DETERMINATION REPORT

Camco Carbon Russia Limited
DETERMINATION OF THE UTILIZATION OF BIOMASS FOR STEAM AND POWER SUPPLY AT PERESECHANSK SUNFLOWER OIL EXTRACTION MILL (PSOEM)

PROJECT NO. JI.VAL0162
DATE: 26/04/2010

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Date of Issue:	**Project Number:**
26/04/2010	JI.VAL0162
Project Title:	
"Utilization of biomass for steam and power supply at Peresechansk sunflower oil extraction mill (PSOEM)"	
Organisation:	**Client:**
SGS United Kingdom Limited	Camco Carbon Russia Limited
Publication of PDD for Stakeholders Consultation	
Commenting Period:	15 November 2008 to 14 December 2008
First PDD Version and Date:	Version 1, Dated 10th November 2008
Final PDD Version and Date:	Version 1.4 dd. 20th of April, 2010

Summary:

SGS United Kingdom Ltd. has made a determination of the JI project activity "Utilization of biomass for steam and power supply at Peresechansk sunflower oil extraction mill (PSOEM)". The scope of determination is the independent and objective review of the project design document, baseline study and monitoring plan and other relevant document of the project. The information in this document is reviewed against the requirements of Decisions 16 and 17 CP7 of the Marrakech Accords and Article 6 of the Kyoto protocol and subsequent guidance from JI supervisory committee.

The overall validation process, from Contract Review to Validation Report & Opinion, was conducted using internal procedures and against the criteria applicable for Track 1 project.

The first output of the validation process is a list of Corrective Actions Requests and Clarification Requests (CAR and CL), presented in Annex 3 of this document. Taking into account this output, the project proponent revised its project design document. The report is based on the findings of document reviews, the stakeholder consultation process and responses from the project participants to the findings raised in this report. This report should not be read without reference to the annexed Determination protocol, Findings overview and assessment checklist.

One CAR remains outstanding. CAR 1 is based on the finding that no documented approval is available from the Parties involved.

FAR#06 and FAR#10 have been raised which should be taken into account during first verification.

In summary, it is SGS' opinion that the proposed JI project activity correctly applies the project specific baseline and monitoring methodology as mentioned in JI-PDD adopted for the proposed project activity and meets the relevant UNFCCC requirements for the JI and the relevant host country, pending issuance of documented approval from the Parties involved.

Subject:		
JI Determination		
Validation Team:		
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Abbreviations

PSOEM	Peresechansk Sunflower Oil Extraction Mill
MP	Monitoring Plan
UNFCCC	United Nations Framework for Climate Change Convention
ERUs	Emission Reduction Units
SSH	Sunflower Seed Husk
CHP	Combined Heat and Power
PDD	Project Design Document
NPV	Net Present Value
EIA	Environment Impact Assessment

Conversion Factors and Definitions

No

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1 INTRODUCTION

1.1 Objective

Camco Carbon Russia Limitedhas commissioned SGS United Kingdom Ltd. to make a determination of the "Utilization of biomass for steam and power supply at Peresechansk sunflower oil extraction mill (PSOEM) project with regard to the relevant requirements for JI project activities. The determination serves as a design verification and is a requirement for all Camco Carbon Russia Limited projects. The purpose of a determination is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reduction units (ERUs).

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

1.2 Scope

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS United Kingdom Ltd. has, based on the recommendations in the Determination and Verification Manual, employed a risk-based approach in the determination, focusing on the identification of significant risks for project implementation and the generation of ERUs.

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

Documents reviewed as Part of Scope

- Terms of Reference
- Project Design Documents
- Baseline study
- Monitoring Plan and
- Monitoring protocol adopted by the project proponent
- Summary of comments from Local stakeholders

The only purpose of a Determination is its use during the registration process as part of the JI project cycle. Hence, SGS United Kingdom Ltd. can not be held liable by any party for decisions made or not made based on the Determination opinion, which will go beyond its purpose.

1.3 GHG Project Description

The project activity involves the introduction of combined heat and power (CHP) generation facility operating on biomass – sunflower seed husk (SSH) – to provide heat and power demand

of PSOEM. In the absence of project activity heat supply would have been met from natural gas consumption and electricity from the electricity grid. The biomass utilized in the project activity would in the absence of project activity been sent to landfill.

The project is implemented in the area of PSOEM, Peresichna, Dergachiv district, Kharkiv oblast, Ukraine.
The project activity is implemented in two stages:

Stage I – 2005:

Installation of SSH fired boiler #1 KE-18-22-330GDV to ensure heat supply of the enterprise and utilization of SSH.

Stage II – 2009:

Installation of CHP option consists of the implementation of the following facilities:
- SSH fired boiler #2 - Vyncke steam boiler on sunflower husk JNU-SUS.
- Siemens Steam Turbine TWIN AA46 with capacity addition 2.5 MW.

The project activity is expected to generate 156,950 tCOe during the period 2008-2012 on three accounts as under;
-Avoiding methane emissions by utilizing SSH, which otherwise would have been dumped in landfill
-Replacing natural gas with renewable biomass, SSH, to generate heat for process requirements
-Displacing grid supply by carbon neutral electricity generated through the project activity.

The project activity is expected to generate 31,390 tCO2e per year during the period 2008 – 2012.

2 METHODOLOGY

The determination consists of the following three phases:

I a desk review of the project design documentation
II follow-up interviews with project stakeholders and site visit
III resolution of outstanding issues and issuance of the final determination report and opinion.

Determination Protocol Table 1: Mandatory Requirements			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the determination report.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent determination process.*

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

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

Figure 1 Determination protocol tables

2.1 Review of Documents

The determination is performed primarily as a document review of the publicly available project documents. The assessment is performed by the lead assessor and local assessor using a validation protocol.

Findings established during the determination are either seen as a non-fulfilment of determination protocol criteria or where a risk to the fulfilment of project objectives is identified.

Corrective Action Requests (CAR) are issued, where:

i) mistakes have been made with a direct influence on project results;
ii) determination protocol requirements have not been met; or
iii) there is a risk that the project would not be accepted as a JI project or that emission reductions will not be verified.

The term Clarification is used where:

iv) additional information is needed to fully clarify an issue.

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

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

The completed determination protocol is enclosed in Annex 2 to this report.

The determination protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements are linked to checklist questions the project should meet.	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**Y**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CL)** is used when the validation team has identified a need for further clarification.*

2.2 Follow-up Interviews

A site visit was undertaken by the local SGS affiliate and interviews have been conducted and the results are summarized in Annex 1 to this report.

On 16th February 2009 SGS performed interviews locally with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of CAMCO International Ltd were interviewed. The main topics of the interviews are summarised in table 1.

Table 1 Interview Topics

Interviewed organisation	Interview topics
PSOEM	Project activity description, Monitoring plan, Project conceptualization and implementation
Group of JI	CDM PDD and technical aspects
Kolos	Serious ERU consideration etc.
Camco Carbon Russia Limited	Approval form Parties, baseline methodology Start date and crediting period, baseline calculation, investment analysis,

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination was to resolve the requests for corrective actions and clarification and any other outstanding issues which needed to be clarified for the positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by SGS were resolved during communications between the Client and SGS. To ensure the transparency of the determination process, the concerns raised and responses given are summarised in chapter 3 below and documented in more detail in the determination protocol in Appendix 2.

Since modifications to the Project design were necessary to resolve SGS's concerns, the Client decided to revise the documentation and resubmitted the project design documentation on 30/10/2009 (PDD Version 1.2), 23/12/2009 (PDD Version 1.3) and 20/04/2010 (PDD Version 1.4 /6.2/). After reviewing the revised and resubmitted project documentation, SGS issued this final draft determination report and opinion.

3 DETERMINATION FINDINGS

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

1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarised. A more detailed record of these findings can be found in the determination protocol in Annex 2.

2) Where SGS had identified issues that needed clarification or that represented a risk to the fulfilment of the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in Annex 3. The determination of the project resulted in 6 Corrective Action Requests and 9 Clarification Requests and 2 FAR (upgraded from clarification requests).

3) Where Clarification or Corrective Action Requests have been issued, the exchanges between the Client and SGS to resolve these Requests are summarised.

4) The conclusions of the determination are presented.

The final determination findings relate to the project design as documented and described in the revised and resubmitted project design documentation version 1.4 from 20/04/2010[/6.2/].

3.1 Project design

The project activity envisages implementation of combined heat and power generation by utilizing biomass (sunflower seed husk or SSH). In the absence of the project heat would have been generated using natural gas and electricity would have been imported from grid. The biomass would have been sent to landfill.

Therefore, the project activity would avoid the methane generation from biomass (SSH) and CO2 emissions from natural gas that is substituted by biomass and electricity generation from renewable sources that otherwise would have been emitted by the electricity grid.

The technical specification of stage 1 installation of sunflowers seeds husk fired boiler, as mentioned as technical parameters in PDD table A 4-1 has been confirmed from the technical documentation (passport) /12/. According to the technical passport boiler KE-18-22-330 GVD reg. #6848 was manufactured by JSC PO Biiskenergomash (Russia) in 2004. Established lifetime for equipment is 20 years. It has been confirmed that the boiler has been operated since 02/02/2005 accordingly with the operation permit issued by the Ukrainian technical supervision committee /13/. Furthermore, the stage 2 installation of Vyncke Steam Boiler JNO-SUS and Siemens Steam Turbine TWIN AA46 has been confirmed from the proposal for 24 t/h – 330 °C – 24 Bar boiler dd. 23.05 2008 /14/ and technical parameters of steam turbine as described in PDD table A 4-3 were crosschecked from the proposal # 103974-2C dd. 28.04.2008 /15/. The contract on turbine manufacturing and delivery /16/ was signed by 15/07/2008 between Siemens Turbomashinary Equipment GmbH and JSC “Kolos.” Therefore, it can be concluded the revised PDD Version 1.3 in the section A.2 and A.4.2 are correct and the description is complete.

The starting date of the project activity is 26/02/2004, when the contract for SSH Boiler (stage 1) was signed and commissioning of the SSH boiler took place in April 2005, which completed the first stage of the project activity.

The second stage boiler and turbine were installed by December 2009.

The operational lifetime of the project activity is 20 years, which is reasonable for the technology. The crediting period under JI will be between January 2008 and December 2012, which is found to be acceptable as the operational life time exceeds the crediting period chosen.

CL#01 was raised to provide the Letter of Approval from each Party involved in the project activity. In response, it has been ascertained that National procedure for JI registration is available on http://ji.unfccc.int/UserManagement/FileStorage/OVYPM9FQNK4D0GWUHI7X512RSETACZ accordingly with paragraph 7 which is reproduced below;

"In order to receive a letter of approval, an installation owner shall submit to the NEIA an application, determination report, project design documentation and accompanying documents" Therefore the letter of approval could be submitted only after determination report issuance. Therefore, CL#01 is kept open.

CL#02 was raised as under;

Article 5 requires "Annex 1 Parties to having in place, no later than 2007, national systems for the estimation of greenhouse gas emissions by sources and removals by sinks."

Article 7 requires " Annex 1 Parties to submit annual greenhouse gas inventories, as well as national communications, at regular intervals, both including supplementary information to demonstrate compliance with the Protocol".

This is to be ascertained if these requirements have been met.

In response, it has been assessed that the National System of GHG inventories has been developed. The national registering system of GHG emissions and removal by sinks has been established in accordance with governmental Order #554 dd. 21.04.2006 available in Ukrainian at http://www.menr.gov.ua/documents/KMU_554_10.04.06.doc

National GHG inventory reports are available on the website of National Environmental Protection Ministry. http://www.menr.gov.ua/cgi-bin/go?node=Nac%20kadastr%20parn%20gaz

Ukrainian register of Carbon Units is in the working mode at the moment. The web site of Ukrainian registry of carbon units /17/ is available in Ukrainian accordingly with reference on national DFP website. Information on actual status of National Carbon Registry is not available on this site. It is concluded that these requirements are not influenced by the project proponent in any manner, therefore, CL#02 is closed out.

CL#03 was raised to substantiate following statements made in the webhosted PDD

a) At the time of investment decision there was no CHP based on SSH
b) The documentary evidence to footnote 5 on page 19 of PDD confirmed that SSH burning for heat production was done on boilers adjusted to SSH
c) The training conducted after the implementation of the 1st stage illustrates how the barriers were neutralized but that is not to be considered as barrier. Kindly substantiate that absence of such training was a barrier.
d) The capital for the project is more than 10 times greater than the capital outlay under the baseline scenario

In response, it was identified that the statements are valid and correct, taking note of the response received from the PP along with the referenced documentary evidences

a/ According with documents presented SSH (Annex C) fired boilers operation is really faced with essential technical barrier especially where initially fossil fuel running boilers are being retrofitted for SSH firing. The presence of stable heat and/or power source such as central heating or power supply system could facilitate the application of SSH utilization technology. But

nevertheless the SSH firing technology has been under implementation in Ukraine since 1998-2000. The common practice analysis also confirms the same.
b/ Document Annex C has been received and was found to be reliable.
c/ The presence of technological barrier has been comprehensively substantiated by presented scientific conclusion (annex C)
d) The project investments includes

- SSH fired boiler KE-18-22-33-324 is about 0.8 mln EUR (prices 2005 y according to Account bill for capital assets from 01/01/04 to 31/01/08 /ref.38/)
- SSH fired boiler Vynke -24-330-24 – 2.3 mln EUR according with Proposal for JNO-SUS steam boiler 24 t/h – 330 ℃ – 24 Bar dd. 23.05 2008/14/

Total investments values of about 3.1 mln. EUR
Total investment for construction of two gas running steam boilers with equal capacity could be 0.23 mln EUR accordingly with proposal for gas fired steam turbines (as per Proposal for two gas running steam boilers #37/10 dd. 10/10/2008 issued by JSC "NTP Ukrpromenergo" /39/). Therefore the difference in investment between project and baseline of more than 10 times is confirmed. CL#03 was closed out.

CL#07 was raised to furnish documentary evidence that project technology will not be substituted during the project crediting period. Based on the response received, it was assessed that the substantiation of technology proposed in the project is not expected because the design of Vynke boiler as per proposal /14/ represents a state of art technology as it includes the application of slanting propulsive grate which gives significantly better performance in comparison with other commonly used technologies because it improves the effectiveness of the husk burning. The contract with the Siemens company on the turbine supply #1.4105 dd. 15.07.2008 has been checked out during the site visit /ref. 16/. CL#07 was closed out.

3.2 Baseline

The baseline methodology of the project activity has been developed in a way that reflects the situation specific to project activity. It has been assessed that the baseline methodology has been devised in a conservative way in line to the criteria approved by JI available at http://ji.unfccc.int/Ref/Documents/Baseline_setting_and_monitoring.pdf . In the project specific baseline methodology, alternatives to the power generation, heat supply and unused biomass have been sufficiently identified and covered.

The identified baseline scenarios for power generation are

P1: The project activity undertaken without JI benefits

P4: The grid supply from Ukrainian grid

The barriers associated with P1 are described in the Additionality section (later part of this section) of this report and the most likely scenario to meet the power, in the absence of project activity, is to obtain it from the Ukrainian electricity grid supply.

