VALIDATION REPORT

EcoSecurities Group Plc.

FUEL SWITCHING PROJECT OF THE AQABA THERMAL POWER STATION

(ATPS)

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Summary:

SGS India Pvt. Ltd., an affiliate of SGS United Kingdom Ltd. has made a validation of the CDM project activity "Fuel Switching Project of the Aqaba Thermal Power Station (ATPS)", on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria. The project falls under large scale category and scope 1. Energy Industries (Renewable/ Non-renewable sources).

The scope of validation is the independent and objective review of the project design document, baseline study and monitoring plan and other relevant document of the project. The information in this document is reviewed against the criteria defined in the Marrakech Accords (Decision 17) and the Kyoto Protocol (Article 12) and subsequent guidance from the CDM Executive Board.

The overall validation process, from Contract Review to Validation Report & Opinion, was conducted using internal procedures (UK.PP.12 issue 3 dated 19/01/2007).

The first output of the validation process is a list of Corrective Actions Requests and New Information Requests (CAR and NIR), presented in Annex 3 of this document. Taking into account this output, the project proponent revised its project design document.

In summary, it is SGS's opinion that the proposed CDM project activity correctly applies the baseline and monitoring methodology as mentioned in approved methodology adopted for the proposed project activity and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Subject:		**Indexing Terms**
CDM validation		
Team Members:		
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Abbreviations

ATPS	Aqaba Thermal Power Station
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEGCO	Central Electricity Generating Company
CER	Certified Emission Reductions
CO2	Carbon Dioxide
COP/MOP	Conference of parties serving as the meeting of parties to Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EIA	Environment Impact Assessment
GHG	Green House Gas(es)
GWh	Giga watt hour
HFO	Heavy Fuel Oil
I	Interview
IPCC	Intergovernmental Panel on Climate Change
ISHC	International Stakeholder Consultation
kWh	Kilo watt hour
MNES	Ministry of Non Conventional Energy Sources
MoEF	Ministry of Environment and Forest
MoV	Means of Verification
MP	Monitoring Plan
MW	Mega Watt
MT	Metric Tonne
NIR	New Information Request
NG	Natural Gas
NGO	Non Government Organisation
NOC	No Objection Certificate
PAPP	Project Activity Power Plant
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change

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1 Introduction

1.1 Objective

EcoSecurities Group Plc. has commissioned SGS to perform the validation of the project: "Fuel Switching Project of the Aqaba Thermal Power Station (ATPS)" with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

1.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 GHG Project Description

Project Description:

The 650 MW Aqaba thermal power station has 5 number of 130 MW boilers. Boiler 1 and 2 are in operation since 1986 while boiler 3, 4 and 5 are in operation since 1998. All the 5 boilers are using HFO as fuel when they got commissioned in respective years as mentioned above. In year 2001-2002, CEGCO (Central Electricity Generation Company) which operates ATPS decided for fuel switch from HFO to NG. The proposed project activity thus reduces GHG emissions that would have been occurred in the baseline scenario. The project activity involves modifications in the boiler and its components which are necessary for the fuel switch, and constitute; Addition of NG burners; testing of boilers; and fuel delivery system only. The modified units were synchronised with the national grid between August 2003 and April 2004.

Baseline Scenario:

The ATPS boilers if not converted would have been kept using HFO as fuel for power generation. Thus there will be more GHG emission compared to the project scenario as HFO is more carbon intensive fuel than NG.

With Project Scenario:

The ATPS boilers after fuel switch use NG as fuel for generating electricity. Since NG is less carbon intensive fuel the project activity is reducing the GHG emission from the project activity.

Leakage:

Leakage was considered for the project activity as mentioned in approved consolidated methodology ACM0011 version 01 which is used for the proposed CDM project activity. The leakage calculations were further checked with the excel sheet giving emission reductions calculations and with the revised PDD submitted with this report.

Environmental & Social Impacts:

The environmental and social impacts because of the project activity were checked during the site visit by the local assessor. The only negative impact from the project activity is the construction of NG pipeline from Egypt which was not purely built for ATPS gas conversion but is the first part of a gas distribution network.

But since this Pipeline has been constructed, maintained, and operated to the highest American standards and consequently has little negative environmental impact, both visually and in practice. Besides this project activity reduces GHG emissions that were there when HFO was used in plant. The fuel switch reduces GHG emissions and helped to improve local surrounding environmental conditions.

1.4 The Names and Roles of the Validation Team Members

Name	***Role***
Vikrant Badve	*Lead Assessor*
Cornelis van den Berg	*Local Assessor*

Statement of Competence of team members are attached at Annex IV.

2 Methodology

2.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline. Additional information can be required to complete the validation, which may be obtained from public sources or through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). These may be undertaken by the local SGS affiliate. The results of this local assessment are summarized in Annex 1 to this report.

2.2 Use of the Validation Protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

1. it organises, details and clarifies the requirements the project is expected to meet; and
2. it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	***Means of Verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements are linked to checklist questions the project should meet.	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**Y**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **New Information Request (NIR)** is used when the validation team has identified a need for further clarification.*

The completed validation protocol for this project is attached as Annex 2 to this report

2.3 Findings

As an outcome of the validation process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **New Information Request (NIR)** specifying what additional information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR).** A CAR

is issued, where:

I. mistakes have been made with a direct influence on project results;

II. validation protocol requirements have not been met; or

III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

Observations may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

2.4 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

3 Determination Findings

3.1 Participation Requirements

The host Party for this project is Jordan while the Annex 1 party is United Kingdom of Great Britain and Northern Ireland. Jordan has ratified the Kyoto protocol on 17th January 2003 and United Kingdom of Great Britain and Northern Ireland has ratified the protocol on 31st May 2002. A Letter of Approval from DNA was not submitted by the project proponent. CAR (01) was raised asking project proponent to submit the Letter of approval from Host country DNA and from Annex 1 country DNA. Project proponent has received the Host country approval for the present project activity (Ref. 7.3.3817) on 1st July 2007. Project Proponent has identified United Kingdom of Great Britain and Northern Ireland as Annex 1 Participant country. The Letter of Approval from the Annex 1 country DNA for the project activity has been provided by the project participant (Ref. ESG/03/2008 dated 25th Jan. 2008). The letter of approval from Host Country and Annex 1 country were checked for the details like project activity name and project proponent's detail. These details are same as mentioned in revised PDD and thus acceptable. Hence CAR (01) is closed.

3.2 Baseline Selection and Additionality

The project has applied baseline as mentioned in the large scale methodology ACM0011 version 01 approved at EB32 for "Consolidated baseline methodology for fuel switching from coal and/or petroleum fuels to natural gas in existing power plants for electricity generation". The project activity is fuel switch activity and switches over from HFO to NG in existing power plant generating electricity and supplies it to national grid; thus fall under the category of ACM0011.

The ATPS power plant (i.e. project activity power plant (PAPP)) consists of 5 numbers of 130 MW capacity boilers and thus a total capacity of the power plant as 650 MW. The ATPS boilers were using HFO as fuel since they commissioned in year 1986 (boiler 1 and 2) and in year 1998 (boiler 3, 4 and 5). The revised PDD version 5 dated 18th February 2008 has followed the steps mentioned in ACM0011 version 01 for selection of baseline scenario for the project activity. The discussion on the selection of most likely scenario for the project activity was checked with the information provided during the site visit and document review and the same was found acceptable. Project proponent has selected following different baseline scenarios for the project activity;

Alternative 1: The proposed project activity undertaken without being registered as a CDM project activity

Alternative 2: Power generation using HFO, but technology measures other than what were used at ATPS before the fuel switch that could reduce the emissions intensity of electricity generation

Alternative 3: Power generation using energy sources other than that used in the project activity

Alternative 4: Power generation using HFO at ATPS i.e. the current practice before the fuel switch

Alternative 5: The "proposed project activity undertaken without being registered as a CDM project activity" undertaken at a later point in time.

The discussion under section B.4 of the PDD version 01 is not inline with the same mentioned in approved methodology as PDD does not discuss the outcome step 1a and 1b. CAR (11) was raised and project proponent was asked to mention the outcome of steps 1a and 1b. In response to CAR (11) project proponent has revised the PDD and mentioned the outcome of steps 1a and 1b; the same was found inline with the information provided during the site visit and also as per methodology requirement. Thus CAR (11) was closed.

The baseline alternative for the project activity is identified through the application of the steps mentioned in approved methodology ACM0011 version 01. The alternative 2, 3, and 5 were excluded for discussion on the baseline scenario since all the three alternatives face barriers as mentioned in PDD version 5 dated 18th February 2008. For alternative 2 there is an investment barrier as project proponent has to invest for the new technology which will increase the efficiency of the ATPS with HFO as fuel. For alternative 3 to come up project proponent need to use fuel other than NG. But for ATPS, theoretically, HFO and coal are the two options. HFO was used in baseline, it was checked that usage of coal is not an option because the plant has

not been designed to operate on coal and would need complete overhauling if it was to switch over to coal. This was accepted since ATPS uses liquid fuel i.e. HFO in baseline and coal is a solid fuel, hence a complete overhauling is not possible for practical reasons. .For alternative 5 there is an investment barrier as project proponent has to invest for fuel switch and NPV for the same without CDM incentive is less than NPV of baseline scenario (as alternative 1). Thus it was substantiated that alternatives 2, 3 and 5 are not baseline scenario for the project activity. Hence alternative 1 and alternative 4 remains for the further discussion of baseline scenario. The investment analysis was carried out show the most likely scenario for project activity. Project proponent has calculated NPV for alternative 1 (mentioned as NG scenario in PDD) and alternative 4 (mentioned as HFO scenario in PDD). The data and assumptions used for calculating the NPV in both the scenario was checked by the local assessor during site visit and checked against evidence like mentioned under reference no. 11 and 17 and also mentioned in footnotes in revised PDD; and found inline with the information mentioned in the PDD and thus accepted. The NPV for HFO scenario is calculated as 737,698,942 USD while for NG scenario it is 579,168,861USD. This clearly indicates that the HFO scenario i.e. alternative 4 is the most economical scenario for the project activity. Thus the claim alternative 4 as baseline scenario is accepted.

The project proponent has adopted the Investment analysis as main barrier along with common practice analysis to justify the additionality of the project activity. In order to get all the related documents on the basis of which the project additionality is discussed in PDD, CAR (02) was raised.

