



DETERMINATION REPORT

OJSC "RITEK"

**DETERMINATION OF THE
"UTILIZATION OF ASSOCIATED PETROLEUM GAS
(APG) AT THE VOSTOCHNO-PEREVALNOYE
OIL FIELD, WESTERN SIBERIA, RUSSIA"**

BUREAU VERITAS CERTIFICATION

REPORT No. RUSSIA/0026-2/2009

**Bureau Veritas Certification
Holding SAS**



Report No: RUSSIA/0026-2/2009 Version 01

Determination Report on JI project

"Utilization of associated petroleum gas (APG) at the Vostochno-Perevalnoye oil field, Western Siberia, Russia"

Date of first issue: 31/08/2009	Organizational unit: Bureau Veritas Certification Holding SAS
Client: OJSC "RITEK"	Client ref.: Mr. Alexey Kulakov
<p>Summary:</p> <p>Bureau Veritas Certification has made the determination of the project "Utilization of associated petroleum gas at the Vostochno-Perevalnoye oil field, Western Siberia, Russia" 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 guidelines and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria. The determination is carried out under Track 1 as per Glossary of JI terms, in line with paragraph 23 of the JI guidelines.</p> <p>The determination scope is defined as an independent and objective review of the project design document, the project's baseline, monitoring plan and other relevant documents, and consists of the following three phases: i) desk review of the project design document and particularly 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.</p> <p>The first output of the determination process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A, Table 4. Taking into account this output, the project proponent has revised its project design document.</p> <p>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.</p>	

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Project title: "Utilization of associated petroleum gas at the Vostochno-Perevalnoye oil field, Western Siberia, Russia"		
Work carried out by: Flavio Gomes – Team leader, Lead verifier <i>Flavio Gomes</i> Leonid Yaskin – Team member, verifier <i>Leonid Yaskin</i>		<input checked="" type="checkbox"/> No distribution without permission from the Client or responsible organizational unit
Work verified by: Ashok Mammen - BVC Technical Manager for Climate Change, Internal reviewer <i>Ashok Mammen</i>		<input type="checkbox"/> Limited distribution
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Abbreviations

AIE	Accredited Independent Entity
APG	Associated petroleum Gas
BVC	Bureau Veritas Certification
C	Carbon
CAR	Corrective Action Request
CL	Clarification Request
CH ₄	Methane
CO ₂	Carbon Dioxide
tCO ₂ e	Tonnes CO ₂ equivalent
CRF	Capital Recovery Factor
DDR	Draft Determination Report
DR	Document Review
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
GHG	Green House Gas(es)
GPP	Gas Power Plant
HS	Heating Station
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
I	Interview
IE	Independent Entity
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
LA	License Agreement
LHV	Low Heating Value
MoV	Means of Verification
OJSC	Open Joint Stock Company
PCF	Prototype Carbon Fund (World Bank Carbon Finance Unit)
PDD	Project Design Document
PP	Project Participant
RITEK	Russian Innovation Fuel and Energy Company
UNFCCC	United Nations Framework Convention for Climate Change



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1 INTRODUCTION

OJSC "RITEK" has commissioned Bureau Veritas Certification to determine its JI project "Utilization of associated petroleum gas (APG) at the Vostochno-Perevalnoye oil field, Western Siberia, Russia" (hereafter called "the project") located in the Surgutsky rayon of Khanty-Mansiysk Autonomous Okrug (KhMAO) - Yugra, Tumen oblast.

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 purpose of the determination is to provide an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan, 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 emission reduction 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 (PDD), the project's baseline study (BLS) and monitoring plan (MP) and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements for Joint Implementation (JI) projects, the guidelines for the implementation of Article 6 of the Kyoto Protocol (Decision 16/CP.7) as agreed in the Marrakech Accords, in particular the verification procedure under the JI Supervisory Committee, and associated interpretations. Bureau Veritas Certification has, based on the recommendations in the Validation and Verification Manual (IETA/PCF), employed a risk based approach in the determination process, focusing on the identification of significant risks for project implementation and generation of ERUs.

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

1.3 GHG Project Description

The project includes utilization of associated petroleum gas (APG) on modern power station with the general installed capacity 7,5 MW and on heating station with capacity 1,89 MW on Vostochno-Perevalnoye oil field (owner- OJSC "RITEK"), Surgutsky rayon,



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Khanty-Mansijsky Okrug - Yugra, Tumen oblast, Western Siberia, Russia. Five Cummins QSV 91G generating units of 1.5 MW of nominal electrical capacity each are installed at the plant and three furnaces KVG 0,63 MW at heating station (HS). Power plant was designed specially for APG utilization. Generated energy (electrical and heat) ensures operation of all complex of the basic and supporting equipment on the oil wells and in well-exploiting settlement.

APG at the Vostochno-Perevalnoye oil field is obtained during the separation process at the booster pump station located next to the new power plant and heating station. The APG utilized within the Project was previously flared as shown in Figure 1. Within the Project, part of the APG (approximately 10,7 million m³ per year) is used by the power plant and HS with the remaining APG flared as usual at the stack of the booster pump station. Power production for the needs of the project owner was initially ensured by the so called – powertrains PE-6M (mobile generating facilities consuming oil as a basic fuel). Heating was ensured by electric devices.

Exploitation of Vostochno-Perevalnoye oil-field has begun in 1995. In 1998 oil-field was equipped with power-trains that until 2008 supplied power generation. Within the Baseline Scenario the growth of power consumption at the oilfield was supposed to be covered by additional powertrains – roughly 5 power trains of 1 MW capacity each. This scenario constituted the cheapest solution, with total cost of 5 additional power trains not exceeding 0,9 mln. Euro.

Still, the Project Owner opted for other ways of APG utilization that were analyzed and assessed within 2003-2004. Partly the refusal from the baseline scenario can be attributed to the innovation profile of the project owner - OJSC RITEK within its mother Group LUKOIL. RITEK has been chosen as a testing ground for advanced technological and environmental solutions within the Group, which presupposed additional costs that were spent often regardless of the profitability considerations. In our case the related research and feasibility study job was commissioned by the project owner to the NIPIGazpererabotka research institute. The project alternatives developed by the Institute combined solution of the problem of APG utilization and electricity generation. The option chosen by the project owner presumed construction of GPP.

With the costs considerably risen within the new options for APG utilization-based power generation the issue of financial viability of the project have been raised on the corporate level. One of the possible ways to ease the financial burden was to use the opportunities of the Kyoto protocol market mechanisms, namely the Joint Implementation within the Article 6. The related perspective of the Russian participation in the JI mechanism became clear in September 2003 as long as the Russian Government Climate Change Commission initially approved the first version of the JI National Regulations for the Russian Federation. This was a clear signal for the business stakeholders concerned and the project owner has chosen the Kyoto market opportunities to ease the APG utilization costs. The related income was taken into



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consideration within the corporate financial decision making arrangements on the project implementation.

After the corporate decision on the exploring alternative solutions for APG utilization including those involving the Kyoto market mechanisms, taken on the meeting of the RITEK Technical Board on 25.09.2003 the development and technical design works have started, later followed by the construction phase.

Commissioning of the related feasibility study by the project owner to the NIPIGazpererabotka research institute (Krasnodar, Russian Federation), contract concluded on 29.09.2003. The preliminary report of this study was issued in December 2003, the final report was ready by May 2004. The project alternatives examined by the Institute combined solution of the problem of APG utilization and electricity generation. The option chosen by the project owner presumed construction of GPP.

The design was performed by the JSC Giprotymenneftegaz. (Tyumen, Russian Federation). Commissioning of the full-cycle work on the first block of the power station in Vostochno-Perevalnoye to JSC “Zvezda-Energetika” (Saint Petersburg, Russian Federation), contract concluded on 07.06.2007. The job was to be executed on turnkey basis and presumed design, manufacturing of equipment, construction, assembly and launching into operation the power station (GPP), based on the Cummins reciprocating engines. HS was commissioned in the beginning of 2008 (January).

The supplier of APG to the GPP and HS and the purchaser of electric power and heat produced is Project Owner – joint stock company RITEK.

The electricity users are mainly groups of pumping stations, which are maintaining oil reservoir pressure by pumping water into the reservoirs 24 hours a day, and other facilities ensuring oil production and transportation at the oil field. Well-exploiting settlement consumes heat from HS. This requires the GPP generating units to operate 24 hours per day to meet the demand. Delivery of electricity to the external grids is not reasonable from the technical point of view (as the oil field is located far from the nearest Transforming Station (PS), which makes unprofitable any possible construction of a grid for sales of insignificant volumes of additional energy). Besides, in Russia there is no legal mechanism to support the alternative power generation, and the tariff for electric power in grid (in case if it approved by the regional energy committee - REC) is calculated on the base of return of investment within 10 years. With the above factors taken into consideration, the power and heating stations are meant to operate in an autonomous regime.