The identified baseline scenarios for the heat supply are

H1: The project activity undertaken without JI benefits

H4: The heat supply is obtained from purposely designed SSH boilers

H6: The heat supply is obtained from the Natural Gas fired boilers, which is an attractive choice comparing the availability of NG, economical attractiveness over Coal or Fuel Oil and associated additional cost of storage and logistic arrangements (for coal and fuel oil).

The barriers associated with H1 are described in the Additionality section (later part of this section) of this report and the most likely scenario to meet heat requirement, in the absence of

project activity, is to obtain it from the natural gas fired boilers, which is also a common practice in the region.

The identified scenario for unused biomass

B2: The biomass residues are dumped or left to decay under clearly anaerobic conditions.

B4: The biomass residues are utilized for heat and/or electricity generation at project site

The barriers associated with biomass residue for heat and/or electricity utilization are demonstrated in the Additionality section of this report (later part of this section) however the common practice in the region is to send biomass to a landfill site situated 15 km away from project site. The open dumping of biomass residues is not allowed as per Article 17 of Law of Ukraine on Waste of March 5th, 1998 # 187/98-BP.

Based on the combination of plausible alternatives to meet the heat and power requirement it has been found that the following three alternatives indicate the most realistic baseline:

1. Implementation of project activity without JI/ERU benefits
2. Heat obtained from two gas fired boilers, biomass residue sent to landfill and electricity imported from the grid
3. Heat obtained from biomass boilers and electricity imported from the grid

As discussed later in this section, the project activity without JI/ERU benefits is not financially attractive and therefore can be a baseline. The scenario 2 is identified as the most plausible baseline based on the highest NPV, or most economical of options.

CAR#12 was raised as Clause #17 paragraph "d" of Ukrainian Law on Wastes requires ***keeping and preventing against destruction for those wastes which could be utilized with existing techniques***. The PPs were asked how this requirement could be applied to SSH management. Does it mean the obligatory SSH utilization? In such case, SSH disposal on landfill is prohibited by law because its utilization techniques (usage as a fuel for energy generation) does exist and is well known in Ukraine. The PP were asked to provide clarification of above mentioned requirement from National Authorized Supervisory Body if possible. In response, the PP submitted information that according to the Letter from the Ministry of Environment of Ukraine #5248/20/10-09 from 21st April 2009, sunflower seed husk can be disposed at landfills. Keeping and preventing destruction of the wastes is a must when the technology for its utilization is already available at the site. It was confirmed from the letter from the Ministry of Environment, that it does confirm the possibility of husk disposal in landfill sites. Thus accepted and CAR 12 was closed out and lawfulness of the baseline was established.

Additionality:

The demonstration of Additionality has been done using the Investment Analysis. The results are summarized below;

The input values have been validated as below (further details are available in CL#03)

Item	Value	ref.
Natural Gas Price (UAH/m3)	327	The letter on gas and electricity prices issued by Ukrainian Academy of Agricultural Sciences #10/738 dd. 01/07/08 signed by deputy director Mr. Vus F.M. /40/
Electricity Price (UAH/KWh)	0.205	The letter on gas and electricity prices issued by Ukrainian Academy of Agricultural Sciences #10/738 dd.

		01/07/08 signed by deputy director Mr. Vus F.M. /40/
Bank interest Rate	15%	The letter from bank VTB about actual loan interest rate #483/01 dd.29/10/2008 /41/
EUR/UAH (2004 Average)	6.6	http://www.bank.gov.ua/Statist/Stat_data/Exchange_r.xls /42/

The NPV of the project activity has been found to be -23,999,556 UAH, which is lower than the other two alternatives

	Total capital expenses (UAH)	**NPV-AC** (UAH) till 2012, with 20 % discount rate
Baseline scenario (Scenario 1)	1,230,750	-22,056,259
Alternative scenario (Scenario 3)	20,665,248	-23,376,546
Project scenario (Scenario 2)	30,654,042	-23,990,556

As depicted above, the NPV in case of Scenario 1 is found to be -22,056,259 UAH, which is the lowest among options and NPV in case of Scenario 3 is -23,376,546 UAH, which falls in between. The NPV has been determined based on the discount rate of 20%, which is consistent in all the scenarios.

All the input assumptions associated with capital costs, operation costs, potential savings (by reduction in disposal cost of SSH to landfill site) have been included in the NPV spreadsheets and were found to be valid, this was verified by the local assessor. Based on the investment comparison analysis, the NPV of the project activity is found to be the highest for the identified baseline and lowest in case of project activity making it clear to understand that the project activity offers the lowest returns. However, with the help of potential ERUs, the return from project activity would increase and that has been the basis to go ahead with the project activity by the project participant despite being a costly option.

The sensitivity analysis reveals that baseline alternative remains the financially attractive in case the project cost, natural gas price and electricity price vary by a margin of 10%.

Parameters	Variation	**Scenario 1**	**Scenario 3**	**Scenario 2 (Project activity)**	**Remarks Lowest NPV**
Investment change	-10%	-22 235 314	-22 893 284	-23 280 325	Project activity
	+10%	-22 469 935	-24 421 368	-25 080 811	Project activity
Natural gas price change	-10%	-21 455 231	-23 632 891	-24 156 133	Project activity
	+10%	-23 250 019	-23 681 761	-24 205 003	Project activity
Electricity price change	-10%	-21 596 571	-22 901 272	-23 813 656	Project activity
	+10%	-23 108 678	-24 413 379	-24 547 480	Project activity

Therefore, it can be ensured that project activity among other two alternatives remains financially the most unattractive in case of reasonable variation in the investment capital, natural gas price and electricity tariff, which constitute the major cash flows. This ensures the robustness of financial indicator of the project activity.

CAR#14 was raised on the NPV spreadsheet for following points

1. The highlighted section shall be provided (translated in English) along with original source of information for investment and/technical specifications
2. The evidences for capital expenditure, interest rate, discount rate, operating expenses for all the three scenario
3. The formulae to calculate gas, electricity and ash quantity used in the calculation
4. The sensitivity analysis shall be applied (at least 10%) at capital expenditure, electricity tariff, gas price, discount rate and interest rate or the justification why sensitivity is not performed
5. The period of investment analysis is not consistent with operational life time of key component (20 years)
6. The price of SSH boiler is quite high as compared to NG boiler (at first stage and second stage). Could you elaborate on such a high cost of SSH boiler compared to NG boiler giving the similar output?
7. The loan document reflecting the Equity/Debt ratio and interest rate

In response, the sufficient information and reference documents were included in the NPV sheet itself and reviewed by the local assessor (which are in Russian/Ukrainian) and the lead assessor and were found to be consistent with the values used. The NPV spreadsheet has also been reviewed by an internal financial expert and was found to be reasonable and in line with standard accounting practice. Therefore **CAR#14** was closed out.

Common practice analysis:

It has been ascertained that project activity is not a common practice in the region due to associated higher capital cost, lower return and technical risks. It has been verified by the Local Assessor and also based on the Analysis of SSH Consumption: Ukraine Research Institute for Oils and Fats, Kharkiv, 01 Jul 2008, based on an independent study.

The environmental Additionality of the project is ensured as the grid emission factor is available from /53/ the assumptions have been taken from verifiable sources and have been checked.

CL#08 was raised as under

a) The start date of the project is not clearly defined. Documentary evidence for the same will be needed.
b) The length of crediting period is not clearly defined.
c) The operational lifetime of the project activity is 20 years. Kindly furnish the documentary evidence for the same.

It was established that the start date of the project activity is 26/02/2004 when the SSH Byisk boiler contract was signed. The mill was constructed and production started in April 2005.
For the second stage the start-up of husk fired boiler N2 –October-November 2009 and the start-up of turbo-generator – December 2009. The length of crediting period is as under
From February 2004 till December 2012:

- For the period to December 2007 Early Credits will be claimed to be transferred through Article 17 of the Kyoto Protocol (IET)
- For the period January 2008 till December 2012 credits will be transferred through Article 6 of the Kyoto protocol (JI)
- For the period after 2012 Late Credits will be claimed to be transferred through Regulation of the Cabinet of Ministers of Ukraine No. 1313 of 25th November 2009.

The operational lifetime of the project activity is considered as 20 years which is reasonable for the type of technology; however no documentary evidence, in lieu of the same was obtained. CL#08 was closed out. For the detailed closure of CL#08 please refer to Annex 3 (Findings overview) of this report.
CL#09 was raised for following points

- The installation of SSH fired boiler (1st stage of project) was performed accordingly with the general project of mill. The SSH fired boiler has been operated since mill started up. The project developers were asked to provide evidence for consideration of any possible alternatives (for example gas running boilers) during investment decision evaluation.
- Project of Norms for Wastes Origination and Management for PSOEM approved by local authorities does not consider possibility of husk disposal on landfill. The project developers were asked to provide evidence confirming that this would not represent a legal barrier against alternatives considering husk disposal on a landfill in baseline scenario.

Based on the response it was established that
The protocol of investment decision from (also 05/01/2004 and 20/01/2004) and 17.11.2004 does contain the comparative analysis of gas firing based energy production. SSH technology was chosen taking in consideration possibility of ERU.
The submitted letter from Environmental Protection Ministry of Ukraine does confirm that husk disposal on landfill does not contradict to legislation.
CL#09 was closed out.

3.3 Monitoring Plan

Section D of the PDD discusses the monitoring plan. It is assumed that the monitoring will reflect good monitoring and reporting practices. Considering that for the project activity, there is no specificly approved CDM methodology available, the project specific methodology provide sufficient measures to conservatively determine the emission reductions.

Following parameters will be monitored, as per Section D.1.1.1 of revised PDD, to determine project emissions associated with project activity

1. M-1 (Vng): Quantity of natural gas consumed as reserve fuel
2. M-2 (MCVng): Net calorific value of natural gas

The following parameters will be monitored, as per Section D.1.1.3 of revised PDD, to determine baseline emissions

3. M-3 (Mlandfill_husk): Mass of husk leaving the Enterprise directed to landfill
4. M-4 (Ngener): Quantity of electric power generated by the Enterprise with the further breakdown to the amount of electricity consumed by the enterprise and the amount exported to power grid
5. M-5 (mseeds): Mass of sunflower seeds feeding sunflower seeds processing
6. M-6 (fhusk content): husk content in the seeks
7. M-7 (Qheat): Net quantity of generated heat

Based on the provisions defined in the PDD and as verified by the assessment team during the site visit, it may be concluded that the project activity has sufficiently defined its monitoring system regarding the measurements, data recording and collection system. However the 2nd phase was not commissioned at the time of the site visit, which shall be checked during first verification.
CAR#04 was raised as
The PDD in section D.1.5 does not indicate how long the data will be archived. In response, it was established that all necessary data will be archived during 15 years starting from 01/04/2009. Upon receipt of sufficient information and correction in the revised documents CAR#04 was closed out.

CAR#05 was raised as

a) The emergency preparedness is not defined.
b) The PDD does not specify the calibration schedule.

c) The PDD does not specify the maintenance and monitoring equipment and installations.
d) Please define the procedures for monitoring, measurements and reporting.
e) Please explain the procedures for dealing with possible monitoring data adjustment and uncertainty.
f) Please explain the procedures for reporting and reviewing the data.
g) Please define the internal audit schedule for GHG monitoring.
h) Please define the procedures for data review before submission for verification.

In response the PP submitted,

a) Procedure of Localization and Elimination of Emergency Situations and Accidents on PSOEM of July 6, 2005 has been developed as separate document which copy has been submitted on site /ref. 44/.
b) Calibration of monitoring equipment is being performed in accordance with Calibration Schedule /ref. 45/. All already installed equipment is calibrated yearly.
c) Maintenance of monitoring equipment is the function of Dept of Control and Metering of PSOEM. The Chief Energy Engineer is responsible for this function performance. The relevant procedures shall be developed.
d) The Procedure of GHG Monitoring, Measurements and Reporting of PSOEM shall be developed. Now monitoring of energy and fuel consumption is being performed by Enumerator of Energy dept in accordance with personal instruction /46/ and procedure of energy equipment operation /47/. The procedure of GHG monitoring and reporting of PSOEM is indicated in the Procedure of Monitoring of GHG Emissions Reductions.
e) The procedure of possible monitoring data adjustment and uncertainty has not been developed yet. Manual corrections of monitoring data are not possible due to crosschecking of registered data with those obtained from parallel automated controlling and information system ASCUE. The review of monitoring data lays in responsibility of Chief Energy Engineer accordingly with Energy Equipment Operation Procedure /47/. The procedure of possible monitoring data and uncertainly is indicated in the Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009 and the Order #17 of PSOEM of Monitoring Plan from 01.04.2009.
f) The procedure of data reporting and reviewing has not been developed yet however the procedure of data reporting and reviewing is indicated in the Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009 and the Order #17 of PSOEM of Monitoring Plan from 01.04.2009.
g) The internal audit procedure for GHG monitoring has not been developed yet however the internal audit procedure for GHG monitoring is indicated in the Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009 and the Order #17 of PSOEM of Monitoring Plan from 01.04.2009.
h) Chief Engineer of PSOEM shall review the monitoring data before reporting and a corresponding revised PDD was submitted.

Upon receipt of the sufficient information CAR#05 was closed out.

CL#10 was raised as the source of steam generation data is unclear because steam counter has not been installed (as it was visually observed on site). The project developers were asked to identify the source of steam production data for time period from 2005 y or how they were calculated.

It was verified that the steam meter is not installed and it should be checked at the time of verification and CL#10 has been converted into FAR#10.

CL#11 was raised for;

- Level of uncertainty has not been identified and officially established as standard for husk content estimation. Applied method is not included in accreditation area of laboratory. Please adjust the compliance to legal norms of metrology considering this method is not officially approved and its metrological characteristics (level of uncertainty) are not defined.

In response, the PP submitted evidence that the method of husk content evaluates at PSOEM is in concordance with the DSTU 4601:2006 Seeds of Oil-Beering Crops (Methods of Sampling) and the GOST 10855-64 Oil Seeds, Methods for Determination of Hull Content. The method of husk content estimation is indicated in the Instruction #39/Л Husk Estimation from 05.01.2009. Pursuant to manual for husk content estimation #39/Л approved by the head of laboratory the uncertainty level of this method is 0.5%. The method described in manual differs from official standard GOST 10855-64 proposed uncertainty level to be of 1%.
Taking in consideration a minor deviation from standard and low values of uncertainty the application of method could be accepted and CL 11 was closed out.

3.4 Calculation of GHG Emissions

In the PDD (Table B 3-1) the sources of emissions for baseline and project are appropriately identified, which is consistent with the Fig. B 3-1 and Fig. B 3-2. It is ascertained that the project activity has clearly defined the project boundaries and accordingly included the emission sources. The project activity will not involve any leakage, (emission outside the project boundary) based on the information verified in the PDD and site specific situations, therefore leakage has been considered zero.

The emissions (as defined in D.1.1.2) in case of project activity are considered for following the usage;

1. Emissions due to usage of natural gas as a reserve fuel
2. Emissions due to usage of grid electricity for the project activity

In section D.1.1.2 the expression to determine the project emissions are clearly defined and correct. The relevant sources for emission factor are clearly defined e.g. Natural Gas and Grid.

