

# VERIFICATION REPORT

**EN+ MAGNESIUM LIMITED** 

# VERIFICATION OF THE

**INCREASE IN EFFICIENCY OF WATER** RESOURCES USE AT BRATSK HPP, IRKUTSK REGION, RUSSIAN FEDERATION



REPORT No. RUSSIA-VER/0082/2010

REVISION No. 01

**Bureau Veritas Certification** Holding SAS

JREAU VERITAS CERTIFICATION



VERIF	CAT	ION	RE	POPT	г
V EKIL	CAI	ION		PUR	

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

Date of first issue: 20/10/2010	Organizational unit: Bureau Veritas Certification Holding SAS
Client:	Client ref.:
EN+ Magnesium Limited	N. Sakharov

Summary:

Bureau Veritas Certification has made the 2<sup>nd</sup> periodic verification of the "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation" JI project of EN+ Magnesium Limited located in Irkutsk region, Russian Federation and applying the JI specific approach regarding baseline setting and additionality demonstration and assessment, 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 verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during defined verification period, 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 verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the verification process is a list of Clarification, Corrective Actions Requests, Forward Actions Requests (CR, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated without material misstatements, and the ERUs issued totalize 579,098 tons of CO2eq for the 2<sup>nd</sup> monitoring period from January 1st 2009 to December 31st 2009.

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the approved project baseline and monitoring, and its associated documents.

Report No.: RUSSIA-ver/0082/20		oject Group:		No distribution without permission from Client or responsible organizational uni
Project title: Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation				Limited distribution
Work carried out by:				
Leonid Yaskin - Team Leader, Lead Verifier			Unrestricted distribution	
Work reviewed by:				
Ivan Sokolov – Inte	ernal Technic	al Reviewer		
Work approved by:			- 1	The state of the s
Flavio Gomes- Op	erational Ma	nager		Bureau Veritas Certification
Date of this revision: 20/10/2010	Rev. No.: 01	Number of pages:		Holding SAS

the

# Report No: RUSSIA-ver/0082/2010 rev.01



Page

#### VERIFICATION REPORT

**Table of Contents** 

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

INTRODUCTION ..... ОШИБКА! ЗАКЛАДКА НЕ ОПРЕДЕЛЕНА.

1.1	Objective Ошибка! Закладка не определена.
1.2	Scope Ошибка! Закладка не определена.
1.3	Verification Team Ошибка! Закладка не определена.
2	METHODOLOGY ОШИБКА! ЗАКЛАДКА НЕ ОПРЕДЕЛЕНА.
2.1	Review of Documents Ошибка! Закладка не определена.
2.2	Follow-up Interviews Ошибка! Закладка не определена.
2.3	Resolution of Clarification, Corrective and Forward Action
	Requests 5
3	VERIFICATION CONCLUSIONS6
3.1	Project approval by Parties involved (90-91)
3.2	Project implementation (92-93)
3.3	Compliance of the monitoring plan with the monitoring
3.4	methodology (94-98) 7
	Revision of monitoring plan (99-100)
3.5	Data management (101)
3.6	Verification regarding programmes of activities (102-110) - Not applicable Ошибка! Закладка не определена.
4	VERIFICATION OPINION10
5	REFERENCES11
APP	ENDIX A: COMPANY PROJECT VERIFICATION PROTOCOLOШИБКА! ЗАКЛАДКА НЕ





<sup>&</sup>quot;Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

#### 1 INTRODUCTION

EN+ Magnesium Limited has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation", (hereafter called "the project") at the town of Bratsk, Irkutsk region, Russian Federation.

This report summarizes the findings of the verification 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

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

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 verification 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 verification 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 monitoring towards reductions in the GHG emissions.

## 1.3 Verification Team

The verification team consists of the following personnel:

Leonid Yaskin

Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

This verification report was reviewed by:

Ivan Sokolov



**VERIFICATION REPORT** 

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

Bureau Veritas Certification, Internal Technical Reviewer

#### 2 METHODOLOGY

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

In order to ensure transparency, a verification 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 verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

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

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

## 2.1 Review of Documents

The Monitoring Report (MR) submitted by EN+ Magnesium Limited and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), and Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report Version 01 dated June 2010 /2/ and Version 02 dated August 2010 /3/ and the project as described in the determined PDD /8/.

