DET NORSKE VERITAS

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Att: CDM Executive Board

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CERTIFICATION AS

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Your ref.:	Our ref.:	Date:
CDM Ref 1787	FEANT/MLEH	24 October 2008

Response to request for review
"Valdivia Biomass Power Plant" (1787)

Dear Members of the CDM Executive Board,

We refer to the request for review raised by three Board members concerning DNV's request for registration of project activity 1787 "Valdivia Biomass Power Plant", and we would like to provide the following response to the questions raised by these requests for review.

Comment 1: The PP/DOE should clarify how the various stated barriers are prohibitive with proper justification and reliable evidence, considering the fact that the project has been in operation since 2004.

DNV Response:

DNV acknowledges that the Valdivia CDM project activity is a part of the initiative in the CDM undertaken by Arauco at a corporate level that consisted in the construction of several biomass power generation projects in Chile. Due to the circumstances at the project implementation, Arauco decided to present its biomass CDM project activities in a way that it would allow Arauco to gain experience, build capacities in the CDM and at the same time, present it biomass project to the CDM as fast as possible. For the Valdivia project, particularly, there was no approved methodology applicable at the time of its implementation, and when ACM0006 was approved, there were no baseline scenario that would suit the Valdivia situation.

All the barriers presented in the PDD were assessed in the following way:

a) *Investment Barriers:* DNV confirmed (Economy Ministry: Law 18 410, modified on 19 May 2005) that there are fines applied to power generators by the national authority. According to the law, these fines are applied in proportion to the installed capacity of each electric power company.

b) *Technological Barriers:* DNV confirmed during the site visit (on-site inspection and interview with plant managers) that the Valdivia pulp mill faces specific characteristics due to the project activity (surplus of electric power generation) that are not usual in the pulp mill industry. Those characteristics are: i) more equipment; ii) skilled and trained labour required in order to operate the mill in a way that both the pulp production and power generation are optimized; iii) work with higher steam data (i.e. 85 bar and 480°C); iv) may interferes with the normal operation of the pulping processes.

c) *Barriers due to prevailing practice:* DNV confirmed with the CDEC-SIC (Economic Dispatch Center in the Central Interconnected System in Chile) that there is no other large scale surplus electric power generation in the pulp mill industry other than the CDM registered project Nueva Aldea pulp mill.

d) *Cultural Barriers:* DNV confirmed during the site visit that the production and commercialization of pulp and paper is the principal business of Arauco.

e) Barriers to entry to the electric power industry: DNV confirmed that the project faces barriers in the electric power industry with the following sources: i) CDEC-SIC Internal Regulation, Article 118; ii) Ministry Resolution RM 40; iii) Ministry Resolution RM 17.

In summary, it is DNV opinion that the Valdivia project activity faced prohibitive barriers that would prevent its implementation.

Comment 2: The PP/DOE are requested to provide evidence of consideration of the CDM prior to project start date and of continuing and real actions were taken to secure CDM status for the project activity in parallel with its implementation (EB41, Annex 46, paragraph 5(b) guidance).

DNV Response:

In parallel with the project's implementation, actions were taken to secure CDM status for the project. The evidences provided for each event has been reviewed by DNV:

1. Arauco first considered the emission reduction in cogeneration initiatives in 1998, through a study carried out by SERCOR S.A. that explicitly considered the benefits related to power cogeneration: mainly higher efficiency and lower CO_2 emissions.
2. Arauco first considered the incentives of the CDM in 1999, evaluating and actually implementing a reforestation program in the coastal dry lands in the south part of the country.
3. Arauco presented the first grid-connected baseline methodology for biomass projects in Chile (the NM0081) in October 2004. Arauco began the construction of its first CDM biomass cogeneration project in April 2001, the "Trupan Biomass Power Plant in Chile" (Ref. Nº 0259). After that, Arauco implemented similar cogeneration initiatives in subsequent industrial projects. The "Nueva Aldea Biomass Power Plant Phase I" (Ref. Nº0258) and the "Nueva Aldea Biomass Power Plant Phase II" (Ref. Nº 0346), were both successfully registered as CDM project activities during 2006.
4. During 2002, SERCOR S.A. developed a study about the Kyoto Protocol, the CDM and the Carbon Market possibilities available at that time. This study was presented to members of the Arauco board and contributed to foster the interest in the CDM and the Kyoto Protocol.
5. In June 18th 2003, Arauco had its first meeting with Cantor CO2e.com to explore the possibilities of selling the CERs from Arauco's CDM project initiative.
6. During July, 2003, Arauco contacted SGS by phone for a quotation on validation services from CDM projects. This information request was answered via email in July, 23, 2003.
7. In July 22nd, 2003, Arauco contacted TÜV Anlagentechnik GmbH (member of the TÜV Rheinland Berlin Brandenburg GroupTUV) via email to request information about validation and verification services for Arauco's project initiative in the CDM.
8. In July 23rd, 2003, Arauco contacted Ecosecurities to request information about CDM services (PDD writing) for Arauco's project initiative in the CDM. There was subsequent follow-up involving some technical information about Arauco's CDM biomass projects which was used later on by Ecosecurities to prepare a proposal for Arauco to develop the PDDs and selling the corresponding emission reductions.
9. In July 22nd, 2003, Arauco contacted DNV requesting information for validation and certification services for Arauco's CDM project activities in the CDM.
10. In July 30th, 2003, Arauco contacted Ecofys to request information for validation and certification services for Arauco's biomass project activities in the CDM (Arauco's CDM project initiative).
11. In July 30th, 2003, Arauco received the first proposal for PDD development and CER sales from Ecosecurities.

