Mr. Rajesh Kumar Sethi
Chair, CDM Executive Board
UNFCCC Secretariat
CDMinfo@unfccc.int

August 19th, 2008

Re: Initial response to the request for review for the CDM project activity "Fuel Switching Project of the Aqaba Thermal Power Station" (UN1758).

Dear Mr. Rajesh Kumar Sethi,

SGS has been informed that the request for registration for the CDM project activity "Fuel Switching Project of the Aqaba Thermal Power Station" (UN1758) is under consideration for review because three (3) requests for review have been received from members of the Board.

The requests for review are based on the same reasons outlined below. SGS would like to provide an initial response to the issues raised by the request for review:

1. The DOE is requested to confirm how it has been validated that the decision to commit funds to this project activity was taken prior to the knowledge of reduced supply of subsidized HFO from Iraq, in order to confirm that the CDM was considered in the investment decision and that the input values used in the investment analysis comply with the requirements of paragraph 6 of the Guidance on the assessment of investment analysis.

SGS's Response:

As described in section B.4 of the PDD version 05 submitted during request for registration, the planning phase for reducing greenhouse gas emissions at ATPS (Aqaba Thermal Power Station) goes back as far as 1995, and in 2001 the feasibility of a fuel switch project at ATPS as a means to reduce emissions was assessed; this was validated and accepted during validation by DOE. The decision-making process regarding proceeding with the project activity included assessing environmental and economic considerations. The final decision to perform the fuel switch was made in January 2002, when the Board of the Central Electricity Generation Company (CEGCO) awarded the contract (to perform the technical modification of the boilers) to a consortium of Alstom and MAG Engineers.[1]

In 2001 - 2002, when the decision about proceeding with the project was being made, CEGCO could not have foreseen a reduction of subsidized HFO supply from Iraq due to the following facts:

- Since 1983, including 1991 (the first Gulf War) and every year thereafter (even during the international sanction years on Iraq), Iraq has continuously supplied oil at preferential rates to Jordan under an oil supply agreement. This agreement did not fall under the UN "Oil-for-Food Program", and the oil supply to Jordan was therefore not affected by any UN decisions or sanctions prior to the 2003 U.S. Invasion.[2] There was no end date to the agreement and the terms were further re-enforced by

[1] See: Letter of Award to Alstom/MAG from CEGCO's Chairman, dated 9/1/2002 and provided in Annexure 1.
[2] See: Jordan Times, dated 7/1/1999 (http://www.jordanembassyus.org/010799004.htm) and provided in Annexure 2.

the signing of a bilateral trade agreement for the supply of 4.04 million tons of oil[3] (for 2003) from Iraq to Jordan in November 2002 (with supply quantities specified for each month of 2003). As CEGCO was a fully state-owned company until 2007[4], it relied on official bilateral government agreements for its decision making, and was fully aware that the supply agreement was a continuous arrangement in place, and that oil would continue to be provided at a discounted rate.

- In December 2001, Iraq and Jordan agreed to build a crude oil pipeline[5] connecting the two countries. The intent of this long-term investment indicated that there was no plan to change the oil agreement between the two countries, since a pipeline would have made the transportation of oil (which was transported via road on tanker fleets) much easier, and potentially could have further reduced costs associated with the oil transport.

As per paragraph 6 of the latest EB guidance on the assessment of investment analysis (which was published May 16th, 2008 *after* the project's submission for registration on March 31st, 2008), the input values for the investment analysis (investment costs and NG price) which were not taken at the time of the investment decision, have been amended to reflect estimated costs at the time of decision making (January 2002). The new versions of the PDD and the NPV calculator have been updated to reflect these changes:

Investment requirements and costs for Alternative 2, switch to natural gas (NG) (in currencies provided):

- Costs for the boiler conversion: € 15,050,000 + JD 3,460,000 for the conversion of 5 boilers to NG firing, plus € 590,000 for spare parts.[6]
- Costs for the NG Pressure Reduction Station: US $ 390,000[7]
- Estimated NG price for NG delivered by Egypt to Jordan via submarine pipeline: US $ 2.15 US / MMBTU[8]

The NPV for the Heavy Fuel Oil (HFO) scenario is unaffected, and the NPV for the Natural Gas (NG) scenario is marginally affected. The outcome of Step 3 (in Section B.4. of the PDD) 'Identification of the Baseline Scenario' is therefore also unaffected, as it can be demonstrated that the NG scenario clearly remains the less economically attractive scenario as compared to the HFO scenario.