## 2.2 Follow-up Interviews

Bureau Veritas Certification performed on-site interviews with the project stakeholders on 24/02/2010 (in the frame of 1st monitoring) as well as off-site interviews through teleconferences on 29/08/2010, 01/09/2010, 15/10/2010 and 19/10/2010 to confirm both selected information obtained through the on-site interviews and assessment during the determination stage, performed by Bureau Veritas Certification, and received by the verifier as supporting documentation to the Monitoring Report, and to resolve issues identified in the document review. Representatives of EN+



VERIFICATION REPORT

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

Magnesium Limited, Irkutskenergo and Bratsk Hydro power Plant (BHPP) interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Table 1 Interview topics		
	Interview topics	
EN+ Magnesium Limited	> Status of project equipment	
Irkutskenergo	Monitoring plan	
ВНРР	Deviations from the monitoring plan	
	Requirements to competence	
	Roles and responsibilities for data collection	
	Training to monitoring procedures	
	Data to be collected	
	Measurement equipment (inspection,	
	characteristics, status)	
	Data logging	
	Data archiving	
	Data reporting	
	Use of calculation tool	
	Emission calculations	
	Baseline emission factor	
	Monitoring report verification and validation	
	QC and QA procedures	
	> IT management	
	➤ EMS	
CONSULTANT	N/A	
(Local Stakeholder)	N/A	

# 2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

If the Verification Team, in assessing the monitoring report and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to the monitoring requirements, it should raise these issues and inform the project participants of these issues in the form of:



#### **VERIFICATION REPORT**

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

- (a) Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;
- (b) Clarification request (CL), requesting the project participants to provide additional information for the AIE to assess compliance with the monitoring plan;
- (c) Forward action request (FAR), informing the project participants of an issue, relating to the monitoring that needs to be reviewed during the next verification period.

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

## 3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 3 Corrective Action Requests and 2 Clarification Requests.

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

3.1 Project approval by Parties involved (90-91)

Written project approval by the host Party was provided to AIE /5/. Written project approval by a Party involved other than the host Party, to be available when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines, has not been provided to AIE since such Party is not defined yet.

The abovementioned written approval is unconditional.

3.2 Project implementation (92-93)

The implementation status of the project is as described in Appendix A paragraph 92, and the starting date of operation is 11/03/2007.





"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

The progress of the proposed JI project achieved is steady. Work under the project implementation including wheels manufacturing, installation and commissioning stages has been completed by the end of 2nd monitoring periods for 4 wheels, namely # 14, 16, 17, and 18. The acceptance certificates are in AIE possession /10, 18-20/. The wheels have being put into operation according to the project implementation schedule without suspending operation of BHP.

In 2nd monitoring period from 01/01/2009 to 31/12/2010, the project achieved the GHG emission reduction of 579,098 tCO2e. The value estimated in PDD is higher, that is 580,689 tCO2e. The deviation amounts 1591 tCO2e or 0,274% and is explained, in 2nd MR Section B.5 Table 4, by two revisions of the monitoring plan (please refer to Section 3.4).

## 3.3 Compliance of the monitoring plan with the monitoring methodology (94-98)

The monitoring occurred in accordance with the monitoring plan which revised against that provided in the PDD regarding which determination is deemed final under Track 1 since the project has received the approval by the host Party and AIE issued the Determination Report with the closed CAR 01 on the pending approval /8/.

The JI specific approach regarding monitoring that was applied in PDD was not revised. The set of data collected to monitor emission reduction as well as the equations for calculation of emission reduction did not change.

For calculating the emission reductions, key factors, as those listed in 23 (b) (i)-(vi) DVM, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account (refer to Appendix A para 95 (a)).

Other key factors which influence project emissions were taken into account such as electricity production by each BHPP turbine and by all BHPP, operating hours in generation mode for each BHPP turbine, the number of years from the last repair for each BHPP turbine, efficiency coefficient of each BHPP turbine, average annual upper and lower pools. and the averaged emission factor of Irkutskenergo coal fired power plants in condensing mode (refer to MR Scheme 1 and Table 3 on pp.12-15).

