TÜV NORD CERT GmbH • P.O. Box 10 32 61 • 45032 Essen • Germany

CDM Executive Board

TÜV NORD CERT GmbH
Langemarckstrasse 20
45141 Essen
Germany
Phone: +49 201 825-0
Fax: +49 201 825-2517
Info.tncert@tuev-nord.de
www.tuev-nord-cert.com

TÜV®

Our / Your Reference	Contact	Direct Dial	Date
	Rainer Winter E-Mail: rwinter@tuev-nord.de	Phone: -3329 Fax: -2139	13.02.2013

Response to the Review of project "Fuel Switch at Corobrik's Driefontein Brick Factory in South Africa" (Ref. no. 6567)

Dear Honourable Members of the CDM Executive Board,

Please find attached the response of TÜV NORD to the review of the above mentioned project No. 6567.

The PP has authorized us to submit this review response to the two related issues raised once more by EB.

No action has been taken to revise the project documentation but vital clarifications on the two issues put forth.

If you have any questions do not hesitate to contact us.

Yours sincerely,

Rainer Winter
Head TÜV NORD JI/CDM Certification Program

Headquarters
TÜV NORD CERT GmbH
Langemarckstraße 20
45141 Essen
Phone: +49 201 825-0
Fax: +49 201 825-2517
info.tncert@tuev-nord.de
www.tuev-nord-cert.com

Director
Dipl.-Volksw. Ulf Theike

Deputy director
Dipl.-Ing. Wolfgang Wielpütz

Registration Office
Amtsgericht Essen
HRB 9976
VAT No.: DE 811389923
Tax No.: 111/5706/2193

Deutsche Bank AG, Essen
Bank Code: 360 700 50
Account No.: 0607895000
BIC (SWIFT-Code): DEUTDEDE
IBAN-Code: DE 26 3607 0050 0607 8950 00

Review Issue # 1	
Original text of the issue raised:	*Issue #1: The DOE shall validate how the project activity is in compliance with the applicability condition 8 of the methodology (paragraph 8 of AMS-III.B version 15) considering that 1) the energy content of the output (Qpj) seems being derived from the amount of fuel consumption (FC) multiplied by its net caloric value (Qpj=FC*NCV *1000/conversion factor from GJ to MWh) according to PDD page 30; and 2) the DOE clearly concluded in CAR B15 that "Qpj is not a directly monitored parameter but calculated". Please refer to VVM v1.2 paragraph 76.*
PP´s Response	
DOE´s Response	

The only input into the burner is natural gas and the only output energy being hot air.

The DOE would firstly like to point out that all energy measurements, are based on calculations (for example energy in steam (enthalpy) = f(pressure, temperature, flow) – very often using standard steam tables, and electrical energy = f(volts, current)). There is no example of energy being measured directly, without the application of calculations used to convert energy indicators into an actual energy measurement (quantum value).

The natural gas input into the burner (which is the element process) is directly measured and recorded by two independent gas flow meters. The natural gas input (FC) into the burner directly depends on process energy demand. The burner (element process) achieves full conversion of the energy input and therefore the energy output of the element process is directly measured by the gas consumed by the burner. Hence, the CAR B15 statement that the useful energy $Q_{PJ,y}$ is calculated from the measured parameters remains implicitly true.

In addition, at the recipient end, the hot air temperature is measured directly using thermocouples. This measurement takes place as an internal check (of importance to achieve the required brick specifications) and is used to confirm the consistency of the energy output.

The DOE confirmed during the site visit that direct measurement of fossil fuel consumption (NG) and energy output (heat) takes place in the project activity, as well as the calibration procedures thereof.

Review Issue # 2	
Original text of the issue raised:	*Issue #2: The DOE is requested to further validate how the project activity meets the requirements of paragraph 23 (a) of AMS-III.B version 15; in particular, given that the [3]output of element process i after the project*

	activity has been implemented (QPJ,y)² will be calculated based on the natural gas consumption and its NCV rather than directly measured as required by the methodology. In doing so, the DOE should also explain how the monitoring plan will ensure that all the claimed emission reductions are due to the fuel switching measure and not on account of any other measures (such as increase in efficiency, etc). In addition, the DOE shall also explain the purpose of monitoring the temperature in the zones of the brick kiln considering monitoring temperature is not a requirement in the methodology. Please refer to VVM v1.2 paragraph 124(b).
PP´s Response	
DOE´s Response	
The output energy (hot air) from the burner equals the energy input (based on consumption of natural gas and NCV of the natural gas), as there are no efficiency losses in the burner. This is confirmed through the measurement of oxygen in the kiln. As long as oxygen is available, complete combustion has taken place. As the baseline kiln design has not changed before and after the fuel switch, no change in energy efficiency of the kiln took place. This is confirmed in the self declaration document provided by Corobrik on 2011-06-21 and validated by the DOE. A change in energy efficiency will only occur if the kiln design is modified, which is not planned in this project activity as validated during onsite visit. In the unlikely event that Driefontein kiln is modified in the future, the project participant shall apply paragraph 221 and respond in accordance with paragraph 222 of version 02.1 of the CDM Project Standard. **The kiln design is described in the PDD and supporting documentation and will be confirmed to have stayed the same during verification.** Temperature monitoring is done to confirm the consistency of the temperature in the kiln (which in turn determines the brick specification) and is the only direct measurement of energy output possible. ---------- In addition to the above provided responses, the DOE would like to point out that similar review issues were raised during the information and reporting check and clarified to satisfaction of the EB. We furthermore believe that several projects applying the methodology AMS III. B have been registered following similar approach as this project and that for the same issue to be recurring is undue. Hence, no changes to the documents required.	