The baseline emissions (as defined in D.1.1.4) are appropriate in the context of the project activity and have been further broken down to 3 aspects as under:

1. Emissions due to usage of natural gas for the heat requirement by enterprise, in the absence of project activity
2. Emissions associated with CH4 release into the atmosphere due to decay of husk in the landfill, in the absence of project activity
3. Emissions associated with consumption of electricity usage for enterprise from power grid, in the absence of project activity

The expressions to determine the baseline emissions are clear, correct and conservative. The relevant sources of emission factors are clearly defined and found to be valid.

The emissions reductions estimated in the PDD (in section E) are clearly defined and found to be correct and clear. The baseline emissions and project emissions, as defined above have been appropriately quantified to estimate the emission reductions and additionally represented in the ER spreadsheets, with inclusion of sources for underlying assumptions. These assumptions have been verified and found consistent with the referred sources.

CAR#13 was raised for the following point;

Start up of 2nd husk fired boiler and steam turbine could hardly be completed in Feb-Mar and Mar-April of 2009 as proposed by PDD because the equipment had not been delivered, construction works had not been started and official permit had not been issued by the time of site visit. The project developers were asked to revise the starting time for 2nd stage accordingly.

In response, the revised PDD was submitted as the second stage could be completed till Dec 2009 only and accordingly the revised ERU spreadsheet was presented, which was found to be acceptable. Therefore, CAR#13 was closed out.

CAR#15 was raised on ERU spreadsheet for the following issues;

The project developers were requested to provide complete and verifiable responses/references to the highlighted differently cells and question marks which were added adjacent to the cell in question in the commented ER spreadsheet.

In response, the PP submitted a revised ERU spreadsheet which contained all the sources clearly referenced. The revised spreadsheet was checked and verified by the assessment team and was found to be correct. Therefore, **CAR#15** was closed out.

3.5 Environmental Impacts

The Environmental Impact assessment /18/ was performed as the part of the feasibility study. As required by law the EIA for the 1st stage of the project implementation was performed /18/ and approved by the authorized State bodies /19/ /20/.

Considering the usage of SSH in the project activity it is reasonable to assume that project activity will not result in any adverse environmental impacts. All in all the environmental impacts of the project activity shall be largely positive. The issue has been discussed in the Local Assessment checklist and closed there.

CL#06 was raised to comment if there are EIA requirements for the project activity? In response, it was identified that;

The EIA for the 1st stage was developed at 2004 as the part of the feasibility study as required by law. Copies of the EIA /ref.18/ and its approval by State Expertise /20/ and State Sanitary and Epidemiology Service /19/ has been submitted on site.

The EIA for the project of installation of new SSH fired steam boiler and steam turbine has already been developed and now it is being passed through the State Environmental Expertise, which has not been completed yet. Without official EIA approval we do not have possibility to confirm the compliance of second stage of project to legal environmental requirements of the Host Country.

Provided the EIA for 2nd stage of the project is passed through State Expertise its positive conclusion should be further submitted for verification. Thus CL#06 could be transformed into FAR#06. For other issues as part of CL#06 the issue is closed out.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD for this project was made available on the JI web site as mentioned below http://ji.unfccc.int/JI_Projects/DB/NR4W0AA45I32GJCB1WD66SDUWG2PJW/PublicPDD/KEU99UPMKWIJ5PSRRT6RCBVITHRS2N/view.html and was open for comments from 15/11/2008 to 14/12/2008. Comments were invited through same web link on email id of Lyn Willis at ukclimatechange@sgs.com as contact person of AIE for JI projects.

No comments were received.

5 DETERMINATION OPINION

SGS United Kingdom Ltd. has performed a determination of the JI project activity "Utilization of biomass for steam and power supply at Peresechansk sunflower oil extraction mill (PSOEM)". The determination was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.
The review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for JI and all relevant host country criteria.
By utilizing the SSH (biomass residues) in the combined heat and power generation the project activity will result in the emissions reduction on account of natural gas usage, release of methane into the atmosphere thorough decay of SSH and displacing the fossil fuel intensive grid supply, which otherwise would have been produced there. Therefore, the project results in reductions that would be real, measurable and giving long term benefits to the mitigation of climate change.
An analysis of the investment and common practice 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.

Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions i.e. 30,618 tCO2 as total for the period 2005-2007, 156,950 tCO_2e as total for the crediting period of 5 years from 1st January 2008 to 31st December 2012 and 529,815 for the period 2013-2022.

The determination has revealed that the project has not received approval of the Parties involved in the project activity and MoC were not presented to SGS hence CAR 1 is kept open.

Forward Action Requests: 2 Nos. of FAR's (FAR#06, FAR#10) have to be taken into account during further verification.

The determination is based on the information made available to SGS and the engagement conditions detailed in the report. The determination has been performed using a risk based approach as described above.

SGS United Kingdom Ltd. cannot guarantee the accuracy or correctness of this information. Hence, SGS United Kingdom Ltd. cannot be held liable by any party for decisions made or not made based on the determination opinion.

6 REFERENCES

Category 1 Documents:

/1/ JI PDD version number: 1.0 dd. 10th of November, 2008

/2/ Excel spreadsheet NPV-AC_Peresechansk.xls

/3/ Excel spreadsheet Emissions and Monitoring Peresechansk.xls

/4/ JI PDD version number: 1.1 dd. 27th of April, 2009

/5/ JI PDD version number: 1.2 dd. 30th of October, 2009

/6.1/ JI PDD version number: 1.3 dd. 23rd of December, 2009

/6.2/ JI PDD version number: 1.4 dd. 20th of April, 2010

/7/ Excel spreadsheet NPV-AC_Peresechansk.xls (Final Investment Analysis Sheet)

/8/ Excel spreadsheet Emissions and Monitoring Peresechansk.xls (Final ER Sheet)

/9.1/ Letter of Approval from Host Party (Ukraine) - Pending

/9.2/ Letter of Approval from other Party (UK) – Pending

/9.3/ Modalities of Communication - Pending

Category 2 Documents:

/10/ DECREE No. 206 dated February 22, 2006 On Approval of the Procedure of Drafting, Review, Approval and Implementation of Projects Aimed at Reduction of Anthropogenic Emissions of Greenhouse Gases (title is restated by the Decree of the Cabinet of Ministers of Ukraine No. 718 dated August 20, 2008) As amended by the Decrees of the Cabinet of Ministers of Ukraine No. 392 dated April 17, 2008 and No. 718 dated August 20, 2008).
http://ji.unfccc.int/UserManagement/FileStorage/OVYPM9FQNK4D0GWUHI7X512RSETACZ

/11/ Letter of Endorsement issued by Ukrainian Ministry of Environmental (available on Ukrainian) Protection signed by Deputy Minister Mr. Bevza

/12/ Technical documentation on sunflower seed husk fired boiler KE 18-22-330-GDV ser. #4800 reg. #6848 manufactured by JSC “PO Biiskenergomash” in 2004 y

/13/ Operational permit #207.05.30-28.30.0 boiler KE 18-22-330-GDV ser. #4800 dd. 02/02/05 for issued by Ukrainian technical supervision board.

/14/ Proposal for JNO-SUS steam boiler 24 t/h – 330 ℃ – 24 Bar dd. 23.05 2008

/15/ Proposal on steam turbine TWIN AA46 #103974-2C dd. 28.04.2008

/16/ Contract #1.4105 dd.15/07/2008 between Siemens Turbomashinary Equipment GmbH and JSC “Kolos”

/17/ http://www.carbonunitsregistry.gov.ua/

/18/ Environmental Impact Assessment for project of Oil Extraction Mill with capacity of 500 t of sunflower seeds per day #96923-0-OBOC developed by JSC “Kharkov projecting

institute" dd. 2004 y.

/19/ Sanitary and Epidemiologic Expertise conclusion on the project of Reconstruction of Dergachevsky Feed-stuff mill into the oil extraction mill with capacity of 500 t of sunflower seeds per day in the Peresechnya settlement, Kharkov region owned by JSC "Kolos". #547 dd. 19/11/2004.

/20/ State Environmental Expertise conclusion on the project of Reconstruction of Dergachevsky Feed-stuff mill into the oil extraction mill with capacity of 500 t of sunflower seeds per day in the Peresechnya settlement Kharkov region owned by JSC "Kolos". #547 dd. 19/11/2004.

/21/ Permit for Air Pollutant Emissions #2742/2552/00/08 dd.22/03/2006

/22/ The agreed amounts of electricity purchased in 2009 signed by power supplier JSC "Kharkovenergo" and JSC "Kolos"

/23/ National Low on Wastes #187/98 BP dd. 05/03/1998 in redactions of lows dd. 7/03/2002 # 3073-III, and dd. 23/12/2004 # 2290-IV

/24/ Project of Norms for Waste Origin and Waste Management with Register of Wastes originated on LLC Peresechansky Oil Extracting Mill signed by Director of mill and approved by Heads of regional depts of Sanitary-and-Epidemiologic and Environmental Supervisory services 19/10/2006.

/25/ Sanitary and Epidemiological Expertise Conclusion on the project of waste management # 208 dd.17/03/06.

/26/ Environmental payments calculation for Jan.- Sep. 2008 y signed by PSOEM Director and Chief Accountant.

/27/ Waste Management Permit #554 dd. 12/10/2007 issued by Kharkov regional dept of Ukrainian Environmental Protection Agency

/28/ The letter from Senior Engineer of PSOEM Mr. Bakhmutov dd. 15/02/2007.

/29/ The letter from Chairman of Supervisory Committee Mr. Vanetsyan K.R. on the production plan for 2008-2009 yy. dd 17/06/2008

/30/ The laboratory report calculation of expected oil production for Dec. 2008y.

/31/ The technical conditions for gas supplying of PSOEM in Peresechnoye settlement issued by regional gas supplier JSC Kharkivgaz. #18-1-81 dd.27/08/2004

/32/ PSOEM material balance calculation for 2008 y.

/33/ Certificate of accreditation for PSOEM's laboratory #100-2957/2008 dd. 04/08/2008 valid until 03/08/2011

/34/ Instructions #17/l and#7/l to estimation of husk contend in seeds approved by head of laboratory Mr. Berezovsky L.R. dd. 25/09/2007

/35/ Manual for applied electricity counter Landis&Gir model ZxD400CR

/36/ Manual for weighing machine for statically trucks weighting #987.

/37/ Protocols of examinations of the knowledge on Safety Rules of Design and operation of Boilers and High Pressure Vessels #96 dd.14/08/08, #755 dd.22/11/2007 and 4/77 dd.14/11/2008.

/38/ Account bill for capital assets from 01/01/04 to 31/01/08

/39/ Proposal for two gas running steam boilers #37/10 dd. 10/10/2008 issued by JSC "NTP Ukrpromenergo"

/40/ The letter on gas and electricity prices issued by Ukrainian Academy of Agricultural Sciences #10/738 dd. 01/07/08 signed by deputy director Mr. Vus F.M.

/41/ The letter from bank VTB about actual loan interest rate #483/01 dd.29/10/2008

/42/ http://www.bank.gov.ua/Statist/Stat_data/Exchange_r.xls

/43/ Plan of control of compliance to Environmental norms signed by Director of PEOEM

/44/ Plan of localization and mitigation of emergency consequences approved by Director of JSC "Kolos", Regional industrial safety supervisory agency and regional dept of Ministry of Emergencies dd. 6/07/2005

/45/ Metering equipment calibration schedule for 2008 y approved by director of PSOEM dd. 20/10/2008

/46/ Instruction for enumerator of Energy department approved by director of PSOEM

/47/ Internal Quality Management System Standard Energy Equipment operation procedure

/48/ Certificate of Quality Management System compliance to standard ISO 9001:2000 #2008-9964 dd. 5/09/2008 valid till 5/09/2011

/49/ The calculation of emission spread, substantiation of Sanitary-Protective zone and calculation of needs of control of emission sources for the industrial site LLC "Peresechansky oil extraction mill" developed by Scientific and Industrial Enterprise "Kharkovecologia" Kharkov, 2006 approved by Director of PSOEM Mr. Kolesnik P. dd.24/02/2006

/50/ http://pelleta.com.ua/page-b489.html

http://www.bin.com.ua

http://www.agribusiness.kiev.ua/uk

/51/ The note on prices for waste disposal on landfill issued by local bureau of communal service #10 dd. 31.03.08

/52/ The protocol of meeting of JSC "Kolos" Supervision Board dd. 05/01/2010, 20/01/2004 and 17.11.2004

/53/ Ukraine - Assessment of new calculation of CEF. TÜV SÜD Industrie Service GmbH, 17 Aug 2007

Persons interviewed:

/1/ Kirichenko Alexander I. – Head of boiler house PSOEM

/2/ Fursov Sergey A. – Director of PSOEM

/3/ Terziyan Stepan V. – Chairman of Supervisory Committee JSC "Kolos"

/4/ Tomlyak Kiril O. – Deputy Director of "Group of JI" (Project developers)