The Project will contribute to sustainable development of the host country by promoting the utilization of wasted APG which is a valuable energy resource and will reduce CO₂ and CH₄ emissions in two ways:



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- Utilization of the APG in the efficient power & heat generating facilities instead of its flaring,
- Substitution of crude-oil combustion in power generation by APG which has a lower CO₂ – emission factor.

Estimated total reductions of GHG emissions will be around 62,322 tonnes of CO₂e per year (including 29388 tons CO₂e in 2008) and respectively 311,610 tCO₂e within the 2008-2012 crediting period.

1.4 Determination team

The determination team consists of the following personnel:

Flavio Gomes

Bureau Veritas Certification - Team Leader, Lead verifier

Leonid Yaskin

Bureau Veritas Certification – Team member, verifier

Ashok Mammen

Bureau Veritas Certification – Team Member, Internal Technical Reviewer

2 METHODOLOGY

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

The determination consisted of the following three phases:

- i) desk review of the project design document and the baseline and monitoring plan;
- ii) on-site assessment (22-23/06/2009);
- iii) resolution of outstanding issues (ref. to Annex A Table 5 with CAR's and CL) and the issuance of the final determination report and opinion.

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

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



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The original determination protocol consists of five tables. The different columns in these tables are described in Figure 1.

The completed determination protocol is enclosed in Appendix A to this report. It consists of 4 tables: Table 3 Baseline and Monitoring Methodologies is skipped since an own methodology is used and the questions regarding the used methodology are presented in Table 2.

Determination Protocol Table 1: Mandatory Requirements			
Requirement	Reference	Conclusion	Cross reference
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (OK), a Corrective Action Request (CAR) or a Clarification Request (CL) of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Determination Report.	Used to refer to the relevant protocol questions in Tables 2, 3 and 4 to show how the specific requirement is validated. This is to ensure a transparent determination process.

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



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Determination Protocol Table 3: Baseline and Monitoring Methodologies				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements of baseline and monitoring methodologies should be met. The checklist is organized in several sections. Each section is then further subdivided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question. (See below). Clarification Request (CL) is used when the determination team has identified a need for further clarification.

Determination Protocol Table 4: Legal requirements				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The national legal requirements the project must meet.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question. (See below). Clarification Request (CL) is used when the determination team has identified a need for further clarification.

Determination Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report corrective action and clarifications requests	Ref. to checklist question in tables 1/2/3	Summary of project owner response	Determination conclusion
If the conclusions from the Determination are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 1-4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the determination team should be summarized in this section.	This section should summarize the determination team's responses and final conclusions. The conclusions should also be included in Tables 1-4 under "Final Conclusion".

Figure 1 Determination protocol tables



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2.1 Review of Documents

RITEK has submitted to Bureau Veritas Certification on 25/05/2009 the Project Design Document (PDD) Version 2.3 dated 15/05/2009. The PDD was presented in the JISC form for small scale projects since the annual emission reductions were below 60 kilo tCO₂e.

The PDD and additional background documents related to the project design, baseline, and monitoring plan, i.e. Kyoto protocol, Host Party laws, Guidelines for users of the JI PDD form for small scale projects, JISC Guidance on Criteria for Baseline Setting and Monitoring, Combined tool to identify the baseline scenario and demonstrate additionality (Version 02.2) and others were reviewed.

The output of the review was the Draft Determination Report Version 01 dated 11/06/2009, which was sent to RITEK on 19/06/2009. The key item of verifier's concern was the following: PDD did not elaborate on the firing of APG in the heating station though, as declared in PDD Section A.1, the project included utilization of APG on modern power station and on heating station.

A visit to the project site was held on 22-23/06/2009. During the familiarisation with the equipment of the project, the verifier (Leonid Yaskin) observed that APG was utilised not only on GPP but also in heat boilers.

PDD Version 3.4 dated 08/08/2009 was submitted to Bureau Veritas Certification on 25/08/2009. Due to the inclusion in the PDD of the heat component, the project ceased to be a small scale one. This PDD was reviewed and Draft Determination Report version 02 was issued and sent to RITEK on 26/08/2009. As a response, the corrected PDD Version 4.1 dated 28/08/2009 was submitted, which was accepted by the verifiers.

The determination findings presented in the present Determination Report Version 01 relate to the project as described in PDD Version 4.1 dated 28/08/2009.

2.2 Follow-up Interviews

Bureau Veritas Certification verifier Leonid Yaskin conducted a visit to the project site on 22-23/06/2009. On-site interviews with the project participant were conducted to confirm the selected information and to resolve issues identified in the document review. Representatives of OJSC "RITEK" and the RITEK's Oil & Gas Production Division "RITEKneft" were interviewed.

Following the submission of the Draft Determination Report Version 1 to RITEK, at their request, the meeting of the PP and the PDD developer «Mejdunarodnaya Gruppa «Sigma» LLC with the BVC verifier Leonid Yaskin was held on 07/07/2009.

After the receipt of PDD Version 3.4, the verifier (Leonid Yaskin) requested a meeting with RITEK and PDD developer, which was held on 26/08/2009.



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The main topics of all interviews are summarized in Table 1. The interviewed participants are listed in References.

Table 1. Interview topics

Interviewed organization	Date	Interview topics
OJSC "RITEK" "RITEKneft"	22-23/06/2009	<ul style="list-style-type: none"> ➤ History of the project ➤ Working design ➤ Technological scheme ➤ Implementation schedule ➤ Investment issues ➤ License agreement ➤ Power trains (visitation, parameters) ➤ APG separation equipment (visitation) ➤ Gas engines (visitation, parameters) ➤ Project management organisation ➤ Environmental Impact Assessment ➤ Permits for Air Emission ➤ Audits by state inspecorates ➤ Monitoring equipment(inspection, characteristics) ➤ Readiness to monitoring
OJSC "RITEK" «Mejdunarodnaya Gruppa «Sigma» LLC	07/07/2009	CARs in DDR Version 1 concerning: <ul style="list-style-type: none"> ➤ Elaboration on heat station ➤ Implications of non-fulfillment of LA ➤ Implications of the Governmental Decree # 07 dated 08/01/2009 ➤ Justification of the baseline scenario
OJSC "RITEK" «Mejdunarodnaya Gruppa «Sigma» LLC	26/08/2009	CARs in DDR Version 2 concerning: <ul style="list-style-type: none"> ➤ Black firing ➤ Efficiency of heat boilers

2.3 Resolution of Clarification and Corrective Action Requests

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

Corrective Actions Requests (CAR) are issued, where:



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- i) there is a clear deviation concerning the implementation of the project as defined in the PDD;
- ii) requirements set by the Methodological Procedure or qualifications in a verification opinion have not been met; or
- iii) there is a risk that the project would not be able to deliver high quality ERUs.

Clarification Requests (CL) are issued where

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

DDR Version 01 was sent to RITEK on 19/06/2009. The findings reported have been 11 CARs. As a response to these CARs the PDD developer issued the revised PDD Version 3.4 dated 08/08/2009. The above-mentioned CARs were rectified. However, the new PDD contained new investment analysis and amended estimation of the emission reduction. The review of this PDD revealed the new items of verifier's concern. Therefore, DDR Version 02 was issued, which contains 6 new CARs and one CL. The additions and corrections made in PDD Version 4.1 dated 28/08/2009 reasonably addressed the verifiers' concerns. As result, the Determination Report Version 01 was issued on 31/08/2009. On the same day this report and PDD Version 4.1 were sent to Bureau Veritas Certification Internal Technical Reviewer (ITR) for review.

To guarantee the transparency of the determination process, the CAR's and CL's raised in the Determination Report Version 01 are summarized in Appendix A Table 5.

3 DETERMINATION FINDINGS

In the following sections, the findings of the determination are presented for each determination subject as follows:

- i) the findings from the desk review of the original project design document and the findings from interviews during the site visit are summarized. A more detailed record of these findings can be found in the Appendix A Determination Protocol.
- ii) where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the determination protocol criteria or the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated in the in Appendix A Determination Protocol.
- iii) where Clarification and Corrective Action Requests have been issued, the response by the project participants to resolve these requests is summarized in Appendix A Table 5.
- iv) the conclusions of the determination are presented consecutively.

3.1 Project Design

The project provides reduction of GHG emissions by the use of the state-of-art technology of electric energy production by APG fired gas engines and firing APG in



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modern heat boilers in comparison with the baseline scenario, which envisages the use of the crude oil fired powertrains, which was mastered by the project participant at other oil fields.

