Bureau Veritas Certification Holding SAS

BUREAU VERITAS CERTIFICATION Reviewed Init Date: 19/05/2011

# DETERMINATION REPORT

## «PERMNEFTEGAZPERERABOTKA» LLC

## DETERMINATION OF THE UTILIZATION OF ASSOCIATED PETROLEUM GAS FROM THE VERKHNEKAMSK OIL FIELDS, «PERMNEFTEGAZPERERABOTKA» LLC, PERM, RUSSIAN FEDERATION

REPORT NO. RUSSIA-DET/0125/2011

REVISION NO. 01

BUREAU VERITAS CERTIFICATION

Determination Report on JI project

# "Utilization of associated petroleum gas from the Verkhnekamsk oil fields, «Permneftegazpererabotka» LLC, Perm, Russian Federation"

| Date of first issue: | Organizational unit: |
|---|---|
| 14/04/2011 | Bureau Veritas Certification Holding SAS |
| **Client:** | **Client ref.:** |
| National Carbon Sequestration Foundation | Mr. Yuriy Fedorov |

Summary:

Bureau Veritas Certification has made the determination of the "Utilization of associated petroleum gas from the Verkhnekamsk oil fields, «Permneftegazpererabotka» LLC, Perm, Russian Federation" project of company «Permneftegazpererabotka» LLC, located in the city of Perm, Russian Federation, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final determination report and opinion. The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the determination process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project applies the appropriate baseline and monitoring methodology and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

| Report No.: | Subject Group: |
|---|---|
| RUSSIA-det/0125/2011 | JI |

Project title:

"Utilization of associated petroleum gas from the Verkhnekamsk oil fields, «Permneftegazpererabotka» LLC, Perm, Russian Federation"

Work carried out by:

Leonid Yaskin – Lead verifier
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Work approved by:

Leonid Yaskin – Country Operational Manager

| Date of this revision: | Rev. No.: | Number of pages: |
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## Abbreviations

| | |
|---|---|
| AIE | Accredited Independent Entity |
| BVC | Bureau Veritas Certification |
| APG | Associated Petroleum Gas |
| CAR | Corrective Action Request |
| CL | Clarification Request |
| CO2 | Carbon Dioxide |
| DDR | Draft Determination Report |
| DR | Document Review |
| EIA | Environmental Impact Assessment |
| EIAR | Environmental Impact Assessment Report |
| ERU | Emission Reduction Unit |
| CS | Compression Station |
| GHG | Greenhouse House Gas(es) |
| PNGP | Permneftegazpererabotka LLC |
| NCSF | National Carbon Sequestration Foundation |
| IE | Independent Entity |
| IPCC | Intergovernmental Panel on Climate Change |
| IRR | Internal Rate of Return |
| JI | Joint Implementation |
| JISC | Joint Implementation Supervisory Committee |
| NG | Natural gas |
| NGO | Non Governmental Organization |
| PDD | Project Design Document |
| PP | Project Participant |
| RF | Russian Federation |
| tCO2e | Tonnes CO2 equivalent |
| UNFCCC | United Nations Framework Convention for Climate Change |

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# 1 INTRODUCTION

CJSC National Carbon Sequestration Foundation (hereafter called "NCSF") has commissioned Bureau Veritas Certification to determine JI project "Utilization of associated petroleum gas from the Verkhnekamsk oil fields, «Permneftegazpererabotka» LLC, Perm, Russian Federation" (hereafter called "the project") located in the city of Perm, Permsky kray, Russian Federation.

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

## 1.1 Objective

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emissions reductions units (ERUs).

UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

## 1.2 Scope

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

## 1.3 Determination team

The determination team consists of the following personnel:

Leonid Yaskin
Bureau Veritas Certification Climate Change Lead Verifier

Alexey Kulakov
Bureau Veritas Certification Climate Change Specialist

This determination report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal reviewer

Elena Mazlova
Bureau Veritas Certification Climate Change Specialist

# 2 METHODOLOGY

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

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

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

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

## 2.1 Review of Documents

The Project Design Document (PDD) submitted by NCSF and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, to be checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, NCSF revised the original PDD v.01 dated 12/01/2011 and following a set of revisions resubmitted it as v.04 dated 04/05/2011.

The first deliverable of the document review was the Determination Protocol Revision 01 dated 10/04/2011 which contained 16 CARs and 2 CLs.

The determination findings presented in this Determination Report Revision 01 and Appendix A relate to the project as described in the PDD versions 01 (published) and version 05 (final) dated 06/05/2011.

## 2.2 Follow-up Interviews

On 04/05/2011 Bureau Veritas Certification Lead verifier L. Yaskin performed interviews with the project participant PNGP and the PDD developer NCSF to confirm the selected information and to clarify some issues identified in the document review. The list of the persons interviewed is provided in References. The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

| Interviewed organization | Interview topics |
|---|---|
| Project participant PNGP | ➢ Project history and Implementation schedule<br>➢ Baseline scenario<br>➢ Project scenario<br>➢ Input data for investment analysis<br>➢ Commissioning<br>➢ QC & QA Procedures<br>➢ Environmental permissions<br>➢ Environmental Impact Assessment |
| CONSULTANT NCSF | ➢ Baseline scenario<br>➢ Investment barrier and uncommon practice<br>➢ Project scenario<br>➢ Investment analysis<br>➢ Emission reduction calculation |
| Stakeholders | ➢ N/A |

## 2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to raise requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Request (CAR) is issued, where:
(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
(b) The JI requirements have not been met;
(c) There is a risk that emission reductions cannot be monitored or calculated.

The determination team may also issue Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable JI requirements have been met.

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

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

# 3 PROJECT DESCRIPTION (excerpts from PDD)

The project is aimed at the efficient utilization of associated petroleum gas (APG) that otherwise would have been flared at the BPS of the Verkhnekamsk oil fields located in the Krasnovishersk district of the Perm Region.

The oil field has been under development since 1970. Commercial production started in 1990. Currently the field (Ozernoye, Gagarinskoye and Magovskoye fields, so called Verkhnekamsk oilfields) is being developed and operated by "LUKOIL-Perm" LLC.

The project is implemented at the production facilities (inc. new gas pipeline system) of "Permneftegazpererabotka" LLC. (the LUKOIL`s daughter enterprise) and oil fields of "LUKOIL-Perm" LLC.

*Situation existing prior to the project*

In process of oil treatment at the booster pump stations (BPS) of the Verkhnekamsk oil fields associated petroleum gases are separated from the crude oil. All extracted APG has been burned at the flares of BPS due to the remoteness of the oil fields, the lack of transport infrastructure and gas consumers in the areas of oil production. In 2005, PermNIPIneft institute produced a Working Design "Utilization and marketing of APG from Verkhnekamsk oil fields of the Perm region – designing of transportation system and gas preparation facilities (gas transport method is steel pipeline)".

*Project purpose*

Having at disposal some APG resource, «LUKOIL-Perm» Company undertakes activities for its efficient utilization. For this purpose, in cooperation with «Permneftegazpererabotka» LLC («PNGP») the project envisages construction of the new system of recovery, transportation of APG the length of more than 180 km with a diameter 250-350mm, and a compressor station GCS "Magovskaya" necessary for the delivery of associated gas to consumers.

These pipelines with the compressor station provide the necessary APG transport system in the Verkhnekamsk oil fields and provide a useful utilization of APG through by the transport of most part of extracted APG under high pressure from all the BPS to the consumers:

- at Uralkaliy utilized APG will be used to heat generation in the boiler room of mine BKPRU-4, and will be replacing the previously used of natural gas;
- at "PNGP" utilized APG will be used (processing) to the production of aw product for commercial propane/butane mix (CPBM), stable natural gasoline (SNG) and stripped gas (SG) .

Electricity for the pipeline, vapor recovery units and GCS is imported from the external power supplier Tyumenenergo.

The following table shows the dynamics of an expected dispose of APG from Verkhnekamsk oil fields at GCS "Magovskaya" and placing it to consumers for the period 2011-2012.

