CDM Executive Board

UNFCCC Secretariat

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January 28th, 2009

Dear CDM Executive Board Members,

Subject: Request for review of the request for registration for the CDM project activity "The Rotem Amfert Negev (RAN) Natural Gas Fuel Switch Project" (UNFCCC Ref. no. 2042)

SGS has been informed that the request for registration for the CDM project activity "The Rotem Amfert Negev (RAN) Natural Gas Fuel Switch Project" (UNFCCC Ref. no. 2042) is under consideration for review because four requests for review have been received from members of the Board.

The requests for review are based on the reasons outlined below. SGS would like to provide a response to the issue raised by the request for review:

Request for Review Issues 1-4, Issue 1;

The PP/DOE is requested to provide the detailed description of the entire plant in addition to that of the project and supported by the detailed and complete process-flow-diagram, explaining clearly the inputs and outputs. In doing this, the PP/DOE are also requested to provide clarifications regarding: (a) how many dryers are to be retrofitted and how many burners (include types) are to be installed; (b) what are the inputs (fuels, raw materials, etc) and outputs (products, etc) from the dryer; (c) if NG has been used in the plant prior to the project, either as a fuel or a process raw material.

SGS' Response to issue 1:

Please find attached the Process Flow Diagram as Annex 1

(a) How many dryers are to be retrofitted and how many burners (include types) are to be installed?

There are a total of four driers in the plant which are the only equipments in the plant currently consuming HFO and all of them will be retrofitted to operate on natural gas. These four driers are the only pieces of equipment in the factory which are expected to consume NG. The details are as follows;

- One in Plant 70B (Dry Enrichment),
- Two in Plant 42 and
- One in Plant 50 (Granulation) –

The project activity will involve the establishment of a new internal piping system (including the connection to the PRMS station, and building gas dividing stations), and the replacement of the burners in all four driers. The driers' burners will be replaced with triple-fuel burners that can operate on HFO, Diesel and NG. All the burners will be purchased from Weishaupt Germany:

- Plant 70 B - one WK 80 model burner
- Plant 42 - two WK 70 model burners
- Plant 50 - one WK 80 model burner

For the purpose of clarification, Methodology III.B states that "the project boundary encompasses the physical, geographical site where the fuel combustion affected by the fuel-switching measure occurs." In accordance with this, the project boundary is defined in the PDD as the RAN plant's driers, which are located in the Dry Enrichment Process and the Fertilizer Plant as shown in Chart 1 – RAN Production Overview in Annex 1.

(b)What are the inputs (fuels, raw materials, etc) and outputs (products, etc) from the dryer;
The table below gives the details regarding the input, output from dryers

Plant	Dryer Details (specifications)	Input	Output
Plant 70 B	Weishaupt model WKMS 4/0-AWERSION ZM S.N 4100812	i. Grinded Phosphate rock ii. HFO iii. Air	Dry enriched phosphate (rock)
Plant 42	Pillard model GRX 3-3c3c S.N 96.4.4.0135.00 2 Units	i. Sulfuric acid ii. Phosphoric acid iii. Dry enriched phosphate (rock) iv. HFO v. Air	Fertilizers
Plant 50	Pillard model GRX5 4c 4B3-3c3c S.N 97.4.4.0349.00	i. Sulfuric acid ii. Phosphoric acid iii. Dry enriched Phosphate (rock) iv. HFO v. Air	Fertilizers

(c) If NG has been used in the plant prior to the project, either as a fuel or a process raw material.
No natural gas was used prior to the fuel switch project, neither as a fuel nor as a process raw material.

Request for Review Issue 2:

The PP/DOE are also requested to describe how the 'output from the dryer' has been defined in the project context and the procedure and method to measure the 'output from the dryer' and confirm that the requirements of paragraph 5 of AMS-III.B. version 12 are complied with.

SGS' Response to Issue 2:

As per the Paragraph 5 of the simplified small-scale baseline and monitoring methodology AMS-III.B version 12 defines the emission baseline as "the current emissions of the facility expressed as emissions per unit of output". In order to comply with this definition, the emissions generated by the total combustion of HFO in the entire facility were divided by the total correlating output produced by the driers in the entire facility – both of which occur only in the project boundary. The total output produced by the driers is the sum of the output produced by the driers at four distinct points in the production process:

a. Plant 70B - Dry Enriched Phosphate (Rock) that proceeds from the drier to the Fertilizer Plants.
b. Plant 70B - Dry Enriched Phosphate (Rock) that proceeds from the drier to storage prior to being sold under the commercial name Enriched Arad.
c. Plant 50 - Fertilizers granulated in the drier are weighed following the oiling process.
d. Plant 42 - Fertilizers granulated in the two driers are weighed following the oiling process.