Five Cummins QSV 91G gas engines of 1.5 MW nominal electrical capacity each and three transportable boilers with unit capacity 0,63 MW are installed at the oil field and produce electric and heat energy respectively for the oil field needs. The gas engines and boilers consume APG which would otherwise be flared.

The project activity provides the following benefits:

- prevention of crude oil combustion in the powertrains resulting in reduction of GHG emissions;
- saving of the marketable product (crude oil);
- reduction of atmosphere pollution by CH₄ emissions from APG flaring;

It is estimated that the project will save 27 thousand tonnes per year of reference fuel (with LHV of 29,3 MJ/kg) and prevent emission of 62,322 tCO_{2e} annually in 2008-2012.

Identified areas of concern as to Project Design, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 02, CL 01).

The project has no approval by the Host Party involved, therefore CAR 01 remains pending. The project participant will be authorized by the Host Party involved through the project approval process.

3.2 Baseline and Additionality

To justify the baseline and prove the project additionality, an approach was applied which adopts key provisions of the CDM “Combined tool to identify the baseline scenario and demonstrate additionality” [5].

After screening of seven identified alternatives, two alternative scenarios were selected, namely:

- Scenario 1 Continuation of APG flaring at the oil field and supply of the power needed for local facilities by the powertrains;
- Scenario 2 The project activity without the registration under JI.

Scenario 2 does not contradict with the mandatory legislation and regulations. No particular barriers (except financial) prevent the implementation of this scenario.

Scenario 1 contradicts to the license agreement (LA) for the Vostochno-Perevalnoye oil filed [6] as regards the utilization of APG. The LA signed by the Ministry for Natural Resources, the local authority and OJSC “RITEK” states, inter alia, that the subsoil administrators coordinate the APG utilization level of 70% for the year 2000, followed by the increase of the utilization level in 2001 and the following years up to 90-95%.



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However, this agreement was not fulfilled up to the starting date of the crediting period. The General Director of OJSC "RITEC" V. Graifer made it clear in his letter dated 08/06/2009 to Bureau Veritas Certification [7] that the utilization level in the LA is the voluntary initiative of RITEC and that 95% is the company target for 2012.

The PDD developer brings on pp. 13 and 16 of PDD the comments, with reference to the supporting information sources, on the locally widespread practice of LA non-fulfillment. Following the guidance in ref [5], sub-step 1b, paragraph 2 the conclusion is made that the APG utilization within the LA can be qualified as a regulatory requirement that is systematically not enforced and non-compliance with this requirement is widespread in the country, and therefore the APG utilization project activities in this case are additional and the continuation of APG flaring can be attributed to the baseline scenario.

The verifiers observe this approach as appropriate. The key issue is that the Russian legislation does not contain the requirement about APG utilization. The content of license agreements (LA) is not legally established. According to parliamentary hearings 2007 http://council.gov.ru/files/parliament_attend/91.doc, about 50% of issued LA do not contain provision about APG utilization. Out of three RITEK JI projects determined by Bureau Veritas certification (Sredne-Khulymsk, Serginskoye, Vostochno-Perevalnoye) only the present project contains APG related tasks in LA. Under the Federal Law "On subsoil" [8], the subsoil user shall ensure the fulfilment of license conditions (Article 22); the right to of using subsoil can be withdrawn if essential license conditions are violated (Article 20). However, definition of the license conditions or essential conditions is not legally set. According to Rostekhnadzor for Ural Federal District (the project location) <http://fsetan.ru/news/?them=9815>, under license agreements the volume of utilized APG should be 95%, however it reaches on the average 40-50%, and in some oil companies is below 20%. According to Accounting Chamber of the RF http://www.ach.gov.ru/userfiles/bulletins/08-buleten_doc_files-fi-1217.pdf the license agreements on APG utilization are not fulfilled in many oil fields within KhMAO (the project location). The state environmental commission, which audited RITEK in 2003, noted in the audit report that the LA targets for APG utilisation at Vostochno-Perevalnoye are not fulfilled [4].

All in all, there are no solid proofs that the agreements on APG utilization in licenses for subsoil use shall be treated as mandatory applicable legislation and regulation and yet these agreements are systematically not fulfilled in the region of the project utilisation.

Thus, Scenario 1 was reasonably left for further analysis

Benchmark and sensitivity analyses of investments have demonstrated that the proposed project activity is not most economically or financially attractive alternative scenario (ref. to PDD Section B.2). Therefore, the scenario with APG flaring was taken as the baseline scenario.



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The project is located in the Khanty-Mansiysky Autonomous Okrug (KhMAO) – Yugra, where 57% of all Russian oil and 7,5% of world oil is produced. According to the official statement of the KhMAO Governor Mr. A. Philippenko <http://www.rusoil.ru/opinions/o06-44.html> and other numerous information from Internet, in 2007 only three APG fired gas piston power plants were located in KhMAO. Each targeted the economically attractive replacement of the expensive power generation on diesels. The project activity, on the contrary, is financially not attractive as compared with the available alternative of electricity energy supply from the crude oil fired powertrains PE-6M. Technology of crude-oil combusting in the powertrain engines was developed and later patented by RITEK. The specific investment of PE-6m power generator is 70 euro per kW installed. No other power solution can offer such low investment cost. The gas piston engines used by the project costs circa 600 euro per kW installed. This implies the financial additionality of the project. Thus, the project is in no way the common practice.

So, the project provides emission reduction that is additional to any that would otherwise occur, and yet it is financially additional to the baseline scenario.

Identified areas of concern as to Baseline and Additionality, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 03, CAR 04).

3.3 Monitoring Plan

Monitoring of greenhouse gases emission is based on the own methodology which is in line with the provisions of JISC Guidance on criteria for baseline setting and monitoring.

The parameters to be measured for estimation of GHG emissions reductions are presented in a combined table as per [2]. These are electric energy generation by gas engines, heat supply from the heating station, volume and volumetric composition of APG. Based on the APG composition, its density and carbon content are calculated.

The GHG emissions in the project scenario are defined as the product of APG volume, density, carbon content and ratio of CO₂ and C molecular weights.

The GHG emissions from APG flaring in the baseline scenario are defined as the sum of CO₂ and CH₄ emissions from, respectively, complete and incomplete APG combustion. These were calculated by the recognized NII Atmosphere Methodology [4]. GHG emissions from crude oil combustion in powertrains are defined by IPCC 2006 with the use of the calculated crude oil low heating value.

An operational and management structure that the project participant implements in order to monitor emission reduction is clearly described in the PDD. The site visit confirmed the availability and operationability of this structure.



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Identified areas of concern as to Monitoring Plan, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 05, CAR 06).

3.4 Calculation of GHG Emissions

The initial data for calculation of emission reduction and the calculated values are presented in Section E. The calculation method was corrected as a response on CAR 06 (refer to 3.3 above). The verifiers checked the corrected calculations by the spreadsheet provided by the PDD developer and found them accurate. The calculated value of project emission reduction over the crediting period from 01 January 2008 to 31 December 2012 is 311,610 tCO₂e. Annual average emission reduction is 62,322 tonnes of CO₂e.

3.5 Environmental Impacts

EIA was carried out under the working design [10], which was approved by the authorities. Permit for Air Emissions was issued by the KhMAO Yugra Department of Rostekhnadzor valid from 01/05/2008 to 01/05/2013.

This project emits 434,279 tonnes of C1-C5 per year [11], as compared with 918 tonnes of CH₄ from APG flaring under the baseline scenario.

3.6 Comments by Local Stakeholders

No comments were received so far.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

Similar to the Verification procedure under the Article 6 Supervisory Committee, Bureau Veritas Certification published the PDD Version 2.3 on BVC site www.bureau-veritas.ru on 28/05/2009 and invited comments within 27/06/2009 by Parties, stakeholders and non-governmental organizations.

No comments from third parties have been received.

5 DETERMINATION OPINION

Bureau Veritas Certification has been engaged by OJSC "RITEK" to perform a determination of the JI project "Utilization of associated petroleum gas (APG) at the Vostochno-Perevalnoye oil field, Western Siberia, Russia». The determination was performed on the basis of UNFCCC criteria for JI projects, in particular the verification procedure under the JI Supervisory Committee, as well as host country criteria and the criteria given to provide for consistent project operations, monitoring and reporting. The determination was carried out under Track 1 as per Glossary of JI terms, in line with paragraph 23 of the JI guidelines.



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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 issuance of the determination report and opinion.

The review of the project design documentation, the subsequent follow-up interviews, and the resolution of the Corrective Action Requests and Clarification Request have provided Bureau Veritas Certification with the sufficient evidences to determine the fulfilment of the above stated criteria and to demonstrate that the project is additional.

An analysis of the investment and related barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. As the project is implemented and maintained as designed, it is most likely to achieve the estimated amount of emission reductions.