Project proponent has used version 03 of "Tool for the demonstration and assessment of additionality", approved at EB 29. The use of additionality tool version 03 was accepted by validator; as additionality tool version 04 was made public in EB36 and subsequently approved in EB 37. But the PDD for present project activity was made available on UNFCCC website for international stakeholders comment on 29th October 2007 i.e. before EB36 and thus present project can use version 03 of the additionality tool till 8 months from EB36.

Project proponent has submitted excel spreadsheet giving the detailed calculations for investment analysis for both the alternatives (i.e. NG and HFO scenario). The excel sheet giving investment analysis mentions the data and assumption used in the calculation of NPV. Evidence regarding the data and assumptions used for investment analysis was also mentioned on page 19 and on page 20 as footnote 15 which refers to Annual Reports of CEGCO Technical planning department giving efficiency of power plants in Jordan operating in 2002 and 2005. The efficiency of ATPS in baseline scenario was referred from this database and was used to calculate the per unit cost of generation for ATPS; also reference 11 which refers to the presentation on Cost Benefit Analysis of converting ATPS to NG from HFO. The presentation discusses in detail regarding the benefits, cost incurred and risks involved in the fuel switch project and reference 17 which refers to inputs from Jordan Energy Master plan for the fuel policy and forecast regarding fuel prices and availability; mentioned in section 7 of this report. All the evidences listed above were provided by the project proponent and are checked during the site visit and document review. The same were found acceptable as they are inline with the information provided in revised PDD and excel sheet. .Sensitivity analysis for project activity was done considering fluctuation (+10% to – 10%) in investment costs, fuel cost per unit of power production in both the scenarios. The result for sensitivity analysis shows that NPV for NG based scenario in each of the case is lower than the NPV of HFO scenario. This indicates that NG scenario is not a feasible scenario for the project activity.

Project proponent has mentioned in version 01 of PDD that project is first of it's kind in Jordan while mentioning the common practice analysis. When through CAR (02) project proponent was asked to substantiate the same then in response to that project proponent has revised the PDD and included extract from CEGCO report in 2005 (refer page 26 table B.5.1 of revised PDD) which mentions that ATPS is the first project which has opted for fuel switch while rest other projects are using the same fuel which was used when the particular projects were commissioned. The status of the power plants was recorded in 2002 (when ATPS fuel switching decision was taken) and in 2005 (1 year after the commissioning of fuel switch project). Also, it was checked from the CDM website http://cdm.unfccc.int/index.html; on 8th March 2008 that the project activity is first CDM project in Jordan. Thus the claim of first of it's kind was found correct and accepted.

The PDD version 01 mentions in detail regarding the chronology of decisions taken for ATPS fuel switch project. The chronology was further discussed during the site visit and document review. Project proponent has provided the evidence like discussions held with the project consultants, presentation on feasibility study by Arther D Little in November 2001and communication between (November and December 2001) CEGCO

and Ontario Power Generation, on behalf of the e7 group; provided a study to CEGCO demonstrating the CDM benefits for the fuel switch project. Project proponent has also provided communication between CEGCO and the then Ministry of Environment, Jordan regarding the fuel switch project at ATPS. A copy of Master plan for Energy sector in Jordan published in February 2002 was also referred for the CEGCO's fuel switch initiative and possible benefits from emission reductions. All these evidences are found acceptable after cross checking with the originals.

Thus all the information requested through CAR (02) was provided by the project participant and same was accepted by the validator CAR (02) was closed.

Thus based on the above discussions it can be concluded that the present project is additional and is itself not a baseline scenario.

3.3 Application of Baseline Methodology and Calculation of Emission Factors

The present project activity is a fuel switch from HFO to NG. The project has applied baseline methodology as mentioned in the large scale methodology ACM0011 version 01 approved at EB32 for "Consolidated baseline methodology for fuel switching from coal and/or petroleum fuels to natural gas in existing power plants for electricity generation" A clarification was sought from DOE as there is an inconsistency in the applicability criteria which on page 2 states that "The project activity does not result in a significant change in the capacity i.e. not more than +/- 5% of the installed capacity before implementation of the project activity." Thus applicability criterion is referring to the changes in the capacity only and it is not monitoring changes in electricity generation but on page 19 in Monitoring methodology section in ACM0011 version 01 the first parameter is referring to installed capacity and electricity generation and measurement procedure mentioned therein refers to the applicability criteria. Thus it appears that installed capacity and electricity generation must be remain within +/- 5% for the methodology to be applicable. DOE sought clarification to the Methodologies Panel to clarify if;

1. The applicability criteria is referring to installed capacity only or
2. Installed capacity and electricity generation need to be considered.

In response to this clarification the Methodologies Panel mentioned that ACM0011 was already revised to version 02 taking care of the above issue and also allowed DOE (SGS); through an email on 10/10/2007 to use version 01 of ACM0011 along with the clarification sought in this regard for present project activity. The email was referred under section 7 of this report.

The points mentioned under applicability criteria of methodology ACM0011 version 01 were checked during site visit and it was substantiated through the physical check and document review that ATPS provides electricity to Jordan national grid and uses only HFO (a petroleum fuel) before fuel switch. Plant records and CEGCO annual reports in 2002 to 2005 were checked to substantiate this. It was also checked through the Jordan national policy on Energy Sector that there are enough of resources of HFO available in the country and no regulation is enforced to reduce the usage of HFO or HFO generated electricity and encourage NG use in the country. Project proponent has provided a copy of regulations in this regard.

Also during site visit it was checked through the purchase order and technical specifications and physical look out at site that there is no other major modifications has been taken place at the ATPS which contribute to the emission reductions. It was confirmed through the plant records and authorisation from government that the installed capacity of ATPS has not been changed from 650 MW (i.e.130 MW x 5 Nos.) after fuel switch although the maximum steam output has been increased by 2.01% which is within limits of 5%. Fuel switch has also not resulted into increase in the lifetime of the boilers and design lifetime was considered for emission reduction calculations. For units1 and 2 the crediting period will end in 2016 starting from 2008 (as per design lifetime for units 1 and 2 will end in 2016) and for units 3,4, and 5 design lifetime will end in 2028 and hence crediting period will be considered upto 2018 starting from 2008.

Thus it was substantiated that the present project activity follows applicability criteria for ACM0011 version 01.

Project proponent has provided excel spreadsheet for calculation of baseline emission, project emissions as well as leakage for the project activity; section B.6 of the PDD mentioned the formula used for estimation of emission reductions from project activity. The section also mentions formula for estimation of baseline emissions, project emissions and leakage. The excel sheet giving the details about the estimation of emission reductions from project activity was checked for the traceability of data and assumptions used,

same was discussed during the site visit with the project proponent, all the data and assumptions were checked during document review and found correct. The amount of emission reductions mentioned in excel sheet is same as mentioned in the PDD under section A.2, A.4 and B.6. The formulae used are checked with approved methodology and found correct. It was not clear from the PDD and excel sheet whether project proponent used IPCC 1996 values or IPCC 2006 values. NIR (12) was raised and project proponent is asked to use IPCC 2006 default values for estimation of emissions reductions from the project activity. Project proponent has revised excel sheet and section A.4 and section B.6 of PDD. IPCC default values used in PDD and excel sheet were checked by the lead assessor and inline with the IPCC 2006 guidelines and thus NIR (12) is closed.

3.4 Application of Monitoring Methodology and Monitoring Plan

The present CDM project activity uses monitoring methodology ACM0011 version 01 approved at EB32 for "Consolidated baseline methodology for fuel switching from coal and/or petroleum fuels to natural gas in existing power plants for electricity generation".

The monitoring plan mentioned under section B.6 and B.7 of PDD version 01 had followed the monitoring methodology as described in ACM00011 version 01. Some points like QA/QC procedure to be followed for monitored parameter and project management planning were not clear in PDD. NIR (03) was raised and project proponent was asked to clarify the QA/QC procedure adopted at plant site for data monitoring and data reporting. In response to NIR (03) project proponent provided a copy of procedure laid at plant site for data monitoring and reporting which are followed at site. Also a copy of ISO 9001:2000 was provided by the project proponent during site visit. The copy of procedures and ISO certificate was checked during the site visit with the original and found accepted. Thus NIR (03) was closed. CAR (04) was raised as PDD version 01 remains silent on the project management planning issues. In response CAR (04) project proponent revised the PDD and included the relevant information like the authority and responsibility of project management, the authority and responsibility for registration, monitoring, measurement and reporting of the data, procedure identified for training of monitoring personnel, emergency preparedness for data monitoring, plan for Calibration of monitoring equipment, procedure for maintenance of monitoring equipment and installations, procedure for monitoring, measurements and reporting, performance evaluation procedure for project activity, procedure identified for dealing with possible monitoring data adjustments and uncertainties, procedure identified to review reported results/ data, procedure identified for internal audits of GHG project compliance with operational requirements, procedure identified for project performance reviews before data is submitted for verification, internally or externally at project site. The relevant information was included under section B.7.2 of the revised PDD which was inline with the information provided in response of CAR (04). Thus CAR (04) was closed.

During review of version 1 of the PDD it was found that project proponent was not clear on source of values used for parameters like EFHFO.BL (pg 31 of PDD version 01) , FF aux,diesel.y (pg36 of PDD version 01) & FF aux.HFO.y (pg37 of PDD version 01) & EF NG.y. (pg 38 of PDD version 01) and NIR (09) was raised and project proponent was asked to clarify the same. In response of NIR (09) project proponent clarified that EFHFO.BL is from baseline data and available on site. FF aux,diesel.y, and FF aux.HFO.y,. are measured and recorded at site during baseline and project scenario, while parameter EF NG.y is based on NG composition which is issued every day by the Al Fair pipeline company using gas chromatograph. The explanation was accepted as same was inline with the revised PDD and same was observed during site visit. Thus NIR (09) was closed.

Against reply to request for review comment PP corrected the monitoring plan stating that the installed capacity of the power plant will be checked every year instead of once in every crediting period.

3.5 Project Design

The Project Design Document (PDD) was designed as per version 3.1 of guidelines laid for preparing PDD for large scale CDM project activity hence the format of the present PDD was checked against it and same was found satisfactory. However there are some editorial issues like use of same terminology through out the PDD and clarification of the words like hazardous and pre-heating on page 44 of PDD, which project proponent needs to clarify and need to revise the PDD accordingly CAR (10) was raised for the same. In response to CAR (10) project proponent revised the PDD. The changes are acceptable to validator and inline with the response given for CAR (10). Thus CAR (10) was closed.