[3] The Oil Protocol and general Trade Protocol were negotiated at the Oil Marketing Company in Baghdad during 19-21/11/2002, between the Iraqi Oil Minister and the Jordanian Minister of Energy and Minerals. The result of the negotiation was that Iraq and Jordan signed a bilateral trade agreement resulting in a US $300 million grant (in the form of oil and its derivatives) from Iraq to Jordan for the year 2003. This amount was to be deducted monthly (as US $25 million) from the oil/derivatives sent to Jordan. The agreed supply was 4.04 million tons (+/-10%) of oil/derivatives from Iraq to Jordan for 2003 delivery. The prices for these shipments were highly favourable for Jordan - it was agreed that Jordan receive a discount of US $0.95/barrel on Basra crude oil, plus a further 40% discount on any amount over $20/barrel should world market prices exceed US $20/barrel. Furthermore Jordan was awarded a "special reduction" which is not further elaborated on in the trade protocol.
See: https://www.cia.gov/library/reports/general-reports-1/iraq_wmd_2004/chap2_annxA.html which is provided in Annexure 2.

[4] See CEGCO business information as of 2004: http://www.zawya.com/cm/profile.cfm/cid1000162 a copy of which is provided in Annexure 2.

[5] See: Jordan Times, dated 28-29/12/2001 (http://www.jordanembassyus.org/12282001004.htm) and provided in Annex 2.

[6] See: Letter of Award to Alstom/MAG from CEGCO's Chairman, dated 9/1/2002 and provided in Annexure 1.

[7] See: Letter from East Gas Company to CEGCO dated 21/12/2003 provided in Annexure 4. Note that the cost for the gas pressure reduction station was not considered at time of decision, as the need for such a station was not know in 2002 when CEGCO still assumed that the gas would be delivered to ATPS at a suitable pressure. The cost of the NG pressure reduction station was excluded in the NPV analysis for conservativeness, as including it will only increase the NPV of the NG scenario.

[8] The expected price of natural gas at the time of decision making was confidential. Using the only publicly available data, the most conservative real tariff from 2003-2006 (from the CECGO 2006 Annual Report p.27) has been used. A letter from the Ministry of Energy and Mineral Resources (MEMR) confirming the confidentiality of the actual price paid, and the reasonableness of the price used in the NPV calculations is attached in Annexure 4.

Net Present Value (NPV) [$ US]	NPV new PDD version 6[9]	NPV PDD version 5
NG scenario	579,168,861	563,124,122
HFO scenario	737,698,942	737,698,942

The sensitivity analysis has also been updated in the PDD, and confirms the result of the investment comparison analysis, even when significant parameters are altered.

Therefore, fuelling ATPS with HFO is identified as the baseline scenario for the proposed CDM project, and the project remains additional.

2. The PP and DOE are requested to provide further details on the current operational status of the three other power plants, which were fired by HFO only in 2002.

SGS's & Project Proponent's Response:

As per PDD version 5 dated 18th February 2008 table B.5.1, there were only 3 power plants in Jordan which were using HFO only as fuel for power generation. The table below provides current operational status for these three power plants.

Power plant	Current status
Hussein (396 MW)	2008 HFO only[10]
Fertilizer Company (44 MW)	2008 HFO only [11]
Indo-Jordan Company (12 MW)	2008 Waste Heat Recovery (or Diesel)[12]

It is therefore demonstrated that these three facilities which were running on HFO at the time of the ATPS fuel switch have not made a fuel switch to NG, and therefore that fuel switching to NG is clearly not common practice in Jordan.

3. The DOE is requested to explain how the methodological choices related to the efficiency of the pre-project power plant and the default value for fugitive emissions from natural gas have been validated.

SGS's Response:

As per ACM0011, determining the energy efficiency for the project in the baseline scenario may be done via measurements or the use of manufacturer's specification of efficiency at optimum load. In accordance with the methodology, the option of measurement of the efficiency of the pre-project power plant over the entire year of 2002 was selected. The methodology requires that all measurements be conducted at a range of load factors (or operation mode) that is representative of the situation during the project activity, and that measurements are carried out following national or international standards. For the project activity, the measurement was carried out during operation of the power plant over the entire year, hence covering the range of loads that are likely to be met during the project activity (operation mode). The net electricity generated ('sent- out' in the report), and quantity of fuel used, were measured by the same equipment that is used during the project activity, in accordance with national regulations and standards.

