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VERIFICATION REPORT

Verification of the Joint Implementation Project "ENERGY EFFICIENCY INVESTMENT PROGRAM AT OJSC ARCELORMITTAL STEEL KRYVIY RIH"

ITL Project ID: UA1000258

Third periodic verification for the period:
01/01/2011 – 31/12/2011

Report No. 01 998 9105071069-VR3
Revision No. 02.1

Customer: GLOBAL CARBON B.V

VERIFICATION REPORT

Date of first issue: 23/05/2012	Project No: 01 998 9105071069 ITL Project ID: UA1000258
Executor: TÜV Rheinland Japan Ltd. (TÜV Rheinland)	Organizational unit: TÜV Rheinland Ukraine Ltd. Technical Competence Center
Customer: Global Carbon B.V.	Client ref.: Lennard de Klerk

Summary: TÜV Rheinland Japan Ltd. (TÜV Rheinland) has performed third periodic verification of emission reductions generated by the JI project "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" (ITL Project ID UA1000258) for the period from 01/01/2011 till 31/12/2011.

The purpose of verification is to assess the reductions in anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks generated by a JI project and reported by the project participants through the monitoring report in accordance with paragraph 37 of the JI guidelines.

In our opinion, the emission reductions reported through the monitoring report, version 3.0 dated 13/08/2012 are fairly stated and are accurate and free of material errors, omissions, or misstatements.

During the monitoring period the project has been implemented in accordance with the Project Design Document Version 04 dated 4th of August 2009. Project participants have identified changes in project implementation during this monitoring period and provided a detailed description of all changes that have occurred since the determination was deemed final and provided justification for these changes in the Annex 2 of the Monitoring report, version 3.0 dated 13/08/2012.

The TÜV Rheinland Japan Ltd. (TÜV Rheinland) confirms that the conditions defined by paragraph 33 of the JI guidelines are still met for the project, and that the changes do not alter the original determination opinion for the project.

The GHG emission reductions were calculated correctly on the basis of the approved monitoring plan contained in the Project Design Document Version 04 dated 4th of August 2009 and previous monitoring reports.

TÜV Rheinland Japan Ltd. (TÜV Rheinland) is able to verify that the emission reductions from the "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" during the period from the 1st of January 2011 till the 31st of December 2011 amount to 138 833 tonnes of CO_2 equivalent.

Report No.: 01 998 9105071069-VR3	Subject Group: JI	
Project title: Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih		
Work carried out by: Dr. Valery Yakubovsky – Team Leader, Technical Competence Center Director Ms. Iryna Nikolaieva – Trainee Ms. Ganna Zadnipriana – Trainee		
Work verified by: Dr. Lixin Li - Internal technical reviewer		
Verification Report approved by: Dr. Manfred Brinkmann – Accredited Independent Entity Operational manager, TÜV Rheinland Japan Ltd. (TÜV Rheinland)		
Date of this revision: 16/08/2012	Revision No.: 02.1	Number of pages: **40**

TÜV Rheinland Japan Ltd. (TÜV Rheinland)

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Abbreviations

CO_2	Carbon Dioxide
CH_4	Methane
AIE	Accredited Independent Entity
BE	Baseline Emission
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
DR	Document Review
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
FAR	Forward Action Request
GHG	Greenhouse Gas
I	Interview
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
LoA	Letter of Approval
LoE	Letter of Endorsement
MoV	Means of Verification
MP	Monitoring Plan
OSV	On Site Visit
PDD	Project Design Document
PE	Project Emissions
SD	Supporting documentation
t	tonne
UNFCCC	United Nations Framework Convention on Climate Change

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1. VERIFICATION OPINION

TÜV Rheinland Japan Ltd. (TÜV Rheinland) has performed third periodic verification of the emission reductions generated by the JI project "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" (ITL Project ID UA1000258) for the period from 01/01/2011 till 31/12/2011.

The project participants are responsible for the collection of data in accordance with the monitoring plan and the reporting of emission reductions generated by the project.

It is responsibility of TÜV Rheinland Japan Ltd. (TÜV Rheinland) to express an independent verification opinion - conclusion on the verified amount of emission reductions generated by the project and reported by the project participants through the monitoring report, version 3.0 dated 13/08/2012.

TÜV Rheinland Japan Ltd. (TÜV Rheinland) has assessed the monitoring report on the basis of the monitoring plan contained in the registered Project Design Document Version 04 dated 4th of August 2009, the Monitoring Report Version 2.0 dated 26th of May 2011 and the Monitoring Report Version 3.0 dated 13th of August 2012.

The verification included the assessment of:

- project implementation in accordance with the project design document (PDD);
- compliance with the monitoring plan;
- calculation of emission reductions and expression of a conclusion with a reasonable level of assurance about whether the reported emission reductions data are accurate and free of material errors, omissions, or misstatements;
- quality and management of data and verification that reported emission reductions data is sufficiently supported by evidence.

TÜV Rheinland Japan Ltd. (TÜV Rheinland) verification approach draws on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. TÜV Rheinland Japan Ltd. (TÜV Rheinland) planned and performed the verification by obtaining evidence information and explanations that TÜV Rheinland Japan Ltd. (TÜV Rheinland) considers necessary to give reasonable assurance that reported emission reductions are fairly stated, accurate and free of material errors, omissions, or misstatements.

Project participants have identified changes in project implementation during this monitoring period and provided a detailed description of all changes that have occurred since the determination was deemed final

and provided justification for these changes in the Annex 2 of the Monitoring report, version 3.0 dated 13/08/2012.

The TÜV Rheinland Japan Ltd. (TÜV Rheinland) confirms that the conditions defined by paragraph 33 of the JI guidelines are still met for the project, and that the changes do not alter the original determination opinion for the project.

In TÜV Rheinland's Japan Ltd. (TÜV Rheinland) opinion the emission reductions generated by the JI project "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" (ITL Project ID UA1000258) for the period from 01/01/2011 till 31/12/2011 are fairly stated, accurate and free of material errors, omissions, or misstatements in the monitoring report, version 3.0 dated 13/08/2012.

The GHG emission reductions were calculated correctly on the basis of the registered project design document version 04 dated 4th of August 2009.

TÜV Rheinland Japan Ltd. (TÜV Rheinland) is able to verify that the emission reductions generated by the JI project "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" (ITL Project ID UA1000258) for the period from 01/01/2011 till 31/12/2011 amount to 138 833 tonnes of CO_2 equivalent.