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 authorisation of the project participant by the host Party (Russian Federation). If the written approval and the authorisation by the host Party is awarded, it is our opinion that the project as described in the Project Design Document, version 4.1 dated 29/08/2009 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

Bureau Veritas Certification thus recommends this project for the formal approval by the Russian Federation as the JI project in accordance with the RF Government Decree N 332 dated 28/05/2007.

The determination is based on the information made available to us and on the engagement conditions detailed in this report. The determination has been performed using a risk-based approach as described above. The only purpose of the report is its use for the formal approval of the project under JI mechanism. Hence, Bureau Veritas Certification cannot be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

Flavio Gomes – Team leader, Lead verifier

Leonid Yaskin – Team member, verifier

Ashok Mammen – Technical Internal Reviewer



**BUREAU
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CERTIFICATION

Reviewed

Init

Date: 02/09/09

**Bureau Veritas Certification
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6 REFERENCES

Reviewed document or type of Information referred to in Appendix A

1	PDD "Utilization of Associated petroleum gas (APG) at the Vostochno-Perevalnoye oil field, Western Siberia, Russia", Version 2.3 dated 16/05/2009.
2	Guidelines for Users of the Joint Implementation Project Design Document Form for Small Scale Projects/Version 03, JISC.
3	Guidance for criteria for baseline setting and monitoring, Version 01, JISC.
4	"Methodology of calculation of emissions of hazardous substances into the atmosphere due to the flaring of the associated petroleum gas at flaring stacks". NII Atmosphere, Saint Petersburg, 1997.
5	Combined tool to identify the baseline scenario and demonstrate additionality, Version 02.2, CDM Executive Board.
6	Licence Agreement on oil and gas production within Vostochno-Perevalnoye licensed-hold area on the territory of Khanty-Mansijsky autonomous okrug. Annex #1 to the License XMH 11309 H9.
7	Letter from the General Director of OJSC "RITEK" V. Graifer to Bureau Veritas Certification, dated 08/06/2009.
8	"On subsoil", Federal Law # 2395-1 orig. dated 21/02/1992.
9	On approval of methodological instructions for examination of project documentation. Order by the Ministry of Economic Development and Trade of the RF, dated 20 December 2007, N 444.
10	RF Government Decree No. 332, dated 28 May 2007, Procedure For Approval And Verification of Status of Projects Carried Out In Accordance With Article 6 Of The Kyoto Protocol to The United Nations Framework Convention On Climate Change.
11	Gas Piston Power plant at Vostochno-Perevalnoye oil field. Environment Impact Assessment. Working design. Volume 4, 7656-ДОК-Т4, Giprotymenneftegaz, Tyumen 2007.
12	Permit for Air Emissions. KhMAO Yugra Department of Rostekhnadzor. Valid from 01/05/2008 to 01/05/2013.

Document or type of Information obtained at the site visit

References in Appendix A are underlined

1	"License for the right to use the subsoil of Vostochno-Perevalnoye oil field" XMH 11308 H9 granted to JSC "RITEK" on 16/10/2002. Expiry date is 2014.
2	Technological scheme of development of Vostochno-Perevalnoye oil field. RITEK Moscow 2001.
3	Project technological document for Vostochno-Perevalnoye oil field. Ref. to Technical and commercial proposal ТКП Protocol # 146 dated 05/04/2000.
4	Act #06/04-159 Checking of fulfillment of environmental legislation by JSC RITEK in Ural Federal District (incl. Vostochno-Perevalnoye oil field). Ministry for Natural



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	Resources. Ural Federal District. Service of state control in the sphere of environment utilization and environmental safety. Dated 11/12/2003.
5	Act #2 Planned complex checking of fulfillment of license conditions at Vostochno-Perevalnoye oil field. KhMAO-Yugra, Municipal district Surgutsky rayon. Dated 12/05/2009.
6	Composition of APG at Vostochno-Perevalnoye oil field. April – October 2008. Tables 3.7 and 3.8 from working project.
7	Gas Piston Power plant at Vostochno-Perevalnoye oil field. Environment Impact Assessment. Working design. # 7656, Giprotymenneftegaz, Tyumen 2007.
8	Positive Conclusion of the State Expertise # 157-08/XMЭ-0165/02 Construction of gas piston power plant at Vostochno-Perevalnoye oil field.
9	Fuel flow rates for electric energy production at Power Trains ПЭ-6М and GPP at Vostochno-Perevalnoye oil field for 2008 and 2009.

Persons interviewed:
on 22-23/06/2007

1	K.A. Mikoyan - OJSC "RITEK" Head of JI working group, Lead Specialist
2	A.O. Kulakov – OJSC "RITEK" Lead Specialist of Department for oil preparation and transportation
3	D.N. Veselov - OJSC "RITEK" Head of NGDU "RITEKneft".
4	R.U.Nurgaliev - OJSC "RITEK" Head of PTO NGDU "RITEKneft".
5	A.V. Sabaluev - OJSC "RITEK" Acting Chief Energy Manager of NGDU "RITEKneft".
6	S.B.Sakkinov - OJSC "RITEK" Acting Deputy Head of NGDU "RITEKneft".
7	K.V. Kuznetsov - OJSC "RITEK" Head of PSO NGDU "RITEKneft".
8	V.A.Strekalev - OJSC "RITEK" Head of Safety Dep NGDU "RITEKneft".
9	V.V. Latysh - OJSC "RITEK"CDMG-2 Master, Acting Deputy Head of NGDU "RITEKneft".
10	A.A. Fadeev - OJSC "RITEK" Energy Master CDNG-2 NGDU "RITEKneft".
11	V.T. Kadyrov – Head Master GPP JSC Zvezda-Energirica".
12	A.S. Manenkova – OJSC "RITEK" Lead Specialist of Finance Department
13	Denis Monakhov - LLC «Mejdunarodnaya Gruppa «Sigma» Expert

on 07/07/2007

1	K.A. Mikoyan - OJSC "RITEK" Head of JI working group, Lead Specialist
2	A.O. Kulakov – OJSC "RITEK" Lead Specialist of Department for oil preparation and transportation
3	Sergey Roginko - LLC «Mejdunarodnaya Gruppa «Sigma» Chief Executive
4	Denis Monakhov - LLC «Mejdunarodnaya Gruppa «Sigma» Expert



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on 26/08/2007

5	K.A. Mikoyan - OJSC "RITEK" Head of JI working group, Lead Specialist
6	A.O. Kulakov – OJSC "RITEK" Lead Specialist of Department for oil preparation and transportation
7	Sergey Roginko - LLC «Mejdunarodnaya Gruppya «Sigma» Chief Executive

7 DISCLAIMER

This report contains the results of the determination of whether the project under consideration meets the relevant requirements of Article 6 of the Kyoto Protocol and the JI guidelines. The used determination procedure does not fall under the verification procedure under the JISC, as defined in the JI guidelines, paragraphs 30–45. Instead, paragraph 23 of the JI guidelines applies to the determination based on which Bureau Veritas Certification Holding SAS issues, in the frame of the contract with JSC "RITEK", an expert opinion on the project as per the RF Government Decree No. 332, dated 28 May 2007, "Procedure for approval and verification of status of projects carried out in accordance with Article 6 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change".



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APPENDIX A: COMPANY JI PROJECT DETERMINATION PROTOCOL

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

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
<p>1. The project shall have the approval of the Parties involved.</p>	<p>Kyoto Protocol Article 6.1 (a)</p>	<p>CAR 01. The project has no approvals of the Parties involved.</p> <p>Verifiers' Glossary/Version 01 defines the following:</p> <p>a) At least the written project approval(s) by the host Party(ies) should be provided to the AIE and made available to the secretariat by the AIE when submitting the determination report regarding the PDD for</p> <p>Note: JISC of JI defines</p>	<p>Table 2 Section A.5.</p>

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1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		publication in accordance with paragraph 34 of the JI guidelines; (b) At least one written project approval by a Party involved in the JI project, other than the host Party(ies), 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, at the latest.	
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur.	Kyoto Protocol Article 6.1 (b)	OK	Table 2, Section B.2
3. The sponsor Party shall not acquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7.	Kyoto Protocol Article 6.1 (c)	OK	N/A
4. The acquisition of emission reduction units shall be	Kyoto Protocol	OK	N/A



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1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
supplemental to domestic actions for the purpose of meeting commitments under Article 3. 5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects.	Article 6.1 (d) Marrakech Accords, JI Modalities, §20	OK	The Russian national focal point is the Ministry of Economic Development. The Russian national guidelines and procedures are established by the RF Government Decree N 332 dated 28/05/07 and by RF Ministry of Economic Development and Trade Order N 444 dated 20/12/07.
6. The host Party shall be a Party to the Kyoto Protocol.	Marrakech Accords, JI Modalities, §21(a)/24	OK	Russia has ratified the Kyoto Protocol by Federal Law N 128-φ3 dated 04/11/04.