It was found that section C.1.1 of version 01 of the PDD indicated 01/01/2002 as project activity starting date; but during site visit project proponent has provided evidence in the form of a letter dated 28/2/2002 from CEGCO to the then "Environment Protection Agency" of the intent of doing the fuel switch as a CDM project. Based on this evidence project proponent was asked to change the starting date of project activity as 28/02/2002. The same was reflected in the revised PDD.

PDD version 01 section B.2 mentions that the designed operational lifetime of the project activity is 30 years from the date of commissioning i.e. boiler 1 and 2 will end its lifetime in 2016 while boiler 3, 4 and 5 will end the designed lifetime in 2028. Hence the last unit of project activity will end the lifetime in 2028 thus project proponent mentioned that expected operational lifetime of CDM project activity is 21 years from year 2008. This was found acceptable after reviewing the project technology details mentioned in the purchase order of the project activity component.

PDD version 01 remains silent whether Project technology will likely to be substituted by other or more efficient technologies within the project period or not. NIR (07) was raised for the same. In response to NIR (07) project proponent assured that project technology will not be substituted or replaced by more efficient technology during the crediting period. The same was discussed with project proponent and was accepted since the technology will enable them to fire both HFO and Natural Gas, with gas being the main source after the fuel switch. There is no reason or motivation to substitute it with other technologies. Thus NIR (07) was closed.

Project proponent in the PDD mentioned that project activity has not received any public funding from parties listed in Annex 1 and provided documentary evidence for supporting the same during the site v visit which was accepted after discussion with project participant. Thus claim of no ODA utilization for project activity is accepted.

NIR (08) was raised as PDD remains silent on the training requirement for the project activity as well as in regard of CDM data monitoring practice. In response to NIR (08) project proponent mentioned that Ecosecurities, one of the project participant trained the project staff for CDM aspects while technology supplier has given training regarding operation and maintenance of the project activity. Evidence regarding the same was provided by the project proponent and same were accepted after having a document review at project plant checking the evidences with the original documents at site. Thus NIR (08) was closed.

3.6 Environmental Impacts

PDD version 01 mentions that there is only one negative impact because of the project activity and that is construction of the gas pipe line from Egypt which was not purely built for ATPS gas conversion but is the first part of a gas distribution network.. Project proponent also mentioned that, the environmental impacts because of the gas pipe line construction were minimised to possible extent as the pipe line was constructed and maintained using high American standards. The PDD also mentioned summary of the environmental impacts of gas pipe line construction work. A copy of same was checked during the site visit and found inline with the information provided in the PDD and thus acceptable. NIR (05) was raised as PDD version 01 mentions that present CDM project does not require separate EIA but also does not provide any reference to this claim. In response of NIR (05) project proponent shown Jordan government rule 37 which regulates EIA process which mentions that no EIA is required for fuel switch project. The evidence was checked by the local assessor during site visit. Thus NIR (05) was closed and accepted that there is no such requirement for the project activity.

PDD version 01 mentions about the negative impacts of the project activity. NIR (06) was raised and project proponent was asked to provide the information in detail and also provide the evidence against the same. During site visit project proponent provided evidence against the negative impacts considered and also included the same description in the revised PDD which was found acceptable and inline with the information checked i.e. EIA report and feasibility study during the site visit.

3.7 Local Stakeholder Comments

The project activity involves fuel switch from HFO to NG as fuel in 650 MW thermal power station; the project proponent identified the local residents residing nearby the proposed project activity and local authorities as the local stakeholders for the project activity. Project proponent in version 01 of the PDD mentioned that the local stakeholders were informed about the project activity by advertising in a widely circulated Jordanian

daily newspaper “Al Ghad” on 04/09/2007; and circulating e-mail or fax of a similar letter to key Jordanian stakeholders (Local representatives and local authorities), also on 04/09/2007. A copy of the invitation published in Newspaper was also attached in PDD as Annex 5. The copy of the email and the letter in original and translated version was also provided to the validator during the site visit and same was found inline with content of Annex 5 of PDD.

Project proponent in section E.2 of PDD version 01 mentioned summary of local stakeholders’ comments received for the project activity. There were 2 comments received for the project activity from the local stakeholders through letter dated 19th September 2007 and email dated 20th September 2007. The authenticity of the letter and email provided under section E.2 of the PDD was checked during the site visit. Project proponent has submitted a copy of these evidences to the validator. This was accepted after cross checking the same with original letter and email. Section E.2 mentions a copy of letter and email send to local stakeholders giving reply to their comments and mentioning how the comment was taken into account by the project proponent. A copy of letter and email to the local stakeholder is provided to the validator during site visit which was checked with the content in PDD and found acceptable. Section E.3 of PDD gives a brief explanation about the due account taken for the local stakeholder comments. The reply to the local stakeholder comment was further checked during site visit and during document review. The claims made under section E.3 regarding the cooling water system and Gas agreement was checked during the site visit. It was also checked with the monitoring plan that diesel or HFO used in power plant as stand by fuel will be monitored for correct estimation of emissions reductions from project activity. Thus information provided under section E.3 was found acceptable.

4 Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

4.1 Description of How and When the PDD was Made Publicly Available

The PDD and the monitoring plan for this project were made available from 31st October 2007 to 29th November 2007 on the UNFCCC's web page which was linked to SGS website http://sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=370

Comments were invited through the UNFCCC CDM homepage.

4.2 Compilation of All Comments Received

The project was up loaded for International stakeholder consultation (ISHC) for a period of 30 days and received no comment. Also no adverse comment received during local stakeholder consultation.

4.3 Explanation of How Comments Have Been Taken into Account

No adverse comment was received for the project activity during the international stakeholder consultation.

5 Validation Opinion

SGS has performed a validation of the project: "Fuel Switching Project of the Aqaba Thermal Power Station (ATPS)". The Validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

Using a risk based approach, the review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by SGS for registration with the UNFCCC.

SGS has received confirmation by the host Party that the project activity assists it in achieving sustainable development.

Fuel switching from HFO to Natural Gas in 650 MW in ATPS will lead to displacement of carbon-intensive fuel like HFO by less carbon intensive fuel like NG and thus the project results in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the additionality tool involving investment barrier and barriers due to prevailing practice associated with project activity along with common practice analysis demonstrates that the proposed project activity was not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. The project is already in operation. The project will likely achieve the estimated annual average of emission reductions of 397,163 tCO_2e.

The validation is based on the information made available to SGS and the engagement conditions detailed in the report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence SGS can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

6 List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
18/12/2007	Xaver Kitzinger	CDM Consultant to the project activity	Baseline and additionality issue for the project activity
18/12/2007	Mark Ghorayeb	CDM Consultant to the project activity	Training and QA/QC procedure adopted at the project site
18/12/2007	Mohammad Nashwan	CDM Consultant to the project activity	Local stakeholder comments for the project activity

7 Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

/1/ Letter of Approval from Host Country (Ref. 7.3.3817 dated 1st July 2007)

/2/ Letter of Approval from Annex 1 Country (Ref. ESG/03/2008 dated 25th Jan. 2008)

/3/ Modalities of communication from project participants dated 22nd June 2007

/4/ PDD version 1 dated 29/10/2007

/5/ PDD version 2 dated 11/01/2008

/6/ PDD version 3 dated 21/01/2008

/7/ PDD version 4 dated 30/01/2008

/8/ PDD version 5 dated 18/02/2008

/9/ Excel sheet for emission reduction calculation

/10/ Excel sheet for financial analysis

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

/11/ Arther D Little presentation on Cost Benefit Analysis of Converting Aqaba Power Plant to Gas, dated November 2001

/12/ Emergency procedure for operating procedures

/13/ Natural Gas system operating procedure

/14/ ISO certificate for the ATPS

/15/ Translation of letter from CEGCO to Host Environment Ministry dated 28th Feb. 2002 (Document #: 1391/28/28/9)

/16/ Letter from Host Environment Ministry to CEGCO reg. go ahead for CDM project dated 13th September 2005

/17/ Master plan for Energy sector in Jordan

/18/ Statement on No use of ODA funding

/19/ Communication between CEGCO and Ontario Power Generation, on behalf of the e7 group in November and December 2001.

/20/ Clarification sought by SGS dated 29/09/2007 on issue of applicability of ACM0011 version 1 for project activity and reply from Chair, Meth panel dated 16/10/2007

/21/ Merz and McClellan Consulting Engineers: Aqaba Thermal Power Station Stage II Units 3 and 4 Environmental Impact Assessment, Volume I, Section 6, p.1

A.1 Annex 1: Local Assessment

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. To get copy Host Country Approval (HCA) letter from Project Proponent. To get the Letter of Approval from Annex 1 country.	PDD	DR	Copy of host country letter of Approval attached. Annex 1 country, UK still outstanding.	Pending	Y LoA from Host country and Annex 1 country are submitted and found acceptable, closure of CAR1
2. No ODA has been used for this project and to be confirmed during site visit.	PDD Annex 2	DR	Also refer to question 22 of this checklist. It was reafirmed that no ODA funding was used and that the project was entirely funded by internal sources. A formal statement in this regard is attached.	Y	Y
3. Invitation for Local Stakeholder Consultation meeting was sent to participate and communicate suggestions regarding the project activity. Documents are required to verify the same.	PDD	DR	The coppies of news paper adverts included in the PDD was verified on site with actual copies of the newspapers. Emails correspondence is available.	Y	Y
4. The regulatory approval (consent to establish and operate for the project) from the Government Authorities is required to to verify that local/legal requirements have been met.	PDD	DR	At the time of the project development there were no legislation in place. There was only a national environmental protection agency in place and two regulations that could regulate air polution. - Maximum allowable limits of air	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			polutants emmitend from statitory sources. JS 1189 : 1999 - Polutants – Ambiant Air quality Standards. JS 1140 : 1999. The late King Husain has emphisized the improvement of the general environmental condition of the Aqaba rigion, and as a result thereoff ASEZA (Aqaba Special Economic Zoning Authority) was formed That had authority to propose or opose such developments. They were involved as stakeholders throughout the development of the project.		
5. Local stakeholders' comments are required to be verified for any adverse comment. MoM of stakeholder consultation meeting Due account of stakeholder comments received required to be verified.	PDD	DR	No public meeting was held. The company and the project participants was in direct contact with the major interested and affected parties. Public stakeholder coments were received from only two parties and was addressed individually. Correspondence included in PDD.	Y	Y
6. Project design engineering documents from the technology supplier are required to be checked. Copy of offer made/ specifications given by technology supplier.	PDD	DR	The technology was already installed at the time of the site visit. The supplying company "Alsrom Power Boilers and MAG Engineering Contracting" Provided CEGCO with all the manuals needed for technical maintenance and operation of the installed technology, including the design Specifications. It consisst of several manuals.	Y	Y
7. It is required to be checked whether the project technology used is likely to be substituted by other or more efficient	PDD	DR	Appart form normal repairs that may be required, The technology is the latest technology in use. The technology also	NIR 7	Y NIR 7