12. In July 31th, 2003, Arauco received DNV's validation proposal for its biomass project activities in the CDM (Arauco's CDM project initiative). This proposal for Arauco's CDM projects (Arauco's initiative in the CDM, including the Valdivia CDM project) was finally signed in October 27th, 2004. The considerable delay (more than 1 year) was due to the fact that it was not possible to have the first PDD (the Trupan project activity) and baseline methodology (NM 0081) written before this date.
13. In August, 7th, 2003, Arauco received Ecofys's CDM service proposal for its biomass project activities in the CDM (Arauco's CDM project initiative).
14. In August, 8th, 2003, Arauco received a bundled proposal for developing Arauco's project activity initiative in the CDM. The proposal covered the following areas:
    a. Strategic guidance in the CDM process. Urquidi & Riesco Law firm (Chile).
    b. Technical development of CDM studies. Fundación Chile (Chile).
    c. Sale of credits (CERs): CO2e.com (International broker)
15. During August, 2003, Arauco sent information about its project initiative to potential buyers through CO2.com. As a result of this information, Arauco started negotiating a Term sheet for the sale of CERs from Arauco's biomass projects (Arauco's initiative in the CDM) with Tepco and Mitsui by the end of August, 2003.
16. In October 9th, 2003, Urquidi & Riesco Law firm (strategic CDM consultant) sent a proposal for assisting Arauco in going through the CDM with its initiative in the CDM (Arauco's biomass projects). After a negotiation process, this contract was signed by both parties in December 5th, 2003.
17. In October 10, 2003, Fundación Chile sent a proposal to Arauco for developing the technical studies required by Arauco's CDM project activities (Arauco's initiative in the CDM). Due to lack of competences and experience in the CDM, Arauco could not accept this proposal.
18. In November 10, 2003, Poch Ambiental sent a proposal to Arauco for developing the technical studies required by Arauco's CDM project activities (Arauco's initiative in the CDM). After a negotiation process, this contract was signed by both parties in December 5, 2003. However, this contract was unilaterally terminated by Arauco in December 6th, 2004 (there is an official and signed document terminating the services), since the consultants proved to be unable to develop the baseline methodology and the PDDs for Arauco's biomass projects.
19. During February, 2004, Arauco started preparing the information required to obtain the LOA for the Trupan and the Valdivia CDM project activities (both projects, part of Arauco's project initiative in the CDM). The two projects were presented to the Chilean DNA in May, 25th, 2004 and the corresponding LOA was finally obtained in September 22nd, 2004.

Therefore, it is DNV's opinion that CDM was seriously considered in the decision to undertake the project activity and that real and continuous actions were undertaken to secure CDM registration.

<u>Comment 3:</u> The PP/DOE are requested to explain and substantiate how the measured EFburning, CH4,k,y of the project can be representative for the whole year given that the measurement was taken only within one week.

DNV Response:

According to the U.S. Forest Service, RMRS, Fire Sciences Laboratory, Missoula, Montana, USA:
"Our results of methane emission factors from burning piled sawdust/bark residue in Chile in eight days in September 2006 are likely to be representative throughout the year for the following reasons:

1) The experiments were conducted under a wide range of weather conditions.
2) The results of methane emission factors had a narrow standard deviation of ±22% under a wide range of weather and combustion conditions.
3) The methane emission factors derived from the Chilean experiments are consistent with the results of other studies for other fuel types in southeastern and western U.S. and Alaska. The

U.S. results are from natural conditions during the fire season and would be expected to have lower methane emission factors than for large densely packed piles. The fact that both sets of results are similar indicates that the methane emission factor for burning sawdust pile in Chile is a conservative estimate.

4) The Chilean samples were taken in spring, when combustion conditions are at a median level. Therefore it is appropriate to use the results derived from this period to estimate total methane emissions for the whole burning season within the reported standard error range.
5) The actual piles are much larger and poorly aerated compared to our experiment piles, indicating that our measured methane emission factors from the smaller, better aerated piles should be much lower than what is actually occurring in the field."

The weather conditions in Chile during September (spring time) are representative of the median level of the whole year. Besides this, the comparison with the U.S. results and the fact that in the absence of the project activity a significant portion of the unused biomass would not be burned in an uncontrolled manner, but actually left to natural decay in piles under mostly anaerobic conditions, the proposed CH_4 emission factor represents in our opinion a conservative baseline for the additional biomass from forestry and industrial operations used by the project activity.

Comment 4: ***The PP/DOE are requested to further clarify how proper monitoring of EFburning,CH4,k,y can be made with regards to the requirements of the approved monitoring methodology.***

DNV Response:

According to ACM0006 v. 05, if the $EF_{burning,CH4}$ is measured it doesn't need to be monitored – just measured once at the start of the project activity; therefore it is DNV opinion that the measurement of $EF_{burning,CH4}$ at the start of the project activity complies with ACM0006.

Comment 5: ***The PP/DOE are requested to clarify how local stakeholders are consulted on the benefits of the CDM.***

DNV Response:

Local stakeholders were consulted on the project itself. It is DNV opinion that the stakeholders consultation process is reasonable as the potential impacts on local stakeholders were addressed as part of the EIA stakeholder consultation process. Local stakeholders are not directly impacted by the benefits of the CDM project and were thus not consulted on this specific issue. Moreover, the project's contribution to the sustainable development was assessed and confirmed by the DNA of Chile. However, we welcome more guidance by the EB with regard to the issues that should be addressed in the local stakeholder consultation process.

We sincerely hope that the Board accepts our above explanations.

Yours faithfully

for DET NORSKE VERITAS CERTIFICATION AS

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