/5/ Budilov Denis - Camco international Senior Manager, Business Development

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ANNEX 1: LOCAL ASSESSMENT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
1. Check the LOA from Host Country	/10/ /11/	DR	Accordingly With Ukrainian National procedure of JI project preparation /10/ in order to receive a letter of approval, an installation owner shall submit to the NEIA (national DFP) an application, determination report, project design documentation and accompanying documents. Therefore the letter of approval shall be submitted by focal point after determination report submission. The letter of Endorsement has been received on site /11/ on Ukrainian and its translation on Russian or English necessary for validation was requested.	CL 1 Pending 1/ Letter of approval; 2/ translation letter of endorsement	Pending
2. Check the project details as described in PDD Check technical specifications of the boiler and turbine specifications	/12/ /13/ /14/ /15/	DR	Stage 1 envisaged installation of sunflowers seeds husk fired boiler. Its technical parameters in PDD table A 4-1 correspond to those reflected in technical documentation (passport) /12/. Accordingly to the technical passport boiler KE-18-22-330 GVD reg. #6848 was manufactured by JSC PO Biiskenergomash (Russia) in 2004 y. established lifetime for equipment is 20 years. Boiler has been operated since 02/02/2005 accordingly with operation permit issued Ukrainian technical supervision committee /13/ Stage 2 envisaged installation of **Vyncke Steam Boiler JNO-SUS** and **Siemens Steam Turbine TWIN AA46** The technical parameters of Vyncke Steam Boiler JNO-SUS as mentioned in table A 4-2 correspond to Proposal for 24 t/h – 330 ℃ – 24 Bar boiler dd. 23.05 2008 /14/. Technical parameters of steam turbine as described in PDD table A 4-3 corresponds to proposal # 103974-2C	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
			dd. 28.04.2008 /15/. The contract on turbine manufacturing and delivery /16/ was signed by 15/07/2008 between Siemens Turbomashinary Equipment GmbH and JSC "Kolos"		
3. Check national systems for the estimation of greenhouse gas emissions by sources and removals by sinks	/17/		Ukrainian register of Carbon Units is in working mode at the moment. The web site of Ukrainian registry of carbon units /17/ is available on Ukrainian accordingly with reference on national DFP website. Information of actual status of National Carbon Registry is not available on this site.	It might be CL Actual information for National Carbon Units Registry status is unavailable	CL#02 CL#02 closed OK
4. Check the EIA Referring to the section F.1 the statement need to be substantiated with documentary evidences a) The project territory does not belong to reserve territory b) There are no fauna and flora species mentioned in Red List present on the area of the project location c) As per Ukrainian legislation husk fired boiler are not evaluated for potential emissions.	/18/ /19/ /20/ /21/		Stage 1 EIA /18/ for Sunflower oil extraction mill including sunflower seeds husk burning boiler was developed in 2004 y as the part of Feasibility study of PSOEM construction. EIA was approved by State Sanitary and Epidemiology Service /19/ and State Environmental Expertise /20/. a) Accordingly with EIA project did not envisage new land plot allocation. b) EIA does not mention any impacts on rare species of plants or animals. Its approval from State Expertise confirms the absence or insignificance of such impact. c) Accordingly with EIA and Permit for air pollutant emissions /21/ SSH fired boiler chimney is the source of Nitrogen oxides (dioxide and monoxide), Carbon monoxide and plants ash emissions evaluated as harmful substances. Annually revised Permit for Air Pollutant Emissions inter alia establishes norms for these pollutants emitted from all sources. Stage 2 EIA for the project of installation of new SSH fired steam boiler and steam turbine was developed and being	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
			passed through the State Environmental Expertise but its positive conclusion has not been issued yet.		
5. Check how the project proponent were fulfilling the requirements (steam and power) earlier to conception of project activity.	/18/ /22/ /52/	DR	The installation of SSH fired steam boiler (1st stage) was incorporated into the project of sunflower oil extracting mill (PSOEM) and there were no other alternative sources of steam considered in feasibility study /18/. Nevertheless the economical unprofitability of SSH technology with out application of JI credits was underlined by the project proponents during the investment decision evaluation as reflected in Protocol of JSC "Kolos" Supervisory Committee meeting /52/ The power demands are being fulfilled by consumption of power from the national grid. Since mill started up electricity has been consumed from grid accordingly with contract with regional power supplier JSC Kharkivenergy #53066.02. The forecasted power demand for 2009 y is 10.7 GW/h accordingly with annex of electricity purchasing agreement /22/	The installation of SSH fired boiler (1st stage of project) was performed accordingly with the general project of mill. The SSH fired boiler has been operated since mill started up.	CL09 CL09 closed OK
6. The fate of biomass to landfill shall be assessed if methane would have been captured/flared due to legal requirements or not.	/23/	DR	There were no direct requirements to biomass (SSH) or landfill gas burning in current Ukrainian legislation mostly referring to Ukrainian National Low on Wastes /23/ defining norms of waste management.	OK	OK
7. Check whether all alternatives discussed are in compliance with local policies and norms. The regulations regarding environmental impacts, fate of biomass residues in the absence of project activity would be assessed during SV	/23/ /24/ /25/ /27/	DR	a/ The clause 17 paragraph "d" of Ukrainian Low on Wastes /23/ requires keeping and preventing against destruction for wastes which could be utilized with existing techniques. The PPs has been asked how this requirement could be applied to SSH management. Does it establish an obligatory SSH utilization particularly by burning in SSH fired boiler and not allow depositing SSH on landfill, or not? Official clarification from National Authorized Supervisory Body should be provided if possible.	1/ clause 17 paragraph "d" of Ukrainian Low on Wastes requires **keeping and preventing against destruction for those wastes which could be utilized with existing**	CAR#12 CAR#12 Closed OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
			b/ Project of Norms for Waste Origination and Waste Management for PSOEM /24/ developed as required by low indicates inter alia following proposed measures of SSH management: 1/ husk utilization on mill (burning) or on MPK Lubotin. – 22500 t per y. 2/ disposal of rubbish containing not more than 40% of the husk on landfill - 3125 t per y. **Apparently husk disposal on landfill has not been considered in individual Waste Management Norms except a little part of husk contained in rubbish.** c/ The disposal of SSH on landfills does not included into Waste Management Permit /27/ issued by Environmental Supervisory Body. The permit establishes **the burning of SSH accordingly with project as only method of SSH management**. d/ The usage of SSH fired boiler for heat production was established by the project of mill developed in 2004 y approved by State Expertise. **Installation of gas fired boiler (1st stage) was not considered in mill project**. Therefore installation of gas fired boiler would be deviation from the project that was not considered and officially allowed.	**techniques**. The PPs should be asked how this requirement could be applied to SSH management. Does it mean the obligatory SSH utilization and does not allow disposal SSH on landfill, or not? Please provide clarification from National Authorized Supervisory Body if possible. 2/ Project of Norms for Wastes Origination and Management approved by local authorities do not consider the possibility of husk disposal on landfill. This is a legal barrier for baseline and other alternatives considering husk disposal which has not been discussed in PDD. It is unclear how this barrier could be overcoming? 3/ As far as gas fired	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
				boiler was not considered in mill project its construction would be prohibited as deviation from officially approved project. Please clarify how this barrier could be overcoming in baseline scenario.	
8. Check all references and data sources are specified in PDD		DR	All references mentioned in PDD are reliable	ok	
9. Check the fate of biomass residue (if it would have generated methane) and auxiliary consumption on account of power generation.	1.1.4 /26/ /27/ /28/ /int.1/	DR int.	Biomass (SSH) disposal on landfills was not considered in project of Norms for Waste Management for PSOEM approved by local authorities with exception of husk content in rubbish. SSH has never been disposed on landfill and always completely utilized at mill since PSOEM start up accordingly with official note submitted by PSOEM top manager /28/. The Waste Management Permit for PSOEM /27/ for 2008 did not allow somewhat else method of SSH management unlike burning inside of the mill. Accordingly with official information presented on site and signed by Senior Engineer of PSOEM /28/ whole amount of husk has been used for energy production as fuel since 2005 y when PSOEM was commissioned. Total amount of rubbish with husk that has been disposed from January to September 2008y was 2,130.6 t accordingly with Environmental tax calculation /26/. Auxiliary power consumption could be roughly assessed as 5% as per interview with head of boiler house /int.1/.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
10. Check the spatial level of data	1.1.6	DR	All data presented in PDD are related to the project being implemented at PSOEM.	ok	OK
11. Check the determination of chosen baseline	1.1.7.	DR	Baseline has not been substantiated sufficiently in parts of gas fired boiler installation and husk disposal on landfill. 1/ SSH fired boiler was envisaged by PSOEM project /18/ approved by local authorities /20/ and licensing documentation /19/ (see question 7 for details). Gas fired boilers were not considered. 2/ Husk disposal on landfills was not considered in Norms of Waste Origination and Management /24/ approved by local authorities. 3/ Waste Management Permit /27/ propose utilization of SSH only on the mill. Somewhat other method of husk management is not allowed. 4/ There is a luck of evidences for compliance of husk disposal on landfill to current legal norms particularly reflected in Low on Wastes /23/ (for details pls. see question # 7 a).	pending new CARs and CLs closure	OK
12. Check the production capacities, % husk content in sunflower seeds and EF considered for electricity grid.	/29/ /30/	DR	The actual PSOEM capacity is 192,000 t of sunflower seeds processed per year (about 500 t per day) /29/. Husk content is being defined in mills laboratory. It values 17.25258 % accordingly with laboratory report for December 2008 /30/. The value of Grid Emission Factor was obtained from http://ji.unfccc.int/CallForInputs/BaselineSettingMonitoring/ERUPT/GuidVol1.doc.	OK	OK
13. Check major risks to the baseline been identified?	1.1.11 /31/	DR	The major risks for baseline identified are the following 1/ nonconformity to officially approved PSOEM project	pending new CARs and CLs closure	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
			that envisage the SSH fired boiler installation. 2/ nonconformity of husk disposal to approved norms for waste management, 3/ unstable gas import from Russia and consequently possible gas price growth that cause additional financial risks. The existing gas supplying system is characterized by enough capacity to fulfil the demands of PSOEM in the case of gas fired boiler application. In accordance with technical conditions for connection to gas distribution system /31/ the limit of gas consumption consider the possibility of gas running steam production. Total annual limit of gas consumption is 1389 nm^3.		
14. Are the GHG calculations documented in a complete and transparent manner?	obs.	DR	Because of baseline choice is questioning (see above Q13, Q11 and Q7) GHG emission reduction calculation could not be considered as transparent until new CARs and CLs remain opened. The source of steam generation data is unclear because steam counter has not been installed (as it was visually observed on site).	Please identify the source of steam production data considering the heat counter has not been installed so far	CL10 CL10 closed OK
15. Have conservative assumptions been used to calculate project GHG emissions?	/32/	DR	The percentage of husk content in sunflowers seeds established as constant of 17.5% does not correspond to laboratory data where it is defined as 16.09% in material balance calculation for 2008 presented in laboratory /32/. Also the source of heat production data is unclear.	Please adjust the husk content value used in calculation on the base of laboratory control data	CL10 CL10 closed OK
16. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	/33/ /34/ /35/ /36/	DR	The level of uncertainty has not been identified for husk content estimation. There are no officially approved lab methods for this parameter estimation. Accredited mills laboratory /33/ uses its own method /34/ which is not	Level of uncertainty has not been identified and officially established	CL11 CL11 closed OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
			included in accreditation area. Standard level of uncertainty for electricity consumption is identified in manual for applied electricity counter Landis&Gir model ZxD400CR /35/ as 1.0% The mass of husk transmitted to disposal should be estimated with truck weighing machine. Level of uncertainty is established as 0.15-5% depends on vehicle weight /36/. For the vehicles of 0.2-5.0 t uncertainty is ±10 kg; for 5.0 – 20.0 t - ± 20kg, for more than 20 t - ±30 kg.	for husk content estimation method. Applied method is not included in accreditation area of laboratory. Please adjust the conformity of application of not approved method to legal norms of metrology.	
17. Check potential leakage effects beyond the chosen project boundaries. The equipments being installed in the project activity will be verified if they have been purchased new or transferred from somewhere.	/12/ /14/ /15/	DR	The existing SSH fired boiler had not been used before installation on PSOEM as confirmed by its certificate /12/. Boiler and steam turbine proposed to be installed during 2nd stage of project wouldn't be transferred from other sites where they could be operated because they are being purchased directly from manufacturers accordingly with relevant proposals /14/, /15/	ok	OK
18. Check the following statements across the documentary evidence a) At the time of investment decision there was no CHP based on SSH b) The documentary evidence to footnote 5 on page 19 of PDD that SSH burning for heat production was done on boilers adjusted to SSH c) The training conducted after the implementation of 1st stage illustrates how the barriers have	/int.2/ /37/		a/ SSH fired boiler was included in the PSOEM project and there was no SSH fired CHP before the start of mill construction /int.2/. b/ boilers (both existing and new) was adopted especially for SSH burning accordingly to their technical documentation and proposals /12/, /13/,/14/, /15/ c/ Trainings for boiler house operational staff are necessary as required by Industrial Safety Regulations. Boiler house operational staff had trainings on the programs of "Design and Safety of boiler operation" "Safety rules for high pressure vessels operation" that confirmed by relevant protocols of examinations /37/. d/ The project investments includes	pending documentary evidence confirming Landfill Disposal Price (UAH/ton) Husk Transportation Price (UAH/ton) Ash Transportation Price (UAH/ton) Discount Rate	CL03 CL03 closed OK

<table>
<tr><th>CHECKLIST QUESTION</th><th>Ref.</th><th>MoV*</th><th>COMMENTS</th><th>Draft Concl
Local assessor</th><th>Final Concl
Lead Assessor</th></tr>
<tr><td>been neutralized but that is not to be considered as barrier. Kindly substantiate that absence of such training was barrier.
d) The capital for the project is more than 10 times greater than the capital outlay under the baseline scenario
e) The assumptions made in Table B 2-2</td><td></td><td></td><td>• SSH fired boiler KE-18-22-33-324 is about 0.8 mln EUR (prices 2005 y) /38/
• SSH fired boiler Vynke -24-330-24 – 2.3 mln EUR /14/
Total investments – about 3.1 mln. EUR
Total investment for construction of two gas running steam boilers with equal capacity could be 0.23 mln EUR accordingly with proposal for gas fired steam turbines /39/. Therefore the difference in investment between project and baseline of more than 10 times is confirmed.
e/ Following statements of table b 2-2 has been checked out against relevant evidences (refs)
<table>
<tr><th>Item</th><th>Value</th><th>ref.</th></tr>
<tr><td>Natural Gas Price (UAH/m3)</td><td>327</td><td>/40</td></tr>
<tr><td>Landfill Disposal Price (UAH/ton)</td><td>29.12</td><td>/51/</td></tr>
<tr><td>Husk Transportation Price (UAH/ton)</td><td>8.57</td><td>/51/</td></tr>
<tr><td>Ash Transportation Price (UAH/ton)</td><td>8.57</td><td>/51/</td></tr>
<tr><td>Electricity Price (UAH/KWh)</td><td>0.205</td><td>/40/</td></tr>
<tr><td>Discount Rate</td><td>20%</td><td>requested</td></tr>
<tr><td>Bank interest Rate</td><td>15%</td><td>/41/</td></tr>
<tr><td>EUR/UAH (2004 Average)</td><td>6.6</td><td>/42/</td></tr>
</table></td><td></td><td></td></tr>
<tr><td>19. Does the monitoring methodology reflect good monitoring and reporting practices?</td><td>4.1.1</td><td>DR</td><td>Monitoring methods of gas consumption, electricity consumption, heat production husk weight are standard and commonly applied.
Monitoring method for of husk content is not standardized. Its uncertainty is not identified. see also Q16</td><td>OK</td><td>OK</td></tr>
<tr><td>20. Is the selected monitoring methodology supported by the</td><td>4.1.</td><td>DR</td><td>Monitoring method of heat production does not correspond to existing practice of heat production</td><td>Ok</td><td>OK</td></tr>
</table>