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
technologies within the project period.			does not improve the capacity of the plant and there would be no reason to substitute it within the project period.		closed
8. EIA report for the project activity (if applicable) or evidence for no EIA requirement.	PDD	DR	The Ministry of Environment was only formed in 2003 and the law 37 that regulates the EIA process was promulgated in 2005. Even under current legislation no EIA would be required by law for this project as it is minor modifications to existing plants. Some form of EIA studies were undertaken prior to legislative requiements. E.g. the development of units 3 & 4 was preceded by an impact assessment as early as 1995. (See footnotes 4 & 25)	Y	Y
9. The monitoring plan required to be checked.	PDD	DR	Description of the archhiving of data and the management and training require some clarification. The montoring plan was updated in version 5 of the PDD. Both cars 4 & 9 were closed out.	Pending CAR 4 & 9 Y	Y CAR 4 and 9 closed
10. All the calibration certificates are required to be checked.	PDD	DR	Coppies of calibration certificates still outstanding. Gas: 2 x inline flow meters Type Q sonic SPU 4 Serial nos: 3097 & 3098. 1 x Gas analyser Type Elstar Encal 3000 Serial no:60500201. The gas meters are managed by the gas suplying company and used to invoice CEGCO. These meters are included in the monitoring of the project. There is another	Pending	Y Calibration certificates are submitted by the project proponent and same will be

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			meter operated by CEGCO only to cross check the invoices that is not included in the project monitoring and for wich calibration is not neccessary. It is not used in any CER calculations. Electricity: 5 x meters metering the electricity delivered to the grid – Not calibrated. HFO: Dipstics – Not calibrated. Weigh bridge – calibrated.		further checked during verification as well.
11. Evidence for CDM consideration for the project activity.	PDD	DR Interview.	The project has a long history dating back tot he late '90s and was first agreed to be registered under the "Activity Implemented Jointly" (AIJ) scheme that was a precursor tot he CDM program. Evidence was provided in the form of a letter dated 28/2/2002 from CEGCO to the then "Environment Protection Agency" of the intent of doing the fuel switch as a CDM project. The Environment Protection Agency would later become the Ministry of Environment under wich the DNA was established.	Local assessor has asked PP to change the project considerati on date as 28/02/2002 Correction pending	Y Revised PDD section C.1.1.ment ions 28/02/2002 as start date of project activity
12. Quality Assurance (QA) and Quality Control (QC)	PDD	DR	The plant is a certified ISO 9001 operation. (Certificate attached) Quality control and	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
procedures for data monitoring.			asurance procedures are captured in the ISO system as part of the management system. Documents are lengthy so only cover page and index were translated and attached.		
13. Evidence against the claim that the project activity does not result in a significant change in the capacity or efficiency of the project activity.	PDD	DR	The capasity of the power plant is determined by the boiler capacity and the generator output. The generators were not changed during the project and electricity output remained the same. The boiler capacity did not change during the project. Only the burners and the fuel source changed, resulting in a slight efficiency reduction but with unchanged capacity. See boiler capacity tests attached.	Y	Y
14. Feasibility study for the project activity.	PDD	DR	A feasibility study was done in 2001 by a consultant. ADL (Ltd) It was done prior to the Gulf war and using information available at the time.	Y	Y
15. Financial analysis and sensitivity analysis for the project activity.	PDD	DR	Included in the feasibility stydy of 2001 by ADL (Ltd)	Y	Y
16. Feasibility study to assess the financial viability of a fuel switch.	PDD	DR	Included in the feasibility stydy of 2001 by ADL (Ltd)	Y	Y
17. Evidence against the barriers (investment and other) mentioned in the PDD.	PDD	DR	The boilers and generators are determining the plant efficiency. Both having a lifspan exceeding the crediting period. They are already running at optimum efficiency and no investment would be needed to improve that. Fuel prices were fixed before the war when the project was decided. Master plan for energy sector attached. Other bariers	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			includes the availability of fuel witch is limited to HFO and Gas only.		
18. Documentary evidence for the claim of first and only one of its kind of project in Jordan.	PDD	DR	The UNFCCC website is evidence that there is only one project listed in Jordan. There is another fuel switch at the Rehab power station from Diesel to NG in 2006, but it is not a CDM project and it has taken place after the Aqaba project.	Y	Y
19. Calculation spreadsheet for baseline and project emission reductions and leakage during project crediting period.	PDD	DR	Calculation spreadsheet attached.	Y	Y
20. Training module / material used during training programme for the employees.	PDD	DR	Training mauals forms part of the ISO 9001 management System. The company has been certified since October 2005. Training was done on various aspects of the system. Training material forms part of the operating procedures and is available in Arabic. Procedures for the Natural Gas System and the Emergency Procedures was sampled and only the cover page and some of the issues in the index were translated. These are attached.	Y	Y
21. Modalities of communication		DR	Modalities of communication still awaited.	Pending	Y Modalities of comunicati on attached.
22. Verify the relationship between the project and the document on the internet that refer to Japan's involvement in the development of the project in relation to:	Website	DR Interview	Japan was involved in the initial development of boilers 3, 4 & 5 when they were installed in 1998. It was a totaly different project and at that stage ODA funding was used. The boilers were	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
- Japan's involvement - The development as a duel-firing system. - The use of ODA funding.			designed to be duel fired but because the powerstation only used HFO at that stage, technology to fire NG was not fitted. Boiler 3 had problems after instalation which was fixed immidiately. However, negotiations regarding payment continued and the project was not signed off until agreement was reached in 2003. Although in operation since 1998, The project was only officialy clossed in 2003 and therefore the report date of 2003 on the internet. The current CDM project is for the fitting of the NG burners and auxilaries and has no relation to the initial project.		
23. Check acuracy and reliability of information given in the PDD.	PDD	DR	PDD give an acurate reflection of the project. Annexure 9 Not relevant to the project as it is not an EIA for the specific project.	Y	Y
24. Excel spreadsheet for the calculation of baseline emission factor and baseline emissions to be provided by the Project Proponent.	Spreadsheet	DR	Spreadsheet attached.	Y	Y
25. Excel spreadsheet for the calculation of project emissions to be provided by the Project Proponent	Spreadsheet	DR	Spreadsheet mentioned in 24 above contain both the baseline and project emmisions.	Y	Y
26. Excel spreadsheet for the calculation of leakage to be provided by the Project Proponent. 27. Evidence against leakage needs to be checked during site visit.	Spreadsheet	DR	Leakage covered in spreadsheet. Leakage adressed as per Methodology.	Y	Y
28. The PDD discuss in detail about the baseline scenario for the project activity. Evidence is required to provide against	PDD	DR	At the time when project was initiated HFO was the only option and the status quo the	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
the discussion of most attractive baseline scenario. 29. The baseline selection will be further checked during the site visit.			most attractive baseline scenario. Gas only become a viable option after the Gulf war.		
30. PDD section B.7.2 provides monitoring of the parameters required for calculation of project emissions. Monitoring plan will further checked during the site visit.	PDD	DR	Certain aspects of the archiving of documents are not clear. Training requirements and the management not clearly spelled out. Changes were included in the ned version 5 of the PDD and training attendance register is attached. Both cars were closed out. See Annex 3.	Pending CAR 4 & NIR 9 Y	Y CAR4 and 9 are closed Y
31. Yes, PDD contain sufficient information about the environmental impact assessment ; same needs to be substantiated during the site visit.	PDD Physical site	Site visit DR	Impacts were all positive.	Y	Y
32. No transboundary environmental impact identified from project activity. To be verified during site visit.	Site visit.	Site visit	The NG pipeline is done for a large scale supply to Jordan and Syria in the North and would have taken place regardless of the project activity or not. The negative impacts were associated with the pipeline. There were no negative impacts identified for the project activity. The positive impacts will have transboundary effect as it contribute to improved air quality of the larger bay area.	Y	Y
33. The project participant has consulted the local stakeholders as a requirement for CDM project. Documentary evidence needs to be provided.	PDD	DR	Included in Annexure 5 of PDD	Y	Y
34. The PDD section E.2 provided letters from some of the	PDD	DR Interview	Included in PDD and available on file.	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
local stakeholders giving the comments and their opinion on the project activity. Evidence for the same needs to be provided.					
35. PDD section E.3 mentions responses by the project for the local stakeholder comments. Evidence for the same needs to be provided.	PDD	DR Interview	Evidence of the letters and correspondence with stakeholders is included in the PDD.	Y	Y
36. The project reflects current good practice for project design engineering. Same will be checked during the site visit.	Site	Site visit.	The project involess the installation of of NG pipelines from the gas station outside to the burners of the boilers and the change of burners and the pipes and valves involved to accommodate both types of fuel. The burners can only burn one fuel type at any one time.	Y	Y
37. As per PDD section A.4.3; the project activity does not uses state of the art technology. Evidence will be required to provide for the technical specifications of the project activity.	PDD	DR	See cloeout of NIR 7. and the letter attached. Equipment comply with the technical requirements of the plant.	Y	Y

A.2 Annex 2: Validation Protocol

Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

REQUIREMENT	Ref	MoV	Comment	Draft finding	Concl
1.1 The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	PDD	DR	Project will assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3. Project proponent has identified United Kingdom of Great Britain and Northern Ireland as Annex 1 party for the project activity.	Y	Y
1.2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	PDD	DR	Letter of approval from Host Country (Jordan) Designated National Authority (DNA) to be submitted by the project proponent. Letter of approval from Annex 1 country is required to be submitted by the project proponent.	CAR1	Y CAR1 closed
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	PDD	DR	Project is bilateral and Jordan has ratified the protocol on 17th January 2003 and is allowed to participate. The web link is http://maindb.unfccc.int/public/country.pl?country=JO And United Kingdom of Great Britain and Northern Ireland has ratified the protocol on 31st May 2002 and is allowed to participate. The web link is http://maindb.unfccc.int/public/country.pl?country=GB	Y	Y
1.4 The project results in reductions of GHG emissions or	PDD	DR	The project activity is a fuel switch project.	Y	Y