Table A.2. APG balance for period 2011-2012

| | 2011 | 2012 |
|---|---|---|
| Delivery of APG at GCS "Magovskaya" for transportation | | |
| Gagarinskoye oil field, ths.m3 | 24 979 | 33 832 |
| Ozernoye oil field, ths.m3 | 18 654 | 26 657 |
| Magovskoye oil field, ths.m3 | 17 165 | 32 239 |
| GCS "Magovskaya", ths.m3 | 60 798 | 92 728 |

| | | |
|---|---|---|
| Useful part of APG | | |
| BKPRU-4 «Uralkaliy» , ths.m3 | 30 664 | 83 699 |
| «PNGP» , ths.m3 | 30 134 | 9 029 |
| All | 60 798 | 92 728 |

*Project history:*

- 24.10.2007 -Decision to implement this project with applying the norms of the Kyoto Protocol. (Protocol of Meeting, "Choice Analysis for Recovery, transportation and processing of associated petroleum gas from the Verkhnekamsk oil fields", dd. 24.10.2007, "Permneftegazpererabotka" LLC)
- 12.12.2008 - Construction works started. Order №297 от 12.12.2008, "Permneftegazpererabotka" LLC.
- 23.12.2010 -Commissioning of the project. Order №377 от 23.12.2010, "Permneftegazpererabotka" LLC.
- 30.04.2011 –Startup (Tentative date. Can be changed).

*Baseline scenario*

Under the baseline scenario all extracted APG at the BPS of Verkhnekamsk oil fields would have been flared that would lead to considerable emissions of GHG gases including CO2 и CH4 (as a result of incomplete flare combustion).

Continuation of flaring under this scenario is determined by the lack of sufficient incentives for APG utilization project, which is confirmed by the following facts:

- Sectoral policies and legislation do not provide real mechanisms for efficient APG utilization;
- Considerable capital expenditures for establishing APG utilization infrastructure and low APG costs and hence,
- Lack of investment attractiveness of these project types.

*Emission reductions*

As a result of the project activity the APG that otherwise would be flared will be efficiently utilized: 153526 mln. m3 of APG will be utilized in 2011-2012.

That will result in a considerable amount of GHG emission reductions. Estimated GHG emission reductions are 379189 tons of CO2 equivalent in the period 2011-2012.

# 4 DETERMINATION CONCLUSIONS

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

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Determination Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 16 Corrective Action Requests and 2 Clarification Requests.

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

## 4.1 Project approvals by Parties involved (19-20)

The project has no approvals by the Host Party, therefore CAR 03 remains pending.

A written project approval by Party B should be provided to the AIE and made available to the secretariat by the AIE when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines. It has not been provided to AIE at the determination stage.

## 4.2 Authorization of project participants by Parties involved (21)

The participation for Permneftegazpererabotka LLC listed as project participant in the PDD is not authorized by the Host Party because the project approval by the Host Party was not received. Party B is not determined.

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

## 4.3 Baseline setting (22-26)

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

**JI specific approach**

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

(a) By listing and describing the following plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one being Alternative1:

- Alternative scenario 1: Continued common practice for utilization of APG), i.e. the combustion of all extracted APG in the flares at BPS of the Verkhnekamsk oilfields.
- Alternative scenario 2: The project itself without being registered as a JI activity, i.e. construction of the new system of recovery, transportation of APG from Verkhnekamsk oilfields.

(b) Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives (orders, regulations), environmental payments, and the economic situation in the oil&gas sector in terms of APG, availability of capital and APG prices. In this context, the following key factors that affect a baseline are taken into account:

(i) Sectoral reform policies and legislation in oil&gas industry such as:
- Federal Law «On subsoils» # 2395 dd. 21.02. 1992
- Resolution of Supreme Council of Russian Federation # 3314.1 dd. 15.06.1992 "On procedure of introduction into operation of Regulation on subsoil licensing procedure".
- Law of Khanty Mansi autonomous okrug (KhMAO) # 15.03 dd. 18.04.1996"On subsoil use".
- Resolution of the Government of Russian Federation dd. 12.06.2003 # 344 "On norms of payments for polluting emissions into the atmosphere by stationary and mobile sources, for discharges of polluting substances in surface and subsurface water objects and for disposal of production and consumption wastes".
- Resolution of the Government of Russian Federation dd. 01.06.2005 # 410 "On introduction of deviations in the appendix "1 of Resolution dd. 12.06.2003 # 344 ".
- Resolution of the Government of Russian Federation dd. 08.01.2009 # 7 "On measures on stimulation of polluting atmosphere air reduction by products of associated petroleum gas combustion at flare stacks".

(ii) Economic situation in Russian oil&gas sector in terms of APG utilization.

(iii) Availability of capital (including investment barrier).Capital is available; however NPV of the project is negative (Section B.2);

(iv) Price of APG processing products.

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

Outstanding issues related to Baseline setting (22-26), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 05 and CAR 06).

The issued CARs concern: the detailed theoretical description of the baseline (CAR 05) and prices of APG and its processing product (CAR 06).

## 4.4 Additionality (27-31)

**JI specific approach**

A JI-specific approach is chosen for justification of additionality. For this purpose the option a) is chosen defined in paragraph 2 of the Annex I to the Guidance on criteria for baseline setting and monitoring (Version 02). It envisages provision of traceable and transparent information showing that the baseline was identified on the basis of conservative assumptions (refer to PDD Section B.1), that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals;

The following step-wise approach was applied:

Step 1. Indication and description of the approach applied: this is a JI-specific approach, based on the proofs that the project activity would not otherwise occur due to existence of the financial barrier and that it is not a common practice.

Step 2. Application of the approach chosen including provision of additionality proofs:

- The key additionality proofs have been the results of the financial barrier analysis and common practice analysis.
- Financial barrier is justified through the investment analysis and includes the evaluation of the project's financial efficiency.
- The basic investment analysis showed that the project with capital investment 1,0 bln rubles at the existing prices of APG processing products has negative NPV; hence it is not financially attractive.
- The sensitivity analysis of variations of key parameters confirms the conclusion of the basic investment analysis.
- The spreadsheets with the investment and sensitivity analyses were made available for the verifier, and Bureau Veritas Certification will

submit it to JISC at the final determination as the supporting documentation.
- The common practice analysis has reasonably shown that the proposed JI project does not represent a widely observed practice in the geographical area concerned.

Step 3. Explanations on how GHG gases emission reductions are achieved: a tabular illustration of estimation of baseline emissions, project emissions and emission reduction is presented.

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

Outstanding issues related to Baseline setting (22-26), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 07 – CAR 09).

The issued CARs concern: the value of operating costs CAR 07), sensitivity analysis (CAR 08) and common practice analysis (CAR 09).

## 4.5 Project boundary (32-33)

**JI specific approach**

The project boundary defined in the PDD, Section B.3, Table B.3-1 for project and baseline scenario accordingly, encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are: (i) under the control of the project participants, (ii) reasonably attributable to the project, (iii) significant.

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD, Section B.3, Table B.3.1 and Figure B.3.1.

In response to CAR 10 and CAR 11, those GHG emissions which were treated initially as leakage have been classified as project emissions. This necessitated the inclusion of the pipeline transporting the project APG to PNGP and the gas processing plant itself facilities in the project boundary.

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

Outstanding issues related to Project boundary (32-33), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 10 and CAR 11).

## 4.6 Crediting period (34)

The PDD defines the starting date of the project as 23/12/2010 being the beginning of commissioning of the project equipment.

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

The PDD states the length of the crediting period in years and months, which is 1 year and 8 months (20 months totally), and its starting date as 01/05/2011, which is after the date the first emission reductions are generated by the project.

Outstanding issue related to Monitoring plan (35-39), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 12).

The issued CAR 12 concerns the definition of the project starting date.

## 4.7 Monitoring plan (35-39)

**JI specific approach**

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

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

The monitoring plan describes:

(i) all relevant factors and key characteristics that will be monitored:
- volume of APG at GCS Magovskaya (project and baseline scenarios);
- composition of extracted APG at GCS Magovskaya (baseline scenario);
- volume of APG delivery to BKPRU-4 Uralkaliy (leakage in the PDD terms).

(ii) the periods in which they will be monitored: monthly (chemical composition of APG) and permanently (volume of APG);

(iii) formulae for estimation of project and baseline emissions by the monitored data;

(iv) default values of key parameters: APG flaring efficiency (98%) taken from IPCC 2006 and the grid emission factor for the United Regional Energy System "Center" taken from the positively determined PDD of JI-0195 "Installation of CCGT-400 at Shaturskaya TPP, OGK-4, Moscow area, Russia";
(v) all decisive factors for the control and reporting of project performance: ecological reporting, quality control (QC) and quality assurance (QA) procedures; the operational and management structure that will be applied in implementing the monitoring plan.

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. be clearly connected with the effect to be measured), and that provide a transparent picture of the emission reductions to be monitored such those listed in the PDD, Sections D.1.1.1 and D.1.1.3.

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

The monitoring plan explicitly and clearly distinguishes:
(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as: CO2 and CH4 density under the standard conditions; APG flaring efficiency; global warming potential for methane; grid emission factor.
(ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination (there are no such parameters);
(iii) Data and parameters that are monitored throughout the crediting period, such as those presented in Section D.1.1.1 for the project and Section D.1.1.3 for the baseline.