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1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts.	Marrakech Accords, JI Modalities, §21(b)/24	OK	The Russian Federation's assigned amount has been calculated and recorded in the 4th National Communication dated 12/10/06.
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4.	Marrakech Accords, JI Modalities, §21(d)/24	OK	Russian Federation has established the GHG Registry by the RF Government Decree N 215-p dated 20/02/06.
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination.	Marrakech Accords, JI Modalities, §31	OK	OJSC "RITEK" has submitted a PDD to Bureau Veritas Certification, which contains all information needed for determination.
10. The project design document shall be made publicly	Marrakech	OK	The PDD was made



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1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments.	Accords, JI Modalities, §32		publicly available for comments on Bureau Veritas Rus site from 28 May 2009 till 27 June 2009.
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the host Party, an environmental impact assessment in accordance with procedures as required by the host Party shall be carried out.	Marrakech Accords, JI Modalities, §33(d)	OK	Table 2, Section F
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2



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1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2
15. The project shall have an appropriate monitoring plan.	Marrakech Accords, JI Modalities, §33(c)	OK	Table 2, Section D
16. A project participant may be: (a) A Party involved in the JI project; or (b) A legal entity authorized by a Party involved to participate in the JI project.	JISC "Modalities of communication of Project Participants with the JISC" Version 01, Clause A.3	The Russian project participant will be authorised by the Host Party through the issuance of the approval for the project. Conclusion is pending a follow-up on CAR 01. Refer to Verifiers' Note in 1 above.	Table 2, Section A



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Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<i>A. General Description of the project</i>					
<i>1. A.1. Title of the project</i>					
A.1.1. Is the title of the project presented?	1,2	DR	The title of the project is: "Utilization of Associated petroleum gas (APG) at the Vostochno-Perevalnoye oil field, Western Siberia, Russia". Sectoral Scopes are 1, 10.		OK
A.1.2. Is the current version number of the document presented?	1,2	DR	PDD Version 3.4.		OK
A.1.3. Is the date when the document was completed presented?	1,2	DR	PDD Version 3.4 is dated 8 August 2009.		OK



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A.2. Description of the project		
<p>A.2.1. Is the purpose of the project included?</p>	<p>1,2</p>	<p>DR</p>
		<p>OK</p>
<p>The project provides utilization of associated petroleum gas (APG) at the modern gas-piston power station with the total installed capacity 7,5 MW and the heat station with capacity 1,89 MW located on Vostochno-Perevalnoye oil field (owner OJSC "RITEK").</p> <p>APG at the Vostochno-Perevalnoye oil field is obtained during the separation process at the booster pump station located next to the new power plant and the heating station.</p> <p>The situation existing prior to the starting date of the project is described as follows. The APG was previously flared at the stack of the booster pump station. Power production for the needs of the project owner was initially provided by the powertrains PE-6M - mobile generating facilities consuming the crude oil as a basic fuel. Heat is generated by electric heating devices.</p> <p>The baseline scenario is described as installation and exploitation of 5 additional powertrains consuming the crude oil. Heat is generated in electrical heaters consuming</p>		



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			<p>electricity from the power trains</p> <p>The history of the project is described as follows: a decision about the project realization was made by the RITEK Technical Board on 25/09/2003 with taking into consideration the financial benefits offered by JI mechanism; a contract on a feasibility study with the research and engineering institute NIPiGasPererabotka was signed on 29/09/2003; the feasibility study was issued in May 2004; a turn-key contract on the construction of the power plant with JSC "Zvezda-Energetika" was signed on 07/06/2007. HS was commissioned in January 2008.</p>		
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<p>A.2.2. Is it explained how the proposed project reduces greenhouse gas emissions?</p>	<p>1,2</p>	<p>DR</p>	<p>The project will reduce CO2 and CH4 emissions due to: - utilization of the APG in the efficient power generating gas engines, instead of their flaring, - substitution of crude-oil combustion in power generation by APG which has a lower CO2 emission factor. CAR 02. Utilization of APG in HS is not mentioned as one of the ways of GHG emission reduction.</p>	<p>CAR 02</p>	<p>OK</p>
<p>A.3. Project participants</p>					
<p>A.3.1. Are project participants and Party(ies) involved in the project listed?</p>	<p>1,2</p>	<p>DR</p>	<p>OJSC «RITEK» is the project participant. Party A is the Russian Federation. Party B is not defined yet. Conclusion is pending a follow-up on CAR 01.</p>	<p>Pending</p>	
<p>A.3.2. The data of the project participants are presented in tabular format?</p>	<p>1,2</p>	<p>DR</p>	<p>The data is presented in the tabular format as per [2].</p>		<p>OK</p>
<p>A.3.3. Is contact information provided in Annex 1 of the PDD?</p>	<p>1,2</p>	<p>DR</p>	<p>The contact information is provided in PDD Annex 1.</p>		<p>OK</p>



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A.3.4. Is it indicated, if it is the case, if the Party involved is a host Party?	1,2	DR	Russian Federation is indicated as a host Party in accordance with the mandatory tabular format [2].	OK
A.4. Technical description of the project				
A.4.1. Location of the project activity				
A.4.1.1. Host Party(ies)	1,2	DR	The Russian Federation.	OK
A.4.1.2. Region/State/Province etc.	1,2	DR	Please refer to PDD Section A.4.1.2.	OK
A.4.1.3. City/Town/Community etc.	1,2	DR	The project is located in Russkinskoye county, 200 km north from the Surgut city in the Khanty-Mansiysky Autonomous Okrug (KhMAO) - Yugra, Tumen oblast, 2,400 km from Moscow (see fig. 2).	OK
A.4.1.4. Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	1,2	DR	Site latitude - 63°14'39". Site longitude - 72°49'55".	OK
A.4.2. Small-scale project type(s) and category(ies)				
A.4.2.1. Are the SSC project type(s) and category specified and justified?	1,2	DR	Not applicable.	OK
A.4.2.2. Does the project meet relevant JI SSS threshold (s) during the whole crediting period?	1,2	DR	Not applicable	OK
A.4.3. Technology(ies) to be employed, or measures,				



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operations or actions to be implemented by the project					
A.4.3.1. Does the project design engineering reflect current good practices?	1,2	DR	<p>The project design engineering represents current good practices. The technology and operations to be implemented by the project as well as relevant technical data and the power plan implementation schedule, are described.</p> <p>5 Cummins QSV 91G generating units of 1.5 MW of nominal electrical capacity each are installed at the Gas Power Plant (ref. to PDD Table 2 on pp. 7-8).</p> <p>The heat station consists of three boilers KVG for water heating with capacity 0,630 MWth each (not included in Table 2).</p> <p>CL 01. Please clarify the meaning on the information in Table 2 on p. 8: "estimated expenditure of gas 70 nm cubes".</p>	CL 01	OK
A.4.3.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1,2	DR	<p>The project uses the state-of-art technology of APG collection, treatment and utilisation for power generation in the modern gas fired reciprocating engines.</p>		OK
A.4.3.3. Is the project technology likely to be substituted by	1,2	DR	<p>The project technology is unlikely to be</p>		OK



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other or more efficient technologies within the project period?			substituted by other or more efficient technologies within the project period.	
A.4.3.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1,2	DR	The new power generating equipment is operated by its supplier, therefore initial training and maintenance efforts were not needed.	OK
A.4.3.5. Does the project make provisions for meeting training and maintenance needs?	1,2	DR	Refer to A.4.3.4.	OK
A.4.4 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				
A.4.4.1. Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	1,2	DR	It is stated in PDD Section A.4.4 that in the baseline scenario, 9,8 million m3 of APG will be flared annually at the Vostochno-Perevalnoye booster pumping station. In the project scenario, this volume of APG is captured and burned in the installed gas engines to support pumping requirements for the Vostochno-Perevalnoye oil field. In the	Pending OK



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			<p>baseline scenario, the equal amount of electricity will be generated by the power trains fuelled by crude oil from the oil field; heat will be generated by electric heating devices.</p> <p>According to PDD Section A.4 p. 11, GHG emission reductions due to the project will be provided due to:</p> <ul style="list-style-type: none"> - a higher combustion efficiency of gas engines as compared with flaring; - the replacement of the crude oil for power generation in powertrains by the APG, which has a lower GHG emission factor than oil. <p>The conclusion is pending responses to CAR 03, CAR 04 and CAR 06.</p>		
<p>A.4.4.2. Is it provided the estimation of emission reductions over the crediting period?</p>	<p>1,2</p>	<p>DR</p>	<p>Total estimated emission reductions over the crediting period equal 297636 tonnes of CO2 equivalent.</p> <p>Conclusion is pending responses to CAR 03 and CAR 06.</p>	<p>Pending</p>	<p>OK</p>
<p>A.4.4.3. Is it provided the estimated annual reduction for the chosen credit period in tCO₂e?</p>	<p>1,2</p>	<p>DR</p>	<p>The annual average of estimated emission reductions over the crediting period is estimated to be 59527 tonnes of CO2 equivalent.</p> <p>Conclusion is pending responses to CAR 03</p>	<p>Pending</p>	<p>OK</p>