REQUIREMENT	Ref	MoV	Comment	Draft finding	Concl
increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario			The project is reducing GHG emissions by switching over to natural gas from HSD as fuel for power generation.		
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available	PDD	DR/UNFCCC Web-site	Yes, the project is listed on UNFCCC website from and was linked to SGS climate change website from 31st Oct 2007 to 29h Nov 2007. http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=370 Number of comments received – 0	Y	Y
1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance	PDD	DR	Project has used version 03.1 of PDD and followed the guidelines, except pending closure of some CARs/ NIRs.	Pending	Y All CAR/ NIR closed
1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA	PDD	DR	Section A.4.5 and Annex 2 of PDD mentions that no ODA was received for the project activity. Evidence needs to be checked during Site visit.	Site visit	Y Site visit confirm no ODA funding was used.
1.8 For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?	PDD	DR	Not relevant as the project is not an AR project.	Not Applicable	Not Applicable
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects	PDD	DR	Not applicable	Not applicable	Not applicable

REQUIREMENT	Ref	MoV	Comment	Draft finding	Concl
Table 11 for AR SSC projects					
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment?	PDD	DR	The version of PDD used by project proponent present all the information, except pending closure of some CARs/ NIRs.	Pending	Y All CAR/ NIR closed
1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	PDD	DR	The PDD uses reliable information and can be verified in an objective manner.	Pending Site visit clarification	Y Information included in the PDD is sourced and measured at the plant and provide reliable information.

Table 2 Baseline methodology(ies) (Ref: PDD Section B and Annex 3 and AM)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.1 Does the project meet all the applicability criteria listed in the methodology?	PDD	DR	Project meets all applicability criteria as per the approved consolidated baseline methodology ACM0011 version 1.	Y	Y
2.2 Is the project boundary consistent with the approved methodology?	PDD	DR	Project boundary is consistent with the approved consolidated monitoring methodology.	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.3 Are the baseline emissions determined in accordance with the methodology described?	PDD	DR	Evidence for the baseline emission factor needs to be provided. Excel spreadsheet for the calculation of baseline emission factor and baseline emissions to be provided by the Project Proponent. It is not clear from the excel sheet whether IPCC 1996 default values were used or IPCC 2006 default values were used. Pls. clarify Pls. provide evidence against the Emission factor for upstream fugitive emissions HFO used as ACM0011 refers to 4.1tCH4/PJ and not 4.21tCH4/PJ as mentioned. PDD section B.6.2 also refers to 4.1tCH4/PJ as upstream fugitive emission factor for HFO. Pls. clarify.	Site visit NIR 12	Y Spreadsheet provided and attached. Y NIR 12 closed
2.4 Are the project emissions determined in accordance with the methodology described?	PDD	DR	Excel spreadsheet for the calculation of project emissions to be provided by the Project Proponent.	Site visit	Y Spreadsheet provided and attached.
2.5 Is the leakage of the project activity determined in accordance with the methodology described?	PDD	DR	Excel spreadsheet for the calculation of leakage to be provided by the Project Proponent. Evidence against leakage needs to be checked during site visit.	Site visit	Y Spreadsheet provided and attached.
2.6 Are the emission reductions determined in accordance with the methodology described?	PDD	DR	PDD section B.6 mentions the formulae for calculation of baseline and project emissions and leakage as per ACM0011 version 1. The excel spreadsheet for calculation of emission reduction calculations needs to	Pending	Y Formulae mentioned in PDD and Spreadshee

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			check for the formulae used in calculation.		t for emission reduction calculation are same.

Table 3 Additionality (Ref: PDD Section B and AM)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.1 Does the PDD follow all the steps required in the methodology to determine the additionality?	PDD	DR	All steps are followed according to the Tools for the demonstration and assessment of additionality (version 3) EB 29; for determining the additionality of the present project activity.	Y	Y
3.2 Is the discussion on the additionality clear and have all assumptions been supported by transparent and documented evidence?	PDD	DR	The discussion on additionality needs to be supported with proper evidences for; 1. Financial Analysis and Sensitivity Analysis sheet for the project activity and for economically attractive baseline scenario 2. Claim against First and only one of its kind in Jordan 3. Project consideration date 4. Common practise analysis 5. A copy of feasibility study report to assess the financial viability of a possible fuel switch project 6. Assumptions used while doing financial analysis and sensitivity analysis	CAR 2	Y CAR 2 closed

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			7. Barriers mentioned in PDD under heading "Investment Barrier" and "Other barriers"		
3.3 Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	PDD	DR	The PDD discuss in detail about the baseline scenario for the project activity. Evidence is required to provide against the discussion of most attractive baseline scenario. The baseline selection will be further checked during the site visit.	Site visit	Financial analysis spreadsheet is provided which transparently mentions selection of baseline scenario. Assumptions and data used for the baseline scenario analysis was verified during the site visit and found acceptable.
3.4 Is it demonstrated/justified that the project activity itself is not a likely baseline scenario?	PDD	DR	It is demonstrated in the PDD the project activity is not a likely baseline scenario. Same needs to be checked during the site visit and with the replies against findings. Discussion under the identification of baseline scenario does not follow the steps as mentioned in ACM0011 version 1. Pls. correct	Y CAR11	Y Y CAR 11 closed

Table 4 Monitoring methodology (PDD Section B and AM)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4.1 Does the project meet all the applicability criteria listed in the monitoring methodology	PDD	DR	PDD section B.2 discusses the applicability criteria for the project activity as per the methodology ACM0011. The discussion has pointed out that the project activity meets all the necessary criteria mentioned in ACM0011 version 1. Evidence will be checked against the same.	Y	Y
4.2 Does the PDD provide for the monitoring of the baseline emissions as required in the monitoring methodology?	PDD	DR	The monitoring plan given in the PDD section B.7.2 is inline with the applicable methodology. Monitoring plan will be checked during the site visit. Clarify which of the different readings is used as the actual values mentioned in Monitoring parameters $EF_{HFO.BL}$ (pg 31) , $FF_{aux,diesel.y}$ (pg36) & $FF_{aux.HFO.y}$ (pg37) & $EF_{NG.y}$. (pg 38).	Site visit NIR 9	Y Y NIR 9 closed
4.3 Does the PDD provide for the monitoring of the project emissions as required in the monitoring methodology?	PDD	DR	PDD section B.7.2 provides monitoring of the parameters required for calculation of project emissions. Monitoring plan will further checked during the site visit.	Site visit	Y
4.4 Does the PDD provide for the monitoring of the leakage as required in the monitoring methodology?	PDD	DR	As per ACM0011 version 1.0 leakage was considered for the project activity. Leakage calculations will be further checked during document review.	Site visit	Y
4.5 Does the PDD provide for Quality Control (QC) and Quality Assurance (QA) Procedures as required in the monitoring	PDD	DR	PDD remain silent on Quality Control (QC) and Quality Assurance (QA) Procedures for	NIR3	Y NIR 3

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
methodology?			data monitoring and data reporting. Documents like calibration certificate for the equipments used for data monitoring needs to be provided. QA/QC procedure or ISO certificate needs to be provided.		closed

Table 5 Monitoring plan (PDD Section B and Annex 4)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.1 Monitoring of Sustainable Development Indicators/ Environmental Impacts	PDD	DR	Pending CAR1	Pending	Y CAR1 closed
5.1.1 Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	PDD	DR	Not Applicable	Not Applicable	Not Applicable
5.1.2 Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?	PDD	DR	Not Applicable	Not Applicable	Not Applicable
5.1.3 Will it be possible to monitor the specified sustainable development indicators?	PDD	DR	Not Applicable	Not Applicable	Not Applicable
5.1.4 Are the sustainable development indicators in line with stated national priorities in the Host Country?	PDD	DR	Pending CAR1	Pending	Y CAR1 closed
5.2 Project Management Planning			The project management planning was not described in the PDD.	CAR 4	Y CAR4 closed
5.1.5 Is the authority and responsibility of project management clearly described?	PDD	DR	The authority and responsibility of project	Pending	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			management at project site is not clear in the PDD.	CAR4	CAR4 closed
5.1.6 Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD	DR	The authority and responsibility for registration, monitoring, measurement and reporting is not clear in the PDD.	Pending CAR4	Y CAR4 closed
5.1.7 Are procedures identified for training of monitoring personnel?	PDD	DR	Procedure identified for training of monitoring personnel is not clear in the PDD.	Pending CAR4	Y CAR4 closed
5.1.8 Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	PDD	DR	Emergency preparedness is not clearly mentioned in mentioned in PDD.	Pending CAR4	Y CAR4 closed
5.1.9 Are procedures identified for calibration of monitoring equipment?	PDD	DR	Plan for Calibration of monitoring equipment is not clear in the PDD.	Pending CAR4	Y CAR4 closed
5.1.10 Are procedures identified for maintenance of monitoring equipment and installations?	PDD	DR	Procedure for maintenance of monitoring equipment and installations is not clear in the PDD.	Pending CAR4	Y CAR4 closed
5.1.11 Are procedures identified for monitoring, measurements and reporting?	PDD	DR	Procedure for monitoring, measurements and reporting is not clear in the PDD.	Pending CAR4	Y CAR4 closed
5.1.12 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	PDD	DR	Performance evaluation procedure is not clear in the PDD.	Pending CAR4	Y CAR4 closed
5.1.13 Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	PDD	DR	Procedure identified for dealing with possible monitoring data adjustments and uncertainties not clear in the PDD.	Pending CAR4	Y CAR4 closed

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.1.14 Are procedures identified for review of reported results/data?	PDD	DR	Procedure identified to review reported results/ data not clear in the PDD.	Pending CAR4	Y CAR4 closed
5.1.15 Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	PDD	DR	No specific procedure is identified for internal audits of GHG project compliance with operational requirements where applicable.	Pending CAR4	Y CAR4 closed
5.1.16 Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	PDD	DR	No specific procedure is identified for project performance reviews before data is submitted for verification, internally or externally in the monitoring plan given in the PDD.	Pending CAR4	Y CAR4 closed
5.1.17 Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	PDD	DR	No specific procedure is identified in the PDD.	Pending CAR4	Y CAR4 closed