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

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

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions, as appropriate, such as Formulae (1) – (5) in Section D.1.1.2 for project emissions and Formulae (6) – (10) in Section D.1.1.4 for baseline emissions.

The monitoring plan presents the quality assurance and control procedures for the monitoring process; all the QC/QA procedures are specified in PDD Section D.2. The procedures include, as appropriate, information on calibration of measuring devices.

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

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

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

The monitoring plan indicates that the data monitored and required for verification are to be kept for five years after the last transfer of ERUs for the project.

Outstanding issues related to Monitoring plan (35-39), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 13 and CAR 14).

The issued CARs concern: the need to measure electricity consumption by the Magovskaya compressor station (CAR 13) and trouble shooting procedures (CAR 14).

## 4.8 Leakage (40-41)

**JI specific approach**

No leakage is eventually identified for the project. In response to CAR 10 and CAR 11, those GHG emissions which were treated initially as leakage have been classified as project emissions.

Outstanding issue related to Leakage (40-41), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 15).

The issued CAR 15 concerns the sources of APG leaks at transportation and processing and electricity consumption for APG processing.

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

**JI specific approach**

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

The PDD provides the ex ante estimates of:

- Emissions for the project scenario (within the project boundary), which are 44,697 tCO2e;
- Emissions for the baseline scenario (within the project boundary), which are 423,886 tCO2e;
- Emission reductions adjusted by leakage (based on (a)-(c) above), which are 379,189 tCO2e.

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

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

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

The estimates referred to above are consistent throughout the PDD.

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

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

Outstanding issue related to Estimation of emission reduction (42-47), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 16).

The issued CAR 16 concerns the conservatism of using the methane composition for the project APG rather than for a mixture of gases from different oil fields in estimation of leaks.

### 4.10 Environmental impacts (48)

The PDD lists the documentation related to environmental impacts of the project as required by the host Party: environmental impact assessments (parts of the Working Design, OVOS), state expertise conclusions, state permits for air emissions.

### 4.11 Stakeholder consultation (49)

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

### 4.12 Determination regarding small scale projects (50-57)

Not applicable

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

Not applicable

### 4.14 Determination regarding programmes of activities (65-73)

Not applicable

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

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

## 6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the "Utilization of associated petroleum gas from the Verkhnekamsk oil fields, «Permneftegazpererabotka» LLC, Perm, Russian Federation" project in Russia. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant used the JI specific approach for demonstration of the additionality. In line with this approach, the PDD provides investment analysis and common practice analysis to determine that the project activity itself is not the 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 and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

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

The determination revealed two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party. If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 04 dated 04/05/2011 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

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

# 7 REFERENCES

**Category 1 Documents:**
Documents provided by PNGP and NCSF that relate directly to the GHG components of the project.

/1/ "Utilization of associated petroleum gas from the Verkhnekamsk oil fields, «Permneftegazpererabotka» LLC, Perm, Russian Federation"

PDD Version 01 dated 12/01/2011;

PDD Version 02 dated 11/04/2011;

PDD Version 03 dated 18/05/2011;

PDD Version 04 dated 04/05/2011.

/2/ Excel spreadsheet with calculation of emission reduction.

/3/ Excel spreadsheet with investments analysis.

/4/ Excel spreadsheet with sensitivity analysis.

/5/ Utilization and marketing of APG from Verkhnekamsk oil fields of the Perm region – designing of transportation system and gas preparation facilities (gas transport method is steel pipeline). Working Design. Volume1. Book 7. Investment effectiveness. 2005.

**Category 2 Documents:**

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

/1/ Protocol of Meeting, "Choice Analysis for Recovery, transportation and processing of associated petroleum gas from the Verkhnekamsk oil fields", dd. 24.10.2007, "Permneftegazpererabotka" - Decision to implement this project with applying the norms of the Kyoto Protocol LLC24.10.2007.

/2/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.

/3/ JISC Guidance on criteria for baseline setting and monitoring. Version 02.

/4/ Glossary of Joint Implementation terms. Version 02, JISC.

/5/ 2006 IPC Guidelines on National Greenhouse Gas Inventories. Volume 2 Chapter 4 page 4.45.

/6/ "Regulation of realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change". Approved by the RF Government Decree # 843 of 28/10/2009 "About measures on realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change".

/7/ Federal Low "On subsoils" #2395 dd. 21.02.1992.

/8/ Resolution of Supreme Council of Russian Federation # 3314.1 dd. 15.06.1992 "On procedure of introduction into operation of Regulation on subsoil licensing procedure".

/9/ Resolution of the Government of Russian Federation dd. 12.06.2003 # 344 "On norms of payments for polluting emissions into the atmosphere by stationary and mobile sources, for discharges of polluting substances in surface and subsurface water objects and for disposal of production and consumption wastes".

/10/ Resolution of the Government of Russian Federation dd. 01.06.2005 # 410 "On introduction of deviations in the appendix 1" of Resolution dd. 12.06.2003 # 344

/11/ Resolution of the Government of Russian Federation dd.

08.01.2009 # 7 "On measures on stimulation of polluting atmosphere air reduction by products of associated petroleum gas combustion at flare stacks".

/12/ APG passports for the project oil fields. Measurements on 01/12/2010.

/13/ 2010 Specific Norms for energy consumption for PNGP.

/14/ 2011 Norms of irrecoverable losses for PNGP.

**Persons interviewed:**

List persons interviewed during the determination or persons that contributed with other information that are not included in the documents listed above.

/1/ M. Latypov – Head of Department of project development, NCSF.

/2/ T. Besedovsky – Lead Specialist of Department of project development, NCSF - **on behalf of PNGP based on the letter from PNGP Chief Engineer V.A.Nyashin No 15-3440 dated 22/04/2011.**