Data sources used for calculating emission reductions, as provided in Appendix A para 95 (b), are clearly identified, reliable and transparent.

The applied emission factors, including default emission factors, used for calculating the emission reductions are selected based on Irkutskenergo



### **VERIFICATION REPORT**

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

historic data for thermal power plants and 2006 IPCC 2006 data (refer to PDD Annex 2).

The calculation of emission reductions is based on the most plausible scenario in a transparent manner as described in Appendix A paragraph 95 (d).

3.4 Revision of monitoring plan (99-100)

The project participant submitted to the AIE a revised monitoring plan. Revisions of the monitoring plan were appropriately justified in the 1<sup>st</sup> and 2<sup>nd</sup> Monitoring Reports Section B.5 Table 4.

The project participants provided an appropriate justification for the proposed revisions, which is as described in Appendix A paragraph 99 (a).

The revisions concern:

- the issues which do not affect the value of emission reduction, such as organizational scheme, recording frequency, way of data storage, adding intermediate parameters for good layout;
- the issues which affected (conservatively reduced) the value of emission reduction, namely:
- (1) the pool levels were measured in monitoring within one centimeter, whereas in PDD these were determined within one meter;
- (2) the number of years from the last repair accurate were recorded in monitoring within one day, whereas in PDD these were specified within one year.

AIE positively determined the proposed revisions since, in line with Guidance on criteria for baseline setting and monitoring Version 02 para 40, these revisions improve accuracy and applicability completeness of information collected, compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.

3.5 Data management (101)

The company management and operational system for GHG emission monitoring and reporting is described in the specially prepared manual "Regulation and scheme for process of GHG emission reduction monitoring" (referred thereafter Regulation) which was approved by the IE General Manager Order #63 dated 19/02/2010 (referred hereafter Order).

In particular, the Order defines roles and responsibilities of Deputy General Manager on Strategy and Development, Head of IE Strategy Directorate, Head of IE Directorate for Information Technologies, Head of IE Department for Analysis and Assessment, Technical Director of BHPP, Head of BHPP Production and Technical Department.

## Report No: RUSSIA-ver/0082/2010 rev.01





"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

The Regulation clearly defines the scope of application, types of primary data, responsibilities of each person for and requirements to data collection, recording, storage, protection, transfer, consolidation, processing, reporting. General and specific monitoring and reporting tasks and responsibilities of relevant functions on Irkutskenergo and BHPP levels are specified by the Order.

The 2nd Monitoring Report for the monitoring period from 01/01/2009 to 31/12/2009 takes most provisions of the Regulation.

The competencies for each step of the GHG monitoring process have been checked. Knowledge of the GHG operational monitoring process is available. The Regulation was prepared by the managers and lead specialists of Irkutskenergo and BHPP who themselves are in charge of monitoring and reporting tasks. Hence there was no need of special training.

Data transfer between or within different areas of responsibilities on IE and BHPP is clearly described in the Order and MR Section B.1. Manual transfer was occurred both in Irkutskenergo and BHPP. The key physical process parameters are identified in full compliance with PDD Monitoring Plan. Requirements for documented data trials are implemented as defined in PDD Section D.3

The function of the monitoring equipment, including its calibration status, is in order. Records of calibration of electric meters were checked and the status of calibration was positively verified.

The used monitoring methodology formalized in terms of the electronic tool was properly documented in MR and closely followed. The tool was made available to the verifier at the determination stage, so it was easy to check the calculations reported in MR. Internal spot checks and reviews of the calculation results by a second person are carried out as envisaged in the Regulation Section 8 and MR Section B.1. Reporting procedures fully reflect the monitoring methodology content.

Ex-ante emission factor of Irkutskenergo thermal power plants in condensing mode based on data for 2006-2008 was used as default data justified in PDD.

Data collection and results reporting are based on standard Microsoft Windows tools. The supporting IT systems are maintained on the basis of IE procedures. Responsibility of Directorate for Informational Technologies is defined by the Order and specified in the Regulation. Electronic databases and calculation spreadsheets are protected by access restrictions and editor rights in the frame of IE procedures for control of electronic databases.