Table 6 Environmental Impacts (Ref PDD Section D and relevant local legislation)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
6.1 Has an analysis of the environmental impacts of the project activity been sufficiently described?	PDD	DR	Yes, PDD contain sufficient information about the environmental impact assessment ; same needs to be substantiated during the site visit.	Site visit	Y
6.2 Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PDD	DR	EIA was conducted when addition of unit 3 and 4 were added in 1995. Section D.2 of the PDD mentions that the present CDM project activity does not require to have separate EIA. But PDD does not mention the reference to the claim of no	NIR5	Y NIR 5

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			EIA requirement. Evidence is required to be check why EIA is not required for fuel switch activity.		closed
6.3 Will the project create any adverse environmental effects?	PDD	DR	The negative impacts of the project activity need to be mentioned clearly in the PDD and evidence is required to provide against the same.	NIR6	Y NIR 6 closed
6.4 Are transboundary environmental impacts considered in the analysis?	PDD	DR	No transboundary environmental impact identified from project activity. To be verified during site visit.	Site visit	Y
6.5 Have identified environmental impacts been addressed in the project design?	PDD	DR	Pending NIR5	Pending	Y NIR 5 closed
6.6 Does the project comply with environmental legislation in the host country?	PDD	DR	The project activity is complied with all environmental legislation in the host country.	Pending NIR5	Y NIR 5 closed

Table 7 Comments by local stakeholders (Ref PDD Section E)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7.1 Have relevant stakeholders been consulted?	PDD	DR	Yes, Project proponent has given a list of local stakeholders consulted for the project activity in the PDD.	Y	Y
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD	DR	According to the PDD the Project Proponent placed advertisement in local news paper for inviting the local stakeholder comments. Also project proponent has circulated email or fax of invitation letter for stakeholder meeting to	Site visit	Y Included in Section E and Annexure 5 of PDD

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			key stakeholders. Supporting document need to be provided by the project proponent.		
7.3 If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	PDD	DR	The project participant has consulted the local stakeholders as a requirement for CDM project. Documentary evidence needs to be provided.	Site visit	Y Included in Section E and Annexure 5 of PDD
7.4 Is a summary of the stakeholder comments received provided?	PDD	DR	The PDD section E.2 provided letters from some of the local stakeholders giving the comments and their opinion on the project activity. Evidence for the same needs to be provided.	Site visit	Y Included in Section E and Annexure 5 of PDD
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	PDD section E.3 mentions responses by the project for the local stakeholder comments. Evidence for the same needs to be provided.	Site visit	Y Included in Section E and Annexure 5 of PDD

Table 8 Other Requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
8.1 Project Design Document					
8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without	PDD	DR	The PDD template for version 03.1 has been applied correctly.	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
modifying/adding headings or logo, format or font.			Correct some editorial issues in the PDD. - Make use of the same terminology throughout the document. E.g pages 2, 5,& 20 refer to different terminology for the project components. - Clarify the actual changes to the boiler firing system and not the boilers. Ref to the duel firing boilers initially implemented. - Promote peace in the Middle East with regards to the number of Gulf wars. pg 13. - Correct the term HFO "i" on page 36. - Clarify the "hazardous" pre-heating if at all, on page 44.	CAR 10	Y CAR 10 closed
8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified	PDD	DR	Pending CARs and NIRs	Pending	Y All CAR/ NIR are closed
8.2 Technology to be employed					
8.2.1 Does the project design engineering reflect current good practices?	PDD	DR	The project reflects current good practice for project design engineering. Same will be checked during the site visit.	Site visit	Y
8.2.2 Does the project use state of the art technology or would the technology result in a significantly better performance	PDD	DR	As per PDD section A.4.3; the project activity does not uses state of the art	Site visit	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
than any commonly used technologies in the host country?			technology. Evidence will be required to provide for the technical specifications of the project activity.		
8.2.3 Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR	PDD remains silent whether project technology likely to be substituted by other or more efficient technologies within the project period?	NIR 7	Y NIR 7 closed
8.2.4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PDD	DR	PDD remains silent on the training requirement for the project activity. Evidence needs to be provided.	NIR 8	NIR 8 closed
8.3 Duration of the Project/ Crediting Period					
8.3.1 Are the project's starting date and operational lifetime clearly defined and reasonable?	PDD	DR	Project activity starting date is mentioned as 01/01/2002 in the PDD section C.1.1. Evidence for the same is required to be submitted.	Site visit	Y
8.3.2 Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	PDD	DR	Fixed crediting period of 10 years is selected for the project activity and it is reasonable.	Y	Y
8.2.3 Does the project's operational lifetime exceed the crediting period	PDD	DR	The end operational life for units 1 and 2 is expected to be 2016 and for units 3, 4 and 5 is expected to be 2028. It was clearly mention in the PDD that project proponent will claim emissions reductions for units 1 and 2 upto 2016 and for rest of the units is by 2018. This is acceptable as estimated emission reduction calculation given in PDD is inline with this.	Y	Y

A.3 Annex 3: Overview of Findings

Description of table:

Type	Findings are either New Information Requests (NIR) or Corrective Action Requests (CAR). CARs are items that must be addressed before a project can receive a recommendation for registration. NIRs may lead to the raising of CARs. Observations are included at the end and may or may not be addressed. They are primarily to act as signposts for the verifying DOE.
Issue	Details the content of the finding
Ref	refers to the item number in the Validation Protocol
Response	Please insert response to finding, starting with the date of entry.

Rows for comments and further response will be appended to the table until the Findings has been addressed to the satisfaction of the Lead Assessor.

Date: 14/12/2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
1	CAR	Letter of approval from Host Country (Jordan) Designated National Authority (DNA) to be submitted by the project proponent. Letter of approval from Annex 1 country is required to be submitted by the project proponent.	1.2
Date: 9/1/'08 [Response from project developer] The Host Country LoA was provided to the DoE, whereas the Annex 1 Country LoA will be submitted to the DoE.			
Date: [18/1/2008] [Comments from Local Assessor] Letter of Approval from host country attached.			
[Acceptance and close out] [29/01/2008] [Vikrant Badve] Letter of Approval from Host country Jordan (Ref. 7.3.3817 dated 1st July 2007) and from Annex 1 participant UK (Ref. ESG/03/2008 dated 25th Jan. 2008) was submitted by project proponent same was checked for the project activity name and project participants details which were found as per the PDD version 3. CAR is closed.			

Date: 14/12/2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
2	CAR	The discussion on additionality needs to be supported with proper evidences for; 1. Financial Analysis and Sensitivity Analysis sheet for the project activity and for economically attractive baseline scenario 2. Claim against First and only one of its kind in Jordan 3. Project consideration date 4. Common practise analysis 5. A copy of feasibility study report to assess the financial viability of a possible fuel switch project 6. Assumptions used while doing financial analysis and sensitivity analysis 7. Barriers mentioned in PDD under heading "Investment Barrier" and "Other barriers"	3.2
Date: 9/1/'08 [Response from project developer] To 1: The Financial Analysis and Sensitivity Analysis sheet for the project activity and for economically attractive baseline scenario was provided to the DoE. The results are presented in the PDD, and the input factors are included therein (see PDD Section B.4 and Annex 8). To 2: As demonstrated in Section B.5 in Table B.5.1, ATPS is the only thermal steam power station in Jordan which has performed a fuel switch from HFO to NG. Furthermore, ATPS is the first CDM project in			

Jordan (see UNFCCC website). To 3: All documents quoted in the PDD which prove prior CDM consideration were provided to the DoE. To 4: The source for the common practice analysis is CEGCO's Annual Reports. These reports can be downloaded on CEGCO's website: http://www.cegco.com.jo/eng_pages/investor/investor_annual.html. Soft copies were provided to the DoE. To 5: A copy of the summary report of the Feasibility Study was provided to the DoE. To 6: The sources quoted in Section B.4 of the PDD were made available to the DoE. All assumptions made for the Financial Analysis and Sensitivity Analysis are explained in the PDD according to Version 1 of ACM0011. The DoE checked the rationale employed during the validation site visit. To 7: All evidence supporting the "Investment Barrier" and "Other Barriers" as explained in the PDD were quoted in footnotes in the relevant sections of the PDD. These documents were either made available to the DoE, or are accessible on the web (URLs are quoted in the PDD).
Date: [18/1/2008] [Comments from Local Assessor] 1: The financial analysis spreadsheet is attached using the NPV analysis. It also includes sensitivity analyses that indicate the NPV for the project is always lower than the baseline scenario, even under the most favourable scenarios. 2: The UNFCCC website is evidence that there is only one project listed in Jordan. There is another fuel switch at the Rehab power station from Diesel to NG in 2006, but it is not a CDM project and it has taken place after the Aqaba project. 3: Evidence was provided in the form of a letter dated 28/2/2002 from CEGCO to the then "Environment Protection Agency" of the intent of doing the fuel switch as a CDM project. 4: Soft copies were not provided as it is available on the website stated. Reports dating back to 1999 are available. In the pre war scenario HFO and diesel power stations are the norm for grid electricity. 5: The summary report, called a master plan, and feasibility studies are attached. 6: All the assumptions made dates back to when the project was initiated in a pre war scenario. Information available at the time is reflected in annual reports, master plan for the energy sector in Jordan. Tables B4.1 & B4.2 is reflected in the appendixes and was verified with the originals during site visit. 7: Investments to improve efficiency of the thermal power plant would have been more expensive with less effect on emission reductions than what was achieved by the project. That is considered to be an investment barrier. Other barriers includes the availability of fuel witch is limited to HFO and Gas only.
[Acceptance and close out] [29/01/2008] [Vikrant Badve] 1. Financial and Sensitivity analysis given in the excel spreadsheet is OK. Financial Analysis for project activity with CDM is not shown. Pls. include and discuss the same how CDM is improving the financial status of the project activity. 2. ATPS may be the first large scale fuel switch CDM project from Jordan but that does not indicate that the present project is the first and only one of its kind project in Jordan. Pls. substantiate the claim of first and only of its kind project. Provide recent evidence for the table B.5.1 3. OK pls. provide a translated letter in English 4. OK accepted 5. OK accepted 6. OK accepted 7. OK accepted; all the URLs mentioned in PDD are working. Source 13 refers to a website of newspaper which when clicked refers to today's news only and did not refer to the issue of oil price in 2004. pls. provide reference which will exactly refer to the issue. CAR is open
Date: 14/02/'08 [Additional response from project developer] 1: As per ACM0011 version 1, "Procedure for the selection of the most plausible baseline scenario", Step 3 ("Comparison of economic attractiveness of the remaining alternatives"), and "Tool for the demonstration and assessment of additionality (Version 3)", the NPV calculation is to be performed for the remaining alternatives "without revenues from CERs". If there is a requirement to include revenues with CDM, please indicate where it is shown in the methodology or related tool. 2: PDD section B.5 has been amended to clarify the uniqueness of the fuel switch at ATPS with respect to other power plants in Jordan. The relevant sources for the information given in table B.5.1 are provided in the last column of the table.