**BUREAU VERITAS CERTIFICATION HOLDING SAS**

**DETERMINATION PROTOCOL**

## Table 1

**Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)**

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| **General description of the project** | | | | |
| **Title of the project** | | | | |
| - | Is the title of the project presented? | The title of the project is "Utilization of associated petroleum gas from the Verkhnekamsk oil fields, «Permneftegazpererabotka» LLC, Perm, Russian Federation". | | OK |
| - | Is the sectoral scope to which the project pertains presented? | Sectoral scope: 10. Fugitive emissions from fuels (solid, oil and gas). | | OK |
| - | Is the current version number of the document presented? | The current Version 01 is presented | | OK |
| - | Is the date when the document was completed presented? | The date of PDD is 12/01/2011 | | OK |
| **Description of the project** | | | | |
| - | Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the:<br>a) Situation existing prior to the starting date of the project; | Requirements a), b), c) to the description of the project are basically met. PDD reads: The project is aimed at the efficient utilization of associated petroleum gas (APG) that otherwise would have been flared at the BPS of the Verkhnekamsk oil fields located in the Krasnovishersk district | CAR 01 | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | b) Baseline scenario; and<br>c) Project scenario (expected outcome, including a technical description)? | of the Perm Region.<br>**CAR 01.** The explanation of situation existing prior to the starting date of the project (which is mistakenly included in paragraph *Project Purpose*) does not refer to the Working Design implemented by PermNIPIneft LTD in 2005. | | |
| - | Is the history of the project (incl. its JI component) briefly summarized? | The history of the project including its JI component is summarised under paragraph *Project history* as follows:<br>(i) 24.10.2007 -Decision to implement this project with applying the norms of the Kyoto Protocol. (Protocol of Meeting, "Choice Analysis for Recovery, transportation and processing of associated petroleum gas from the Verkhnekamsk oil fields", dd. 24.10.2007, "Permneftegazpererabotka" LLC)<br>(ii) 12.12.2008- Construction works started. Order №297 от 12.12.2008, "Permneftegazpererabotka" LLC.<br>(iii) 23.12.2010-Commissioning of the project. Order №377 от 23.12.2010, "Permneftegazpererabotka" LLC.<br>(iv) 30.04.2011 –Startup (Tentative date. Can be changed). | | OK |
| **Project participants** | | | | |
| - | Are project participants and Party(ies) involved in the project listed? | Project participants are listed in Section A.3.<br>Party A is Russian Federation with project participant JSC «Permneftegazpererabotka» LLC.<br>Party B is not defined yet. | | OK |
| - | Is the data of the project participants presented in tabular format? | The data of the project participant is presented in tabular format. | | OK |
| - | Is contact information provided in Annex 1 of | Contact information is provided in Annex 1 of the PDD. | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | the PDD? | | | |
| - | Is it indicated, if it is the case, if the Party involved is a host Party? | The indicated host party is the Russian Federation. | | OK |
| **Technical description of the project** | | | | |
| **Location of the project** | | | | |
| - | Host Party(ies) | The Russian Federation. | | OK |
| - | Region/State/Province etc. | Tyumen region. | | OK |
| - | City/Town/Community etc. | The Krasnovishersk, Solikamsk, Alexandrovsk, Dobriansk district and the Perm City. | | OK |
| - | Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page). | Detail of the physical location of the project was provided. The unique identification of the project is presented on the Figure A.4.1.4.1 and explained in the text. | | OK |
| **Technologies to be employed, or measures, operations or actions to be implemented by the project** | | | | |
| - | Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described? | The project implementation includes the construction of vapor recovery units (VRUs), gas compressor station (GCS) and the gas pipelines (GP) as follows (refer to Figure A.4.2.1):<br>(i) GP "Ozernoye oil field –Magovskaya GCS" of 26 km length; diameter 300 mm;<br>(ii) GP "Gagarinskoye oil field – tie-in point into GP "Ozernoye oil field –Magovskaya GCS" of 8 km length; diameter 100 mm;<br>(iii) GP "Magovskoye oil field –Magovskaya GCS" of 4 km length;<br>(iv) GP Magovskaya GCS – tie-in point into the existing GP "Unva – Kamenny Log" of 138.6 km length; diameter 350 | CL 01 | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | mm;<br>(v) Magovskaya GCS with capacity 120 mln.m3 per year;<br>(vi) Reconstruction of the existing old oil pipeline "НГСП-1212" Chashkino - НГО to the feeding of associated gas from the GCS "Magovskaya of 28.8 km length; diameter 219-530mm;<br>(vii) GP from "НГСП-1212" Chashkino-НГО to BKPRU-4 «Uralkaliy» length of 4.8 km; diameter 400mm.<br><br>**CL 01.** Please indicate on Figure A.4.2.1 the elements (vi) and (vii). Please reconsider the term "oil pipeline" in the element (vi). Please clarify abbreviations BPS, НГСП, НГО, BKPRU.<br><br>APG at the exit from the BPS under separation pressure feeds into to the VRU and then is transported in new gas pipelines to the GCS Magovskaya where it is compressed and further is delivered to BKPRU-4 «Uralkaliy" and through the new gas pipeline to the tie-in point into the existing GP "Unva – Kamenny Log. While transported in this pipeline APG is mixing with APG from other oilfields and comes to the next compressor station Kamenny Log, where it is again compressed. After second compressing APG is mixing with APG from other oilfields and is delivered to the «PNGP» LLC.<br><br>At Uralkaliy utilized APG will be used to heat generation in the boiler room of mine BKPRU-4, and will be replacing the | | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | previously used of natural gas.<br><br>At "PNGP" utilized APG will be processed for the production of propane/butane mix (CPBM), stable natural gasoline (SNG) and stripped gas (SG).<br><br>Electricity for the pipeline, vapor recovery units and GCS is provided by the power supplier TUMENENERGO which also supplies electricity to PNGP for processing needs.<br><br>It is stated that personnel passed training for operation of the gas pipeline installations in process of starting-up and adjustment works.<br><br>Project implementation schedule is described. | | |
| **Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances** | | | | |
| - | Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page) | PDD reads: "Under the project activity all volume of extracted APG that was previously flared will be efficiently used through injection into the new gas pipeline and transportation to the consumers. This will prevent the $CO_2$ and $CH_4$ emissions, which would have been under the baseline scenario in the case of flaring this APG volume on the BPS stacks. In the absence of the project activity it would be impossible to reach the mentioned reductions as the national sectoral policies and economic situation in the oil & gas industry do not ensure real mechanisms for efficient | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | APG utilization". | | |
| - | Is it provided the estimation of emission reductions over the crediting period? | The estimation of emission reductions over the crediting period (2 years) is provided: 379,180 tCO2e. | | OK |
| - | Is it provided the estimated annual reduction for the chosen credit period in tCO2e? | The estimated annual emission reduction for the chosen credit period is 189,594 tCO2e.<br>**CAR 02.** The annual average of estimated emission reductions or enhancements of net removals is calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve (refer to DVM Paragraph 45 (h)). Please recalculate. | CAR 02 | |
| - | Are the data from questions above presented in tabular format? | The data from the questions above is presented in tabular format. Please refer to Section A.4.3.1. | | OK |
| **Estimated amount of emission reductions over the crediting period** | | | | |
| - | Is the length of the crediting period Indicated? | The length of the crediting period is 2 years. Please refer to the section A.4.3.1. | | OK |
| - | Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided? | The estimates of total and annual emission reductions were provided in section A.4.3.1 in tonnes of CO2 equivalent. | | OK |
| **Project approvals by Parties** | | | | |
| 19 | Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals? | **CAR 03.** The project has no approval of the host Party.<br>**CAR 04**. Please provide information about the project approval by the Party involved other than the host Party. | CAR 03<br>CAR 04 | |
| 19 | Does the PDD identify at least the host Party as a "Party involved"? | The host Party involved is the Russian Federation. | | OK |
| 19 | Has the DFP of the host Party issued a written | Conclusion is pending a response to CAR 05. | Pending | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | project approval? | | | |
| 20 | Are all the written project approvals by Parties involved unconditional? | Yes, the written project approvals are unconditional. | | OK |
| **Authorization of project participants by Parties involved** | | | | |
| 21 | Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through:<br>− A written project approval by a Party involved, explicitly indicating the name of the legal entity? or<br>− Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity? | The authorization of «Permneftegazpererabotka» LLC is deemed to be received together with the project approval by the host Party.<br>Conclusion is pending a response to CAR 03. | Pending | |
| **Baseline setting** | | | | |
| 22 | Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline?<br>− JI specific approach<br>− Approved CDM methodology approach | It is explicitly indicated that the JI specific approach was applied for identifying the baseline. | | OK |
| **JI specific approach only** | | | | |
| 23 | Does the PDD provide a detailed theoretical description in a complete and transparent manner? | **CAR 05**. Section B.1 does not provide a detailed theoretical description of the baseline in complete and transparent manner as required by Guidelines for users of JI PDD Form Version 04. | CAR 05 | |
| 23 | Does the PDD provide justification that the baseline is established:<br>(a) By listing and describing plausible future | The baseline is established basically:<br>(a) By listing and describing future scenarios available for the project owner «Permneftegazpererabotka» LLC and | CAR 06 | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | scenarios on the basis of conservative assumptions and selecting the most plausible one?<br>(b) Taking into account relevant national and/or sectoral policies and circumstance?<br>− Are key factors that affect a baseline taken into account?<br>(c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors?<br>(d) Taking into account of uncertainties and using conservative assumptions?<br>(e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure?<br>(f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate? | selecting the most plausible one. Two alternative scenarios (AS) for the APG utilisation at the Verkhnekamsk oilfields were listed and described as follows:<br>AS1 Continued common practice for utilization of APG, i.e. the combustion of all extracted APG in the flares at BPS of the Verkhnekamsk oilfields.<br>AS2 The project itself (without being registered as a JI activity), i.e. construction of the new system of recovery, transportation of APG from Verkhnekamsk oilfields.<br>Based on alternatives analysis with taking into account the key factors in (b) below a conclusion is made that AS1 is the baseline scenario.<br>(b) By taking into account key factors that affect a baseline, such as sectoral reform policies and legislation, economic situation in oil & gas sector in terms of APG utilization, environmental fees, availability of capital (including investment barrier).<br>(c) Basically in a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors.<br>(d) Taking into account of uncertainties and using conservative assumptions.<br>(e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure.<br>(f) By drawing of the list of standard variables contained in appendix B to Guidance on criteria for baseline and | | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | monitoring.<br>The key information and data used to establish the baseline are provided in the required tabular format.<br>**CAR 06.** Economic situation in oil & gas sector is analyzed without considering prices of APG and commercial products of APG processing. | | |
