The Chair, CDM Executive Board

UNFCCC Secretariat

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February 9th, 2009

Dear CDM Executive Board,

Subject: Request for review of the request for registration for the CDM project activity "Bromine Compounds Fuel-Switch Project" (UNFCCC Ref. no. 2237)

SGS has been informed that the request for registration for the CDM project activity "Bromine Compounds Fuel-Switch Project" (UNFCCC Ref. no. 2237) is under consideration for review because three 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 clarification to the DOE/PP:

Request for Review Issues 1-3, Issue 1:

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 1:

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) HFO with NOx elimination technology (3) Fuel switch to natural gas, without the CDM component; (4) Fuel switch to natural gas with CDM; (5) Fuel switch to diesel. Option 1 was eliminated in Sub-step 1b. Consistency with mandatory applicable laws and regulations, as it does not quite meet Israel's ambient air quality standards for NO_x emissions.

Following Step 1, the PP applied Step 2: Barrier Analysis. In the context of this analysis, the PP supplied, and the SGS assessment team 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 States..

As can be seen in Section 7 (Document References) of the validation report submitted during the request for registration, the assessment team has reviewed all the supporting evidence and documents required to prove these barriers – training plans, implementation contracts, official state publications and Web sites, 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 (3) and (4) 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 long-term 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 Bromine Compound 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 (2) and (5), i.e. HFO with NOx elimination technology and diesel. In the context of this financial analysis, the DOE was presented with a price proposal from Lextran for the NOx elimination technology. This analysis was supported by a robust and conclusive sensitivity analysis, demonstrating that HFO with NOx elimination technology is indeed more financially attractive than diesel and is therefore the baseline scenario.

Request for Review Issues 1-3, Issue 2:

The PP/DOE should clarify the project start date as per the CDM Glossary of Terms, as it appears that investment was already committed before March 2008 for staff training, retrofitting of the boilers and installation of gas infrastructure.

SGS' Response to Issue 2:

As per EB 41 para 67 *"the start date shall be considered to be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity. This, for example, can be the date on which contracts have been signed for equipment or construction/operation services required for the project activity. Minor pre-project expenses, e.g. the contracting of services /payment of fees for feasibility studies or preliminary surveys, should not be considered in the determination of the start date as they do not necessarily indicate the commencement of implementation of the project. For those project activities which do not require construction or significant pre-project implementation (e.g. light bulb replacement) the start date is to be considered the date when real action occurs. In the context of the above definition, pre-project planning is not considered "real action".* In light of the above definition and clarification, the project start date is March 25, 2008, which is the date on which Bromine Compounds signed the gas supply contract. Prior to this date, Bromine was involved in pre-project planning, and had yet to commit to expenditures related to the implementation of the project activity.

The implementation of the natural gas fuel switch involved three major components – the signing of a gas supply contract, the retrofit of the boilers and the installation of the natural gas infrastructure, and the implementation of an extensive training program.

Due to the significant uncertainty in natural gas supply, the plant waited until at least a short- and medium-term gas supply was secured prior to deciding to implement the project and committing to the expenditures that it entails. Therefore, it was only on 30th March 2008, subsequent to a gas supply contract being signed on 25th March 2008, that a contract for the retrofit of the boilers was signed (Annex 1). Furthermore, contract negotiations on the installation of the natural gas infrastructure are still ongoing, and this contract has yet to be signed. A contract for Shalhevet's services in training Bromine Compounds staff was indeed signed in May 2007. However, as can clearly be seen from the Section 7 of the contract signed with Shalhevet (Annex 2 – with English translation of relevant parts), Bromine Compounds was entitled to cancel the contract at any stage, without being required to pay for the services that were not rendered. This demonstrates that at the time the contract was signed, Bromine Compounds was unsure as to whether the training program would

actually be implemented. (Please note: For the purposes of efficiency, all business agreements with Shalhevet concerning the five separate ICL fuel switch projects were conducted by Dead Sea Works Ltd. on behalf of all five separate plants, as can clearly be seen by the contract.)As can be seen from the contract, the services were divided into three stages. The first stage, titled "Identification of Requirements and Program Planning", involved conducting an assessment of the staff's job descriptions and existing knowledge and training, coupled with an assessment of what would be required of the staff to operate and maintain the natural gas system, in order to identify the issues that the training must address. The second stage, titled "Development of Teaching Methods", involved the addition of the required teaching aides in order to complete the planning of the training program.