3: Translation of letter was e-mailed to DoE 01/02/2008. 7: With all due respect, both links were checked numerous times, and they work fine. The first link automatically switches to a different url (http://www.aljazeera.net/news/archive/archive?ArchiveId=1032389) with the same content. On 15/02/'08 the screenshots of the 2 web-pages have been e-mailed to the DoE in one pdf file, which includes hyperlinks.
[Acceptance and close out] [03/03/2008] [Vikrant Badve] 1: OK accepted. 2: The explanation given in PDD version 5 under section B.5 is acceptable and it is also check with UNFCCC website and CDM database available on www.cd4cdm.org and acceptable that this is first CDM project in Jordan. 3: Translation of the letter dated 28/2/2002 from CEGCO to the then "Environment Protection Agency" of the intent of doing the fuel switch as a CDM project, is acceptable. 7: OK accepted.

Date: 14/12/2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
3	NIR	PDD remain silent on Quality Control (QC) and Quality Assurance (QA) Procedures for data monitoring and data reporting. Documents like calibration certificate for the equipments used for data monitoring needs to be provided. QA/QC procedure or ISO certificate needs to be provided.	4.5
Date: 8/1/'08 [Response from project developer] The PDD has been updated accordingly to include detail of QA/QC procedures for data monitoring and data reporting (same as CAR 4 Issue 7). Calibration certificates for monitoring equipment mentioned in the PDD will be provided during verification. A copy of the ISO9001 certificate (EG05/00270 QA, issued by SGS) was provided to the Assessor during the site visit (on 17/12/'07).			
Date: [18/1/2008] [Comments from Local Assessor] Calibration certificates for all the meters not available during validation. ISO 9001 certificate attached. It adds to the credibility of the Quality Control and Quality Assurance. Refer to new PDD version 3 for updates in the description.			
[Acceptance and close out] [29/01/2008] [Vikrant Badve] QA/ QC procedure mentioned for the data monitoring and data reporting in the revised PDD version was accepted. Also ISO 9001:2004 certificate was found valid till 8th October 2008 and thus acceptable. NIR is closed.			

Date: 14/12/2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
4	CAR	The project management planning was not described in the PDD. Following points were not clear in the PDD; 1.The authority and responsibility of project management at project site 2.The authority and responsibility for registration, monitoring, measurement and reporting of the data 3. Procedure identified for training of monitoring personnel 4. Emergency preparedness for data monitoring 5. Plan for Calibration of monitoring equipment 6. Procedure for maintenance of monitoring equipment and installations 7. Procedure for monitoring, measurements and reporting 8. Performance evaluation procedure for project activity 9. Procedure identified for dealing with possible monitoring data adjustments and uncertainties	5.2

		10. Procedure identified to review reported results/ data 11. Procedure identified for internal audits of GHG project compliance with operational requirements 12. Procedure identified for project performance reviews before data is submitted for verification, internally or externally	

Date: 9/1/'08 [Response from project developer
The monitoring plan in the PDD (section B.7.2) has been revised to account for the points stated above, as follows:

This section details the steps taken to monitor, on a regular basis, the GHG emissions reductions from the ATPS fuel switch project, as required by methodology ACM0011, Version 01, approved at EB 28:

The Monitoring Plan for this project has been developed to ensure that from the start, the project is well organised in terms of the collection and archiving of complete and reliable data. The site is also ISO9001 certified.

Data collection and record keeping arrangements:
Monitored data will be measured & collected as detailed in section B.7.1. That is,

- EF_{NG} ,NCV_{NG} and NG_y are recorded daily in a CDM spreadsheet by a designated ATPS member of staff from the Operations Department.
- $EL_{aux,grid,y}$ and $EL_{PR,y}$ are recorded monthly in a CDM spreadsheet by a designated ATPS member of staff from the Operations Department.
- FF_{HFO} and FF_{Diesel} are recorded monthly in a CDM spreadsheet by a designated ATPS member of staff from the Operations Department.
- Installed Capacity will be verified once every crediting period.

All data required for verification and issuance will be backed-up and kept for at least two years after the end of the crediting period or the last issuance of CERs of this project, whichever occurs later. The data is archived at ATPS.

Data collected by the Operation Department will be compiled in a CDM workbook. The CDM workbook will then be sent to the Manager of Operation Department before being sent to CEGCO's headquarters. EcoSecurities will receive this workbook from headquarters on a monthly basis.

Data Quality Control and Quality Assurance
All data collected by the operations department will be checked and cross-checked e.g. with invoices internally before being compiled in a CDM workbook. The Manager of Operations Department will check the completeness and quality of the data before sending it to CEGCO's headquarters.

EcoSecurities will perform a regular final check of the data and analyse project performance prior to any verification. Moreover, regular internal audits will be conducted to assure that the project is in compliance with operational and CDM requirements.

Procedures will be developed to deal with possible monitoring data adjustments and uncertainties as well as emergencies.

Maintenance and Calibration of monitoring equipment
All equipment will be maintained and calibrated in line with manufacturer's recommendations and according to a pre-set schedule. This will assure that the equipment operates at the stated level of accuracy.

Staff training
Training is conducted on site at regular intervals to ensure that staff is capable to perform their designated tasks at high standards. This will include CDM specific training to warrant that they understand the importance of complete and accurate data and records for CDM monitoring.

CDM monitoring organisation and management Prior to the start of the crediting period, the organisation of the monitoring team will be finalised. Clear roles and responsibilities will be assigned to all staff involved in the CDM project. The Project Developer will have a designated CDM Monitoring Coordinator on site who will be responsible for monitoring emissions reductions of the project activity. All staff involved in the collection of data and records will be coordinated by him. N.B. The plant is owned and operated by Central Electricity Generating Company (CEGCO) of Jordan. The authority of project management at the project site therefore lies with the ATPS plant management.
Date: [18/1/2008] [Comments from Local Assessor] All the points above were discussed with both the staff from ATPS and the consultants from Ecosecurities. The PDD used in the site visit was the 1st version. Please refer to new version of PDD version 3, for the updates on the monitoring plan.
[Acceptance and close out] [29/01/2008] [Vikrant Badve] The section B.7.2 of revised PDD version 3 was checked and it was substantiated that the information mentioned in response to CAR is included there. CAR is closed.

Date: 14/12/2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
5	NIR	Section D.2 of the PDD mentions that the present CDM project activity does not require to have separate EIA. But PDD does not mention the reference to the claim of no EIA requirement. Evidence is required to be check why EIA is not required for fuel switch activity.	6.2

Date: 9/1/'08 [Response from project developer] The project boundary only encloses the power plant and the limited gas pipeline infrastructure on site, including the limited boiler modifications. No EIA was required for these modifications, as was clarified to the DoE in CEGCO's Amman offices (on 18/12/'07) (during the discussion a local representative of SGS Jordan was present who confirmed the Jordanian EIA requirements and that the proposed project does not need and EIA). The fact that the project received a LoA from the Jordanian DNA (which is located at the Ministry of Environment) further proves that the project has received all necessary permits, and that no EIA was required for the fuel switch.
Date: [18/1/2008] [Comments from Local Assessor] The Ministry of Environment was only formed in 2003 and the law 37 that regulates the EIA process was promulgated in 2005. Even under current legislation no EIA would be required by law for this project as it is minor modifications to existing plants. This was also confirmed by the SGS representative in Amman.
[Acceptance and close out] [29/01/2008] [Vikrant Badve] OK NIR is closed.

Date: 14/12/2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
6	NIR	The negative impacts of the project activity need to be mentioned clearly in the PDD and evidence is required to provide against the same.	6.3

Date: 9/1/'08 [Response from project developer] As the project involves switching from HFO to NG without modifying the plant, the only negative environmental impact resulting from the Project is as a result of the construction of the NG supply pipeline from Egypt. This Arabian Gas Pipeline has been constructed, maintained, and operated to the highest American/Canadian standards, and consequently has little/no negative environmental impact. Furthermore the pipeline is part of an international network and is not built purely for providing NG to ATPS. Any impacts of the gas pipeline are therefore not a direct result of the fuel switch at ATPS. On the other hand, the environmental benefits gained are substantial and are relisted here: • Reduced CO_2, SO_2, NO_x emissions, and suspended particulate matter with associated aromas; • Reduced "rotten egg" aroma from H_2S, since high sulphur content HFO is substituted by NG;

• Smokestack output is no longer coloured, but transparent – no more visual pollution; • Reduced shipping/trucking of HFO, with reduced related traffic and pollution; • GHG reductions and diversification of Jordan's electricity production with a leaning towards "cleaner" power.
Date: [18/1/2008] [Comments from Local Assessor] No negative impacts were identified during the site visit. The site where the gas supply station was built was part of the power station enclosure that was already an altered environment. The gas station does not produce any effluent, emissions, waste or disturbance to the environment and aesthetically it is against the backdrop of the industrial site of the power station. The rest of the project is within the power plant itself and the total result of the project bears only beneficial impacts.
[Acceptance and close out] [29/01/2008] [Vikrant Badve] Section D of the revised PDD version 3 and explanation given above was found acceptable. Also local stakeholders comments were reviewed for the comments and any negative impacts mentioned therein. It was substantiated that negative environmental impact resulting from the Project is; as a result of the construction of the NG supply pipeline from Egypt. But it was verified that the NG pipeline is constructed and maintained using Americans/ Canadian standards; which results in minimum environmental impacts. The PDD also mentions some of the positive impacts by the project activity because of which it was appreciated by local stakeholders also. The response against the NIR is acceptable. NIR is closed.