| 24 | If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above? | N/A | | N/A |
| 25 | If a multi-project emission factor is used, does the PDD provide appropriate justification? | Not used in the baseline description. | | N/A |
| **Approved CDM methodology approach only_Paragraphs 26(a) – 26(d)_Not applicable** | | | | |
| **Additionality** | | | | |
| **JI specific approach only** | | | | |
| 28 | Does the PDD indicate which of the following approaches for demonstrating additionality is used?<br>(a) Provision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; | It is explicitly indicated that a JI-specific approach is chosen for justification of additionality. For this purpose the approach (a) is chosen. | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality;<br>(c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board". | | | |
| 29 (a) | Does the PDD provide a justification of the applicability of the approach with a clear and transparent description? | A JI-specific approach is based on an explanation that the project activity would not have occurred anyway due to the existence of the financial barrier due to not being the common practise. | | OK |
| 29 (b) | Are additionality proofs provided? | To demonstrate the additionality of the project three steps were implemented:<br>- Step #1: Indication and description of the approach applied;<br>- Step #2: Application of the approach chosen;<br>- Step #3: Provision of additionality proofs.<br>Also an analysis of common practice was reasonably applied.<br><br>Financial barrier was justified through the investment analysis and includes the evaluation of the project's financial efficiency in terms of net present value (NPV). Estimation of investment attractiveness of the project was made in the design documentation «Utilization and marketing of APG | CAR 07<br>CAR 08<br>CAR 09 | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | from Verkhnekamsk oil fields of the Perm region – designing of transportation system and gas preparation facilities (means of gas transportation is steel pipeline). Working design. Volume 1. Book 7. Investment effectiveness PermNIPIneft 2005». It is shown that at discount factor 10% the project is not financially attractive: NPV < 0 and IRR=8,5%.<br><br>The AIE observes that the investment analysis considers APG processing at PNGP with the production and sale of H-butane, СПБТ, ГГФ, and stripped gas (quoted by the above design document). This implies that the PNGP should be included in the project boundary and GHG emissions from APG processing should be taken into account.<br><br>**CAR 07**. The value of operating costs 155 mln RUR in Table B.2 is incorrect.<br><br>**CAR 08.** Please include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.<br><br>**CAR 09**. The common practice analysis is vague as it does not consider the existence of non-JI gas processing plants which are supplied by APG through long pipelines. | | |
| 29 (c) | Is the additionality demonstrated appropriately as a result? | With the unresolved CAR 08 and CAR 09 the additionality of the project is not demonstrated. | Pending | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| 30 | If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method? | N/A | | N/A |
| **Approved CDM methodology approach only_ Paragraphs 31(a) – 31(e)_Not applicable** | | | | |
| **Project boundary (applicable except for JI LULUCF projects** | | | | |
| **JI specific approach only** | | | | |
| 32 (a) | Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are:<br>(i) Under the control of the project participants?<br>(ii) Reasonably attributable to the project?<br>(iii) Significant? | The project boundary defined in the PDD encompasses the anthropogenic emissions by sources of GHGs in the baseline scenario (that is CO2 from APG flaring and CH4 from methane incomplete combustion) and the project scenario (CO2 from generation of the electricity consumed). Based on calculations N2O emissions were reasonably excluded from the consideration.<br>Also, Section B.3 provides assessment of leakage being emissions arising from:<br>(i) Electricity production for the processing of the APG under project activity (included)<br>(ii) Heat production for the processing of the APG under project activity (reasonably neglected)<br>(iii) methane ($CH_4$) physical leaks during APG processing at PNGP (included).<br>(iv) methane ($CH_4$) physical leaks during transportation of APG (included)<br>(v) APG combustion at «Uralkaliy»: will replace the combustion of natural gas (excluded)<br>**CAR 10.** The leakage as referred in the PDD is in fact the project emissions since they occur within the project | CAR 10 | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | boundary, which should include the pipeline and PNGP facilities. Please revise accordingly. | | |
| 32 (b) | Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above? | Project boundary is defined on the basis of case-by-case assessment of different emission sources in the baseline scenario.<br>Conclusion is pending a response to CAR 10. | Pending | |
| 32 (c) | Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate? | The delineation of the project boundary and the gases and sources is provided with the help of Table B.3.1 and Figure B.3.1.<br>**CAR 11**. The boundary of the project on figure B.3.1 does not include the pipeline transporting the project APG to the gas processing plant and PNGP itself. | CAR 11 | |
| 32 (d) | Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified? | Conclusion is pending a response to CAR 10 and CAR 11. | Pending | |
| **Approved CDM methodology approach only_Paragraph 33_ Not applicable** | | | | |
| **Crediting period** | | | | |
| 34 (a) | Does the PDD state the starting date of the | The starting date of the project is indicated as 30/04/2011. | CAR 12 | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | project as the date on which the implementation or construction or real action of the project will begin or began? | This is the day preceding the starting date he crediting period (01/05/2011).<br><br>**CAR 12**. Please indicate the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began. | | |
| 34 (a) | Is the starting date after the beginning of 2000? | Yes, it is. | | OK |
| 34 (b) | Does the PDD state the expected operational lifetime of the project in years and months? | The expected operational lifetime of the project is 20 years or 240 months: from 30/04/2011 till 30/04/2031 | | OK |
| 34 (c) | Does the PDD state the length of the crediting period in years and months? | The length of crediting period is defined as 1 year and 8 months or 20 months.. | | OK |
| 34 (c) | Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project? | Starting date of the crediting period is after the date of the first emission reductions are generated by the project. | | OK |
| 34 (d) | Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project? | The starting date of crediting period is 01/05/2011 and its length does not extend beyond the operational lifetime of the project. | | OK |
| 34 (d) | If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval?<br>Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012? | N/A | | N/A |
| **Monitoring plan** | | | | |
| 35 | Does the PDD explicitly indicate which of the | PDD explicitly indicates that for description and justification | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | following approaches is used?<br>− JI specific approach<br>− Approved CDM methodology approach | of the monitoring plan a JI specific approach was used. | | |
| **JI specific approach only** | | | | |
| 36 (a) | Does the monitoring plan describe:<br>− All relevant factors and key characteristics that will be monitored?<br>− The period in which they will be monitored?<br>− All decisive factors for the control and reporting of project performance? | The monitoring plan describes:<br>- the relevant factors that will be monitored:<br>(i) volume of APG at GCS Magovskaya (project and baseline scenarios) ;<br>(ii) composition of extracted APG at GCS Magovskaya (baseline scenario);<br>(iii) volume of APG delivery to BKPRU-4 Uralkaliy (leakage in the PDD terms).<br>- the periods in which they will be monitored: monthly (chemical composition of APG) and permanently (volume of APG);<br>all decisive factors for the control and reporting of project performance: ecological reporting, quality control (QC) and quality assurance (QA) procedures; the operational and management structure that will be applied in implementing the monitoring plan.<br><br>**CL 02.** Please clarify the meaning of the line connecting Magovskaya GSC and Kamenny Log GCS on Figure D.1.1. | CL 02 | |
| 36 (b) | Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored? | The monitoring plan specifies the indicators, constants and variables used that are basically reliable, valid and provide transparent picture of the emission reductions to be monitored.<br><br>**CAR 13**. Measuring electricity consumption by Magovskaya | CAR 13 | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | GCS is not envisaged. This would not allow to estimate project emissions by Formula (1). Applicability of the "standard coefficient" 151,65 kWh/m3 determined for 2010 is not justified. | | |
| 36 (b) | If default values are used:<br>− Are accuracy and reasonableness carefully balanced in their selection?<br>− Do the default values originate from recognized sources?<br>− Are the default values supported by statistical analyses providing reasonable confidence levels?<br>− Are the default values presented in a transparent manner? | The key information and data used to establish the baseline (Section B.1, tabular forms) include the following default values:<br>(i) CO2 and CH4 density under the standard conditions are taken from GOST 30319.1-96.<br>(ii) APG flaring efficiency (98%) is taken from IPCC 2006.<br>(iii) Global Warming Potential for methane GWP=21 is taken from the well recognised UNFCCC source.<br>To calculate project emissions the default value of the grid emission factor for the United Regional Energy System "Center" is used taken from the positively determined PDD of JI-0195 "Installation of CCGT-400 at Shaturskaya TPP, OGK-4, Moscow area, Russia". | | OK |
| 36 (b) (i) | For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified? | The project participants provided the "standard coefficient" 151,65 kWh/m3 determined for 2010 (please refer to PDD footnote 22).<br>Conclusion is pending a response to CAR 13. | Pending | |
| 36 (b) (ii) | For other values,<br>− Does the monitoring plan clearly indicate the precise references from which these values are taken?<br>− Is the conservativeness of the values provided justified? | Refer to 36 (b). | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| 36 (b) (iii) | For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable? | **CAR 14.** Please specify the procedures to be followed if the expected data are unavailable, for instance in case of gas flow meter failure or the unavailability of monthly data of APG composition. | CAR 14 | |
| 36 (b) (iv) | Are International System Unit (SI units) used? | International System Units (SI units) are used. | | OK |
| 36 (b) (v) | Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring? | Yes, it does. This is volume of APG measured by flow meter and APF composition measured by chromatograph. | | OK |
| 36 (b) (v) | Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan? | There is a consistency between parameters, coefficients, variables, etc. used in baseline and monitoring plan. | | OK |
| 36 (c) | Does the monitoring plan draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"? | Yes, it does. | | OK |
| 36 (d) | Does the monitoring plan explicitly and clearly distinguish:<br>(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination?<br>(ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are | Description of the monitoring plan in Section D.1 explicitly and clearly distinguishes:<br>(i) Refer to 36 (b).<br>(ii) Standard coefficient 151,65 kWh/m3. Refer to CAR 13.<br>iii) Refer to 36 (a): parameters marked (i) – (ii). | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | not already available at the stage of determination?<br>(iii) Data and parameters that are monitored throughout the crediting period? | | | |
| 36 (e) | Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording? | The monitoring plan describes the methods employed for data monitoring (flow meters, chromatographs) and data collection frequency (permanently - volume of APG, monthly - APG composition,).<br>Recording of data is stored in paper and electronically. | | OK |