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
monitored and recorded data?			estimation because metering devise has not been installed (see Q14).		
21. Are the monitoring provisions in the monitoring methodology consistent with the project boundaries in the baseline study? Have any needs for monitoring outside the project boundaries been evaluated and if so, included as applicable?		DR	All Monitoring provisions comprise the parameters that shall be monitored on territory of mill. Monitoring behind project boundary is not needed.	ok	OK
22. Please check the electricity consumption contracts, purchase checks ?	4.2. /22/	DR	Copy of electricity consumption forecast for 2009 y (annex to electricity purchasing contract) was collected /22/	ok	OK
23. Check the environmental monitoring system (procedures)	/43/	DR	The Environmental monitoring system includes control of air pollutant content estimation on the emission sources and on the boundary of Sanitary Protective Zone identified as the area of 100 m behind mills boundary (performed annually) /43/.	ok	OK
24. how long the environmental monitoring data will be archived.	/int.2/	int.	As per interview with PPs /int.2/ the period of Environmental monitoring reports archiving is limited by 45 y.	ok	OK
25. Training of operational personnel (procedures)	/37/	DR	Personnel training has been performed as required by low to meet the industrial safety requirements /37/	ok	OK
26. Emergency preparedness	/44/	DR	Emergency preparedness instruction /44/ was developed and approved by local authorities as required by low.	ok	OK
27. calibration of monitoring equipment	/45/	DR	Calibration of monitoring equipment is being performed in accordance with Calibration Schedule /45/	ok	OK
28. maintenance of monitoring equipment and installations	/int.2/	int.	Maintenance of monitoring equipment is the function of Dept of Control and Metering. The Chief Energy Engineer is responsible for this function performance /int. 2/.	ok	OK
29. monitoring, measurements and reporting	/46/	DR	Monitoring of energy and fuel consumption is being performed by enumerator of energy dept in accordance	ok	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
			with personal instruction /46/ and procedure of energy equipment operation /47/		
30. day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/46/	DR	Procedure of day-to-day records handling, storage and documentation process is included into the personal instruction of Energy Dept Enumerator /46/ and defined in procedure of energy equipment operation /47/.	ok	OK
31. possible monitoring data adjustments and uncertainties; review of reported results/data	/47/	DR	Data manual corrections are prevented by possibility of crosschecking of registered data with those obtained by parallel automated controlling and information system ASCUE. The review of monitoring data lays in responsibility of Chief Energy Engineer accordingly with Energy Equipment Operation Procedure /47/.	ok	OK
32. internal audits of GHG project compliance with operational requirements where applicable	/48/	DR	Internal audits is integrated part of the Quality Management System that has been certified at PSOEM in 2008 y /48/	pending	OK
33. project performance reviews before data is submitted for verification, internally or externally	/47/	DR	All responsibility for project performance data collecting, review and reporting is lay on Chief Energy Engineer /47/	ok	
34. Has an analysis of the environmental impacts of the project activity been sufficiently described?	/18/ /19/ /20/ /26/	DR	Environmental impacts of of project identified in EIA /18/ include emission of harmful substances into atmosphere, sewage of waste water and waste disposal. Accordingly with positive conclusions of Sanitary and Epidemic service /19/ and State Expertise /20/ 1st stage project meets all applicable requirements. The annual volume of harmful substances emissions into atmosphere is within established norms, as reflected in environmental payment calculation for the Jan – Dec of 2008 y /26/. It is not possible to confirm the compliance of 2nd stage of project to environmental legislation until relevant positive expertise conclusion.	Pending positive State Expertise conclusion for 2nd stage of project implementation (JNO-SUS steam boiler and Siemens steam turbine)	CL06 Converted to FAR06
35. Are there any Host Party requirements for an	/18/ /int. 2/	DR	Yes. EIA /18/ was developed as to meet relevant requirements of National Environment legislation of	Pending	CL06

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
Environmental Impact Assessment (EIA), and if yes, is an EIA approved?			Ukraine. EIA for 2nd stage of project is also required. At the moment it is being passed through State Expertise procedure as per interview with PPs /int.2/.	positive State Expertise conclusion for 2nd stage of project implementation (JNO-SUS steam boiler and Siemens steam turbine)	Converted to FAR06
36. Will the project create any adverse environmental effects?	/19/ /20/ /21/ /26/ /27/	DR	All adverse environmental effects caused by project are lied within established norms as it was confirmed by analysis of environmental licenses reports and environmental payment calculation /26/	ok	Ok
37. Are transboundary environmental impacts considered in the analysis?	/49/	DR	yes. The study of spread of harmful substances emitted from sources placed on the territory of PSOEM has been developed as required by low /49/. Accordingly with this study The concentration of harmful substances on the boundary of Sanitary protective zone (100 m aside from PSOEM territory) lies within established norms – not more than 0.368 of Maximum Allowable Concentration in the air of working zone for Nitrogen oxides. Therefore somewhat transboundary impact is actually impossible.	ok	OK
38. Have identified environmental impacts been addressed in the project design?	/18/	DR	Environmental Impact assessment /18/ was performed as the part of feasibility study.	ok	OK
39. Does the project comply with environmental legislation in the host country?	/18/ /19/ /20/	DR	As required by low EIA for 1st stage of project implementation was performed /18/ and approved by authorized State bodies /19/ /20/. State Expertise for 2nd stage including obligatory EIA has not been issued so far.	Pending State Expertise conclusion for 2nd stage of project	CL06 Converted to FAR06
40. Have relevant stakeholders been consulted?	/int.2/	int.	Stakeholders consultation has been performed as required by low /int.2/ but the copy of stakeholders meeting was not available at the time of site visit because	Pending protocol of stakeholder meeting.	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
			it was submitted to State expertise		
41. Does the project design engineering reflect current good practices? Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	/14/	DR	The design of Vynke boiler /14/ reflects state of art technology. The application of slanting propulsive grate gives significantly better performance in comparison with other commonly used technologies because it improves the effectiveness of husk burning.	ok	OK
42. The start date of the project is not clearly defined. Documentary evidence for the same will be needed. The investment phase was started in April 2004. The mill was constructed and production started in April 2005. Startup of husk fired boiler N2 – February-March 2009. Startup of turbo-generator – April 2009 project lifetime is 20 y	/12/ /13/ /52/	DR	The decision of necessity of SSH based technology implementation for energy supply needs considering the possibility of ERU revenues was elaborated by JSC "Kolos" Supervisory Committee at 17.11.2004 as documentarily confirmed by relevant protocol /52/. The first boiler was commissioned in 2005 contemporary with mill start up that is confirmed by Operation Permit for boiler KE 18-22-330-GDV issued 02.02.2005 /13/. Start up of 2nd husk fired boiler and steam turbine could hardly be completed in Feb-Mar and Mar-April of 2009 because the equipment has not been delivered, construction works has not been started yet and official permit has not been issued so far. Project life time defined as 20 years corresponds to technical passport of first husk fired boiler /12/.	Start date of 2nd stage of project has to be actualised.	OK
43. Demonstration to confirm that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.	/14/ /15/ /16/	DR	In accordance with proposals and contracts for equipment /14/, /15/ and /16/ its implementation requires too mach investment (more than 3 mln EUR) its return could not be expected in a short time even considering possible ERU revenues.	ok	CL06

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl Local assessor	Final Concl Lead Assessor
44. Check the common practice	/int.1/ /50/	DR	Accordingly with interview with PSOEM owner representative /int. 3/ application of husk fired boiler is widely spread among edible oil producing enterprises in Ukraine. The usage of fuels that alternative to natural gas delivered from Russia and mostly renewable energy sources became of interest in this time especially after the disagreement between Russia and Ukraine on gas supply. In accordance with information reflected in some open sources /50/ recently the total production of sunflower husk values 0.675 mln t per year and 0.360 mln t of them are used as a fuel. There are 14 big sunflower oil extracting plants using the SSH fired boilers. The biggest of them are the following: OEM at the Kirovograd town OEM at Vinnitsa town OEM ”Kernell” at the Poltava town OEM ”Ecotrans” at the Nikolaev town	Please adjust the common practise analysis. Have the most of oil extracting mills in Ukraine using SSH as the main fuel been registered as JI and if no how they were implemented without JI credits?	Converted to FAR06

MoV: DR = Desk review, Int. = interview

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

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
1. The project shall have the approval of the Parties involved	DR	Kyoto Protocol Article 6.1 (a)	The host Party (Party A) is Ukraine for the project activity. The other Party (Party B) is depicted as EU countries. The project proponent need to furnish Letter of Approval from each Party involved in the project.	CL01	CL01 Open
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur	DR	Kyoto Protocol Article 6.1 (b)	The project activity envisages implementation of combined heat and power generation by utilizing biomass (sunflower seed husk or SSH). In the absence of project heat would have generated using natural gas and electricity would have been imported from grid. The biomass would have been sent to landfill. Therefore, the project activity would avoid the methane generation from biomass (SSH) and CO2 emissions from natural gas that is substituted by biomass. This will be checked during site visit.	Pending to site visit (SV)	OK
3. The sponsor Party shall not aquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	DR	Kyoto Protocol Article 6.1 (c)	Article 5 requires “Annex 1Parties to having in place, no later than 2007, national systems for the estimation of greenhouse gas emissions by sources and removals by sinks.” Article 7 requires “ Annex 1 Parties to submit annual greenhouse gas inventories, as well as national communications, at regular intervals, both including supplementary information to demonstrate compliance with the Protocol”. This is to be ascertained if these requirements have been met.	CL02	CL02 closed OK
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3	DR	Kyoto Protocol Article 6.1 (d)	Pending to response to CL02.	Pending to CARs/ CLs	OK
5. Have the project participants (legal	DR	Kyoto protocol Article 6, para	The project participants as mentioned in PDD must provide Letter of	Pending to	Pending to CL01

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
entities) been authorised by the respective parties in the letter of approval of a separate letter to participate, under its responsibility, in actions leading to the generation, trasfer or acquisition of emission reduction units		3	Approval from respective Party. Kindly provide the same.	SV.	
6. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects	DR	Marrakech Accords, JI Modalities, §20	Party A in the project Ukraine has identified national focal point as National Environmental Investment Agency of Ukraine and can be accessed at http://maindb.unfccc.int/public/country.pl?country=UA Party B in the project European Countries has identified national focal point as European Commission - DG Environment and can be accessed at http://maindb.unfccc.int/public/country.pl?country=EU	OK	OK
7. The host Party shall be a Party to the Kyoto Protocol	DR	Marrakech Accords, JI Modalities, §21(a)/24	The host Party (Ukraine) is Party to Kyoto Protocol and ratified the same on April 12, 2004 and can be accessed at http://maindb.unfccc.int/public/country.pl?country=UA	OK	OK
8. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts	DR	Marrakech Accords, JI Modalities, §21(b)/24	This issue can be established by project participants as it is not influenced by them.	OK	OK
9. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4	DR	Marrakech Accords, JI Modalities, §21(d)/24	This issue can be established by project participants as it is not influenced by them. The National Registry is not a direct requirement for project registration.	OK	OK
10. The project desing document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to,	DR	Marrakech Accords, JI Modalities, §32	The PDD was available for predetermination at http://ji.unfccc.int/JI_Projects/DB/NR4W0AA45I32GJCB1WD66SDUWG2PJW/PublicPDD/KEU99UPMKWIJ5PSRRT6RCBVITHRS2N/view.html The comment period was 15	OK	OK

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
within 30 days, provide comments			November 2008 to 14 December 2008. No comments received.		
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out	DR	Marrakech Accords, JI Modalities, §33(d)	Referring to the section F.1 the statement need to be substantiated with documentary evidences a) The project territory does not belong to reserve territory b) There are no fauna and flora species mentioned in Red List present on the area of the project location c) As per Ukrainian legislation husk fired boiler are not evaluated for potential emissions. This is will be discussed and assessed on site visit.	Pending to SV.	OK
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project	DR	Marrakech Accords, JI Modalities, Appendix B	Referring to the section A.4.3 of PDD in the baseline scenario two gas fired boilers would have been purchased to produce steam and power would have been purchased from grid. The waste would have been left to decay in landfill. It needs to be established how the project proponent were fulfilling the requirements (steam and power) earlier to conception of project activity. In case, the project activity is green field it needs to be established how the requirements would have been met. The fate of biomass to landfill shall be assessed if methane would have been captured/flared due to legal requirements or not. This is to be discussed during SV and documentary evidences shall be collected and cross verified.	Pending to SV.	OK
13. A baseline shall be established on a project-specific basis, in a transparent manner	DR	Marrakech Accords, JI Modalities, Appendix B	It has been established on project specific manner but need substantiation.	Pending to SV.	OK

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
and taking into account relevant national and/or sectoral policies and circumstances					
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure	DR	Marrakech Accords, JI Modalities Appendix B	Please refer to table 2B below.	Pending to table 2B	OK
15. The project shall have an appropriate monitoring plan	DR	Marrakech Accords, JI Modalities, §33(c)	The project has a clearly defined monitoring plan in section D of PDD.	OK	OK
16. Does the PDD use accurate and reliable information that can be verified in an objective manner?	DR		The information provided/considered in PDD shall be assessed during SV.	Pending to SV	OK
17. Will the project result in fewer GHG emissions than the baseline scenario?	DR		The project activity is likely to result in fewer GHG emissions than the baseline. This shall be assessed completely after reviewing CARs/CLs during SV.	Pending to SV.	OK

2 BASELINE METHODOLOGY(IES)

Flow chart	Answer	Next step
Does the project use an CDM approved baseline methodology	~~Yes~~	~~Complete table 2A~~
	No	Complete table 2B

Table 2B Baseline methodology not using an approved CDM methodology

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
1. Project Baseline The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.	PDD	DR	There is no project specific approved CDM methodology available therefore project specific approach taken by PP is accepted, which is correct and appropriate in the context of project activity	OK	OK
1.1. Baseline Methodology It is assessed whether the project applies an appropriate baseline methodology.	PDD	DR	There is no project specific approved CDM methodology available therefore project specific approach taken by PP is accepted, which is correct and appropriate in the context of project activity	OK	OK
1.1.1. Is the discussion and selection of the baseline methodology transparent?	PDD	DR	Yes, the discussion and selection of the baseline methodology is clear and transparent. This is to be discussed during SV.	Pending to SV.	OK
1.1.2. Are all aspects related to direct and indirect GHG emissions captured in the project design?	PDD	DR	The auxiliary consumption on account of power generation is not deducted from calculating ERUs. This is to be discussed during SV.	Pending to SV.	OK
1.1.3. Does the baseline methodology specify data sources and assumptions?	PDD	DR	Yes, the data sources are specified, where required. This is to be checked during SV.	Pending to SV.	OK
1.1.4. Does the baseline methodology sufficiently describe the underlying rationale for the algorithm/formulae used to determine baseline emissions (e.g. marginal vs. average, etc.)	PDD	DR	Pending to other CARs/CLs raised above regarding fate of biomass residue (if it would have generated methane) and auxiliary consumption on account of power generation. This is to be checked during SV.	Pending to SV.	OK
1.1.5. Does the baseline methodology specify types of variables used (e.g. fuels used, fuel consumption	PDD	DR	Yes, the spread sheet and PDD indicates the types and quantity of variable used. This is to be	Pending to SV.	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
rates, etc)?			further checked during SV with technical specifications of the boiler and turbine specifications on site.		
1.1.6. Does the baseline methodology specify the spatial level of data (local, regional, national)?	PDD	DR	Yes, it has been discussed. This is to be further verified during SV.	Pending to SV.	OK
1.1.7. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	PDD	DR	Yes, the application of methodology and the discussion and determination of chosen baseline is transparent. This is to be further verified during SV.	Pending to SV.	OK
1.1.8. Has the baseline been determined using conservative assumptions where possible?	PDD	DR	This is to be discussed during SV regarding the production capacities, % husk content in sunflower seeds and EF considered for electricity grid.	Pending to SV.	OK
1.1.9. Has the baseline been established on a project-specific basis?	PDD	DR	Yes, it has been established on project specific basis. This will be further assessed during SV.	Pending to SV.	OK
1.1.10. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	PDD	DR	The regulations regarding environmental impacts, fate of biomass residues in the absence of project activity would be assessed during SV.	Pending to SV.	OK
1.1.11. Have the major risks to the baseline been identified?	PDD	DR	This will be discussed and verified during SV.	Pending to SV.	OK
2. Calculation of GHG Emissions by Source 2.1 It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.	PDD	DR	Yes. This will be further assessed during site visit for the considered parameters.	Pending to SV.	OK
2.1.1. Are the GHG calculations documented in a complete and transparent manner?	PDD	DR	Yes. This will be further assessed during site visit.	Pending to SV.	OK
2.1.2. Have conservative assumptions been used to calculate project GHG emissions?	PDD	DR	Yes. This will be further assessed during site visit	Pending to SV.	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
2.1.3. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PDD	DR	Yes. This will be further assessed during site visit	Pending to SV.	OK
2.1.4. Are potential leakage effects beyond the chosen project boundaries properly identified?	PDD	DR	This will be discussed during the SV.	Pending to SV.	OK
2.1.5. Have these leakage effects been properly accounted for in calculations?	PDD	DR	The equipments being installed in the project activity will be verified if they have been purchased new or transferred from somewhere. The leakage shall be assessed during SV.	Pending to SV.	OK
2.1.6. Does the methodology for calculating leakage comply with existing good practice?	PDD	DR	The leakage shall be assessed during SV.	Pending to SV.	OK
2.1.7. Are the calculations documented in a complete and transparent manner?	PDD	DR	The leakage shall be assessed during SV.	Pending to SV.	OK
2.1.8. Have conservative assumptions been used when calculating leakage?	PDD	DR	The leakage shall be assessed during SV.	Pending to SV.	OK
2.1.9. Are uncertainties in the leakage estimates properly addressed?	PDD	DR	The leakage shall be assessed during SV.	Pending to SV.	OK
2.1.10. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	PDD	DR	This will be further assessed during SV.	Pending to SV.	OK

