UNFCCC Secretariat
Martin-Luther-King-Strasse 8
D-53153 Bonn
Germany

Att: CDM Executive Board

DET NORSKE VERITAS
CERTIFICATION AS
Climate Change Services
Veritasveien 1
NO-1322 Høvik
Norway
Tel: +47-6757 9900
Fax: +47-6757 9911
http://www.dnv.com
NO 945 748 931 MVA

Your ref.:	Our ref.:	Date:
CDM Ref 1685	MLEH	10 July 2008

Response to requests for review
'Zhang Jiagang waste heat recovery from sulphuric acid production for electricity generation project' (1685)

Dear Members of the CDM Executive Board,

We refer to the issues raised in the requests for review by three Executive Board members regarding the request for registration of project activity 1685 "Zhang Jiagang waste heat recovery from sulphuric acid production for electricity generation project" in China and would like to provide our initial response.

Comment 1:

Investment is being made in power industry but IRR benchmark used is for chemical industry. PP must perform investment analysis using power industry benchmark.

Considering that the investment being made is in the power industry, further substantiation is required to confirm that the benchmark reflects the risk profile of this project activity.

DNV Response:

DNV refers to the response by the project participants. In accordance with the statements of *Economic Assessment Methods and Parameters for Project Construction* (3rd Edition, 2006), when a project owner invests in a project with key characteristics of another sector rather than its own core business, and has little experience of these characteristics and the project risk, the sectoral benchmark IRR of its own core business will be applied[*]. DNV was able to confirm the following:

- The project owner's core business is fine chemicals;
- The project owner had no experience in power plant installation and management before this project;
- The financial benchmark rate of return (after tax) of China's fine chemical industries is 15% [†]for the equity IRR and was duly chosen as the benchmark for the project activity.

[*] Methods and Parameters for Economic Assessment of Construction Project (version 3), published by China's National Development and Reform Commission and Construction Ministry, December 2006, paragraph 2, point 2, page 197.

[†] Methods and Parameters for Economic Assessment of Construction Project (version 3), published by China's National Development and Reform Commission and Construction Ministry, December 2006.

In conclusion, DNV deems that the use of an IRR benchmark applicable to the project owner's core business, fine chemicals, is appropriate even if the project activity as such belongs to the power sector.

Comment 2:

The DOE will validate investment analysis and indicate how it has validated the input values used in the investment analysis, taking note of the guidance provided in EB 38 paragraph 54.

DNV Response:

In assessing the input values used in the investment and sensitivity analyses, DNV has followed a 4-step approach:

Step 1: Assessment of the sources of the input parameters used in the investment and sensitivity analyses:

a) All the input parameters used in the financial analysis are taken from the feasibility study report (FSR) developed in December 2003 by *Engineering Consulting Institute of Jiangsu Province* and approved on 6 January 2005 by t*he Economic and Trading Commission of Jiangsu Province*. The input parameters used in the financial analysis can thus be considered information provided by an independent and recognized source.

b) All the above input parameters were available at the time when the decision to proceed with the project was made (the start date of the project was 7 May 2004, the day on which the construction permission was obtained).

Step 2: Confirmation that the values used in the PDD and investment analysis are fully consistent with the FSR:

DNV compared the input parameters for the financial analysis included in the PDD and investment analysis with the parameters stated in the FSR and was able to confirm that the values applied are consistent with the value stated in the FSR.

Step 3: Assessment of the period of time between the finalization of the FSR and the investment decision:

The (FSR) was developed in December 2003 by *Engineering Consulting Institute of Jiangsu Province* PPA, thus only five months prior to the decision to proceed with the project activity (i.e. the start date of the project) which was on 7 May 2004. Thus it is reasonable to assume that the FSR has been the basis of the decision to proceed with the investment in the project.

Step 4: Cross-check of the parameters used in the financial analysis with the parameters used by other similar projects:

The input parameters used in the financial analyses were compared with the data reported for other similar proposed CDM projects in China validated by DNV, i.e. about 50 other waste heat recovery projects, by comparing investment costs per MW, electricity tariff, and percentage of operation and maintenance costs relative to total investment costs. By additionally applying our sectoral competence, DNV was able to confirm that the input parameters used in the financial analysis are reasonable and adequately represent the economic situation of the project.

Comment 3:

The DOE is requested to explain the essential distinction between the technology used by the project activity and the traditional WHRS used by the four other plants in line with the

additionality tool.

DNV Response:

DNV refers to the response by the project participants. By reviewing the supplier's operation manual for the technology used in the project activity, and by assessing the traditional WHRS in China, the essential distinction between the technology used by the project activity and the traditional WHRS used by the four other plants was explained as following in line with the additionality tool.

- The technology used by the project activity has higher and stricter requirements for the sulfuric acid production technology, compared with the traditional WHRS. This means higher potential risks for the sulfuric acid production, and for the power generation project, though the technology will produce higher waste heat recovery efficiency.
- The project owner lacks the expertise to operate this technology patented by a USA company, while the project owner's staff is more familiar with operation and maintenance of domestic equipments in general.

Based on the above, DNV was able to confirm that the technology used in the project activity significantly differs from the WHRS that it has been compared to.

We sincerely hope that the Board find our elaboration on the above satisfactory.

Yours faithfully
for DET NORSKE VERITAS CERTIFICATION AS

Michael Lehmann
Technical Director
Climate Change Services