| 36 (f) | Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate? | Formulae are indicated and numbered in Sections D.1.1.2, D.1.1.4, D.1.3.2, D.1.4. The algorithms and formulae are well elaborated and transparent. | | OK |
| 36 (f) (i) | Is the underlying rationale for the algorithms/formulae explained? | Yes, it is explained when necessary. | | OK |
| 36 (f) (ii) | Are consistent variables, equation formats, subscripts etc. used? | Please refer to 36 (f). | | OK |
| 36 (f) (iii) | Are all equations numbered? | Yes, they are numbered. | | OK |
| 36 (f) (iv) | Are all variables, with units indicated defined? | Yes, they are defined. | Pending | |
| 36 (f) (v) | Is the conservativeness of the algorithms/procedures justified? | Not specified. | | N/A |
| 36 (f) (v) | To the extent possible, are methods to quantitatively account for uncertainty in key parameters included? | Not specified. | | N/A |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| 36 (f) (vi) | Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured? | Yes, the consistency exists. | | OK |
| 36 (f) (vii) | Are any parts of the algorithms or formulae that are not self-evident explained? | All algorithms and formulae are self-evident. | | OK |
| 36 (f) (vii) | Is it justified that the procedure is consistent with standard technical procedures in the relevant sector? | N/A | | N/A |
| 36 (f) (vii) | Are references provided as necessary? | References to GOST R, IPCC 2006 and the UNFCCC source are provided as necessary. | | OK |
| 36 (f) (vii) | Are implicit and explicit key assumptions explained in a transparent manner? | Conclusion is pending a response to CAR 13 | Pending | |
| 36 (f) (vii) | Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed? | N/A | | N/A |
| 36 (f) (vii) | Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided? | Not specified in PDD. | | N/A |
| 36 (g) | Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project?<br>Does the monitoring plan provide a reference as to where a detailed description of the | Reference to the pertinent applicable national law "On uniformity of measurements" N 102-ФЗ dated 26/06/2008 is made. | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| | standard can be found? | | | |
| 36 (h) | Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner? | N/A | | N/A |
| 36 (i) | Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request? | QC/QA procedures are specified in PDD Section D.2. They include basic information about the body providing calibration of gas flow meters and chromatograph. | | OK |
| 36 (j) | Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities? | The operational and management structure that the project participant(s) will implement in order to monitor emission reduction generated by the project is described in PDD Section D.3. Responsibilities and the authority regarding the monitoring activities are indicated. | | OK |
| 36 (k) | Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type?<br>If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied? | Monitoring techniques are in line with current operation routines in the industry. | | OK |
| 36 (l) | Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations? | The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected. | | OK |
| 36 (m) | Does the monitoring plan indicate that the data | The monitoring plan indicates that all monitored data (for | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| | monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project? | period 2008-2012) will be stored in electronic form and paper form 5 years after the last transfer of ERUs. | | |
| 37 | If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above? | N/A | | N/A |
| **Approved CDM methodology approach only_Paragraphs 38(a) – 38(d)_Not applicable** | | | | |
| **Applicable to both JI specific approach and approved CDM methodology approach** | | | | |
| 39 | If the monitoring plan indicates overlapping monitoring periods during the crediting period:<br>(a) Is the underlying project composed of clearly identifiable components for which emission reductions or enhancements of removals can be calculated independently?<br>(b) Can monitoring be performed independently for each of these components (i.e. the data/parameters monitored for one component are not dependent on/effect data/parameters to be monitored for another component)?<br>(c) Does the monitoring plan ensure that monitoring is performed for all components and that in these cases all the requirements of the JI guidelines and further guidance by the JISC regarding monitoring are met? | N/A | | N/A |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| | (d) Does the monitoring plan explicitly provide for overlapping monitoring periods of clearly defined project components, justify its need and state how the conditions mentioned in (a)-(c) are met? | | | |
| **Leakage** | | | | |
| **JI specific approach only** | | | | |
| 40 (a) | Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected? | The PDD appropriately describes in Sections B.3, D.1.3.2 and E.2 an assessment of emissions which are regarded as leakage. In the AIE opinion these are not leakage but project emissions.<br>Conclusion is pending a response to CAR 10 | Pending | |
| 40 (b) | Does the PDD provide a procedure for an ex ante estimate of leakage? | Yes. Please refer to Section D.1.3.2.<br><br>**CAR 15**. With regard to Formulae (8) – (10) please provide sources of data for:<br>(i) methane losses coefficient for APG transportation,<br>(ii) methane losses coefficient for APG processing,<br>(iii) specific electricity consumption coefficient for APG processing. | CAR 15 | |
| **Approved CDM methodology approach only_Paragraph 41_Not applicable** | | | | |
| **Estimation of emission reductions or enhancements of net removals** | | | | |
| 42 | Does the PDD indicate which of the following approaches it chooses?<br>(a) Assessment of emissions or net removals in the baseline scenario and in the project scenario<br>(b) Direct assessment of emission reductions | PDD applies approach (a). which includes also assessment of the leakage (in PDD terms). | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| 43 | If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of:<br>(a) Emissions or net removals for the project scenario (within the project boundary)?<br>(b) Leakage, as applicable?<br>(c) Emissions or net removals for the baseline scenario (within the project boundary)?<br>(d) Emission reductions or enhancements of net removals adjusted by leakage? | PDD provides ex ante estimates of:<br>(a) emissions for the project scenario: 14,049 tCO2e;<br>(b) leakage: 30,648 tCO2e;<br>(c) emissions for the baseline scenario: 423,886 tCO2e;<br>(d) emission reduction: 379.189 tCO2e.<br><br>**CAR 16.** Please justify the conservatism of using the methane composition for the project APG rather than for a mixture of gases from different oil fields in estimation of leakage (in PDD terms) due methane physical leaks during transportation by Formula (8) and during processing at PNGP by Formula (9). | CAR 16 | |
| 44 | If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of:<br>(a) Emission reductions or enhancements of net removals (within the project boundary)?<br>(b) Leakage, as applicable?<br>(c) Emission reductions or enhancements of net removals adjusted by leakage? | N/A | | N/A |
| 45 | For both approaches in 42<br>(a) Are the estimates in 43 or 44 given:<br>(i) On a periodic basis?<br>(ii) At least from the beginning until the end of the crediting period?<br>(iii) On a source-by-source/sink-by-sink basis?<br>(iv) For each GHG?<br>(v) In tones of CO2 equivalent, using global warming potentials defined by decision | (a) Estimates in 43 are given on the periodic basis, from the beginning until the end of the crediting period, in tones of CO2 equivalent.<br>(b) The formulae used in PDD are consistent throughout PDD (for the formulae refer to Section D).<br>(c) Key factors influencing the baseline emissions and the activity level of the project and the emissions are taken into account, as appropriate.<br>(d) Data sources used for calculating the estimates are basically clearly identified, reliable and transparent. | Pending | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| | 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol?<br>(b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD?<br>(c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate?<br>(d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent?<br>(e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?<br>(f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner?<br>(g) Are the estimates in 43 or 44 consistent throughout the PDD?<br>(h) Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or | (e) Emission factors are selected by carefully balancing accuracy. .<br>(f) Estimation in 43 is based on the most plausible scenario in a transparent manner.<br>(g) Estimates in 43 are consistent throughout the PDD.<br>(h) Refer to CAR 02.<br><br>Conclusion is pending a response to CAR 02. | | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| | enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve? | | | |
| 46 | If the calculation of the baseline emissions or net removals is to be performed ex post, does the PDD include an illustrative ex ante emissions or net removals calculation? | Illustrative ex-ante estimation of baseline emissions is made on the spreadsheet made available to AIE. | | |
| **Approved CDM methodology approach only_Paragraphs 47(a) – 47(b)_Not applicable** | | | | |
| **Environmental impacts** | | | | |
| 48 (a) | Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party? | According to the State Committee for Ecology and Natural Resources of the Russian Federation Decree dated 15.04.2000 #372 “On compliance with regulations regarding the planned economics (and other) actions and their ecological impact”, developers must include environmental issues into the project design documentation.<br><br>In accordance with the Urban Construction Code the Design Documentation should contain Section “Measures on Environment Protection” which includes paragraph (a) Environmental Impact Assessment (EIA). The whole Design Documentation including the environmental part is subject to the formal state expertise.<br><br>The section "Environment Protection" (EP) is integrated into the design documentation “Utilization and marketing of APG from Verkhnekamsk oil fields in Perm region. Designing of the transportation infrastructure and gas treatment equipment”. The project documentation was designed in | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| | | 2005 by the research institute of the oil industry "PermNIPIneft" LLC.<br><br>The project has obtained the positive opinions issued by Perm Interregional Agency of Ecological, Technological and Atomic Control:<br>- opinion №489-2 dated 21.06.2006 (on the gas transport system)<br>- opinion №59-1-4-0488-10 dated 24.12.10 (on pipeline to the Uralkaliy)<br><br>Project has permission on emissions:<br>- Permission ZV № 05-29-1/1758 dated 21.06.2006 (on period to 2010) for air pollutant emissions from the stationary sources, given by federal survey of ecological, technological and nuclear control «Rostekhnadzor»i | | |
| 48 (b) | If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party? | Russian legislation does not use the term "significant environmental impacts". The company is permitted to operate on the basis on permission of air emission issued by the state authority Rostekhnadzor. | | OK |
| **Stakeholder consultation** | | | | |
| 49 | If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide:<br>(a) A list of stakeholders from whom | Stakeholder consultation is not required by the Russian legislation. Hence public hearings were not organized and no pertinent comments were received during the elaboration of | | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
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| | comments on the projects have been received, if any?<br>(b) The nature of the comments?<br>(c) A description on whether and how the comments have been addressed? | the project. | | |
| **Determination regarding small-scale projects (additional elements for assessment)_Paragraphs 50 - 57_Not applicable** | | | | |
| **Determination regarding land use, land-use change and forestry projects _Paragraphs 58 – 64(d)_Not applicable** | | | | |
| **Determination regarding programmes of activities_Paragraphs 66 – 73_Not applicable** | | | | |