**VERIFICATION REPORT** 

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

According to the Annex 1 to the Order and Regulation Section 10, Head of IE Strategy Department verified the MR and Deputy Director on Strategy and Development validated the MR.

# 3.6 Verification regarding programmes of activities (102-110)

Not applicable.

## 4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 2<sup>nd</sup> periodic verification of the "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation" JI Project, which applies the JI specific approach. The verification 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 verification 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 verification report and opinion.

The management of EN+ Magnesium Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD version 07. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 02 dated August 2010 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on



#### **VERIFICATION REPORT**

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/2010 to 31/12/2010

Baseline emissions : 579,098 t CO2 equivalents.
Project emissions : 0 t CO2 equivalents.
Emission Reductions (2009) : 579,098 t CO2 equivalents.

## 5 REFERENCES

## **Category 1 Documents:**

Documents provided by Type the name of the company that relates directly to the GHG components of the project.

- /1/ Monitoring Report (in Russian) "On GHG emission reduction for JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation". Monitoring period 01.01.2009 31.12.2009. Irkutsk. Received 11/06/2010.
  - Annex 1 to Monitoring Report, "Calculation of emission reduction by BHPP project".
- Monitoring Report (in English) dated June 2010 "On GHG emission reduction for JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation". Monitoring period 01.01.2009 31.12.2009. Irkutsk.
  - Annex 1 to Monitoring Report, "Calculation of emission reduction by BHPP project".
- /3/ Monitoring Report Version 02 (in Russian) dated August 2010 "On GHG emission reduction for JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation". Monitoring period 01.01.2009 31.12.2009. Irkutsk. Received 11/06/2010.
  - Annex 1 to Monitoring Report, "Calculation of emission reduction by BHPP project".
- Monitoring Report Version 02 (in Russian) dated August 2010 "On GHG emission reduction for JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation". Monitoring period 01.01.2009 31.12.2009. Irkutsk.
  - Annex 1 to Monitoring Report, "Calculation of emission reduction by BHPP project".
- Letter of Approval by the Russian Federation on the JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation". Issued by Ministry for Economic Development of the RF on 30/07/2010 No.D07-1025.
- /6/ PDD "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk

#### Report No: RUSSIA-ver/0082/2010 rev.01



#### **VERIFICATION REPORT**

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

- region, Russian Federation" Version 6 dated November 2009.
- 17/ PDD "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation" Version 7 dated September 2010.
- /8/ BVC Determination Report on JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation" Russia-det/0034/2009 Rev.02 dated 19/10/2010.
- /9/ BVC Verification Report on 1<sup>st</sup> Monitoring for JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation" Russia/0050/2010 Rev. 02 dated 04/04/2010.

#### Category 2 Documents:

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

#### Documents obtained by e-mail dated 01/09/2010

- /10/ Act of acceptance of hydro aggregate No 18 from capital repair. Dated 30/01/2010.
- /11/ Form of primary data collection for JI project "Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation" for 2009. Annex 1 to "Regulation and scheme for process of GHG emission reduction monitoring". Approved by Order #63 dated 19/02/2010.
- /12/ Letter from BHPP to Irkutskenergo "On sending primary data for 2009" dated 16/06/2010 No. 212-003-01/681.
- /13/ Federal State Observation Form No 6-TΠ (hydro) for 2009. Yearly data on electric energy generated and supplied.
- /14/ Records on daily primary data reports for hydro aggregates No 14, 16-18 on 27-71/12/2009.
- /15/ BRATSK HPP Turbine Site Testing No. 2921 FINAL REPORT Ljubljana, October 2007.
- /16/ Technical Report "Energy tests of BHPP hydro aggregate No. 16" NIIEC 2002. RAO EES Russia.
- /17/ Technical Note "On data recovery at failure of electrogenerator meter at BHPP" Irkutskenergo, 2010.