Date: 14/12/2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
7	NIR	PDD remains silent whether project technology likely to be substituted by other or more efficient technologies within the project period?	8.2.3
Date: 9/1/'08 [Response from project developer] It was clarified to the Assessor by CEGCO's Managing Director (on 18/12/'08 in CEGCO's Amman Offices) that the technology employed as a result of the NG fuel switch was (and remains) "cutting edge" and very unlikely to be superseded by any more efficient technology within the crediting period. Furthermore, if there is a change in the technology employed, it is likely to cause a change in capacity of more than +/- 5%. Such a change would automatically disqualify the project because of the applicability condition of ACM0011 v1. ("The project activity does not result in a significant change in capacity, i.e. not more than +/- 5% of the installed capacity before the implementation of the project activity") The installed capacity will be assessed during verifications as required by Version 1 of ACM0011.			
Date: [18/1/2008] [Comments from Local Assessor] The response from the project developer includes the much wider discussions on the topic during the site visit that would have improved the capacity of the plant. Discussions went beyond the project boundary and are not considered in any case. Within the project boundary of the fuel switch project, the technology used is gas pipes and burners. It is not highly sophisticated equipment that is continuously researched and developed. In the baseline scenario the boilers were firing HFO. The technology that is transferred to the host country will enable them to fire both HFO and Natural Gas, with gas being the main source after the fuel switch. There is no reason or motivation to substitute it with other technologies.			
[Acceptance and close out] [29/01/2008] [Vikrant Badve] OK; pls. provide an undertaking from PP against the same. NIR is open.			
Date: 14/02/'08 [Additional response from project developer] PDD section A.4.3 has been amended to reflect the lack of intention of the project developer to change to a newer technology and to reflect that the potential for such a technology is minute, given the relative lack of sophistication of the modifications undertaken.			
[Acceptance and close out] [03/03/2008] [Vikrant Badve] Section A.4.3 of revised PDD version 5 was checked and it was found that project proponent made it clear that they do not have any plan to move with advanced technology during the lifetime of power plant as the present technology it self is a state of art technology. The explanation given by project proponent was accepted and NIR is closed.			

Date: 14/12/2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
8	NIR	PDD remains silent on the training requirement for the project activity.	8.2.4

Date: 9/01/'08 [Response from project developer] Same as CAR 4 Issue 3. Mention of the training programme has now been included in the PDD. During the preparation of the PDD EcoSecurities staff has performed several site visits which included training for senior staff at CEGCO on CDM procedures and the application of ACM0011 v1 for the project especially monitoring requirements.
Date: [18/1/2008] [Comments from Local Assessor] The training program is addressed in the monitoring plan under B7.2 of the revised PDD. The company is also an ISO 9001 certified company in which training, monitoring and documentation forms an important and integral part. This enhances the quality assurance that the relevant training will be done according to standard.
[Acceptance and close out] [29/01/2008] [Vikrant Badve] Section B.7.2 of revised PDD version 3 mentions the relevant training information regarding the CDM procedures and data monitoring and recording for CDM. Pls. provide evidence against the training. NIR is open.
Date: 13/02/'08 [Additional response from project developer] "ATPS CDM Monitoring Training Attendance Sheet 16 12 07.JPG" was sent to the DoE on 15/02/'08 via e-mail as evidence of ATPS CDM training held in December '07.
[Acceptance and close out] [03/03/2008] [Vikrant Badve] The evidence for training conducted for the CDM team by the project proponent was found accepted. NIR is closed.

Date: 18/12/2007 Raised by: Cornelis van den Berg / Vikrant Badve

No.	Type	Issue	Ref
9	NIR	Clarify which of the different readings is used as the actual values mentioned in Monitoring parameters $EF_{HFO.BL}$ (pg 31) , $FF_{aux,diesel.y}$ (pg36) & $FF_{aux.HFO.y}$ (pg37) & $EF_{NG.y}$. (pg 38)	4.2
Date: 11/01/'08[Response from project developer] The sources for the following monitoring parameters are: • $EF_{HFO.BL}$ is part of the parameters that are available at validation in section B.6.2. The measurements were undertaken in line with international standard ASTMD-2382 in the Chemical section's accredited Laboratory. A full year (2002) of monthly data analyses is used to calculate the average value. The samples were taken from the HFO storage tanks at ATPS. • $FF_{AUX,DIESEL.y}$ is based on the reading from a tank level measurement gauge. • $FF_{AUX.HFO.y}$ is based on the reading from a tank level measurement gauge. • $EF_{NG.y}$ is based on the NG composition which is issued automatically every day by Al Fajr Pipeline Company by their gas chromatograph up to a precision of C9 (n-Nonane gas) More details have been added to the PDD in the sections B.6.2 and B.7.1 to satisfy this NIR.			
Date: [18/1/2008] [Comments from Local Assessor] The descriptions included in the new PDD are clear and understandable.			
[Acceptance and close out] [29/01/2008] [Vikrant Badve] OK; the PDD version 3 was checked and clarification given by project proponent is found acceptable. NIR is closed.			

Date: 18/12/2007 Raised by: Cornelis van den Berg / Vikrant Badve

No.	Type	Issue	Ref
10	CAR	Correct some editorial issues in the PDD. - Make use of the same terminology throughout the document. E.g pages 2, 5,& 20 refer to different terminology for the project components. - Clarify the actual changes to the boiler firing system and not the boilers. Ref to the duel firing boilers initially implemented. - Promote peace in the Middle East with regards to the number of Gulf wars. pg 13. - Correct the term HFO "i" on page 36.	8.1.1

		- Clarify the "hazardous" pre-heating if at all, on page 44.	

Date: 11/01/08 [Response from project developer]
All corrections have been made in the new version of the PDD.

Date: [18/1/2008] [Comments from Local Assessor]
Changes made in the PDD version 3, itself.

[Acceptance and close out] [29/01/2008] [Vikrant Badve]
Revised PDD version 3 was checked and it was found that above mentioned editorial issues were addressed in the same.
Part of Table B.4.3 on page 14/64 of PDD version 3 is going out of page boundary pls. edit the same. CAR is Open.

Date: 14/02/08 [Response from project developer]
Table B.4.3 on page 14/64 of PDD has been repaired such that it is fully visible.

[Acceptance and close out] [03/03/2008] [Vikrant Badve]
The content under section B.4.3 is legible in PDD version 5. CAR is closed.

Date: 28/01/2008 Raised by: Vikrant Badve

No.	Type	Issue	Ref
11	CAR	Discussion under the identification of baseline scenario does not follow the steps as mentioned in ACM0011 version 1. pls. correct.	3.4

Date: 18/2/08
The PDD was revised accordingly
The Outcome of Step 1a and 1b was added. All Alternatives which need to be identified according to ACM0011 version 1 have been identified and listed in the PDD.

Date: [18/02/2008] [Comments from Local Assessor]
PDD discusses all the steps under additionality discussion as per ACM0011 requirement.

[Acceptance and close out] [03/03/2008] [Vikrant Badve]
Outcome of step 1a and 1b is now mentioned in PDD version 5. The same is acceptable. CAR 11 is closed.

Date: 28/01/2008 Raised by: Vikrant Badve

No.	Type	Issue	Ref
12	NIR	It is not clear from the excel sheet whether IPCC 1996 default values were used or IPCC 2006 default values were used. Pls. clarify Pls. provide evidence against the Emission factor for upstream fugitive emissions HFO used as ACM0011 refers to 4.1tCH4/PJ and not 4.21tCH4/PJ as mentioned. PDD section B.6.2 also refers to 4.1tCH4/PJ as upstream fugitive emission factor for HFO. Pls. clarify.	2.3

Date: 14/02/08 [Response from project developer]
The references to IPCC values have been clarified by adding the relevant reference document year, where applicable (i.e. in the PDD and in the Emission Reduction Excel Spreadsheet).

The value has been corrected to 4.1tCH4/PJ throughout the Emission Reduction Excel Spreadsheet and the PDD. All related calculations have been amended. The DoE has been sent the latest versions of the Excel sheet and PDD on 15/02/2008.

Date: [18/02/2008] [Comments from Local Assessor]
Revised version 5 of PDD reflects emission factor for upstream fugitive emissions of HFO as 4.1tCH4/PJ. The excel sheet is also found to be revised as per revised value of emission factor.

[Acceptance and close out] [03/03/2008] [Vikrant Badve]
The excel sheet and PDD version 5 mentions emission factor for upstream fugitive emissions of HFO as 4.1tCH4/PJ. The revised calculations also reflect the revised value of emission factor. NIR is closed.

A.4 Annex 4: Statement of Competence of Validation Team

Statement of Competence

Name: Vikrant Badve SGS Affiliate: SGS India Pvt. Ltd.

Status

		Validation	Verification
-	Product Co-ordinator	☐	
-	Operations Co-ordinator	☐	
-	Technical Reviewer	☐	
-	Expert	☒	
-	Local Assessor	☒	☒
-	Lead Assessor	☒	☒
-	Assessor / Trainee Lead Assessor	☐	☐

Scopes of Expertise

1.	Energy Industries (renewable / non-renewable)	☒
2.	Energy Distribution	☒
3.	Energy Demand	☒
4.	Manufacturing	☒
5.	Chemical Industry	☐
6.	Construction	☒
7.	Transport	☐
8.	Mining/Mineral Production	☐
9.	Metal Production	☐
10.	Fugitive Emissions from Fuels (solid,oil and gas)	☐
11.	Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	☐
12.	Solvent Use	☐
13.	Waste Handling and Disposal	☐
14.	Afforestation and Reforestation	☐
15.	Agriculture	☐

Approved Member of Staff by Siddharth Yadav Date: 09/07/2007

Statement of Competence

Name: Cornelis Van Den Berg SGS Affiliate: South Africa

Status

		Validation	Verification
-	Product Co-ordinator	☐	
-	Operations Co-ordinator	☐	
-	Technical Reviewer	☐	
-	Expert	☐	
-	Local Assessor	☒	☒
-	Lead Assessor	☐	☐
-	Assessor / Trainee Lead Assessor	☐	☐

Scopes of Expertise

1.	Energy Industries (renewable / non-renewable)	☐
2.	Energy Distribution	☐
3.	Energy Demand	☐
4.	Manufacturing	☐
5.	Chemical Industry	☐
6.	Construction	☐
7.	Transport	☐
8.	Mining/Mineral Production	☐
9.	Metal Production	☐
10.	Fugitive Emissions from Fuels (solid,oil and gas)	☐
11.	Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	☐
12.	Solvent Use	☐
13.	Waste Handling and Disposal	☐
14.	Afforestation and Reforestation	☐
15.	Agriculture	☐

Approved Member of Staff by Marco van der Linden Date: 25/07/2006