[9] See: Annexure 3 ATPS Jordan NPV calculator
[10] See: CEGCO statement/letter of 11/8/08 (provided in Annexure 5).
[11] This has been confirmed by Jordan Phosphate Mines Co. Ltd. Fertilizer Complex in writing on the 12/8/2008 (provided in Annexure 5).
[12] It has been verbally confirmed 14/8/08 by EcoSecurities with Mr. S. Subbiah, Managing Director, Indo-Jordan Chemicals Company Ltd., that waste heat is used for power generation (with Diesel as emergency backup). A letter from the company is provided in Annexure 5.

The results are presented by the CEGCO Technical Planning Department in the "Production Efficiency & Cost Analysis performance Indices Jan-Dec 2002" report[13].

The NG supplied to ATPS originates in Egypt at the Mediterranean El Arish Terminal, and is transported approximately 250 km by pipeline to the Taba Area before crossing 14.8 km under the Gulf of Aqaba to ATPS; this pipeline was constructed in 2003.

Supporting documents show that the following American or European Standards were adopted for the onshore and submarine sections of the pipeline[14]: DNV Standard: OS-F101, OSS-30: ASME: B31.3, B 31.8, B 16.20, ASME/ANSI B16.5, B.16.47, ASTM A105, A694, MSS-SP 75, DIN 30670, API 5L, API 6D, API 598, API 6FA.

It is therefore demonstrated that the NG transmission system is of recent vintage and built and operated to these high international standards.

Furthermore the Egyptian Natural Gas Holding company (EGAS) [responsible for the gas distribution within Egypt], and Belayim Petroleum Company (Petrobel/Eni) [the gas exploration and production company in Egypt], have obtained certifications which demonstrate that they are operated to high international standards.[15]

Therefore, as per guidance on fugitive CH_4 emissions in ACM0011 v1 (p. 11), American/Canadian default values for fugitive CH_4 emissions were adopted.

4. In accordance with AM_CAL_0058 the installed capacity of the project plant should be tested annually. Therefore the monitoring plan requires correction to comply with this.

SGS's Response:

The PDD and Monitoring Plan have been amended to reflect the requirements of AM_CAL_0058. The revised versions of the PDD and validation report[16] are submitted with this response.

5. The DOE shall explain to the Executive Board the reasons why it has not raised a corrective action request regarding the proposal to monitor this parameters once per crediting period.

SGS's Response:

The PDD version 5 submitted for request for registration mentions that the power plant capacity will be checked once during every crediting period, but as per AM_CAL_0058 this period should be every year. This has been corrected in the revised PDD and validation report. This was inadvertently overlooked during finalisation of the validation report, although SGS has taken a clarification for the same.

We feel that the clarification sought by Board members has been taken into account. We do however apologize if this was not sufficiently clear from the earlier validation report.

[13] See full report as provided in Annexure 6.
[14] See DNV Statement of Compliance dated 23/6/2003, Enppi gas pipeline design document for onshore gas pipeline dated 12/5/2002, and letter from Fajr company dated 31/10/2007. These documents are provided in Annexure 7.
[15] EGAS has obtained: ISO 14001; Petrobel/Eni has obtained ISO 14001. Both companies have obtained OHSAS 18001. Standards can be accessed on http://www.egas.com.eg/docs/corporate_Environment_news.htm# and http://www.eni-irl.com/downloads/Eni%20in%20Egypt.pdf
[16] See Annexures 8 and 9

Vikrant Badve (+91 98603 65556) 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

1. Annexure 1 – Letter of Award to Alstom and MAG from CEGCO
2. Annexure 2 – Trade Protocol
3. Annexure 3 – ATPS Jordan NPV calculator
4. Annexure 4 – Letter reg. the NG pricing
5. Annexure 5 – Current operational status for 3 power plants
6. Annexure 6 – Production Efficiency & Cost Analysis performance Indices Jan-Dec 2002" report
7. Annexure 7 – Supporting to default value of fugitive CH_4 emissions
8. Annexure 8 – CDM PDD UN1758_ver6
9. Annexure 9 – Revised UK AR6 CDM.VAL1005IN01