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A.4.4.4. Are the data from questions A.4.3.2 and A.4.3.3 above presented in tabular format?	1,2	DR	and CAR 06. The data is presented in the tabular format. Refer to PDD Section A.4.3.1, Table 5.	OK
A.4.4.5. Is it confirmed and shown that the proposed JI SSC project is not a debundled component of a larger project?	1,2	DR	Refer to PDD Section A.4.5.	OK
A.5. Project approval by the Parties involved				
A.5.1. Are written project approvals by the Parties involved attached?	1,2	DR	Conclusion is pending a follow-up on CAR 01.	Pending
B. Baseline				
B.1. Description and justification of the baseline chosen				
B.1.1. Is the chosen baseline described?	1,2	DR	The baseline is clearly described, namely "Continuation of APG flaring at the oil field and supply of the power needed for local facilities by the powertrains". Key information and data used to establish the baseline is presented in tabular form as per [2]. The parameters are: APG volume (9,82 million m3), APG composition, electric energy supply (34,1 GWh), crude oil consumption 21420 tonnes of reference fuel (25,29,3 kJ/kg).	Pending



<p>B.1.2. Is it justified the choice of the applicable baseline for the project category?</p>			<p>Conclusion is pending responses to CAR 03 and CAR 06.</p>	
<p>B.1.3. Is it described how the methodology is applied in the context of the project?</p>	<p>1,2,3,4</p>	<p>DR</p>	<p>The chosen baseline is selected with the use of the own reasonable approach comprising the following steps: 1) identifying and listing of alternatives to the project activity, 2) identifying of the most plausible alternatives, 3) screening of the alternatives based on technological and economical considerations and prevailing investment practice.</p> <p>Following the Annex B of the JI Guidelines and JISC "Guidance on criteria for baseline setting and monitoring", the PDD developer established own baseline approach.</p> <p>Baseline emissions are calculated as the sum of emissions from complete APG combusted in the flare, unburned CH4 (both calculated by the "NII Atmosphere" Methodology [4]) and emissions from crude oil combustion in power trains (calculated by default carbon content factor 20 kg/GJ as per IPCC 2006 V. 2 Ch. 1). The Methodology [4] is approved by the State Environmental Committee (refer to PDD Annex 4).</p>	<p>OK</p>



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<p>B.1.4. Are the basic assumptions of the baseline methodology in the context of the project activity presented (See Annex 2)?</p>	<p>1,2</p>	<p>DR</p>	<p>Project emissions from engines and boilers are calculated as a product of APG mass, carbon content, and coefficient 44/12 being the ratio of molecular weights of CO2 and C. Basic assumptions of the baseline methodology are as follows: - the electricity generation, APG composition and APG consumption in the baseline and project scenarios are identical; - fuel consumption by the powertrains and gas engines is calculated by operational data; - black firing mode is taken for APG flaring (see CAR 03 below); - methane emissions due to incomplete and black firing of APG in flares are calculated in accordance with the Methodology [4]; - technological leaks at APG collection, treatment and transportation are taken equal in the baseline and project scenario and therefore neglected; - N2O emissions are neglected;</p>	<p>CAR 03</p>	<p>OK</p>
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				mode.	
B.1.5. Is all literature and sources clearly referenced?	1,2	DR		Relevant literature and sources are referenced through the text of PDD.	OK
B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the JI project					
B.2.1. Is the proposed project activity additional?	1,2,3 5,6, 7,8, 4	DR		To prove the project additionality, an approach was used which adopts some provisions of the CDM "Combined tool to identify the baseline scenario and demonstrate additionality" [5]. After screening of seven identified alternatives, two alternative scenarios were selected, namely: - Scenario 1 Continuation of APG flaring at the oil field and supply of the power needed for local facilities by the powertrains; - Scenario 2 The project activity without the registration under JI. Scenario 2 does not contradict with the mandatory legislation and regulations. No particular barriers (except financial) prevent the implementation of this scenario. Scenario 1 contradicts to the license	OK



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		<p>agreement (LA) for the Vostochno-Perevalnoye oil filed [6] as to the utilization of APG. The LA signed by the Ministry for Natural Resources, the local authority and OJSC "RITEK" states, inter alia, that the subsoil administrators coordinate the APG utilization level of 70% for the year 2000, followed by the increase of the utilization level in 2001 and the following years up to 90-95%. However, this agreement was not fulfilled up to the starting date of the crediting period. The General Director of OJSC "RITEK" V. Graifer made it clear in his letter dated 08/06/2009 to Bureau Veritas Certification [7] that the utilization level in the LA is the voluntary initiative of RITEC and that 95% is the company landmark for 2012.</p> <p>The PDD developer brings on pp. 13 and 16 of PDD the comments, with reference to the supporting sources, on the locally widespread practice of LA non-fulfillment. Following the guidance in ref [5], sub-step 1b, paragraph 2 the conclusion is made that the APG utilization within the LA can be qualified as a regulatory requirement that is systematically not enforced</p>		
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		<p>and non-compliance with this requirement is widespread in the country, and therefore the APG utilization project activities in this case are additional and the continuation of APG flaring can be attributed to the baseline scenario.</p> <p>The verifiers observe this approach as reasonable. The important point is that the Russian legislation does not contain the requirement about APG utilization. The content of license agreements (LA) is not legally established. According to parliamentary hearings 2007 http://council.gov.ru/files/parliament_attend/91.doc, about 50% of issued LA do not contain provision about APG utilization. Under the Federal Law “On subsoil” [8], the subsoil user shall ensure the fulfilment of license conditions (Article 22), the right to of using subsoil can be withdrawn if essential license conditions are violated (Article 20). However, definition of the license conditions or essential conditions is not legally set. According to Rostekhnadzor for Ural Federal District (the project location) http://fsetan.ru/news/?them=9815, under license agreements the volume of utilized APG should</p>		
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		<p>be 95%, however it reaches on the average 40-50%, and in some oil companies is below 20%. According to Accounting Chamber of the RF http://www.ach.gov.ru/userfiles/bulletins/08-buletten_dbc_files-1-1217.pdf the license agreements on APG utilization are not fulfilled in many oil fields within KhMAO (the project location). The state environmental commission, which audited RITEK in 2003, noted in the audit report that the LA targets for APG utilisation at Vostochno-Perevalnoye are not fulfilled [4].</p> <p>All in all, there are no solid proofs that the agreements on APG utilization in licenses for subsoil use can be treated as mandatory applicable legislation and regulation and yet these agreements are systematically not fulfilled in the region of the project utilisation. Under the above reasoning, the Scenario 2 is left for further analysis</p> <p>Benchmark and sensitivity analyses of investments have demonstrated that the proposed project activity is not most economically or financially attractive alternative scenario (ref. to PDD Section B.2). Therefore, the scenario with APG flaring was taken as the</p>		
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		<p>baseline scenario.</p> <p>Similar activities, which were considered in the context of common practice analysis, targeted the economical replacement of expensive power generation on diesels. The project activity, on the contrary, is financially not attractive as compared with the available alternative of electricity energy supply from the crude oil fired powertrains PE-6M. Technology of crude-oil combusting in the powertrain engines was developed and later patented by RITEK. The specific investment of PE-6m power generator is 70 euro per kW installed. No other power solution can offer such low investment cost. The gas piston engines used by the project costs circa 600 euro per kW installed. This implies the financial additionality of the project.</p> <p>It should be noted that the project and the referred similar activities do not generate revenues from the electric energy production and therefore are always unprofitable. Cost of available alternatives depends on many factors: remoteness of the electric grid, severe climate conditions, hard-to-reach areas,</p>		
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B.2.2. Is the baseline scenario described?	1,2	DR	availability and cost of the diesel fuel. Such information may not be available to the PDD developer. Yet, oil companies make decisions based on their corporate requirements which are also not disclosed to third parties. Refer to PDD Section B.1.		OK
B.2.3. Is the project scenario described?	1,2	DR	This is the alternative Scenario 2 The project itself without being registered as JI activity, which is selected at the investment analysis from the two scenarios. The project scenario is described in PDD Sections A.4.4, B.1, B.2.		OK
B.2.4. Is an analysis showing why the emissions in the baseline scenario would likely exceed the emissions in the project scenario included?	1,2	DR	Please refer to PDD Table 4 on p. 11.		OK
B.2.5. Is it demonstrated that the project activity itself is not a likely baseline scenario?	1,2	DR	Provided the guidance from ref. [5], sub-step 1b, paragraph 2, concerning non-fulfilment of legal and regulatory requirements applies, the project itself is not a likely baseline scenario.		OK
B.2.6. Are national policies and circumstances relevant to the baseline of the proposed project activity summarized?	1,2	DR	Succinct information about relevant regulations in the Russian Federation as to APG (methane) emission is presented in PDD Sections A.4.3 and B. 1.		OK
B.3. Description of how the definition of the project					