Table 3 Additionality

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3. *The project is results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario. Additionality will need to be determined in accordance with the relevant section of the approved methodology. Information provided to support the claims of additionality will need to be verified*					
3.1 Is the discussion and selection of the baseline transparent?	PDD	DR	Pending to the CLs/CARs raised in the baseline.	Pending to SV.	OK
3.2 Is the discussion on the additionality clear and have all assumptions been supported by transparent and documented evidence	PDD	DR	Kindly substantiate further with documentary evidence f) At the time of investment decision there was no CHP based on SSH g) The documentary evidence to footnote 5 on page 19 of PDD that SSH burning for heat production was done on boilers adjusted to SSH h) The training conducted after the implementation of 1st stage illustrates how the barriers have been neutralized but that is not to be considered as barrier. Kindly substantiate that absence of such training was barrier. i) The capital for the project is more than 10 times greater than the capital outlay under the baseline scenario j) The assumptions made in Table B 2-2	CL03	CL03 closed OK
3.3 Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	PDD	DR	Pending to queries in baseline sections and CL03	Pending to CARs/ CLs	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.4 Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	PDD	DR	Pending to queries in baseline sections and CL03	Pending to CARs/ CLs	OK
3.5 Are all the data sources clear and are references to documents publicly available and cited fully in the PDD	PDD	DR	Pending to queries in baseline sections and CL03	Pending to CARs/ CLs	Ok

4 MONITORING METHODOLOGY(IES)

Flow chart	Answer	Next step
Does the project use an CDM approved monitoring methodology	~~Yes~~	~~Complete table 4A~~
	No	Complete table 4B and table

Table 4B Monitoring methodology not using an approved CDM methodology

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
4.1 Monitoring Methodology It is assessed whether the project applies an appropriate baseline methodology.					
4.1.1. Does the monitoring methodology reflect good monitoring and reporting practices?	PDD	DR	This is to be discussed during SV.	Pending to SV	OK
4.1.2. Is the selected monitoring methodology supported by the monitored and recorded data?	PDD	DR	Yes. This is to be further discussed during SV.	Pending to SV	OK
4.1.3. Are the monitoring provisions in the monitoring methodology consistent with the project boundaries in the baseline study?	PDD	DR	This is to be further discussed during SV.	Pending to SV	OK
4.1.4. Have any needs for monitoring outside the project boundaries been evaluated and if so, included as applicable?	PDD	DR	This is to be further discussed during SV.	Pending to SV	OK
4.1.5. Does the monitoring methodology allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions?	PDD	DR	This is to be further discussed during SV.	Pending to SV	OK
4.1.6. Is the monitoring methodology clear and user friendly?	PDD	DR	Yes. This is to be further discussed during SV.	Pending to SV	OK
4.1.7. Does the methodology mitigate possible monitoring errors or uncertainties addressed?	PDD	DR	This is to be further discussed during SV.	Pending to SV	OK
4.2. Monitoring of Project Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
4.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	PDD	DR	The project boundary indicates that grid electricity may be used. Please elaborate if this needs to be accounted. This is to be discussed during SV.	Pending to SV.	OK
4.2.2. Are the choices of project GHG indicators reasonable?	PDD	DR	This is to be discussed during SV.	Pending to SV.	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
4.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	PDD	DR	This is to be discussed during SV.	Pending to SV.	OK
4.2.4. Will the indicators enable comparison of project data and performance over time?	PDD	DR	This is to be discussed during SV.	Pending to SV.	OK
4.3. Monitoring of Leakage It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.					
4.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	PDD	DR	There is no leakage envisaged for the project activity	OK	Ok
4.3.2. Have relevant indicators for GHG leakage been included?	PDD	DR	Pending to queries raised in leakage section.	Pending to SV	OK
4.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	PDD	DR	Pending to queries raised in leakage section.	Pending to SV	OK
4.3.4. Will it be possible to monitor the specified GHG leakage indicators?	PDD	DR	Pending to queries raised in leakage section.	Pending to SV	OK
4.4. Monitoring of Baseline Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
4.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining the baseline emissions during the crediting period?	PDD	DR	Subject to response to raised queries in baseline sections.	Pending to CARs/CLs	OK
4.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	PDD	DR	Subject to response to raised queries in baseline sections.	Pending to CARs/CLs	OK
4.4.3. Will it be possible to monitor the specified baseline	PDD	DR	Subject to response to raised queries in baseline	Pending	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
indicators?			sections.	to CARs/CLs	

Table 5 Monitoring plan

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5. *In addition to the application of the monitoring methodology, the PDD should contain a monitoring plan. The content of the monitoring plan should be validated based on the questions below*					
5.1 Monitoring of Sustainable Development Indicators/ Environmental Impacts	PDD	DR	Yes. This is to be checked during SV.	Pending to SV	OK
5.1.1 Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	PDD	DR	The PDD in section D.1.5 does not indicate how long the data will be archived. This is to be checked during SV.	CAR04	CAR04 closed OK
5.1.2 Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?	PDD	DR	The choice of indicators for sustainability development (social, environmental, economic) is reasonable and it will be discussed at site.	Pending to SV	OK
5.1.3 Will it be possible to monitor the specified sustainable development indicators?	PDD	DR	Pending to the SV	Pending to SV	OK
5.1.4 Are the sustainable development indicators in line with stated national priorities in the Host Country?	PDD	DR	Pending to the SV	Pending to SV	OK
5.2 Project Management Planning	PDD	DR	Project management planning is defined in the section D.3 and D.4 of the PDD.	OK	OK
5.2.1 Is the authority and responsibility of project management clearly described?	PDD	DR	Yes.	OK	OK
5.2.2 Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD	DR	Yes.	OK	OK
5.2.3 Are procedures identified for training of monitoring personnel?	PDD	DR	No procedures are identified for training. This will be discussed on site.	Pending to	OK

CHECKLIST QUESTION		Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
					SV	
5.2.4	Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	PDD	DR	The emergency preparedness is not defined. This will be discussed on SV.	CAR05	CAR05 closed OK
5.2.5	Are procedures identified for calibration of monitoring equipment?	PDD	DR	The PDD does not specify the calibration schedule.	CAR05	CAR05 closed OK
5.2.6	Are procedures identified for maintenance of monitoring equipment and installations?	PDD	DR	The PDD does not specify the maintenance and monitoring equipment and installations.	CAR05	CAR05 closed OK
5.2.7	Are procedures identified for monitoring, measurements and reporting?	PDD	DR	Please define the procedures for monitoring, measurements and reporting.	CAR05	CAR05 closed OK
5.2.8	Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	PDD	DR	Pending to CAR05 above.	Pending to CARs/ CLs	OK
5.2.9	Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	PDD	DR	Please explain the procedures for dealing with possible monitoring data adjustment and uncertainty.	CAR05	CAR05 closed OK
5.2.10	Are procedures identified for review of reported results/data?	PDD	DR	Please explain the procedures for reporting and reviewing the data.	CAR05	CAR05 closed OK
5.2.11	Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	PDD	DR	Please define the internal audit schedule for GHG monitoring.	CAR05	CAR05 closed

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
					OK
5.2.12 Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	PDD	DR	Please define the procedures for data review before submission for verification.	CAR05	CAR05 closed OK
5.2.13 Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	PDD	DR	Pending to response to CAR05 above.	Pending to CARs/ CLs	OK

Table 6 Environmental Impacts (Ref PDD Section F and relevant local legislation)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
6. 6.1 Has an analysis of the environmental impacts of the project activity been sufficiently described?	PDD	DR	This is to be discussed and verified during SV.	Pending to SV.	OK
6.2 Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PDD	DR	Kindly comment if there are EIA requirements for the project activity?	CL06	CL06 converted to FAR06
6.3 Will the project create any adverse environmental effects?	PDD	DR	It is likely that project activity will create less environmental impact.	OK	
6.4 Are transboundary environmental impacts considered in the analysis?	PDD	DR	This is to be checked during SV.	Pending to SV	OK
6.5 Have identified environmental impacts been addressed in the project design?	PDD	DR	This is to be checked during SV.	Pending to	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
				SV	
6.6 Does the project comply with environmental legislation in the host country?	PDD	DR	This is to be checked during SV.	Pending to SV	OK

Table 7 Comments by local stakeholders (Ref PDD Section G)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7. 7.1 Have relevant stakeholders been consulted?	PDD	DR	PDD section G.1 indicates that stakeholders' consultation is not required for this project activity. This is to be discussed in details at the site visit.	Pending to SV	OK
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD	DR	Pending to outcome of 7.1 above	Pending to CARs /CLs	OK
7.3 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?	PDD	DR	Pending to outcome of 7.1 above	Pending to CARs /CLs	OK
7.4 Is a summary of the stakeholder comments received provided?	PDD	DR	Pending to outcome of 7.1 above	Pending to CARs /CLs	OK
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	Pending to outcome of 7.1 above	Pending to CARs	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
				/CLs	

Table 8 Other requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
8. 8.1 Project Design Document					
8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without modifying/adding headings or logo, format or font.	PDD	DR	The template is correctly applied.	OK	OK
8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified	PDD	DR	Pending to the CARs/CLs above.	Pending to CARs /CLs	OK
8.2 Technology to be employed					
8.2.1 Does the project design engineering reflect current good practices?	PDD	DR	This will be discussed during SV.	Pending to SV	OK
8.2.2 Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	PDD	DR	This will be discussed during SV.	Pending to SV	OK
8.2.3 Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR	Kindly furnish documentary evidence that project technology will not be substituted	CL07	CL07 close

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			during the project crediting period.		d OK
8.2.4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PDD	DR	The requirement of training for the project activity will be discussed during SV.	Pending to SV	OK
8.3 Duration of the Project/ Crediting Period					
8.3.1 Are the project's starting date and operational lifetime clearly defined and reasonable?	PDD	DR	The start date of the project is not clearly defined. Documentary evidence for the same will be needed.	CAR08	CAR08 closed OK
8.3.2 Is the assumed crediting time clearly defined and reasonable?	PDD	DR	The length of crediting period is not clearly defined.	CAR08	OK
8.3.3 Does the project's operational lifetime exceed the crediting period	PDD	DR	The operational lifetime of the project activity is 20 years. Kindly furnish the documentary evidence for the same.	CAR08	OK

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ANNEX 3. FINDINGS OVERVIEW

Date: 05/02/2009 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
1	CL	The host Party (Party A) is Ukraine for the project activity. The other Party (Party B) is depicted as EU countries. The project proponent need to furnish Letter of Approval from each Party involved in the project.	Table 1/1.
Date: 18.02.2009 project representative comment: In accordance with the "Requirements for the Joint Implementation Projects preparation" approved by National Agency of Ecological Investments of Ukraine (Order #33 from 25th of June, 2008) to receive a Letter of Approval for the JI project the project proponent should provide to the National Agency of Ecological Investments of Ukraine the final determination report of the proposed project along with project design documentation and the copy of Letter of Endorsement. Therefore the final PDD will be sent along with the final determination report to the National Agency of Ecological Investments of Ukraine for the Letter of Approval, which usually is expected within 30 days after PDD submission.			
Date: 04.03.2009 comment by local assessor and lead assessor National procedure for JI registration is available on http://ji.unfccc.int/UserManagement/FileStorage/OVYPM9FQNK4D0GWUHI7X512RSETACZ accordingly with paragraph 7 "In order to receive a letter of approval, an installation owner shall submit to the NEIA an application, determination report, project design documentation and accompanying documents" Therefore letter of approval could be submitted only after determination report issuing.			
Date: 22/07/2009 Relevant LoAs are pending therefore CL01 Open. [Acceptance and close out]			

Date: 05/02/2009 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
2	CL	Article 5 requires "Annex 1Parties to having in place, no later than 2007, national systems for the estimation of greenhouse gas emissions by sources and removals by sinks." Article 7 requires " Annex 1 Parties to submit annual greenhouse gas inventories, as well as national communications, at regular intervals, both including supplementary information to demonstrate compliance with the Protocol". This is to be ascertained if these requirements have been met.	Table/3.
Date: 18.02.2009 project representative comment: Article 5 requires 'Annex 1 Parties to having in place, no later than 2007, national systems for the estimation of greenhouse gas emissions by sources and removal by sinks.' National Inventory System was created by Government Decision "Procedure of the Functioning National System of the Estimation of Anthropogenic Emissions by Sources and Removals by Sinks of GHG not Controlled by the Montreal Protocol" (21.04. 06 p., №554) According to Article 7 of the Kyoto Protocol Ukraine has been submitted annual greenhouse gas inventories on a regular basis. First National Inventory report was submitted on 20th of February, 2004. The last one			

was submitted on 21st of May, 2008. Annual National GHG Inventory reports can be accessed at the web site of the Ministry of Environment of Ukraine via http://www.menr.gov.ua/cgi-bin/go?node=Nac%20kadastr%20parn%20gaz And on the UNFCCC web site via http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/4303.php Ukraine has also submitted its Second National Communication report on 26th of June 2006 and report demonstrating progress under the Kyoto Protocol on 3rd of November 2006.
Date: 04.03.2009 comment by local assessor and lead assessor National System of GHG inventories has been developed. The national registering system of GHG emissions and removal by sinks has been established in accordance with governmental Order #554 dd. 21.04.2006 available on Ukrainian at http://www.menr.gov.ua/documents/KMU_554_10.04.06.doc National GHG inventory reports are available on the website of National Environmental Protection Ministry. http://www.menr.gov.ua/cgi-bin/go?node=Nac%20kadastr%20parn%20gaz Ukrainian register of Carbon Units is in working mode at the moment. The web site of Ukrainian registry of carbon units /17/ is available on Ukrainian accordingly with reference on national DFP website. Information of actual status of National Carbon Registry is not available on this site.
Date: 22/07/2009 It is concluded that these requirements are not influenced by the project proponent in any manner, therefore, CL#02 is closed out. [Acceptance and close out]

Date: 05/02/2009 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
3	CL	Kindly substantiate further with documentary evidence a) At the time of investment decision there was no CHP based on SSH b) The documentary evidence to footnote 5 on page 19 of PDD that SSH burning for heat production was done on boilers adjusted to SSH c) The training conducted after the implementation of 1st stage illustrates how the barriers have been neutralized but that is not to be considered as barrier. Kindly substantiate that absence of such training was barrier. d) The capital for the project is more than 10 times greater than the capital outlay under the baseline scenario The assumptions made in Table B 2-2	AU4
Date: 18.02.2009 project representative comment: a) The first and so far only CHP operating on sunflower seed husk was installed at Kargil Edible Oil Extraction Mill (Donetsk) at the end of 2006. Indirectly, that can be supported by the table from the "Research of Analysis of SSH Consumption in Ukraine of July 1, 2008 by Kharkiv Ukrainian Research Institute for Oils and Fats. Direct Documentary evidence will be provided shortly. b) The documentary evidence is provided by Ukrainian Research Institute for Oils and Fats in Research of Analysis of SSH Consumption in Ukraine of July 1,2008. Information in footnote 5 on page 19 of PDD is mentioned in Annex C of the research indicated above. Annex C of Research of Analysis of SSH consumption in Ukraine is provided in English. c) At the time of taking the decision about project implementation there was no combined heat and power production based on utilization of SSH in Ukraine. Hence, there have been no ready-to-		

operate technological solutions in this regard. There was no relevant technical and professional experience to ensure reliable operation of the technology used in the project activity, which constituted the barrier for choosing the CHP technology. The Enterprise has started with easier in terms of operations technology of burning SSH for heat supply thus gradually preparing the staff for the coming CHP technology.

d) All necessary documentary evidence was provided to the local determinator. In particular: Vyncke SSH boilers prices, Biysk SSH boiler price, Siemens turbine price, Natural gas boilers prices, water purifications prices. Indeed reliable combined heat and power supply based on SSH burning has been an expensive solution which has been chosen taking into account revenues from the carbon credits.