The output from the driers is therefore weighed in the following manner:

- The Dry Enriched Phosphate (Rock) that is sold as Enriched Arad is weighed using a belt conveyer scale prior to entering storage. This product is for export purposes only, and is also weighed using a gate scale when exiting the plant en route to the port and using ship surveyor measurements at the port itself prior to export.
- The Dry Enriched Phosphate (Rock) that proceeds to the Fertilizer Plant is weighed using a belt conveyor scale.
- The fertilizers that are destined for export are weighed in bulk using a belt conveyer scale immediately after it completes the oiling process. This product is then subsequently weighed again using a gate scale when exiting the plant en route to the port and an additional time using ship surveyor measurements at the port itself prior to export.
- The fertilizers that are destined for the domestic Israeli market are primarily packed in sacks with a small percentage shipped in bulk. The sacks are weighed by sack packing scales during the packing process, which immediately follows the oiling process. Both the sacks and the bulk fertilizers are weighed by a gate scale when exiting the plant.

These are the only products produced by the driers, which are the only equipment, that combust HFO in the baseline and will be retrofitted to combust natural gas in the project activity. All of the products are weighed in an accurate and conservative manner, following strict and rigorous monitoring procedures that are in accordance with Methodology III-B, as described in detail above as well as in section B.7.2 of the PDD already submitted for validation. These definitions as well as monitoring methods are applied in a consistent manner both for the determination of baseline emissions and for the determination of project emissions and therefore will lead to an accurate calculation of emission reductions.

Request for Review Issue 3;

The DOE is requested to clarify how they have validated that the price differential between the HFO and the NG has been considered in the selection of the baseline scenario and that this price differential is not the main driver to implement the project activity.

SGS' Response to Issue 3:

It is required to note that PP has not compare the HFO and NG prices while selecting to the baseline scenario for this project activity. In determining the baseline scenario, the PP used the "Combined tool to identify the baseline scenario and demonstrate additionality." It should be noted that only those steps of the tool relevant to determining the baseline scenario were used, as additionality was demonstrated in accordance with attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities.

In accordance with the tool, the PP identified the following baseline alternatives: (1) continuation of current practice – using HFO; (2) fuel switch to natural gas without CDM; (3) fuel switch to natural gas with CDM; (4) fuel switch to diesel.

Following step 1, the PP applied Step 2: Barrier Analysis. In the context of this analysis, the SGS has validated, extensive evidence supporting the existence of technological and common practice barriers as well as barriers related to the uncertainty of natural gas fuel supply and potential loss of production related to natural gas use. The uncertainty of a single gas supplier is even more pertinent today, in light of the recent gas supply crisis in European Annex I countries. As can be seen in section 7 (Document References) of the validation report, the DOE has reviewed all the supporting evidence and documents required for proving these barriers – training plans, implementation contracts, official state publications and websites, and reports from leading Israeli and international newspapers. Following the extensive evidence supplied, the DOE is convinced that the barrier analysis was applied in a conservative manner, and that these barriers are both robust and valid. Therefore, the DOE has found that the barriers would truly prevent the project from taking place in the absence of CDM revenues. Alternatives (2) and (3) were consequently eliminated as potential baseline scenarios.

Given the risks entailed by the barriers to natural gas use, the DOE was convinced that the sound and stable income provided by CDM revenues as well as the marketing potential that the plant sees in the ability to market its products as being produced while participating in the Clean Development mechanism, played a decisive role in convincing the PP to proceed with the project. This entailed investing capital in training prior to securing gas supply, and accepting the risk of production losses during the retrofit process as well as the risk that gas will not be available in the future. Without this revenue, the DOE is convinced that the RAN plant would not have proceeded with the fuel switch project, and GHG emissions would have remained at higher levels.

Cost data, like other financial parameters, was not reviewed for natural gas, as the combined tool specifically stipulates that Step 3: Financial Analysis should be performed on those alternatives that remain following the barrier analysis. Therefore, the financial data, including cost differential, was only validated for alternatives (1) and (4), i.e. HFO and diesel. This financial analysis was supported by a robust and conclusive sensitivity analysis, demonstrating that HFO is indeed more financially attractive than diesel and is therefore the baseline scenario.

Request for Review Issue 4:

The DOE is requested to clarify how they have validated that the quantity of HFO actually consumed in the dryer can be accurately measured/ estimated from the receipts of the HFO delivered to the site and not by actual monitoring, considering that HFO has also been used in process other than the dryer. In doing so, the DOE is requested to confirm that the monitoring procedure of HFO, diesel, NG and the output from the dryer will not lead to any uncertainty in the measurement and is in line with the requirements of paragraph 9 of AMS-III.B. version 12.

SGS Response to Issue 4:

I. Monitoring of Fuel Consumption

Baseline Data

As per Paragraph 9 (a) of the simplified small-scale baseline and monitoring methodology AMS-III.B version 12 states that records of fuel used can be used in lieu of actual monitoring. For the purpose of determining the quantity of HFO combusted in the baseline scenario, the DOE validated HFO purchase receipts for the years 2004-2006 during site visit. The HFO is stored on-site in several tanks was also shown during site visit to the DOE and DOE has validated, monthly inventory reports based on daily measurements of the amount of fuel in the storage tanks. As there is a storage tank for each plant, the measured quantity of fuel in the tanks is an accurate reflection of the quantity of fuel combusted to operate the driers. Prior to March 2006, some of the HFO purchased and included in the receipts was not combusted to power the driers, but rather used to oil the fertilizers in lieu of the mineral oil that is currently used. The HFO that was used for oiling was stored in two independent, separate storage tanks while the HFO used for combustion was stored in three separate storage tanks. In order to determine the quantity of HFO combusted, the quantity of HFO in the two storage tanks designated for the oiling process – measured on a daily basis – was subtracted from the total quantity of HFO purchased as per the receipts. To verify the accuracy of this figure, it was compared to the quantity of HFO stored in the three tanks that were designated for the combustion process – also measured on a daily basis. This process and all the necessary documentation was presented to the DOE in a transparent manner and the DOE has verified the accuracy of this data. The DOE was also presented with documentation (attached as Annex 2 herewith) that clearly shows that, after a short pilot stage in January and February 2006, the RAN plant replaced the HFO used in the oiling process with mineral oil. This documentation shows that, as of March 2006, no HFO was used for any process in the plant other than combustion to power the four driers.

Project Data

As stated in the PDD, in the project activity natural gas supply will be monitored by one or more flow meters that will be installed at the entrance to the RAN plant by the Israel Natural Gas Lines. These meters will be calibrated and maintained as dictated by the natural gas law, and the data shall be supported by monthly purchase receipts. It is clearly mentioned is PDD under section B.7.1 that should HFO or Diesel be used as a back-up fuel, the quantity shall be recorded from purchase receipts. In the case of diesel, either purchase receipts and by readings from measurement gauges on the fuel tank. The use of purchase receipts is the most simple and accurate method of monitoring the fuel consumed, due to the fact that this quantity is measured by the fuel supplier in accordance with strict Israeli laws designed to regulate the entire industrial energy market and ensure accurate accounting. In both cases, fuel delivery trucks shall be weighed upon entering and leaving the RAN plant and fuel consumption shall be measured by flow meters, providing two sets of data to be used for cross-checking. This procedure has been reviewed by the DOE in detail and deemed to be in full compliance with the requirements of the methodology. The PP/ DOE wishes to clarify that should, in the project scenario, any natural gas, HFO or diesel be used for any purpose other than combustion within the project boundary defined, this usage shall be accurately and appropriately monitored and subtracted from the quantity reported in the purchase receipts. This shall ensure that emission reductions shall be calculated, in an accurate manner, solely for those reductions generated by the described natural gas fuel switch. The PP and the DOE suggest updating the PDD in order to explicitly clarify this point.

II. <u>Monitoring of Output</u>:

a. As stated in the PP response to Question 2 above, in accordance with the methodology the total output produced by the driers is the sum of the output produced by the driers at four distinct points in the production process:
   i. For Plant 70B - Dry Enriched Phosphate (Rock) that proceeds from the drier to the Fertilizer Plant
   ii. For Plant 70B - Dry Enriched Phosphate (Rock) that proceeds from the drier to storage prior to being sold under the commercial name Enriched Arad
   iii. For Plant 50 - Fertilizers produced in Plant 50, weighed following the oiling process
   iv. For Plant 42 - Fertilizers produced in Plant 42, weighed following the oiling process

b. In accordance with the requirements of the methodology, the products are weighed in the following manner:
   I. The Dry Enriched Phosphate (Rock) that is sold as Enriched Arad is weighed using a belt conveyer scale prior to entering storage. This product is for export purposes only, and is also weighed using a gate scale when exiting the plant en route to the port and using ship surveyor measurements at the port itself prior to export.
   II. The Dry Enriched Phosphate (Rock) that proceeds to the Fertilizer Plant is weighed using a belt conveyor scale.
   III. The fertilizers that are destined for export are weighed in bulk using a belt conveyer scale immediately after it completes the oiling process. This product is then subsequently weighed again using a gate scale when exiting the plant en route to the port and an additional time using ship surveyor measurements at the port itself prior to export.
   IV. The fertilizers that are destined for the domestic Israeli market are primarily packed in sacks with a small percentage shipped in bulk. The sacks are weighed by sack packing scales during the packing process, which immediately follows the oiling process. Both the sacks and the bulk fertilizers are weighed by a gate scale when exiting the plant.

c. In addition, a certified surveyor visits the plant on a quarterly basis in order to conduct a detailed inventory assessment for the entire plant, including raw materials, work in process, finished goods, etc. The certified surveyor rectifies any possible deviations. The surveyor's visit is required by law, in accordance with Clause 26 of Income Tax Instructions (Accounting Management) – 1973. The certified surveyor must undergo a rigorous procedure in order to receive the necessary government-issued license, including a Bachelor's Degree in Mapping and Geo-Information from the Technion – Israel Institute of Technology, a two-year internship, and finally a government examination.

This method is applied in a consistent manner both in the baseline and in the project scenario, ensuring an accurate calculation of emission reductions.

We apologize if the initial validation report has been unclear and hope that this letter, and the attached information address the concerns of the members of the Board.

Nikunj Agarwal (+91 98717 94661) will be the contact person for the review process and is available to address questions from the Board during the consideration of the review in case the Executive Board wishes.

Yours sincerely

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Enclosures:

Annex 1: Process Flow Chart

Annex 2: Document for HFO Usage in plant