2. INTRODUCTION

Global Carbon BV (the Client) has commissioned TÜV Rheinland Japan Ltd. (TÜV Rheinland) to carry out the verification of the JI project "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" (hereinafter "project") for the period from 01/01/2011 till 31/12/2011. This report contains the findings from the verification and conclusion on the verified amount of emission reductions.

2.1 Objective

The verification is the periodic independent review and ex post verification by an Accreditation Independent Entity (AIE) of the monitored reductions in GHG emissions that have occurred as a result of a Joint Implementation (JI) project activity during a defined verification period.

The purpose of the verification is to assess the reductions in anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks generated by a JI project and reported by the project participants through the monitoring report in accordance with paragraph 37 of the JI guidelines.

The objective of this verification was to verify emission reductions generated by the JI project "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" for the period from 01/01/2011 till 31/12/2011.

TÜV Rheinland Japan Ltd. (TÜV Rheinland) is an Accredited Independent Entity by the Joint Implementation Supervisory Committee.

2.2 Scope

The scope of this verification is the assessment of:

- project implementation in accordance with the project design document (PDD);
- compliance with the monitoring plan, including the revision of the monitoring plan;
- calculation of emission reductions and expression of a conclusion with a reasonable level of assurance about whether the reported emission reduction data are accurate and free of material errors, omissions, or misstatements;
- quality and management of data and verification that reported emission reduction data is sufficiently supported by evidence.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective

actions, forward action requests may provide input for corrective actions in order to provide for more accurate future monitoring and reporting.

2.3 JI Project Description

The brief information regarding the project activity is provided in the table 1.

Table 1 - JI project brief information

Project Parties involved:	1. Ukraine (host Party). 2. Luxembourg
Title of the project:	Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih
Type of JI activity:	Large-scale
ITL Project ID:	UA1000258
Baseline and monitoring methodology:	JI Specific Approach in accordance with Appendix B of the JI Guidelines
Project entity participant:	PJSC "ArcelorMittal Kryviy Rih" (former OJSC ARCELOR MITTAL STEEL KRYVIY RIH) 1, Ordzhonikidze Street, Kryviy Rih, 50095, UKRAINE
Other project participants:	ArcelorMittal Flat Carbon Europe S.A. 19 avenue de la Liberté L-2930 Luxembourg ArcelorMittal Long Carbon Europe S.A. 19 avenue de la Liberté L-2930 Luxembourg
Location of the project:	Industrial site of the PJSC "ArcelorMittal Kryviy Rih" - 1, Ordzhonikidze Street, Kryviy Rih, 50095, UKRAINE
Crediting period of the project:	From 01/04/2008 to 31/12/2012
Length of the period after crediting period:	N/A
Period verified in this report:	From 01/01/2011 to 31/12/2011
Period verified in previous verification report:	From 01/01/2010 to 31/12/2010

The project has been registered under national procedure as Track 1 JI project with PDD Version 04 dated 4th of August 2009. The documentation on the project including the PDD, approval by the host Party, Determination report is available at:
http://ji.unfccc.int/JIITLProject/DB/JQ756K3VCDKV3E8T8G4GGFNP4C4IDC/details
and at http://www.carbonunitsregistry.gov.ua/en/publication/content/917.htm

3. METHODOLOGY

The verification process has been carried out using internal procedures of TÜV Rheinland Japan Ltd. (TÜV Rheinland). In order to ensure transparency, a Verification protocol (Annex A to Verification report) was customized for the project, according to the Annex to "Joint Implementation Determination and Verification Manual", version 01. The Verification protocol shows, in a transparent manner, criteria (requirements) and results of verification.

The verification consists of the following three phases:

I) a desk review of the monitoring report including analysis of the compliance of the monitoring plan with the monitoring methodology;

II) follow-up interviews with project stakeholders including on site visit;

III) the resolution of outstanding issues and the issuance of the final verification report and opinion.

The following subsections outline each step in more detail.

3.1 Desk review

Project participants provided TÜV Rheinland Japan Ltd. (TÜV Rheinland) all the necessary documents for document review. The monitoring report version 1.0 dated 24/04/2011 was assessed as part of the verification. In addition, the project's Project Design Document Version 04 dated 4th of August 2009 and project's Determination Report were also reviewed. Supporting documents, such as, gas mix balances, individual gas balances, calibration schedules, calibration certificates, project documentation etc. were available during on site visit.

The information and formulae provided in the monitoring report was compared with PDD and stated data sources.

To address TÜV Rheinland Japan Ltd. (TÜV Rheinland) corrective action and clarification requests, project participants revised the monitoring report and resubmitted it as version 3.0 dated 13/08/2012.

The verification findings presented in this report relate to the monitoring report version 3.0 dated 13/08/2012 and project as described in the PDD Version 04 dated 4th of August 2009.

The following tables outline the documentation reviewed during the verification. Documents provided by Global Carbon B.V. that relate directly to the components of the project are indicated in table 2. Background documents related to the monitoring and/or methodologies employed in the monitoring or other reference documents are provided in table 3.

Table 2 - Category 1 Documents

No.	Title of the document
/1/	Project Design Document "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" Version 04 dated 4th of August 2009
/2/	Monitoring report, version 1.0 dated 24/04/2012.
/3/	Monitoring report, version 3.0 dated 13/08/2012.
/4/	Emission reduction calculation spreadsheet dated 24/04/2012
/5/	Emission reduction calculation spreadsheet dated 13/08/2012
/6/	"Joint implementation determination and verification manual", version 01, JISC.
/7/	"Guidance on Criteria for Baseline Setting and Monitoring", version 03, JISC.
/8/	Letter of Approval by the Ukraine ref. 1522/23/7 issued at 05/10/2010
/9/	Letter of Approval by the State of Luxembourg # 1 issued at 28th of May 2010
/10/	Second Periodic Annual JI Monitoring Report Version 2.0 dated 26 of May 2011
/11/	Verification Report No. TRU016JI-VR2 Revision 02 dated 02/06/2011
/12/	Initial and First Periodic Annual Monitoring report, version 2.0 dated 06/09/2010.
/13/	Initial and First Periodic Verification Report No UKRAINE/0129/2010 Rev.02 dated 15.09.2010
/14/	Determination Report NO. 1155637 Rev. 2.0 dated 16/09/2009