Date: 04.03.2009
local assessor and lead assessors comment:

a) Accordingly with open information sources the SSH fired boilers are widely spread in Ukrainian Oil Extracting Mills. At present more then 50% of total volume of husk produced by OEMs are utilized as fuel at 14 large mills. For example: OEMs at Nikolayev, OEM at Vinnitsa, OEM at Kirovograd (project proposed to be JI), OEM at Poltava etc. In order to justify common practice analysis PPs should provide more details on the SSH utilization projects being implemented in Ukraine particularly on proposed capacities, JI registration, investment sources etc.
b) The document has been requested.
c) The absence of SSH utilization technology when project was started should be further substantiated considering the widely spread of this technology at present time. Further more the husk burning technology seems to be not so deeply differing from other types of solid fuel burning facilities as that its operation constitute overwhelming technological barrier.
d) The project investments includes
   - SSH fired boiler KE-18-22-33-324 is about 0.8 mln EUR (prices 2005 y accordingly to Account bill for capital assets from 01/01/04 to 31/01/08 /ref.38/)
   - SSH fired boiler Vynke -24-330-24 – 2.3 mln EUR accordingly with Proposal for JNO-SUS steam boiler 24 t/h – 330 ℃ – 24 Bar dd. 23.05 2008/14/

   Total investments values of about 3.1 mln. EUR
   Total investment for construction of two gas running steam boilers with equal capacity could be 0.23 mln EUR accordingly with proposal for gas fired steam turbines (as per Proposal for two gas running steam boilers #37/10 dd. 10/10/2008 issued by JSC “NTP Ukrpromenergo” /39/). Therefore the difference in investment between project and baseline of more than 10 times is confirmed.

Following statements of table b 2-2 has been checked out against relevant evidences (refs)

Item	**Value**	**ref.**
Natural Gas Price (UAH/m3)	327	The letter on gas and electricity prices issued by Ukrainian Academy of Agricultural Sciences #10/738 dd. 01/07/08 signed by deputy director Mr. Vus F.M. /40/
Electricity Price (UAH/KWh)	0.205	The letter on gas and electricity prices issued by Ukrainian Academy of Agricultural Sciences #10/738 dd. 01/07/08 signed by deputy director Mr. Vus F.M. /40/
Bank interest Rate	15%	The letter from bank VTB about actual loan interest rate #483/01 dd.29/10/2008 /41/
EUR/UAH (2004 Average)	6.6	www.bank.gov.ua/statist/statist_data/Exchange_r.xls /42/

Date:06.04.2009
project representative comment:

a) OEM at Vinnitsa, OEM at Poltava and many others OEMs are located in urban areas and are close to district heat supply systems, which allows them to use retrofitted natural gas or coal fired boilers with less efficient and less reliable technology. Alternative source of steam such as district heat supply secures providing stable high quality steam for OEMs. PSOEM is not close to an existing heat supply system and thus owners chose the scenario predetermining reliable and high quality heat (and electricity) production technologies.

OEM at Kirovograd and at Nikolayev (it is one group of companies) rely on being registered as JI projects. They as well use Vyncker boilers and plan to produce both heat and power which points that such projects rely on Kyoto funding and without it are not feasible. b) Information in footnote 5 on page 19 of PDD is mentioned in Annex C of the research indicated above. Annex C of Research of Analysis of SSH consumption in Ukraine is provided in English. Please, see document 'Annex C English.pdf' for reference. c) Burning SSH to produce heat at places with alternative and available heat supply (Vinnitsa, Poltava etc) is widespread in Ukraine (here the facilities use retrofitted gas and coal fired boilers, like in Poltava). Producing heat and power at the facility locating merely in the greenfield is not a common practice taking into account risk factors (new technology impedes reliable steam supply) and barriers (no trained staff) and was chosen in the light of future Kyoto revenues.
28/04/2009 Local assessor and lead assessor comment a/ Accordingly with documents presented SSH (Annex C) fired boilers operation is really faced with essential technical barrier especially where initially fossil fuel running boilers are being retrofitted for SSH firing. The presence of stable heat and/or power source such as central heating or power supply system could facilitate the application of SSH utilization technology. But nevertheless the SSH firing technology has been implementing in Ukraine since 1998-2000. The common practice description should be revised accordingly to give consistent clarity. b/ Document Annex C has been received and found reliable. c/ The presence of technological barrier has been comprehensively substantiated by presented scientific conclusion (annex C)
Date: 05/05/2009 CL#03 is closed out. [Acceptance and close out]

Date: 05/02/2009 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
4	CAR	The PDD in section D.1.5 does not indicate how long the data will be archived. This is to be checked during SV.	5.1.1 of AU4

Date: 18.02.2009 project representative comment: All necessary data will be archived during 15 years. Current findings will be added in new version of PDD.
Date: 04.03.2009 local assessor and lead assessors comment: The time period of data archiving has not been identified and fixed documentarily. Relevant procedure has not been available at the site.
Date: 06.04.2009 project representative comment: The time period of data archiving is indicated in the Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009.
Date: 28.04.2009 local assessor and lead assessor comment Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009 has been developed, approved by PSOEM authority and submitted to SGS (available on Russian). This seems to be acceptable. CAR04 closed out. [Acceptance and close out]

Date: 05/02/2009 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
5	CAR	a) The emergency preparedness is not defined. b) The PDD does not specify the calibration schedule. c) The PDD does not specify the maintenance and monitoring equipment and installations. d) Please define the procedures for monitoring, measurements and reporting. e) Please explain the procedures for dealing with possible monitoring data adjustment and uncertainty. f) Please explain the procedures for reporting and reviewing the data. g) Please define the internal audit schedule for GHG monitoring. h) Please define the procedures for data review before submission for verification.	5.2 of AU4

Date: 18.02.2009
project representative comment:

a) The emergency preparedness is defined in Procedure of Localization and Elimination of Emergency Situations and Accidents on PSOEM of July 6, 2005, which was provided to the local determinator.

b) The calibration schedule is required by Ukrainian legislation. As a rule, measurement equipment is (and will be) calibrated annually. All necessary documents were provided to the local determinator. The list of measurement equipment for GHG monitoring is defined in Table D.2. of the Section D. Monitoring plan of PDD.

c) The maintenance of GHG monitoring equipment, taking into account its usage for general purposes of PSOEM, will be done in line with related PSOEM procedures related to electricity supply measurement, gas supply measurement, weighbridge calibration etc.

d) Now, general procedure for monitoring, measurements and reporting is handled by 1C:Predpriyatiye (1C:Enterprise). Till June 2009 will be implemented Galaktika Enterprise Resource Planning System, which will monitor and measure all necessary data. The procedure of GHG monitoring, measurements and reporting will be defined in Procedure of GHG Monitoring, Measurements and Reporting of PSOEM. The Documentary evidence will be provided shortly.

e) The procedure of possible monitoring data adjustment and uncertainty will be defined in Procedure of GHG Monitoring, Measurements and Reporting of PSOEM. The Documentary evidence will be provided shortly.

f) The procedure of data reporting and reviewing will be defined in Procedure of GHG Monitoring, Measurements and Reporting of PSOEM. The Documentary evidence will be provided shortly.

g) The internal audit procedure for GHG monitoring is being developed, as a part of GHG Monitoring, Measurement and Reporting of PSOEM.

h) In terms of detailed procedure for data review before submission for verification, please, see the Section D. Monitoring plan of PDD, as listed beneath:

1) V_{ng} - Quantity of natural gas consumed as reserve fuel. Source of data - Gas flow meter (storage counter).
2) NCV_{ng} - Net calorific value of Natural gas. Source of data – supplier.
3) $M_{landfill\_husk}$ - Mass of husk, which generated during emergency situation, leaving the Enterprise directed to landfill. Source of data - Entrance/Exit (truck) weighbridge.
4) N_{gener} - Quantity of electric power generated by the Enterprise without quantity of electric power is consumed by SSH boiler and turbine. Source of data - Meter or wattmeter after generator on power point.

5) m_{seeds_arrive} - Mass of sunflower seeds feeding sunflower seeds processing. Source of data - Entrance/Exit (truck) weighbridge.
6) $f_{husk\ content}$ - husk content in seeds (netto) (husk content in clean seeds). Source of data – laboratory estimation.
7) , 8), 9), 10) m_{steam} - mass flows of steam; t_{steam} - temperature of steam; p_{steam} - pressure of steam; t_{feed_water} - temperature of feed water. Source of data - laboratory estimation.of SSH combustion, SSH boilers technical description (data from SSH boiler certificate), specific steam consumption per tonne of sunflower seed.

Date: 04.03.2009
local assessor and lead assessor comment

a) Procedure of Localization and Elimination of Emergency Situations and Accidents on PSOEM of July 6, 2005 has been developed as separate document which copy has been submitted on site /ref. 44/.

b) Calibration of monitoring equipment is being performed in accordance with Calibration Schedule /ref. 45/. All already installed equipment is calibrated yearly.

c) Maintenance of monitoring equipment is the function of Dept of Control and Metering of PSOEM. The Chief Energy Engineer is responsible for this function performance. Relevant procedures shall be developed.

d) The Procedure of GHG Monitoring, Measurements and Reporting of PSOEM shall be developed. Now monitoring of energy and fuel consumption is being performed by Enumerator of Energy dept in accordance with personal instruction /46/ and procedure of energy equipment operation /47/

e) The procedure of possible monitoring data adjustment and uncertainty has not been developed yet. Manual corrections of monitoring data are not possible due to crosschecking of registered data with those obtained from parallel automated controlling and information system ASCUE. The review of monitoring data lays in responsibility of Chief Energy Engineer accordingly with Energy Equipment Operation Procedure /47/.

f) The procedure of data reporting and reviewing has not been developed yet.

g) The internal audit procedure for GHG monitoring has not been developed yet.

h) Chief Engineer of PSOEM shall review the monitoring data before reporting. But the detailed procedure has not been developed yet.

Date: 06.04.2009
project representative comment:

d) The procedure of GHG monitoring and reporting of PSOEM is indicated in the Procedure of Monitoring of GHG Emissions Reductions.

e) The procedure of possible monitoring data and uncertainly is indicated in the Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009 and the Order #17 of PSOEM of Monitoring Plan from 01.04.2009.

f) The procedure of data reporting and reviewing is indicated in the Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009 and the Order #17 of PSOEM of Monitoring Plan from 01.04.2009.

g) The internal audit procedure for GHG monitoring is indicated in the Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009 and the Order #17 of PSOEM of Monitoring Plan from 01.04.2009.

h) The procedure of reporting of monitoring data is indicated in the Procedure of Monitoring of GHG Emissions Reductions Version#1 from 01.04.2009 and the Order #17 of PSOEM of Monitoring Plan from 01.04.2009.
Date:28.04.2009 Local assessor and lead assessor comment Procedure of Monitoring of GHG Emissions Reductions has been developed and submitted to SGS (available on Russian). Please provide responses to the question raised in ER spreadsheet. These values can not be actual values (after project start date) rather they need to indicate what was considered at start date.
Date: 25/05/2009 The revised ER sheet as per estimates were presented and the issue closed out. [Acceptance and close out]

Date: 05/02/2009 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
6	CL	Kindly comment if there are EIA requirements for the project activity?	AU4
Date: 18.02.2009 project representative comment: There is an EIA requirement for the project activity. Environmental impact assessments of the first project stage (installation of Biysk SSH boiler) was undertaken in 2004. The documentary evidence of positive EIA results was provided to the local determinator during the site visit. See document EIA for PSOEM #96923-0-OBOC 2004 for reference. The documentation on EIA for the second stage of the project activity (Vyncke SSH boiler installation and Siemens turbine installation) is currently on confirmation at licensing authority.			
Date: 05.03.2009 local assessor and lead assessor comment EIA for the 1st stage was developed at 2004 as the part of feasibility study as required by law. Copies of EIA /ref.18/ and its approval by State Expertise /20/ and State Sanitary and Epidemiology Service /19/ has been submitted on site. EIA for the project of installation of new SSH fired steam boiler and steam turbine has already been developed and now it is being passed through the State Environmental Expertise has not been completed yet. With out official EIA approval we do not have possibility to confirm the compliance of second stage of project to legal environmental requirements of Host Country. Supposing the EIA for 2nd stage of the project is passing through State Expertise its positive conclusion should be further submitted for verification. Thus CL6 could be transformed into FAR.			
Date: 28/04/2009 The issue is closed for 1st stage but for second stage a FAR#06 has been raised. [Acceptance and close out]			

Date: 05/02/2009 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
7	CL	Kindly furnish documentary evidence that project technology will not be substituted during the project crediting period.	8.2.3 of AU4
Date: 18.02.2009 project representative comment: PSOEM has already signed the contract with Siemens company on the turbine supply. The contract number is #1.4105 from 15.07.2008. The contract was provided to the local determinator during the site visit. The capital for the project is more than 10 times greater than the capital outlay under the baseline scenario and 3 times greater than revenue from the sale of ERU's. Consequently, the Enterprise will not change equipment till the end of crediting period: it is impossible.			
Date: 05.03.2009			

local assessor and lead assessor comment The substantiating of technology proposed to be used in project is not expected because the design of Vynke boiler accordingly with proposal /14/ represents a state of art technology as it includes the application of slanting propulsive grate gives significantly better performance in comparison with other commonly used technologies because it improves the effectiveness of husk burning. The contract with Siemens company on the turbine supply #1.4105 dd. 15.07.2008 has been checked out during site visit /ref. 16/.
Date: 28/04/2009 It is established that project technology will not be substituted. CL#07 closed out. [Acceptance and close out] OK

Date: 05/02/2009 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
8	CL	a) The start date of the project is not clearly defined. Documentary evidence for the same will be needed. b) The length of crediting period is not clearly defined. c) The operational lifetime of the project activity is 20 years. Kindly furnish the documentary evidence for the same.	8.3 of protocol AU4

Date: 18.02.2009
project representative comment:

a) The start date of the project is 02.02.2005 (Operating permit for Byisk SSH boiler #207.05.30-28.30.0). It was checked during site visit.

b) Crediting period is 2008-2012

c) The operational lifetime of Byisk SSH boiler is indicated in the certificate (See document Boiler certificate #6848 for reference). There are no documentary evidence for Vyncke SSH boiler and Siemens turbine lifetimes.