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boundary is applied to the project activity					
B.3.1. Are the project's spatial (geographical) boundaries clearly defined?	1,2,3	DR	Refer to Figure 11 on p. 27. Gases and sources/sinks included/excluded are explicitly stated in PDD Section B.3 as required by [3] paragraph 13. CAR 04. HS is not indicated as the source of the project emissions.	CAR 04	OK
B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline					
B.4.1. Is the date of the baseline setting presented (in DD/MM/YYYY)?	1,2	DR	The date of the baseline setting is specified as 01/09/2008 – 21/11/2008.		OK
B.4.2. Is the contact information provided?	1,2	DR	LLC «Sigma International» Moscow, Russian Federation Tel. +7 (495) 7753232 Fax +7 (495) 7753232 e-mail: sigma@effort.ru		OK
B.4.3. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	LLC «Sigma International» is not the project participant.		OK
C. Duration of the project and crediting period					
C.1. Starting date of the project					



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C.1.1. Is the project's starting date clearly defined?	1,2	DR	September 25, 2003 is defined as the project starting date in PDD Section C.1. On this day, the Technical Board has made a decision about the project realization which triggered the feasibility study preparation.	OK
C.2. Expected operational lifetime of the project				
C.2.1. Is the project's operational lifetime clearly defined in years and months?	1,2	DR	The lifetime is defined as 20 years (240 months).	OK
C.3. Length of the crediting period				
C.3.1. Is the length of the crediting period specified in years and months?	1,2	DR	It is specified as 5 years (60 months) starting on January 1, 2008.	OK
D. Monitoring Plan				
D.1. Description of monitoring plan chosen				
D.1.1. Is the monitoring plan defined?	1,3,4	DR	The monitoring plan is established based on the own approach which is described in PDD Section D.1. CO2 and CH4 emissions from APG flaring were estimated by the well-recognized "Nil Atmosphere" Methodology [4] approved by the State Committee for Ecology. Parameters to be monitored are presented in PDD Section D.2. These are: electric energy	CAR 05 OK



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		<p>supply (34,1 GWh as in the baseline scenario), electric energy generation by emergency diesel generator (assumed 0), APG volume (9,82 million m3 as in the baseline scenario), APG composition. CAR 05. The amount of heat energy supplied by the HS is not indicated as parameter subject to monitoring though the related monitoring point M4 is indicated on Figure 11, p27.</p>		
D.1.2. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario.	1,3	Refer to D.1.1.		OK
D.1.3. Data to be collected in order to monitor emissions from the project, and how these data will be archived.	1,3	Data will be archived electronically and in the monitoring work book.		OK
D.1.4. Description of the formulae used to estimate project emissions (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2	<p>The formulae for the estimation Formulae for estimation of CO2 project emissions are presented in PDD Section D.1.1.2 Tables 10.1 – 10.3. The equation is presented (without number), which allows calculating CO2 emissions from complete combustion of APG in the GPP and HS as a product of APG volume, APG density (estimated by APG composition), carbon mass</p>	CAR 06	OK



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			<p>content (estimated by APG composition), and 44/12 (ratio of molecular weights of CO₂ and C).</p> <p>CAR 06. The value of APG amount fired in HS 1067,1 tAPG is overestimated. The right value equals 7100 Gcal x 4,187 J/cal / 0,92 / 44,9 GJ/tAPG = 719,7 tAPG.</p>		
<p>D.1.5. Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be collected and archived.</p>	1,3,4	DR	<p>Metered data is the electric and thermal energy supply, APG composition and APG volumetric flow – all data are collected in the project conditions.</p> <p>A default value is the specific flow rate of referenced fuel consumption at power trains.</p>		OK
<p>D.1.6. Description of the formulae used to estimate baseline emissions (for each gas, source etc, emissions in units of CO₂ equivalent).</p>	1,2, 3,4	DR	<p>Estimation of CO emissions from APG flaring is carried out by the "NII Atmosphere" Methodology [4].</p> <p>The formulae are presented in PDD Section D.1.1.2 Tables 11.1 – 11.6 and Tables 12.A, 12.B, 12.C. They allow to calculate three components of baseline emissions:</p> <ul style="list-style-type: none"> - CH₄ emissions due to incomplete combustion of APG in the flare; - CO₂ emissions from complete combustion of APG in the flare; 		OK



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					- CO2 emissions from firing the crude oil in the powertrains.		
D.1.7. Option 2 – Direct monitoring of emissions reductions from the project (values should be consistent with those in section E)	1,2	DR			Not applicable.		OK
D.1.8. Data to be collected in order to monitor emission reductions from the project, and how these data will be archived.	1,2	DR			Not applicable.		OK
D.1.9. Description of the formulae used to calculate emission reductions from the project (for each gas, source etc; emissions/emission reductions in units of CO2 equivalent).	1,2	DR			Not applicable.		OK
D.1.10. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project.	1,2	DR			The leakages are reasonably considered negligible.		OK
D.1.11. Description of the formulae used to estimate leakage (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2	DR			Not applicable.		OK
D.1.12. Description of the formulae used to estimate emission reductions for the project (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2	DR			The formula used to estimate emission reductions for the project is presented in PDD Table 13.		OK
D.1.13. Is information on the collection and archiving of	1,2	DR			A four level system for the monitoring of		OK



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information on the environmental impacts of the project provided?				environmental impacts has been established at the Gas Power Plant. This system allows monitoring, reporting and controlling of the maximum concentrations of the hazardous substances emissions such as CH4, NOx, and CO. This was checked during the site visit.		
D.1.14. Is reference to the relevant host Party regulation(s) provided?	1,2	DR		The reference to state regulatory documents is provided in PDD Section 1.4.		OK
D.1.15. If not applicable, is it stated so?	1,2	DR		Refer to D.1.14.		OK
D.2. Qualitative control (QC) and quality assurance (QA) procedures undertaken for data monitored						
D.2.1. Are there quality control and quality assurance procedures to be used in the monitoring of the measured data established?	1,2	DR		Refer to PDD Section D.3. The measurement devices are envisaged to be periodically calibrated. This was confirmed during the site visit.		OK



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D.3. Please describe of the operational and management structure that the project operator will apply in implementing the monitoring plan			
D.3.1. Is it described briefly the operational and management structure that the project participants(s) will implement in order to monitor emission reduction and any leakage effects generated by the project	1,2	DR	Refer to PDD Section D.4.
D.4. Name of person(s)/entity(ies) establishing the monitoring plan			
D.4.1. Is the contact information provided?	1,2	DR	LLC «Sigma International» Moscow, Russian Federation Tel. +7 (495) 7753232 Fax +7 (495) 7753232 e-mail: sigma@effort.ru
D.4.2. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	It was indicated in PDD Section B.4 that LLC «Sigma International» is not the project participant (ref. to B.4.3).
E. Estimation of greenhouse gases: emission reductions			
E.1. Estimated project emissions			
E.1.1. Are described the formulae used to estimate anthropogenic emissions by source of GHGs due	1,2	DR	The formulae are presented in PDD Section D.1.1.1 Tables 10.1 – 10.3. Refer to D.1.4.
			Pending
			OK



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to the project?				Conclusion is pending responses to CAR 03 and CAR 06.	
E.1.2. Is there a description of calculation of GHG project emissions in accordance with the formula specified in for the applicable project category?	1,2	DR		Calculations of GHG emissions by the formulae in Tables 10.1-10.3 are shown in PDD Tables 14 – 16. Conclusion is pending responses to CAR 03 and CAR 06.	Pending OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1,2	DR		Not identified.	OK
E.2. Estimated leakage					
E.2.1. Are described the formulae used to estimate leakage due to the project activity where required?	1,2	DR		Refer to D.1.10.	OK
E.2.2. Is there a description of calculation of leakage in accordance with the formula specified in for the applicable project category?	1,2	DR		Not applicable	OK
E.2.3. Have conservative assumptions been used to calculate leakage?	1,2	DR		Not applicable	OK
E.3. The sum of E.1 and E.2.					
E.3.1. Does the sum of E.1. and E.2. represent the project activity emissions?	1,2	DR		As no leakage is expected, E1+E2=E1.	OK