Table 3 - Category 2 Documents

No.	Title of the document
/1/	Project documentation. Environmental Impact Assessment of the project "Rolling Shop #1. Heating Furnace PS-150-1. Switch of the furnace from natural gas to natural gas, coke gas and blast furnace gas mix with heating value of 3500 kcal/m3. Dnepropetrovsk, 2009.
/2/	PJSC "ArcelorMittal Kryviy Rih" company standard: Monitoring and Measurements. Environmental Management System.
/3/	PJSC "ArcelorMittal Kryviy Rih" company standard: Procedure for accounting and waste management. Environmental Management System.
/4/	Permit for special water usage issued to PJSC "ArcelorMittal Kryviy Rih" by the State environmental authority in the Dnepropetrovsk region #02752.
/5/	Certificate of Environmental Management System conformity with

No.	Title of the document
	ISO 14001:2004 issued to PJSC "ArcelorMittal Kryviy Rih" by QSCert on 10/11/2011, # E-5670/11
/6/	Permit # 1211000000-38o for air pollution issued to PJSC "ArcelorMittal Kryviy Rih" by Ministry of Environmental Protection of Ukraine on 03/05/2012.
/7/	Permit # 1211000000-38l for air pollution issued to PJSC "ArcelorMittal Kryviy Rih" by Ministry of Environmental Protection of Ukraine on 05/05/2011.
/8/	Permit # 1211000000-38 for air pollution issued to PJSC "ArcelorMittal Kryviy Rih" by Ministry of Environmental Protection of Ukraine on 05/05/2011.
/9/	Attestation Certificate issued to the Metrological Department of the PJSC "ArcelorMittal Kryviy Rih" by Ministry of Industrial Policy on 12/11/2010 #06544-5-3-43-KL
/10/	Statute of the Metrological Department of the PJSC "ArcelorMittal Kryviy Rih", Kryviy Rih, 2012
/11/	Registry of contracts for measurement devices calibration in 2011 at PJSC "ArcelorMittal Kryviy Rih"
/12/	Monthly balance of the gas mix at Central Gas Mixing Station as of 30/09/2011
/13/	Monthly balance of the gas mix at Central Gas Mixing Station as of 31/10/2011
/14/	Monthly balance of the gas mix at Central Gas Mixing Station as of 31/07/2011
/15/	Monthly balance of the gas mix at Central Gas Mixing Station as of 31/08/2011
/16/	Monthly balance of the gas mix at Central Gas Mixing Station as of 31/05/2011
/17/	Monthly balance of the gas mix at Central Gas Mixing Station as of 30/06/2011
/18/	Monthly balance of the gas mix at Central Gas Mixing Station as of 31/03/2011
/19/	Monthly balance of the gas mix at Central Gas Mixing Station as of 30/04/2011
/20/	Monthly balance of the gas mix at Central Gas Mixing Station as of 31/01/2011
/21/	Monthly balance of the gas mix at Central Gas Mixing Station as of 28/02/2011
/22/	Monthly balance of the gas mix at Central Gas Mixing Station as of 30/11/2011
/23/	Monthly balance of the gas mix at Central Gas Mixing Station as of 31/12/2011
/24/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for December 2011
/25/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for November 2011

No.	Title of the document
/26/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for October 2011
/27/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for September 2011
/28/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for August 2011
/29/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for July 2011
/30/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for June 2011
/31/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for May 2011
/32/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for April 2011
/33/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for March 2011
/34/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for February 2011
/35/	Balance of natural gas at PJSC "ArcelorMittal Kryviy Rih" for January 2011
/36/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for December 2011
/37/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for November 2011
/38/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for October 2011
/39/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for September 2011
/40/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for August 2011
/41/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for July 2011
/42/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for June 2011
/43/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for May 2011
/44/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for April 2011
/45/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for March 2011
/46/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for February 2011
/47/	Balance of blast furnace gas at PJSC "ArcelorMittal Kryviy Rih" for January 2011
/48/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for December 2011

No.	Title of the document
/49/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for November 2011
/50/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for October 2011
/51/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for September 2011
/52/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for August 2011
/53/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for July 2011
/54/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for June 2011
/55/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for May 2011
/56/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for April 2011
/57/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for March 2011
/58/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for February 2011
/59/	Balance of coke oven gas at PJSC "ArcelorMittal Kryviy Rih" for January 2011
/60/	Act # 2 of 16/11/2009 on commissioning of repaired objects
/61/	Act # 3 of 16/11/2009 on commissioning of repaired objects
/62/	Minutes of technical meeting on switching of furnaces to gas mix dated 25/04/2008
/63/	Order #39 dated 12/01/2011 On switching the heating furnace PS 150-1 of the wire rod rolling mill #1 to gas mix
/64/	Act of commissioning of the heating furnace #2 PS 250-3 after capital repair in June of 2008 dated 27th of June 2008
/65/	Act of commissioning of the heating furnace #1 PS 250-3 after capital repair in June of 2008 dated 27th of June 2008
/66/	Act of commissioning of the repaired object dated 07/10/2008
/67/	Act of measure implementation dated 24/04/2008
/68/	Act of commissioning of the repaired object dated 27/06/2008
/69/	Order #1313 dated 28/09/2011 on acquiring assets
/70/	Order #1525 dated 08/11/2011 on acquiring assets
/71/	Act of commissioning of the constructed object dated 21/06/2011
/72/	Act #9 of works commissioning dated 24/12/2010
/73/	Act #8 of works commissioning dated 24/12/2010
/74/	Extract from the calibration schedule for measurement devices in 2012 dated 18/06/2012
/75/	Job description of the leading engineer for energy resources accounting at PJSC "ArcelorMittal Kryviy Rih"
/76/	Job description of the chief foreman for automation at PJSC

No.	Title of the document
	"ArcelorMittal Kryviy Rih"
/77/	Job description of the chief foreman for automation of measurement devices at PJSC "ArcelorMittal Kryviy Rih"
/78/	Job description of the manager for SCADA at PJSC "ArcelorMittal Kryviy Rih"
/79/	Order #1008 dated 11/07/2012 on information archiving terms

3.2 Interviews with project stakeholders

TÜV Rheinland Japan Ltd. (TÜV Rheinland) performed interviews during the on-site visit that took place on the 15th of May 2012 with project stakeholders to confirm selected information and to resolve issues identified in the document review. Interviewed representatives of Global Carbon B.V. and PJSC "ArcelorMittal Kryviy Rih" (AMKR) are summarized in Table 4. The main topics of the interviews are summarized in Table 5.