## Table 2 Resolution of Corrective Action and Clarification Requests

| Draft report clarifications and corrective action requests by validation team | Ref. to checklist question in table 1 | Summary of project participant response | Determination team conclusion |
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| **CAR 01.** The explanation of situation existing prior to the starting date of the project (which is mistakenly included in paragraph *Project Purpose*) does not refer to the Working Design implemented by PermNIPIneft LTD in 2005. | - | Response 1 from 11/04/2011<br>Corrected/Please see p 2 | Response 1 is accepted.<br>CAR is closed based on due amendments made to the PDD. |
| **CAR 02.** The annual average of estimated emission reductions or enhancements of net removals is calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve (refer to DVM Paragraph 45 (h)). Please recalculate. | - | Response 1 from 11/04/2011<br>Corrected/Please see p 8 | Response 1 is accepted.<br>CAR is closed based on due amendments made to the PDD. |

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| **CAR 03.** The project has no approval of the host Party. | 19 | Response 1 from 11/04/2011<br>According to the legislation of the Russian Federation in the field of JI projects realization, the Project approval is possible after reception of the positive determination opinion from AIE. | Pending. |
| **CAR 04**. Please provide information about the project approval by the Party involved other than the host Party. | 19 | Response 1 from 11/04/2011<br>Second approval (second party) is possible after reception of the positive determination opinion from AIE from first party.<br><br>Response 2 from 23/04/2011<br>Corrected/please see a5 (green marker)<br>Now approval by the other party is absent because the other party is not defined. Later, after the passage of determination opinion and approval of the first party and the definition of the second party, the approval can be obtained.<br>. | Response 1 is not accepted.<br>There are a number of examples when an approval by the Party involved other than the host Party CAR is issued before the determination is over.<br>Anyway, Section A.5 shall include information as to when this approval will be obtained.<br><br>Response 2 is accepted<br>CAR is closed based on due amendments made to the PDD. |

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| **CAR 05**. Section B.1 does not provide a detailed theoretical description of the baseline in complete and transparent manner as required by Guidelines for users of JI PDD Form Version 04. | 23 | Response 1 from 11/04/2011<br>Corrected/ please see p 16 (yellow marker)<br><br>Response 2 from 23/04/2011<br>Corrected/ please see p 20 (green marker) | Response 1 is not accepted.<br>Please provide in Section B.1 a DETAIL THEORETICAL DESCRIPTION of the baseline in complete and transparent manner as required by Guidelines for users of JI PDD Form Version 04<br><br>Response 2 is accepted<br>CAR is closed based on due amendments made to the PDD. |

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| **CAR 06.** Economic situation in oil & gas sector is analyzed without considering prices of APG and commercial products of APG processing. | 23 | Response 1 from 11/04/2011<br>Corrected/ please see p 16 (yellow marker)<br><br>Response 2 from 23/04/2011<br><br>Since the main role of fuel in the project stands APG then, according to Paragraph 25 (e) on Guidance on criteria for Baseline setting and monitoring, Version 02 as one of the criteria for selecting baseline is APG price and availability.<br><br>The developer of this project was originally considered the price of the APG and its products (response 1). However, it should be recalled that the developers follow its own approach and in the right to determine what factors will determine the baseline, which was done.<br>As the price of APG was considered the price for APG in force at the time of the decision on the project. It should be recalled that the primary effect of this project is utilization of associated gas through the collection and injection into the new gas pipeline. However, the secondary action is APG processing at PNGP with commodity production of dry gas and ШЛФУ. In this case, dry gas is the main product of processing and the main source of profit, therefore, was considered the price of dry gas.<br><br>Other fuels in the project does not exist | Response 1 is not accepted.<br><br>Please refer to Paragraph 25 (e) on Guidance on criteria for Baseline setting and monitoring, Version 02.<br><br>Response 2 is accepted<br><br>CAR is closed based on reasoning provided by Response 2. |

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| **CAR 07**. The value of operating costs 155 mln RUR in Table B.2 is incorrect. | 29 (b) | Response 1 from 11/04/2011<br>Corrected/please see p 20(yellow marker) | Response is accepted.<br>CAR is closed based on due amendments made to the PDD. |

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| **CAR 08.** Please include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions. | 29 (b) | Response 1 from 11/04/2011<br>Correct/please see p 21 (yellow marker)<br>Response 2 from 23/04/2011<br><br>As for justifying the cost effectiveness of the project were determined discount factors of 10% and 15% (Technical documentation vol. 7). We choose the conservative approach and show the discount rate only 10%. When sensitivity analyzing of option (to reduce capital costs by 10%) show more than 10%, but it's still lower than adopted in the calculation of 15%.<br>The project is considered steady if at all scenarios it is effective and financially realized/that in 3 of 4 scenarios indicators of the project economic efficiency are not acceptable at change of key parameters.<br>In addition, this option is only just a theoretical, because the actual investment was much more than put into the calculation in 2005.<br><br>Corrected/please see 22(green marker) | Response 1 is not accepted.<br>The variant "investment cost minus 10%) is financially attractive. This result is left without any analysis and conclusions.<br><br>Response 2 is provisionally accepted<br>Please reformulate the unclear statement *The project is considered steady if at all scenarios it is effective and financially realized/that in 3 of 4 scenarios indicators of the project economic efficiency are not acceptable at change of key parameters.*<br><br>CAR is closed based on due amendments made to the PDD. |

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| **CAR 09**. The common practice analysis is vague as it does not consider the existence of non-JI gas processing plants which are supplied by APG through long pipelines. | 29 (b) | Response 1 from 11/04/2011<br><br>The project activities aimed at the APG utilization by building a system for collecting and compressing of APG for delivery to the gas pipeline, then consider the general practice in the context of the existing gas processing plant supplying associated gas through trunk pipelines is not required. The project does not affect the construction or modernization of GPP and old gas pipeline. Since the project activities aimed at the APG utilization by building a system for collecting and compressing of APG, then it applicably at all risks that are described in common practice in PDD.Moreover, APG processing in Russia mainly in the gas processing plants of the company Sibur. The biggest existing GPP of SIBUR located in the Khanty-Mansi and Yamal-Nenets autonomous districts, they built more than 30 years ago, back in Soviet era. Last gas processing plant in the USSR and Russia was put into operation in 1989. From this it follows that these plants cannot be considered in the analysis of common practice, because they were built in an entirely different economic conditions and at another time. So | Response is not accepted.<br><br>CAR is not responded. The rationale of the CAT was as follows. The existence of a number of gas processing plants (at Lukoil as well) implies that there exist a number of gas pipelines delivering gas to the processing plants.<br><br>Please make an analysis if similar pipelines were constructed in the similar geographical area without any connection with JI.<br><br>Response 2 is not accepted.<br><br>Please make it clear that Permneftegazpererabotka does not receive APG from other Lukoil oil fields -refer to http://www.pngp.ru/business/ .<br><br>If similar activities do exist, then please<br>demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive.<br><br>Response 3 is not accepted since it |