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E.4. Estimated baseline emissions					
E.4.1. Are described the formulae used to estimate the anthropogenic emissions by source of GHGs in the baseline using the baseline methodology for the applicable project category?	1,2	DR	The formulae are presented in PDD Section D.1.1.2 Tables 11.1 – 11.6 and Tables 12.A, 12.B, 12.C. Please refer to D.1.6. Conclusion is pending responses to CAR 03 and CAR 06.	Pending	OK
E.4.2. Is there a description of calculation of GHG baseline emissions in accordance with the formula specified for the applicable project category?	1,2	DR	Calculations of GHG emissions by the formulae in Tables 11.1 – 11.6, 12.A – 12.C are shown in PDD Section E.4 Tables 17, 18. Conclusion is pending responses to CAR 03 and CAR 06.	Pending	OK
E.4.3. Have conservative assumptions been used to calculate baseline GHG emissions?	1,2	DR	Technological leaks of APG during collection, treatment and transportation to the flare were conservatively not taken into account.		
E.5. Difference between E.4. and E.3. representing the emission reductions of the project					
E.5.1. Does the difference between E.4. and E.3. represent the emission reductions due to the project during a given period?	1,2	DR	Yes, it does. Refer to PDD Section E.5.		OK



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<p>E.6. Table providing values obtained when applying formulae above</p>	<p>E.6.1. Is there a table providing values of total CO₂ abated?</p>	<p>1,2</p>	<p>DR</p>	<p>The presented Table E.6 provide the total values of project emissions, leakage, baseline emissions, and emission reductions in accordance with the JI reporting format. Conclusion is pending responses to CAR 03 and CAR 06.</p>	<p>Pending</p>	<p>OK</p>
<p>F. Environmental Impacts</p>						
<p>F.1. Documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party</p>						
<p>F.1.1. Has an analysis of the environmental impacts of the project been sufficiently described?</p>						
<p>F.1.2. Are there any host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?</p>						
<p>1,2, 10</p>	<p>DR</p>	<p>Analysis of the environmental impacts of the project at the construction stage and during the operation period is presented in PDD Section F1 on the EIA in working design [10].</p>	<p>OK</p>			
<p>1,2, 11, 12</p>	<p>DR</p>	<p>EIA was carried out under the working design [10] which was approved by the authorities. Permit for Air Emissions was issued by the KhMAO Yugra Department of Rostekhnadzor valid from 01/05/2008 to 01/05/2013.</p>	<p>OK</p>			



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F.1.3. Are the requirements of the National Focal Point being met?	1,2, 9,10	DR	The requirements of the National Focal Point to present the EIA should be met before the submission of the project to the Coordination Centre of National Focal Point [9, 10].	OK
F.1.4. Will the project create any adverse environmental effects?	1,2, 11	DR	This project emits 434,279 tonnes of C1-C5 per year, as per PDD Section F.1 Table 20 (data taken from [11]). APG flaring under the baseline emits at least 918 tonnes of CH4.	OK
F.1.5. Are transboundary environmental impacts considered in the analysis?	1,2	DR	The project activity has no transboundary environmental impacts.	OK
F.1.6. Have identified environmental impacts been addressed in the project design?	1,2	DR	Refer to F.1.2.	OK
G. Stakeholders' comments				
G.1. Information on stakeholders' comments on the project, as appropriate				
G.1.1. Is there a list of stakeholders from whom comments on the project have been received?	1,2	DR	<ul style="list-style-type: none"> ▪ No comments on the project were received. 	OK
G.1.2. The nature of comments is provided?	1,2	DR	Not applicable.	OK
G.1.3. Has due account been taken of any stakeholder comments received?	1,2	DR	Not applicable.	OK



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Table 3 Legal requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Legal requirements					
1.1. is the project activity environmentally licensed by the competent authority?	1, 12	DR	Permit for Air Emissions was issued by the KhMAO Yugra Department of Rostekhnadzor valid from 01/05/2008 to 01/05/2013.		OK
1.2. Are there conditions of the environmental permit? In case of yes, are they already being met?	1	DR	Please refer to 1.1 above.		OK
1.3. Is the project in line with relevant legislation and plans in the host country?	1	DR	Yes, the project is in line with relevant legislation and plans in the host country.		OK



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Table 5 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
CAR 01 The project has no approvals of the Parties involved.	1 Table 1	N/A	Conclusion is pending the approval of the host party.
CAR 02. Utilization of APG in HS is not mentioned as one of the ways of GHG emission reduction.	A.2.2	Corrections made: respective issues added (p. 5, 12).	Utilisation of APF in HS is mentioned as one of the ways of GHG emission reduction. The CAR is closed based on the due correction made to the PDD.
CAR 03. The condition for black-firing from [4] is not fulfilled (refer to PDD Section E.4 Table 17 Step 4). Nonetheless the calculations of emissions were carried out for the black-firing mode.	B.1.4	Corrections made: right figures indicated (p. 48)	The discharge flow velocity at the outlet of the flare installation is less than 0,2 sound velocity. The back firing condition is fulfilled.. The CAR is closed based on the due correction made to the PDD.



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Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
<p>CAR 04. HS is not indicated as the source of the project emissions.</p>	<p>B.3.1</p>	<p>Corrections made: respective information added (p.29)</p>	<p>Generation of heat in HS is indicated as one of the sources of project emissions. The CAR is closed based on the due addition made to the PDD.</p>
<p>CAR 05. The amount of heat energy supplied by the HS is not indicated as parameter subject to monitoring though the related monitoring point M4 is indicated on Figure 11, p27.</p>	<p>D.1.1</p>	<p>Corrections in the figures 7 (p. 11) and 11 (p. 28) made</p>	<p>The monitoring point M4 is deleted from Figure 11.</p>
<p>CAR 06. The value of APG amount fired in HS 1067,1 tAPG is overestimated. The right value equals 7100 Gcal x 4,187 J/cal / 0,92 / 44,9 GJ/APG = 719,7 tAPG.</p>	<p>D.1.4</p>	<p>Corrections made: respective considerations taken into account that led to total recalculation of the emissions-reduction related parameters throughout the PDD.</p>	<p>Heat delivery was changed from 7100 to 8940 Gcal based on the corrected RITEK data. The calculation gives 9840 x 4,187/ 0,92/ 44,9 = 906 tAPG. This value is indicated in Table 5 on p. 39. The CAR is closed based on the due correction made to the PDD.</p>



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Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
CL 01. Please clarify the meaning on the information in Table 2 on p. 8: "estimated expenditure of gas 70 nm cubes".	A.4.3.1	Corrections made respective figure changed to correct number (see p.8)	The new figure with the right dimension in Table 2. The CAR is closed based on the due correction made to the PDD.



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Appendix B: Verifiers CV's

Mr. Flavio Gomes:

Lead Verifier

Bureau Veritas Certification Holding SAS – Global Manager for Climate Change

Flavio Gomes is a Chemical and Safety Engineer graduated from «UNICAMP – Universidade Estadual de Campinas», with a MSc title in Civil Engineer (Sanitation). He spent four years at RIPASA Pulp and Paper as Environmental Process Engineer. He is, since 2006 the Global Manager for Climate Change. Previously and since 1997, he was senior developer for Bureau Veritas Consulting in fields of Environment, Health, Safety, Social Accountability and Sustainability audit and management systems. He also acted as Clean Development Mechanism verifier, and Social/Environmental Report auditor, in the name of Bureau Veritas Certification. Flavio is pursuing his PhD on Energy Management at the Imperial College – London.

Leonid Yaskin, PhD (thermal engineering)

Verifier.

Bureau Veritas Certification Rus General Director- Lead Auditor, Lead Tutor, Verifier

He has over 30 years of experience in heat and power R&D, engineering and management, environmental science, and investment analysis of projects. He worked in Krrzhizhanovsky Power Engineering Institute, All-Russian Teploelectroproject Institute, JSC Energoperspectiva. He worked for 8 years on behalf of European Commission as a monitor of Technical Assistance Projects. He is a Lead auditor of Bureau Veritas Certification for Quality Management Systems (IRCA registered), Environmental Management System (IRCA registered), Occupational Health and Safety Management System (IRCA registered). He performed over 250 audits since 2002. Also he is a Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and a Lead Tutor of the IRCA registered OHSAS 18001 Lead Auditor Training Course. He is an Assuror of Social Reports. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and was/is involved in the determination of about 20 JI projects.

Ashok Mammen - PhD (Oils & Lubricants).

Bureau Veritas Certification - Internal Technical Reviewer

Over 20 years of experience in chemical and petrochemical field. Dr. Mammen is a lead auditor for environment, safety and quality management. He is also a lead verifier for GHG projects and has been involved in the validation and verification processes of more than 60 CDM/JI and other GHG projects.