Table 4 - Persons interviewed

No.	Name	Organization	Position
/1/	Petruk I.V.	Global Carbon B.V.	JI Consultant
/2/	Kamenev A.I.	AMKR	Head of Energy Department
/3/	Alenina G.A.	AMKR	Head of Water Protection Reporting Unit in Environmental Service
/4/	Yova V.I.	AMKR	Energy Efficiency Manager of Energy Department
/5/	Garkavenko S.V.	AMKR	Chief Foreman of Rolling Shop # 1
/6/	Dupliy S.N.	AMKR	Chief Foreman of Rolling Shop # 2
/7/	Shain V.U.	AMKR	Chief Foreman for Automation and Process Engineering
/8/	Kondratenko V.A.	AMKR	Head of Metrology Department
/9/	Puhlianka V.A.	AMKR	Deputy Head of Gas Shop
/10/	Boichenko A.V.	AMKR	Chief Foreman for Automation and Process Engineering
/11/	Polovinskaya N.S.	AMKR	Energy Resources Reporting Engineer

Table 5 - Interview topics

No.	Date	Interviewed organization	Interview topics
/1/	15/05/2012	Global Carbon B.V.	➢ QA/QC of the project, Project management ➢ Reporting and calculation of emission reductions, data sources ➢ Project management, site visit
/2/	15/05/2012	PJSC "ArcelorMittal Kryviy Rih"	➢ QA/QC of the project, Project management, Project implementation ➢ Operational reporting, plant visit, monitoring equipment ➢ Environmental licenses, project implementation ➢ Data processing, reporting ➢ Monitoring equipment ➢ Operational reporting ➢ Monitoring activity, Personnel training

3.3 Resolution of Clarification, Corrective and Forward Action Requests

Where TÜV Rheinland Japan Ltd. (TÜV Rheinland), 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:

- Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;
- Clarification request (CL), requesting the project participants to provide additional information for the AIE to assess compliance with the monitoring plan;
- 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.

The verification of the project resulted in 13 Corrective action requests and 5 Clarification requests. There were no unresolved Forward action requests from determination of the project or previous verifications.

TÜV Rheinland Japan Ltd. (TÜV Rheinland) made an objective assessment as to whether the actions taken by the project participants and presented in the Table 1 (Annex A to Verification report) satisfactorily resolve the raised issues and concluded its findings of the verification.

3.4 Internal Technical Review

The verification report including the verification findings underwent a technical review before requesting the publication according to paragraph 37 of the JI guidelines. The technical review was performed by an internal technical reviewer qualified in accordance with TÜV Rheinland Japan Ltd. (TÜV Rheinland) qualification scheme for JI project determination and verification.

3.5 Verification team

The verification team consists of the following personnel indicated in Table 6 below.

Table 6 - Verification team

Role	Name	Type of work					
		Desk Review	Site Visit	Reporting	Supervision	Technical Review	Expert Input
AIE Operational manager, TÜV Rheinland Japan Ltd. (TÜV Rheinland)	Dr. Manfred Brinkmann						☑
Technical Reviewer	Dr. Lixin Li					☑	
Team Leader	Dr. Valery Yakubovsky	☑	☑	☑	☑		
Trainee	Ms. Iryna Nikolaieva	☑	☑	☑	☑		
Trainee	Ms. Ganna Zadnipriana	☑	☑	☑	☑		

4. VERIFICATION FINDINGS

This section summarizes the findings from the verification of the emission reductions generated by the JI project "Energy Efficiency Investment Program at OJSC ArcelorMittal Steel Kryviy Rih" (ITL Project ID UA1000258) for the period from 01/01/2011 till 31/12/2011.

4.1 Project approval by Parties involved

In accordance with paragraphs 90 - 91 of the DVM the assessment of this area focuses on whether at least one written project approval by a Party involved in the JI project, other than the host Party(ies), has been issued by the DFP of that Party. It also should be assessed whether the written project approvals are unconditional.

A written project approval by Ukraine (host Party) is available:
Letter of Approval by the Ukraine ref. 1522/23/7 issued at 05/10/2010.

Written project approval by a Party involved in JI project, other than the host Party was obtained – Letter of Approval by the State of Luxembourg # 1 issued at 28th of May 2010.

Written project approvals are available at:
http://ji.unfccc.int/JIITLProject/DB/JQ756K3VCDKV3E8T8G4GGFNP4C4IDC/details
and at http://www.carbonunitsregistry.gov.ua/en/publication/content/917.htm

The written project approvals mentioned above are unconditional.

No problem areas were identified for project approval. Conclusions of TÜV Rheinland Japan Ltd. (TÜV Rheinland) are described in Annex A to the Verification Report.

4.2 Project implementation

In accordance with paragraphs 92 - 93 of the DVM the assessment of this area focuses on whether the project has been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website. The status of operation of the project during the monitoring period also should be assessed.

The project has been implemented in accordance with the PDD version 04 dated 4th of August 2009 regarding which the determination has been deemed final and the project has been registered.

The verification team of TÜV Rheinland Japan Ltd. (TÜV Rheinland) can confirm, through the on-site visit, desk review and follow-up exchanges that all metering equipment utilized by the project has been functioning

in the valid conditions, has been appropriately calibrated, without unaccounted gap between the calibrations in the monitoring period.

This JI project is registered as Track 1 project. The description of this project is available in section 2.3. of this Verification report.

The emission reductions generated by the JI project reported for the period from 01/01/2011 till 31/12/2011 amount to 138 833 tonnes of CO_2 equivalent.

The verification team of TÜV Rheinland Japan Ltd. (TÜV Rheinland) can confirm, through the on-site visit that all physical features of the proposed JI project activity including data collecting and storage systems have been implemented, the project is completely operational and has been implemented as described in the registered PDD version 04 dated 4th of August 2009.

Project participants have identified changes in project implementation during this monitoring period and provided a detailed description of all changes that have occurred since the determination was deemed final and provided justification for these changes in the Annex 2 of the Monitoring report, version 3.0 dated 13/08/2012. The changes relate to the inclusion of one more intervention of the Sub-Project #3 – at the Wire Rod Rolling Mill #1.