Together, the first two stages involve identifying what training is required and designing a program to meet this need, while the implementation of the training program is reserved for the third and final stage. These two stages, which clearly fall under the definition "pre-project planning", were the only stages actually completed and paid for prior to March 2008, as can be seen from the invoice dated 31st January 2008 and included as Annex 3. Approval and implementation of stage three, "Implementation of Training Program", was postponed until after a gas contract was signed in March 2008, as can been from the invoice dated 31st May 2008 and included in Annex 3.

Due to the uncertainty of gas supply, the Bromine Compounds plant waited until after a short- and medium-term supply of natural gas was secured prior to committing to the major expenses entailed by the fuel switch project. Only subsequent to the signing of a supply contract with Yam Tethys on 25th March 2008 did the plant approve implementation of the staff training program and proceed with contracts to retrofit the boilers and install the natural gas infrastructure. It is therefore clear, given the definitions and instructions provided by the EB, that 25th March 2008 is in fact the appropriate starting date of the project activity.

Request for Review Issues 1-3, Issue 3:

The DOE should validate that ex-ante emissions calculations, based on the current practice, are applicable to the baseline scenario, which is not yet implemented.

SGS' Response to Issue 3:

Baseline emissions were calculated based on the current practice, i.e. historic emissions from the use of HFO at the Bromine Compounds plant. The DOE has validated, that this provides an appropriate calculation of emissions in the baseline scenario, i.e, the use of HFO with NO_x elimination technology. This is due to the fact that the installation of the NOx elimination technology would not have affected GHG emissions.

In the baseline scenario, the plant would have continued to use the same fuel and the same equipment, but would have installed NO_x elimination technology developed by Lextran Flue Gas Solutions. The DOE has been presented with an official Lextran publication detailing its NOx elimination technology, which has been included as Annex 4. The technology utilizes patented processes to oxidize NOx to form complexes with a liquid catalyst. Flue gases from the boilers are directed to a scrubber, where they meet a circulating solution containing the catalyst. Oxidation of NOx is carried out utilizing oxygen in the flue gas and added hydrogen peroxide. The complex is then absorbed and neutralized in the scrubber. Flue gases exit the scrubber to the emission stack. The solution in the scrubber is split into two streams: one returning solution to the scrubber for circulation, and the second stream for decantation of solution, which includes filtration, phase separation, partial return of solution to the scrubber (non-reactive catalyst), and removal (salts formed with NOx).

As the technology is installed on the flue gas exhaust system, it does not impact the efficiency of the boilers in any way. Therefore, the installation of NOx elimination technology would not have impacted HFO consumption, and actual HFO consumed in the baseline scenario per TJ of energy produced would have been identical to the quantity of HFO required to produce one TJ of energy in the current practice.

According to this publication, "The Lextran DeSOx + DeNOx + DeHg technology is a unique, patented 3 in 1 gas cleaning technology using a wet scrubber & employing the Lextran liquid catalyst in a water emulsion, to treat SOx, NOx and Mercury. These 3 major pollutants are purged in one wet scrubber."

The publication further states that the technology leads to an "Almost complete removal of SOx", "Up to 70% removal of NOx", and an "Almost complete removal of Mercury." As can be seen from this publication, the technology does not impact emissions of greenhouse gases. Therefore, although the baseline scenario is the installation of NOx removal technology on the existing energy-generation equipment, this technology has no impact on the efficiency of the equipment or on the emissions of greenhouse gases, and therefore the DOE has validated that the calculation of baseline emissions based on historic emissions is in fact the most accurate and conservative way to do so.

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: Retrofitting Equipment Contract

Annex 2: Training Contract (Shalhevet)

Annex 3: Shalhevet Invoices

Annex 4: Lextran Presentation