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| | | far, no examples of the commissioning of large new gas processing plant to be built from zero without JI<br><br>Response 2 from 23/04/2011<br><br>In the Perm region, such projects do not exist, because in this region, oil production development only Lukoil-Perm. (http://www.perm-kray.ru/pam102-1.htm)And this is only project being implemented in the respective geographical areas of the Lukoil company - the first of kind.<br>For other similar projects in other regions characterized by institutional and economic barriers previously mentioned in response 1 and common practice in PDD Corrected /please see p 24 (green marker)<br><br>Response 3 from 04/05/2011<br><br>PNGP receives gas not only from the project Verkhnekamsk oil fields, but also from others Lukoil-Perm fields. However, APG from other oil fields has been historically being transported in PNGP beyond Project boundaries through existing pipelines that is a common practice. Therefore for having APG | is not to the point. The statement However, APG from other oil fields has been historically being transported in PNGP beyond Project boundaries through existing pipelines that is a common practice is confusing since (1) the project boundaries have no relevance to the issue under consideration and (2) if the existing pipelines were constructed in the past for APF transportation, this is the activities similar to the project. Please refer to PDD and Determination Report for the Verkhnekamsk-1 project..<br><br>Response 2 is accepted<br><br>CAR is closed based on due amendments made to the PDD. |

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| | | from the other fields neither PNGP nor Lukoil invests in transportation and processing of APG – that is historical fact. This is the point that makes the project different from the existing APG transportation activities. The project activity aims at building the new gas pipeline and compressor station exclusively to transport associated gas from the project Verkhnekamsk oil fields. The project activity does not extend throughput capacities of the existing gas pipelines. So the economic analysis takes into account only the income from the sale of dry gas produced from the project volume of APG coming in from Verkhnekamsk oil fields trough the newly-build gas pipeline. This investment activity is unattractive from an economical viewpoint. Therefore it takes place beyond the context of common practice, which covers transportation of APG from other fields.In this regard the project, i.e. economically ineffective construction and commissioning of the gas pipeline and CS for APG delivery in PNGP and Uralkaliy from Verhnekamsk oil fields, does not contradicts deliveries of APG from other fields through existing pipelines.<br>Response 4 from 05 05 2011<br>LUKOIL utilizes over 3,3 bcm of APG at Lokosovky, Usinsky, Permneftegazpererabotka and Korobkovsky | |

gas-processing plants:

| Gas-processing plant name | The year of construction | The year of entering in LUKOIL group |
|---|---|---|
| Lokosovsky GPP | 1970 | 2002 |
| Usinsky GPP | 1980 | 2001 |
| Korobkovsky GPP | 1949 | 1996 |
| Permneftegazpererabotka | 1969 | 1998 |

Usinskiy gas processing plant reconstructed oil pipeline for gas transporting in 2001. The length of such gas pipeline riches 70 km. After GPPs entering in LUKOIL group there were no other projects like PNGP`s project (recovery, transportation and processing).

The aforesaid information make clear that the presented project is unique since any other project does not consists of the APG transportation on considerable distances. The realization of projects is easier because such projects do not involve huge expenses.
The survey makes clear that there are some properties of nature which involve the enlarged investment to the Project:

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| | | – there are protected areas with the special authorities control;<br>– climatic conditions are difficult (long winter with low temperature);<br>– there are potassium fields during the pipeline that require the additional measures for their protection.<br><br>Also the projected pipeline is one of the longest pipeline and has the private financing. The existent gas infrastructure was built within energy program on the money from state budget in 1970s in the time of USSR.<br>Added to PDD on page 24. | |
| **CAR 10.** The leakage as referred in the PDD is in fact the project emissions since they occur within the project boundary, which should include the pipeline and PNGP facilities. Please revise accordingly. | 32 (a) | Response 1 from 11/04/2011<br>Corrected (PNGP&pipeline included in project boundary).Please see yellow marker through all PDD | Response is accepted.<br>CAR is closed based on due amendments made to the PDD. |
| **CAR 11**. The boundary of the project on figure B.3.1 does not include the pipeline transporting the project APG to the gas processing plant and PNGP itself. | 32 (c) | Response 1 from 11/04/2011<br>Corrected/please see figure B.3.1 and D.1.1 | Response is accepted.<br>CAR is closed based on due amendments made to the PDD. |
| **CAR 12**. Please indicate the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began. | 34 (a) | Response 1 from 11/04/2011<br>Corrected/Please see p 30<br>The project's starting date is 23.12.2010. This first date of commissioning of the project equipment. | Response is accepted.<br>CAR is closed based on due amendments made to the PDD. |

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| **CAR 13**. Measuring electricity consumption by Magovskaya GCS is not envisaged. This would not allow to estimate project emissions by Formula (1). Applicability of the "standard coefficient" 151,65 kWh/m3 determined for 2010 is not justified. | 36 (b) | Response 1 from 11/04/2011<br>Since currently in PNGP absent coefficient of electricity consumption for Magovskaya compressor station, so the calculation is taken the approval maximum annual coefficient of electricity consumption for the APG transport (this is conservative). When the Magovskaya coefficient is approved specifically for the compressor station, it will be used for calculations, but in any case, it will be no higher than the approval maximum annual coefficient.<br>Response 2 from 23/04/2011<br>Corrected(please see green marker) | Response 1 is not accepted.<br>Monitoring of electricity consumption by Magovskaya GCS shall be envisaged in PDD Section D.1.1.1.<br>Response 2 is accepted.<br>CAR is closed based on due amendments made to the PDD. |
| **CAR 14.** Please specify the procedures to be followed if the expected data are unavailable, for instance in case of gas flow meter failure or the unavailability of monthly data of APG composition. | 36 (b) (iii) | Response 1 from 11/04/2011<br>Corrected /Please see section D3 p 46 (yellow marker) | Response is accepted.<br>CAR is closed based on due amendments made to the PDD. |
| **CAR 15**. With regard to Formulae (8) – (10) please provide sources of data for:<br>(i) methane losses coefficient for APG transportation,<br>(ii) methane losses coefficient for APG processing,<br>specific electricity consumption coefficient for APG processing. | 40 (b) | Response 1 from 11/04/2011<br>Sources of necessary data attached (specific electricity consumption coefficient at PNGP and methane losses coefficient for APG transportation&processing) | Response is accepted.<br>CAR is closed based on due amendments made to the PDD. |
| **CAR 16.** Please justify the conservatism of using the methane share for the project APG rather than for a mixture of gases from different oil fields in estimation of leakage (in PDD terms) due methane physical leaks | 43 | Response 1 from 11/04/2011<br>Because the transportation of project APG will cause additional methane losses of project | Response 1 is not accepted.<br>Please provide the values of gas losses coefficients with reference to |

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| during transportation by Formula (8) and during processing at PNGP by Formula (9). | | APG in the new build and existing pipeline, it is logical for the calculation of methane leaks apply a project methane component. The same thing applies to the methane component of leaks calculations during the processing at PNGP. This applies only to project volume of associated gas.<br>Methane fraction of project APG attached.<br>Response 2 from 23/04/2011<br>Values of gas losses coefficients for PNGP transport&compressing operations of apg attached<br>Please reconsider the term "methane losses coefficient /Corrected(please see green marker) | the sources of the data.<br>Please reconsider the term "methane losses coefficient" since if it relates to methane, then the inclusion of methane share in Formulae (3) and (4) is incorrect.<br>Response 2 is accepted.<br>CAR is closed based on due amendments made to the PDD. |
| **CL 01.** Please indicate on Figure A.4.2.1 the elements (vi) and (vii). Please reconsider the term "oil pipeline" in the element (vi). Please clarify abbreviations BPS, НГСП, НГО, BKPRU. | - | Response 1 from 11/04/2011<br>Corrected/please see Figure A.4.2.1 on page 6 | Response 1 is accepted.<br>CL is closed based on due correction made to the PDD. |
| **CL 02.** Please clarify the meaning of the line connecting Magovskaya GSC and Kamenny Log GCS on Figure D.1.1. | 36 (a) | Response 1 from 11/04/2011<br>Corrected/ this line (orange) means electricity from the Grid<br>Black line means existing old gas pipeline | Response 1 is accepted.<br>CL is closed based on due correction made to the PDD. |