The verification team of TÜV Rheinland Japan Ltd. (TÜV Rheinland) can confirm through the careful evaluation of provided justifications and other evidence that:

a) The physical location of the project has not changed;
b) The emission sources have changed and changes are reflected in an updated monitoring plan;
c) Baseline scenario has not changed;
d) The changes are consistent with the JI specific approach upon which the determination was prepared for the project.

The TÜV Rheinland Japan Ltd. (TÜV Rheinland) confirms that the conditions defined by paragraph 33 of the JI guidelines are still met for the project, and that the changes do not alter the original determination opinion for the project.

Identified problem areas for project implementation, project participants' answers and conclusions of TÜV Rheinland Japan Ltd. (TÜV Rheinland) are described in Annex A to the Verification Report (refer to CARs 01-04 and CLs 01-02).

4.3 Compliance with monitoring plan

In accordance with paragraphs 94 - 98 of the DVM the assessment of this area focuses on whether the monitoring occurred in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.

The monitoring of the project occurred in accordance with the monitoring plan contained in the registered PDD, Version 04 dated 4th of August 2009 and previous monitoring reports.

For calculating the emission reductions key factors influencing the baseline emissions as well as risks associated with the project were taken into account, as appropriate. For more detailed information, please, refer to the determined and registered PDD, version 04 dated 4th of August 2009 and previous monitoring reports.

All data sources used for calculating emission reductions are indicated in tables 18, 20, 21, 22, 23 of the Monitoring report, version 3.0 dated 13/08/2012.

The emission factor used to calculate emission reductions is selected in accordance with the registered PDD version 04 dated 4th of August 2009. The choice of this emission factor is appropriately justified in the PDD version 04 dated 4th of August 2009 and in general accuracy and reasonableness are carefully balanced.

The calculation of emission reductions is done based on conservative assumptions and the most plausible scenarios in a transparent manner. The calculation of the baseline emissions is based on the JI specific approach in accordance with the registered PDD version 04 dated 4th of August 2009.

The calculation of emission reductions is done by subtracting the project emissions from the baseline emissions.

The detailed calculation of GHG emission reductions for chosen monitoring period (from 01/01/2011 till 31/12/2011) is provided in supporting documentation.

Identified problem areas for compliance with monitoring plan, project participants' answers and conclusions of TÜV Rheinland Japan Ltd. (TÜV Rheinland) are described in Annex A to the Verification Report, Table 1 (refer to CARs 05-08 and CLs 03-04).

4.4 Revision of monitoring plan

If the project participants submitted to the AIE a revised monitoring plan, in accordance with paragraphs 99 - 100 of the DVM the assessment of this area focuses on whether the correct and complete justification for the proposed revision is provided, and whether the proposed revision improves the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.

During this monitoring period (from 01/01/2011 till 31/12/2011) the original monitoring plan described in the registered version 04 dated 4th of August 2009 and previous monitoring reports was revised by the project participants. The project participants submitted the revised monitoring plan, as described in Monitoring report, version 3.0 dated 13/08/2012 for the determination of proposed revisions in respect of improvement the accuracy and completeness of information of the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.

Revisions of the monitoring plan provide for inclusion of Wire Rod Rolling Mill # 1 (WRRM1) into the project:

- Description of the parameters relating to the baseline emissions of WRRM1 has been added.
- Description of the parameters relating to the project emissions of WRRM1 has been added.
- Tables 21, 22 and 23 in the MR have been amended with the following parameters:
    - Amount of natural gas consumed by WRRM1 directly (represented as parameter NGDir,SP3,PS,WRRM1,y)
    - Amount of natural gas consumed by WRRM1 as a part of gas mix (represented as parameter NGMIX,P3,PS,WRRM1,y)
    - Total amount of natural gas consumed by WRRM1 (represented as parameter NGSP3,PS,WRRM1,y)
    - Amount of gas mix consumed by WRRM1 (represented as parameter MIXSP3,PS,WRRM1,y)
    - Baseline amount of natural gas consumed by WRRM1 (represented as parameter NGSP3,BS,WRRM1,y)
- Description of the measurement equipment used for monitoring of natural gas and gas mix consumption by WRRM1 has been added
- Description of the information on procedure of collection and processing of data concerning WRRM1 operation has been collected from the plant.

Also project participants eliminated small inaccuracies in measurement units etc.

The project participants provided an appropriate justification for the proposed revision as it allows to reflect the changes in emission sources in an updated monitoring plan.

The proposed revision improves the accuracy and 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.

Thus, the determination concerning the revised monitoring plan as described in Monitoring report, version 3.0 dated 13/08/2012 submitted by the project participants is positive.

Identified problem areas for revision of monitoring plan, project participants' answers and conclusions of TÜV Rheinland Japan Ltd. (TÜV Rheinland) are described in Annex A to the Verification Report (refer to CAR 09).

4.5 Data Management

In accordance with paragraph 101 of the DVM the assessment of this area focuses on the quality of the information using standard auditing techniques provided in the monitoring report by assessing whether the data and their sources are clearly identified, reliable and transparent.

Data collection procedure is carried out in accordance with the monitoring plan, including the quality control and quality assurance procedures and has been checked by the verification team on site visit. The monitoring plan is presented in section D of the registered PDD version 04 dated 4th of August 2009 and sub-sequent monitoring reports. The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent.

The evidence and records used for the monitoring are maintained in a traceable manner. Verification team got an access to all necessary data on monitoring system and emission reductions and received necessary evidence on site visit.

The data collection and management system for the project is in accordance with the monitoring plan as described in the registered PDD version 04 dated 4th of August 2009 and sub-sequent monitoring reports.

Identified problem areas for data management, project participants' answers and conclusions of TÜV Rheinland Japan Ltd. (TÜV Rheinland)

are described in Annex A to the Verification Report (refer to CARs 10-13 and CL 05).

4.6 Assessment of data and calculation of greenhouse gas emission reductions

The verification team of TÜV Rheinland Japan Ltd. (TÜV Rheinland) verified that all parameters are used correctly in the calculations, all results are verifiable and transparent, all assumptions are described and based on verifiable evidence and calculations are done in accordance with the pre-defined formulae from registered PDD version 04 dated 4th of August 2009 and sub-sequent monitoring reports.