Date: 05.03.2009
local assessor and lead assessor comment

The decision of SSH burning based technology implementation for PSOEM energy supply needs considering the possibility of ERU revenues was elaborated by JSC “Kolos” Supervisory Committee at 17.11.2004 as documentarily confirmed by relevant protocol /52/.
The first boiler was commissioned in 2005 contemporary with mill start up that is confirmed by Operation Permit for boiler KE 18-22-330-GDV issued 02.02.2005 /13/.
2nd husk fired boiler and steam turbine could hardly be comissioned in Feb-Mar and Mar-April of 2009 because the equipment has not been delivered, construction works has not been started yet and official permit has not been issued so far.
Project life time defined as 20 years corresponds to technical passport of first husk fired boiler /12/.

Date: 06.04.2009
project representative comment:

2nd husk fired boiler and steam turbine will be commissioned in Nov-Dec of 2009. All necessary changes will be provided in new version of PDD.

Date: 13.05.2009
Lead Assessor Comment:

a) In the PDD V1.2 the start date is mentioned as April 2004. Please provide an exact date and supporting documentary evidence (in original language and translated version). Please demonstrate that it is the earliest event occurred towards the project activity involving either financial commitment (placing purchase order or key components, construction work etc.) or any other real work
b) Please also provide documentary evidences for all the input parameters (used in the spreadsheet dated 29102009 for 3 scenarios) used at the time of investment decision (start date) used for

investment analysis of the project to ascertain their validity and applicability.

c) In the NPV spreadsheet 29102009 the sensitivity period is not consistent with the operational lifetime of the project activity (i.e. 20 years from the start date).
d) No salvage value has been considered in any of the scenario
e) It is not clear what is the source of Discount rate, if it is company internal benchmark, please substantiate similar projects being accepted or rejected on this benchmark
f) The variation in consumption of natural gas, electricity and amount of SSH being generated is not clear, please explain the reasons.
g) The Equity Debt ratio (30:70) is not applied in the investment sheets
h) The debt requirement in case of PL worksheet is almost 130% higher than the cost required at second stage, please explain the reason behind this
i) Please respond to the questions in the spreadsheet by adding your comments!
j) Why the emission reductions are shown from 2005, when as per JI guidance ERUs can be claimed from 2008 only?

Date: 25.11.2009
project representative comment:
The revised PDD and spreadsheet have been enclosed along with documentary evidences.

Date: 01/01/2010
The JI has been considered for the project on 05/01/2004 and 20/01/2004. The input values for the project activity has been sufficiently described in the NPV spreadsheet and referenced documents were reviewed by local assessor and found consistent. The issue is duly addressed and closed out.
[Acceptance and close out]

Date: 05/03/2009 Raised by: Ashok Kumar Gautam/Vladimir Lukin

No.	Type	Issue	Ref
9	CL	• The installation of SSH fired boiler (1st stage of project) was performed accordingly with the general project of mill. The SSH fired boiler has been operated since mill started up. Please provide evidence of consideration of any possible alternatives (for example gas running boilers) during investment decision evaluation. • Project of Norms for Wastes Origination and Management for PSOEM approved by local authorities does not consider possibility of husk disposal on landfill. Please provide evidence confirming that this would not represent a legal barrier against alternatives considering husk disposal on a landfill in baseline scenario.	AU4

Date: 06.03.2009
project representative comment:

- In considering options for heat and electricity supply and the ongoing management of the facility, PSOEM and its investors sought in the first turn reliability, and then simplicity of operation and affordable capital outlay. Investors compared between two scenarios: using natural gas boiler or specially designed SSH boiler before designing the general project of mill (See document The journal of investors decision from 17.11.2004) and have chosen the SSH CHP option.
- The Letter From the Ministry of Environment of Ukraine #5248/20/10-09 from 21 Apr 2009 confirms the possibility of husk landfilling which is mentioned in baseline scenario.

Date: 28.04.2009 local assessor and lead assessor comment

The protocol of investment decision from 17.11.2004 does contain the comparative analysis of gas firing based energy production. SSH technology was chosen taking in consideration possibility of ERU.

The submitted letter from environmental protection ministry of Ukraine does confirm that husk disposal on landfill does not contradict to legislation.

Thus CL 9 could be closed out as given explanation is sufficient and supported by objective evidences.
Date: 28.04.2009 The information is found sufficient and issue is closed out. [Acceptance and close out] OK

Date: 05/03/2009 Raised by: Ashok Kumar Gautam/Vladimir Lukin

No.	Type	Issue	Ref
10	CL	• The source of steam generation data is unclear because steam counter has not been installed (as it was visually observed on site). Please identify the source of steam production data for time period from 2005 y or how they were calculated.	AU4
Date: 06.03.2009 project representative comment: The data of steam production will be calculated in two ways: - Prior the steam meter installation, according the data of steam consumption provided by PSOEM (Feb 2005- Apr 2009). - After steam meter installation, according to the meter data (May 2009 – 2012) For details, please, see changes were provided in new version of Plan monitoring of PDD.			
Date: 13.05.2009 local assessor and lead assessor comment: The installation of steam meter should be checked during first verification. It could be FAR.			
Date: For the remaining point FAR#10 is raised. [Acceptance and close out] OK			

Date: 05/03/2009 Raised by: Ashok Kumar Gautam/Vladimir Lukin

No.	Type	Issue	Ref
11	CL	• Level of uncertainty has not been identified and officially established as standard for husk content estimation. Applied method is not included in accreditation area of laboratory. Please adjust the compliance to legal norms of metrology considering this method is not officially approved and its metrological characteristics (level of uncertainty) are not defined.	AU4
Date: 06.03.2009 project representative comment: The method of husk content evaluates at PSOEM is in concordance with the DSTU 4601:2006 Seeds of Oil-Beering Crops (Methods of Sampling) and the GOST 10855-64 Oil Seeds, Methods for Determination of Hull Content. The method of husk content estimation is indicated in the Instruction #39/Л Husk Estimation from 05.01.2009.			
Date: 28.04.2009 Local assessor and lead assessor comment Pursuant to manual for husk content estimation #39/Л approved by head of laboratory the uncertainty level of this method is 0.5%. The method described in manual differs from official standard GOST 10855-64 proposed uncertainty level to be of 1%. Taking in consideration a minor deviation from standard and low values of uncertainty the application of method could be accepted and CL 11 could be closed.			
Date: 28/04/2009 The requested information was provided and reviewed and found acceptable. Therefore CL#11 was closed out.			

[Acceptance and close out] OK

Date: 05/03/2009 Raised by: Ashok Kumar Gautam/Vladimir Lukin

No.	Type	Issue	Ref
12	CAR	• Clause #17 paragraph "d" of Ukrainian Low on Wastes requires ***keeping and preventing against destruction for those wastes which could be utilized with existing techniques***. The PPs should be asked how this requirement could be applied to SSH management. Does it mean the obligatory SSH utilization? I such case SSH disposal on landfill is prohibited by law because its utilization techniques (usage as a fuel for energy generation) does exist and well known at Ukraine. Please provide clarification of above mentioned requirement from National Authorized Supervisory Body if possible.	AU4
Date: 06.03.2009 project representative comment: According to the Letter From the Ministry of Environment of Ukraine #5248/20/10-09 from 21 Apr 2009, sunflower seed husk can be disposed at landfills. Keeping and preventing destruction of the wastes is a must when the technology for its utilization is already available at the site.			
Date: 28.04.2009 Vladimir Lukin The letter from Ministry of Environment does confirm the possibility of Husk disposal on landfill. Thus accepted and CAR 12 could be closed out			
Date: 28.04.2009 The lawfulness of the SSH baseline was established and CAR#12 was closed out. [Acceptance and close out]			

Date: 05/03/2009 Raised by: Ashok Kumar Gautam/Vladimir Lukin

No.	Type	Issue	Ref
13	CAR	• Start up of 2nd husk fired boiler and steam turbine could hardly be completed in Feb-Mar and Mar-April of 2009 as proposed by PDD because the equipment had not been delivered, construction works had not been started and official permit had not been issued by the time of site visit. Please revise the starting time for 2nd stage accordingly.	AU4
Date: 06.03.2009 project representative comment: Start up of 2nd husk fired boiler and steam will be completed in Nov-Dec of 2009. All necessary changes will be provided in new version of PDD.			
Date:28.04.2009 Vladimir Lukin comment: PDD has been corrected accordingly. Thus CAR 12 could be close out.			
Date: 28/04/2009 Revised PDD sufficiently incorporated the points and therefore CAR#13 was closed out. [Acceptance and close out] OK			

Date: 28/08/2009 Raised by: Ashok Kumar Gautam/Abhishek Mahawar

No.	Type	Issue	Ref
14	CAR	NPV Spreadsheet 1. The highlighted section shall be provided (translated in English) along with original source of information for investment and/technical specifications 2. The evidences for capital expenditure, interest rate, discount rate, operating expenses for all the three scenario 3. The formulae to calculate gas, electricity and ash quantity used in the calculation	AU4

		4. The sensitivity analysis shall be applied (at least 10%) at capital expenditure, electricity tariff, gas price, discount rate and interest rate or the justification why sensitivity is not performed 5. The period of investment analysis is not consistent with operational life time of key component (20 years) 6. The price of SSH boiler is quite high as compared to NG boiler (at first stage and second stage). Could you elaborate on such a high cost of SSH boiler compared to NG boiler giving the similar output? 7. The loan document reflecting the Equity/Debt ratio and interest rate	
Date: 03/11/2009 project representative comment: 1. Please, see Translation.rar 2. Please, see The evidences for expences.doc. For operating expenses, please, see the document mentioned in the answer on questions #3 3. Please, see The formulae.doc 4. Sensitivity analysis of main variables, i.e. investment, natural gas price and electricity price, was performed. The results of the sensitivity analysis are included in the updated PDD. 5. The period of investment analysis was increased to 10 years. Necessary changes were made in the excel spreadsheet. However, it's worth to notice that according to existing accounting rules and procedures key equipment, which is going to be installed, is to be depreciated at the rate of 6% per quarter. Consequently, the equipment will be fully depreciated within 4.16 years from the moment of commissioning. 6. Please see reply to this question in the attached file. 7. Please see the letter from JSC Kolos, which gives detailed clarification to the Equity/Debt ratio and interest rate at the moment of decision taking.			
Date:15.11.2009 LA comment: The responses have been checked and found consistent with the revised documentation.			
Date: 15.11.2009 The issue is closed. [Acceptance and close out] OK			

Date: 13/01/2010 Raised by: Ashok Kumar Gautam

No.	Type	Issue	Ref
15	CAR	ER Spreadsheet Please provide complete and verifiable responses/references to the highlighted differently cells and question mark is added adjacent to cell in question in the commented ER spreadsheet.	AU4
Date: 14/01/2010 project representative comment: Please find the updated excel file and three more documents attached. The relevant documents are indicated in the excel file and made proper references.			
Date:20.01.2010 LA comment: The responses have been checked and found consistent with the revised documentation.			
Date: 20.01.2010 The issue is closed. [Acceptance and close out] OK			

Team Members Statement of Competency

Name: Gautam, Ashok SGS Affiliate: SGS India

Status

-	Lead Assessor	x	-	Expert	x
-	Assessor	x	-	Financial Expert	
-	Local Assessor	x	-	Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable) x
Sub scope(s): Hydro and Biomass based Thermal/ Electricity Utilization

2. Energy Distribution
Sub scope(s):

3. Energy Demand
Sub scope(s):

4. Manufacturing
Sub scope(s):

5. Chemical Industry
Sub scope(s):

6. Construction
Sub scope(s):

7. Transport
Sub scope(s):

8. Mining/Mineral Production
Sub scope(s):

9. Metal Production
Sub scope(s):

10. Fugitive Emissions from Fuels (solid, oil and gas)
Sub scope(s):

11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride
Sub scope(s):

12. Solvent Use
Sub scope(s):

13. Waste Handling and Disposal x
Sub scope(s): Landfill gas, Wastewater and sludge treatment, Composting

14. Afforestation and Reforestation
Sub scope(s):

15. Agriculture
Sub scope(s):

Approved Member of Staff by: Siddharth Yadav Date: 16/12/2009

Statement of Competence

Name: Lukin, Vladimir SGS Affiliate: SGS Russia

Status

-	Lead Assessor		-	Expert	
-	Assessor	x	-	Financial Expert	
-	Local Assessor	x	-	Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)
Sub scope(s):
2. Energy Distribution
Sub scope(s):
3. Energy Demand
Sub scope(s):
4. Manufacturing
Sub scope(s):
5. Chemical Industry
Sub scope(s):
6. Construction
Sub scope(s):
7. Transport
Sub scope(s):
8. Mining/Mineral Production
Sub scope(s):
9. Metal Production
Sub scope(s):
10. Fugitive Emissions from Fuels (solid, oil and gas)
Sub scope(s):
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride
Sub scope(s):
12. Solvent Use
Sub scope(s):
13. Waste Handling and Disposal
Sub scope(s):
14. Afforestation and Reforestation
Sub scope(s):
15. Agriculture
Sub scope(s):

Approved Member of Staff by: Siddharth Yadav Date: 12 November 2009

Statement of Competence

Name: Mahawar, Abhishek SGS Affiliate: SGS India

Status

-	Lead Assessor		-	Expert	
-	Assessor	x	-	Financial Expert	x
-	Local Assessor	x	-	Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)
Sub scope(s):

2. Energy Distribution
Sub scope(s):

3. Energy Demand
Sub scope(s):

4. Manufacturing
Sub scope(s):

5. Chemical Industry
Sub scope(s):

6. Construction
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10. Fugitive Emissions from Fuels (solid, oil and gas)
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11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride
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12. Solvent Use
Sub scope(s):

13. Waste Handling and Disposal
Sub scope(s):

14. Afforestation and Reforestation
Sub scope(s):

15. Agriculture
Sub scope(s):

Approved Member of Staff by: Siddharth Yadav Date: 12/11/2009