### Documents obtained at the site on 24/02/2010

- /18/ Act of acceptance of hydro aggregate No 16 from capital repair. Dated 11/03/2007.
- /19/ Act of acceptance of hydro aggregate No 17 from capital repair. Dated 30/03/2008.
- /20/ Act of acceptance of hydro aggregate No 14 from capital repair. Dated



#### **VERIFICATION REPORT**

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

#### 30/09/2008.

- /21/ Certificate of attestation of "Methodology for measurements of electric energy with the use of automated information-measurement system of commercial accounting of electric energy (AIIS KUE) of participant of measurements at wholesale market of electric energy JSC Irkutskenergo BHPP". Issued by JSC UES of Russia on 31/10.2005.
- 1221 Technological instruction for Automated information-measurement system of commercial accounting of electric energy (AIS KUE). 2005.
- /23/ Scheme of transfer of hydrometeorological information of JSC Irkutskenergo by "Irkutsk Centre for hydrometeorology and environment monitoring". Update of 22/12/2009.
- /24/ Certificate RU.E.229.092.A No 36199 dated 20/09/2009 granted to Automation system of measurements of upper and lower pool levels at JSC Irkutskenergo BHPP by Federal Service for technical Regulation and Metrology (open-ended).
- /25/ Passports of electric counters Alfa of AIIS KUE.
- /26/ Status of Shop for Technical Automation and Measurements at ВНРР. ПСП 212.013.105-2007. Approved 12/11/2007
- /27/ Job description ДИ 212.013051-2008 for BHPP lead engineer on control-metering equipment and automation head of metering group. Approved 11/-6/2008.
- /28/ "Regulation and scheme for process of GHG emission reduction monitoring". Approved by Order #63 dated 19/02/2010.
- /29/ Order #63 dated 19/02/2010 "On approval of "Regulation and scheme for process of GHG emission reduction monitoring".
- /30/ Standard of JSC Irkutskenergo CTI 001.083.001-2005 "Nomenclature and control of normative documents of management system".
- /31/ Standard of JSC Irkutskenergo STP 001.083.002-2007 "Accounting, copying, storage, revision of normative documents of management system".
- /32/ Status of Production and Technical Department of ВНРР. ПСП 212.008.109-2007. Approved 20/04/2007
- /33/ Instruction for accounting water flow though BHPP. Approved 01/06/2006. Updated 12/03/2008.
- /34/ Federal State Observation Form No 6-TΠ (hydro) for 2008. Yearly data on electric energy generated and supplied.
- /35/ BHPP daily report (sample dated 17/02/2009). Monitoring data: hydro aggregate operation hours; upper pool and lower pool levels.
- /36/ Record of hydro aggregate No 16 (sample of 13-26/10/2009)

## Report No: RUSSIA-ver/0082/2010 rev.01



#### VERIFICATION REPORT

"Increase in efficiency of water resources use at Bratsk HPP, Irkutsk region, Russian Federation"

#### Persons interviewed:

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

#### Persons interviewed on 24/02/2010:

- /1/ Sergey Kuchev JSC "Irkutskenergo", Head of Department for analysis and assessment.
- /2/ Alexander Vinokurov JSC "Irkutskenergo", Lead Economist of Department for analysis and assessment.
- /3/ Sergey Kuznetsov BHPP, Chief Engineer.
- /4/ Viktor Pisarev BHPP, Head of Production and Technical Department.
- /5/ Alevtina Myasnikova BHPP, Lead Engineer of Production and Technical Department.
- /6/ Igor Pashkevich BHPP, Head of Shop for Technical Automation and Measurements.
- 171 Igor Romanov BHPP, Head of Shift on Control Board.
- /8/ Svetlana Razuvaeva BHPP, Engineer on duty at Control Board.
- /9/ Nikolay Sakharov EN+, JI Project Manager.
- /10/ Eugenia Baidakova NCSF, Lead Specialist.

## Persons interviewed on 29/08/2010, 01/09/2010, 15/10/2010, and 19/10/2010:

- /11/ Nikolay Sakharov EN+, JI Project Manager.
- 112/ Dmitry Shumeev, JSC "Irkutskenergo", Head Department for analysis and assessment.
- /13/ Alexander Vinokurov, JSC "Irkutskenergo", Department for analysis and assessment.