According to the Monitoring Report, version 3.0 dated 13/08/2012. and GHG emission reductions calculation spreadsheet in Excel format the emissions for the project scenario, emissions for the baseline scenario and emission reductions for chosen monitoring period (from 01/01/2011 till 31/12/2011) are provided in table 7 below.

Table 7 - Results for Emission Reductions for Monitoring Period

Monitoring Period:	from 01/01/2011 till 31/12/2011
Emissions for the project scenario:	156 402 tCO_2e
Emissions for the baseline scenario:	295 235 tCO_2e
Emission reductions:	138 833 tCO_2e

4.7 Remaining issues, CARs, FARs from previous determination/verification

Not applicable.

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ANNEX A - VERIFICATION PROTOCOL

Table 1 - Requirements Checklist

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
1. Project approvals by Parties Involved				
1. 1. Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	90	The project approvals have been issued by both Parties involved. • Letter of Approval from NEIA of Ukraine #1522/23/7 from 05/10/2010 • Letter of Approval from Luxembourg Departement de l'environnement #1 from 28/05/2010 References to Letters of Approval are available in Section A.6. of the Monitoring Report.	No action requested.	OK
1. 2. Are all the written project approvals by Parties involved unconditional?	91	The written project approvals by Parties involved are unconditional. "ArcelorMittal Flat Carbon Europe S.A.", "ArcelorMittal Long Carbon Europe S.A." and "OJSC "ArcelorMittal Kryviy Rih" are legal entities authorized by the	No action requested.	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		designated focal points of the Parties Involved to participate in the JI project.		
2. Project implementation				
2.1. Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	92	The project has been implemented in accordance with the registered PDD ver. 04 and subsequent changes during the project implementation determined by the AIE during the initial and first verification. This JI project is registered as Track 1 project and information is available (see Section 1.3 of this report). According to the presented information in the PDD and initial and first periodic monitoring report the sub-project #3 has been implemented on the Rolling Mill #3, Wire-Rod Rolling Mill #3 and Light Section Rolling Mill #5. The current monitoring report mentions also the implementation of sub-project #3 on the Wire Rod	**CAR 01.** Please provide complete and transparent justification of the changes during project implementation for the particular changes that took place during the monitoring period in accordance with Procedures regarding changes during project implementation. **CAR 02.** Please provide evidences for the starting dates of the sub-projects and sub-project components. **CAR 03.** Include information on actual names of the shops of the plant into the definitions and acronyms section of the Monitoring Report as seen in the indices in calculation formulas throughout the report.	

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		Rolling Mill #1. Changes implemented during monitoring period are not appropriately justified in this monitoring report.		
2.2. What is the status of operation of the project during the monitoring period?	93	The project is aimed at increase of energy efficiency in production process and energy infrastructure at the full cycle metallurgical plant OJSC ArcelorMittal Kryviy Rih (AMKR). The energy efficiency assessment conducted at AMKR had identified eight key measures which have been planned for implementation. These measures will contribute in reduction of specific energy consumption and importantly will lead to reduction of CO2 emissions. During the monitoring period that covers time period between the 01/01/2011 and 31/12/2011 only the sub-project 3 "Switch fuel	**CL 01.** Please elaborate on the performance of other sub-projects. Are they leading to an increase of GHG emissions compared to the baseline? **CL 02.** Please explain what are the reasons for the delays in SP6,7 and 8 implementation. **CAR 04.** Please correct the name and layout of the Table 2 as it lists only the components of sub-project 3 and not separate subprojects.	

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		from NG to COG+BFG+NG mixtures" has been generating emission reductions. It is stated in the monitoring report that other subprojects are either in implementation stage but are not generating emission reductions or are still not implemented. The sub-project 3 that has been included into the monitoring report involves 4 interventions that have been described in the PDD and previous and current monitoring reports. This sub-project consists of the partial replacement of natural gas used in rolling shops of the plant with gas mixture of blast furnace gas/coke oven gas/natural gas (BFG+COG+NG). It has been verified on site that the project is operating and has been operating during the whole monitoring period.		

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
3. Compliance with monitoring plan				
3.1. Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final?	94	The determined monitoring plan is contained in the registered PDD ver. 04 that is available on the UNFCCC JI website. The monitoring plan was also revised in initial and first monitoring report. There were no open issues since last verification. However, following changes during project implementation the monitoring plan has been revised during the monitoring period and information about this should be added to the relevant section of the monitoring report for transparency.	Conclusion is pending upon the resolution of CAR 08.	
3.2. For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) of DVM, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	95 (a)	For calculating the emission reductions key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions as well as risks associated with the project were taken into account, as appropriate.	No action requested.	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		For more detailed information, please, refer to Section B.2. of the determined and registered PDD version 04.		
3.3. Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	95 (b)	All data sources used for calculating emission reductions are based on the existing reporting system of the company and is clearly identified, reliable and transparent. However, the provided conversion factor to bring the NCVs from kcal/m3 to GJ/1000m3 is inconsistent and unreferenced.	**CAR 05.** The conversion factor from kcal/m3 to GJ/1000 m3 is not referenced and should be corrected as the actual IPCC default conversion factor is 4.1868.	
3.4. Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	95 (c)	The emission factors used to calculate emission reductions are selected in accordance with the registered PDD ver. 04. The choice of these emission factors is appropriately justified in the PDD ver. 04 and in general accuracy and reasonableness are carefully balanced. The	**CL 03.** Please explain why IPCC default values are used in calculations when more detailed country-specific values are available (NIR of Ukraine).	

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		calculation of emission reductions rests on a single emission factor for carbon emissions due to combustion of natural gas. This emission factor is correctly referenced to the 2006 IPCC Guidelines and represents default factor. However, the most recent National Inventory Report of Ukraine lists the country specific carbon dioxide emission factor for natural gas combustion.		
3.5. Is the calculation of emission reductions or enhancements of net removals calculated based on conservative assumptions and the most plausible scenarios in a transparent manner?	95 (d)	The calculation of emission reductions is done based on conservative assumptions and the most plausible scenarios in a transparent manner. Project emissions are presented as the sum of the emissions from every rolling mill included into the subproject. The calculation of the baseline emissions is	**CAR 06.** The calculation of emission reductions does not take emissions from the WRRM#1 into account. Please correct. **CAR 07.** Please correct the measurement units in the attached Excel file as there are non-SI units used. **CAR 08.** Check and correct the rounding of the calculations in the Excel file compared to the data in the MR.	

