please be more accurate in the information. **Conclusion 06.05.2008:** All requested changings/addings have been realized in the last submitted PDD. **CAR 19 is considered to be resolved. þ**
Corrective Action Request No.20. 1. The project´s starting date should be modified to the date when the purchase of the project equipment was approved by the supply manager on September 04, 2007. From that date the project may be considered as irreversible without big financial losses.	C.1.1.	**Answer 25.04.2008:** 1. Date was altered in section C.1.1. 2. Document supplied by FAST is attached to protocol. (Annex CAR 20)	**Conclusion 27.04.2008:** 1. The project´s starting date was modified to 04/09/2007 as requested. 2. The operational lifetime is indicated with 10 years in the

2. The operational lifetime of the proposed project activity indicated in the PDD should be evidenced.			last submitted PDD and confirmed by the supplier FAST. **CAR 20 is considered to be resolved. þ**
Corrective Action Request No.21. Please include information about environmental licences into the PDD.	D.2.2.	**Answer 25.04.2008:** Information regarding operational license was added to section D.1 of the PDD and the document is attached to the protocol. (Annex CAR 21)	**Conclusion 27.04.2008:** Information about the valid operational license was added in D.1. of the last submitted PDD. **CAR 21 is considered to be resolved. þ**
Corrective Action Request No.22. The confirmation about receipt of the letter from the Brazilian Forum should be still submitted to the validation team.	E.1.1.	**Answer 25.04.2008:** Attached to the protocol. (Annex CAR 22)	**Conclusion 27.04.2008:** The receipt confirmation of the letter sent to the Brazilian Forum was submitted to the validation team. **CAR 22 is considered to be resolved. þ**
Corrective Action Request No.23. **(01.05.2008)** The start of the crediting period has to be revised as the period between submission for registration and the start of the crediting period has to be at least 8 weeks. Thus, 01/08/2008 as start of the crediting period is not possible anymore bearing in mind that a LoA is still pending.	-----	**Answer 21.05.2008:** The start of the crediting period was modified to 01/01/2009.	**Conclusion 21.05.2008:** The start of the crediting period was modified to 01/01/2009 and may be accepted by the validation team. **CAR 23 is considered to be resolved. þ**
Corrective Action Request No.24. **(01.05.2008)** JBS should provide the monthly expansion plan of	-----	**Answer 21.05.2008:** The monthly expansion plan of slaughtering figures has been submitted to the DOE.	**Conclusion 21.05.2008:** The validation team has received the expansion plan of

slaughtering figures in the Vilhena unit.		been submitted to the DOE.	ceived the expansion plan of slaughtering figures. It is clearly documented, that at the start of the crediting period the slaughtering figure will be 2,500 heads per day. **CAR 24 is considered to be resolved. þ**
Corrective Action Request No.25. (16.06.2008) How is it ensured that the existing lagoon system (pre-project system) would have been sufficient to treat the effluent from the expanded plant? The PDD has to be revised and has to include a discussion on this issue. Otherwise, it is not clear whether an improvement to the system was necessary due to the planned expansion in order to meet the environmental regulations (and thus the project would be a potential baseline scenario).	Certification Body (CB) Revision	JBS would have no other option than to invest in the extension of the current anaerobic wastewater treatment (alternative 2 in the PDD) in order to fulfill environmental regulations or to invest into the proposed project activity (alternative 4 in the PDD). An investment comparison analysis between two alternatives shows, that the Net Present Value of alternative 4 is much more negative than that of alternative 2, in other words alternative 4 is 75% more expensive than alternative 2. There is no income expected without CDM, which reenforces how the CDM incentive would be important to proceed with CDM. The PDD has been revised. The NPV calculation sheet as well as a cost compilation sheet were submitted to the validation team.	**Conclusion 25.07.2008:** The investment comparison analysis clearly shows, that the proposed project activity is much more expensive than the readjusted baseline scenario (expansion of the anaerobic lagoon system). The NPV calculation sheet as well as the cost compilation sheet have been verified by the validation team. The documents are retraceable and no errors have been found. **CAR 25 is considered to be resolved. þ**
Corrective Action Request No.26. (16.06.2008) The annual demonstration that sludge is applied to land should be added as a parameter to the Monitoring Plan in Section B.7.1.	CB Revision	The parameter “End-use of the final sludge” was included in B.7.1. of the PDD.	**Conclusion 25.07.2008:** The parameter “End-use of the final sludge” was included in B.7.1. of the last submitted PDD. It will be monitored whether the sludge is finally

			applied to land. **CAR 26 is considered to be resolved. þ**
Clarification Request No.1. The validation team should be informed if stakeholder comments have been received.	E.2.1.	**Answer 21.05.2008:** Stakeholder's comments were received by City Hall Vilhena and Municipal Secretary of Industry, Commercial, Agriculture and Environment (Semicam / Vilhena) and were sent to the DOE.	**Conclusion 21.05.2008:** Stakeholder comments were submitted to the validation team. There were no negative comments, thus no action was required. **CR 1 is considered to be resolved. þ**

Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)

Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-

Annex 2: Information Reference List

Reference No.	Document or Type of Information
1	On-site interview at "JBS S/A – Vilhena Unit" by auditing team of TÜV SÜD **Validation team on-site:** Johann Thaler TÜV Industrie Service GmbH TÜV SÜD Group **Interviewed persons:** Date: 06.03.2008 Representatives of **JBS S/A**: Giuliano Fabricio Conde, Environmental Coordinator Angela Garcia, Cooperative Environmental Manager Representatives of **INSTITUTO TOTUM**: Andréa Loyola, Project developer Sheila Guebara, Project Developer
2	Project Design Document "Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Vilhena Unit ", version 01, 18/02/2008, word and pdf-file, submitted on February 20, 2008.
3	CER calculation sheet "Wastewater Calculus_JBS_Vilhena", version 1, excel-file, submitted on February 19, 2008.
4	Signed Participation List, paper-copy.
5	Evidence for the project start: Electronical Commercial Approval (04.09.2007) about the purchase of the project equipment, pdf-file, submitted on March 06, 2008. This document was also submitted in English language on May 21, 2008 to the validation team.
6	Technical characteristics of the project equipment, "Memorial descritivo", manufacturer FAST, N° 03/2007, dated 15.10.2007, pdf-file,

Reference No.	Document or Type of Information
	submitted on March 06, 2008.
7	Declaration of the voluntary participation at the CDM project activity signed by JBS S/A and Instituto TOTUM, dated 29/02/2008, paper-copy, submitted on March 06, 2008.
8	Official Registry of land purchase, immatriculation n° 9718, dated 12/03/2002, paper-copy, presented on March 06, 2008 and contract of alteration of the legal entity from 02.03.2006, pdf-file, presented on March 06, 2008.
9	Time schedule for the project implementation, paper-copy, presented on March 06, 2008.
10	Environmental Technical Guide on swine and cattle slaughterhouses – Cleaner Production Series (Guia Tecnico Ambiental de Abates (bovinos e suinos) – Serie P + L, 2006, FIESP, CETESB and SMA, pdf-file, presented on March 06, 2008.
11	COD analysis, Analitica, collection date 30/01/2008, report dated 15/02/2008, collection date 28/11/2007, report dated 07.12.2007, collection date 24/08/2007, report dated 12/09/2007, paper-copy, presented on March 06, 2008.
12	Environmental operational license, issued by SEDAM/Rondonia on July 26, 2006, valid until 26/07/2008, N° 0002271/NUCOF/SEDAM, paper-copy, presented on March 06, 2008.
13	Layout of the anaerobic lagoon system "Layout Geral – Antes da ampliacao redes de esgoto e tratamento", dated 22/01/2008, registered CREA N° 8207023229, 06/02/2008, paper-copy, presented on March 06, 2008.
14	Request for the renewal of the environmental operational license, dated 05/03/2008, N° 001/2008, paper-copy, presented on March 06, 2008.
15	Plan for environmental control ("Plano de controle ambiental") including the existing anaerobic lagoon system and the future aerobic project system, dated 15/01/2008 with protocol of SEDAM N°052/08, dated 05/03/2008.
16	Photos evidencing the existance of anaerobic lagoons, jpg-files, photos taken on March 06, 2008.
17	RESOLUÇÃO CONAMA N. 1, DE 23.01.86, pdf-file, submitted on March 06, 2008.
18	Simple cost analysis „Planilha de investimentos", excel-file, submitted on March 06, 2008.
19	Additionality tool, version 4.

Reference No.	Document or Type of Information
20	Methodology AMS III-I: Avoidance of methane production in wastewater treatment through replacement of anaerobic lagoons by aerobic systems, version 6.
21	IPCC: Revised 2006 Guidelines for National Greenhouse Gas Inventories
22	IPCC: 2000, Good Practice Guidance
23	Invitation letters to stakeholders and receipt confirmations, dated February 2008, paper-copy, submitted on March 06, 2008 and April 25, 2008.
24	Temperature records, Agritempo, http://www.agritempo.gov.br.
25	Declaration FAST related to the lifetime of the project equipment, dated 08/04/2008, pdf-file, submitted on April 25, 2008.
26	Evidence for CDM consideration: contract between Instituto Totum and JBS S/A, dated 18/04/2007, pdf-file, submitted on May 05, 2008. Relevant pages were submitted also in English language on May 21, 2008 to the validation team.
27	Declaration JBS S/A related to the capacity increase of slaughtering figures, dated 29/04/2008, pdf-file, submitted on May 12, 2008.
28	Comments received by City Hall Vilhena and Municipal Secretary of Industry, Commercial, Agriculture and Environment (Semicam / Vilhena), Vilhena, dated 13/03/2008, pdf-files, submitted on May 12, 2008.
29	Evidence for the GPS coordinates, EKO – Qualidade Ambiental "PRAD_part 21.pdf", pdf-file, submitted on May 12, 2008.
30	Declaration FAST that the proposed project activity is first of its kind, dated 13/05/2008, pdf-file, submitted on May 13, 2008.
31	Final CER calculation sheet "Wastewater Calculus_JBS_Vilhena_25.07.20081", excel-file, submitted on July 28, 2008.
32	Final Project Design Document "Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Vilhena Unit ", version 04, 25/07/2008, word and pdf-file, submitted on July 28, 2008.
33	Monthly expansion plan of slaughtering figures, pdf-file, submitted on May 21, 2008.
34	Net Present Value calculation sheet "NPV-Investment Analysis", excel-file, submitted on July 26, 2008.

Reference No.	Document or Type of Information
35	Cost compilation sheet “Financial Analysis – Vilhena1”, excel-file, submitted on July 28, 2008.
36	Proposal for civil construction, VIERO Ltda., 3 excel-files, submitted on July 24, 2008.
37	JBS Internal Financial Follow-up, html-file, submitted on July 28, 2008.