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		based on the JI specific approach in accordance with the registered PDD and rests on the assumptions that the equivalent amount of heat will be consumed in the baseline as in the project scenario. The baseline emissions are determined by multiplying figures of total baseline natural gas consumption in every rolling mill with natural gas NCV and emission factor. Total baseline natural gas consumption is determined based on the energy content of gases consumed in the project scenario which are monitored and recalculated to natural gas using NCVs of component gases.	**CL 04.** Please explain if the various gas volumes in the monitoring report are provided at certain conditions of temperature and pressure.	
4. Applicable to JI SSC projects only				
4.1.Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD	96	Not applicable.	Not applicable.	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
for the JI SSC project or the bundle for the monitoring period determined?				
5. Revision of monitoring plan ***Applicable only if monitoring plan is revised by project participants***				
5.1.Did the project participants provide an appropriate justification for the proposed revision?	99 (a)	The project participants have mentioned changes in the project scope during the monitoring period. Such changes also influenced the monitoring plan as new emission sources have been included. However, project participants did not provide an appropriate justification for the proposed revision of the monitoring plan.	**CAR 09.** Please explain and justify the changes to the monitoring plan due to inclusion of WRRM#1 into the project.	
5.2.Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	99 (b)	Conclusion is pending the resolution of CAR08.	No action requested.	
6. Data management				
4.1. Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	101 (a)	Data collection procedure is carried out in accordance with the monitoring plan, including	No action requested.	

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		the quality control and quality assurance procedures and has been checked by the verification team on-site. The monitoring plan is presented in the section D of the registered PDD ver. 04 and subsequent monitoring reports.		
4.2. Is the function of the monitoring equipment, including its calibration status, is in order?	101 (b)	The monitoring equipment employed by the project has functioned in accordance with the monitoring plan and in general is in order. The verification team has verified that the reported metering devices are in fact installed and operational. The metering devices have appropriate documentation, such as passports and calibration certificates. Calibration has been performed in accordance with the procedures of the Host Party and company standards evidence of	**CAR 10.** Please provide all necessary evidences and explanations regarding the metering equipment replacement during the monitoring period (e.g. CGMS, WRRM#3 etc.). Mark these changes as changes since last verification. **CAR 11.** Please provide calibration schedules for the metering equipment of the project (e.g. CGMS, RM#3 etc.) **CL 05.** Please explain why there are two sets of equipment for measurement of the natural gas consumption at CGMS?	

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		these calibrations has been provided (calibration certificates and/or evidence of calibration in the passports of the devices or on the device itself). It has been verified that the calibration did occur at the correct calibration intervals for all metering devices. Changes in some metering devices that occurred during the monitoring period have not been reflected in the report. Also, not all calibration schedules were available on-site.		
4.3. Are the evidence and records used for the monitoring maintained in a traceable manner?	101 (c)	The evidence and records used for the monitoring are maintained in a traceable manner. Verification team has got access to all necessary data on monitoring system and emission reductions and received necessary evidence on site. Necessary data storage	**CAR 12.** Please provide evidence that necessary monitoring information will be stored for at least two years after the last transfer of the ERUs.	

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		and archiving procedure is in place and data are available as reports from the Energy department of AMKR. Monitoring report states that all data archived will be kept for at least two years after the last transfer of ERUs to the client.		
4.4. Is the data collection and management system for the project in accordance with the monitoring plan?	101 (d)	The data collection and management system for the project is in accordance with the monitoring plan as described in the registered PDD ver. 04. Roles and responsibilities of the technical staff in the framework of the monitoring are described in the monitoring report.	**CAR 13.** Please provide working instructions for the plant personnel responsible for collection, storage and archiving of necessary monitoring data.	

DVM* - Joint Implementation Determination and Verification Manual, version 01

Table 2 - Resolution of CARs, CLs and FARs

No.	Type of request	Observation	Ref. to checklist question in table 1	Summary of project owner response	Verification team conclusion
1.	**CAR 01.**	Please provide complete and transparent justification of the changes during project implementation for the particular changes that took place during the monitoring period in accordance with Procedures regarding changes during project implementation.	2.1	The complete and transparent justification of the changes during project implementation has been presented in Annex 2. Please see Monitoring report version 2.0 dated 21/06/2012	Updated Monitoring report has been checked. Necessary justification of the changes during project implementation has been included in the Annex 2 of the Monitoring report. Provided justification is satisfactory. Issue is closed.
2.	**CAR 02.**	Please provide evidences for the starting dates of the sub-projects and sub-project components.	2.1	The evidences for the starting dates of the sub-projects and sub-project components have been provided as Supporting document "SD1_Starting dates"	The evidences for the starting dates have been provided and checked. Issue is closed.
3.	**CAR 03.**	Include information on actual names of the shops of the plant into the definitions and acronyms section of the Monitoring Report as seen in the indices in calculation formulas throughout the report.	2.1	The actual names of the shops of the plant have been added to Table 2 and Annex 1 Definitions and acronyms. Please see Monitoring report version 2.0 dated 21/06/2012	Necessary corrections have been done in the updated Monitoring report. Provided document is accepted. Issue is closed.
4.	**CAR 04.**	Please correct the name and layout of the Table 2 as it lists only the components of sub-project 3 and not separate subprojects.	2.2	The name and layout of the Table 2 has been changed. Please see Monitoring report version 2.0 dated 21/06/2012	Necessary corrections have been done in the updated Monitoring report. Provided document is accepted.

					Issue is closed.
5.	**CAR 05.**	The conversion factor from kcal/m3 to GJ/1000 m3 is not referenced and should be corrected as the actual IPCC default conversion factor is 4.1868.	3.3	The IPCC default conversion factor 4.1868 has been applied. The reference to the IPCC conversion factors has been added to the MR. Please see Section D of Monitoring report version 2.0 dated 21/06/2012	Conversion factor has been corrected and updated in the Monitoring report. Document has been checked and accepted. Issue is closed.
6.	**CAR 06.**	The calculation of emission reductions does not take emissions from the WRRM#1 into account. Please correct.	3.5	The calculation of emission reductions has been revised and corrected. Please see Excel spreadsheet version 2.0 dated 21/06/2012	Calculations have been checked and are now acceptable. Issue is closed.
7.	**CAR 07.**	Please correct the measurement units in the attached Excel file as there are non-SI units used.	3.5	The measurement units in the Excel spreadsheet have been corrected. Please see Excel spreadsheet version 2.0 dated 21/06/2012	Spreadsheet has been revised and revisions have been checked. Issue is closed.
8.	**CAR 08.**	Check and correct the rounding of the calculations in the Excel file compared to the data in the MR.	3.5	The rounding of the calculations in the Excel spreadsheet have been revised and corrected where necessary. The values in the MR have been correspondingly amended. Please see Excel spreadsheet version 2.0 dated 21/06/2012. Please see Monitoring report version 2.0 dated 21/06/2012	Spreadsheet has been revised and revisions have been checked. Appropriate corrections have been made to the Monitoring Report. Issue is closed.
9.	**CAR 09.**	Please explain and justify the changes to the monitoring plan due to inclusion of WRRM#1 into the project.	5.1	Deviations to the registered monitoring plan have been reflected in monitoring plans used for reporting previous monitoring periods (01/01/2008 – 21/12/2009) and monitoring period (01/01/2010 –	Updated Monitoring report has been checked. Necessary justification of the changes during project implementation has been included in the Annex 2 of the

				21/12/2010). The monitoring report for this period (stated in Section A.4.) has been prepared in accordance with the monitoring plan applied in previous monitoring reports. The update to the monitoring plan is described in Annex 2. Please see Section A.8. and Annex 2 of Monitoring report version 2.0 dated 21/06/2012	Monitoring report. Provided justification is satisfactory. Issue is closed.
10.	**CAR 10.**	Please provide all necessary evidences and explanations regarding the metering equipment replacement during the monitoring period (e.g. CGMS, WRRM#3 etc.). Mark these changes as changes since last verification.	6.2	The explanations regarding the metering equipment replacement during the monitoring period have provided in Section A.9. of Monitoring report version 2.0 dated 21/06/2012 The evidences regarding the metering equipment replacement have been provided as Supporting document "SD2_Meters_replacement"	Provided explanations have been checked and were found appropriate. Evidences provided in the supporting documents were checked and were found to support information included in the updated Monitoring report. Issue is closed.
11.	**CAR 11.**	Please provide calibration schedules for the metering equipment of the project (e.g. CGMS, RM#3 etc.).	6.2	The calibration schedules calibration schedules for the metering equipment of the project have been provided as Supporting document "SD3_Meters calibration"	Calibration schedules were provided as evidence and supporting document and are found appropriate. Issue is closed.
12.	**CAR 12.**	Please provide evidence that necessary monitoring information will be stored for at least two years after the last transfer of the ERUs.	6.3	The evidence that necessary monitoring information will be stored for at least two years after the last transfer of the ERUs has been provided as Supporting document "SD5_Data Keeping"	The necessary order has not been provided and is considered appropriate. Issue is closed.

13.	**CAR 13.**	Please provide working instructions for the plant personnel responsible for collection, storage and archiving of necessary monitoring data.	6.4	The working instructions for the plant personnel responsible for collection, storage and archiving of necessary monitoring data have been provided as Supporting document "SD4_Working instructions"	Necessary evidence of existing working instructions has been provided and have been checked. Issue is closed.
14.	**CL 01.**	Please elaborate on the performance of other sub-projects. Are they leading to an increase of GHG emissions compared to the baseline?	2.2	The project scenario of the project envisaged that the plant would implement energy-efficiency measures leading to reduction of carbon dioxide emissions into the atmosphere. The economic slowdown in Ukraine and other significant reasons caused delay in an implementation schedule and scope. Of all envisaged subprojects only Subprojects 3 generates substantial amount of emission reductions. Although implementation of other subprojects have not brought planned amount of emission reductions, still they operate with emissions less than in the baseline due to implementation of modern energy-efficient technologies. The reason of not generating substantial amount of emission reductions can be explained by the reduced production level compared to that estimated in the baseline and delay in introduction of new equipment. No subprojects resulted in an	Explanation has been provided and has been found appropriate. Issue is closed.

				increase of GHG emissions compared to the baseline.	
15.	**CL 02.**	Please explain what are the reasons for the delays in SP6,7 and 8 implementation.	2.2	The implementation of the project activities at the plant depends on the level of financing for the energy efficiency measures. The delay in SP 6, 7 and 8 implementation is caused by the limited funding.	Explanation has been provided and was found appropriate. Issue is closed.
16.	**CL 03.**	Please explain why IPCC default values are used in calculations when more detailed country-specific values are available (NIR of Ukraine).	3.4	The annual National Inventory Reports are containing detailed descriptive and numerical information on greenhouse-gas emissions levels and trends. Its primary purpose is to satisfy the reporting requirements to the Annex I Parties of the Kyoto Protocol. Therefore, the primary purpose of these reports is not in direct connection with the JI projects or methodologies and approaches used in such projects. The project participants, carefully balancing accuracy and reasonableness, do not foresee such change of emission factors as the revision of the monitoring plan that will materially improve the accuracy of the monitoring plan compared to the original or improve the applicability of the information collected. Therefore, the project participants are using the value of natural gas emission factor that has been determined and this determination has been finalized.	Clarification has been provided and was found appropriate. Issue is closed.

17.	**CL 04.**	Please explain if the various gas volumes in the monitoring report are provided at certain conditions of temperature and pressure.	3.5	All gas volumes presented in the monitoring report are provided at standard conditions of temperature and pressure which are 20ºC and 101.325 kPa. All the measurement points within the project are equipped with instruments which enable to collect data used to obtain the normalized values of gas consumption. Explanation of gases conditions has been added to Section A.5.2. of Monitoring report version 2.0 dated 21/06/2012	Clarification has been provided and was found appropriate. Necessary amendments in the monitoring report have been checked and are found to be OK. Issue is closed.
18.	**CL 05.**	Please explain why there are two sets of equipment for measurement of the natural gas consumption at CGMS?	6.2	The CGMS consists of two gas mixing stations which can perform preparation of gas mix. Thus the measurement equipment within the project boundaries includes meters of both mixing stations of CGMS.	Explanation has been provided and was found appropriate. Issue is closed.