VALIDATION REPORT

"NUEVA ALDEA BIOMASS POWER PLANT PHASE 1" PROJECT IN CHILE

REPORT NO. 2005-1192

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DET NORSKE VERITAS

VALIDATION REPORT

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Client: Celulosa Arauco y Constitución S.A.	Client ref.: Christian Patrickson

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Summary:

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the "Nueva Aldea Biomass Power Plant Phase 1" project in Chile on the basis of UNFCCC for CDM projects 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 modalities and procedures and the subsequent decisions by the CDM Executive Board.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan, ii) follow-up interviews with project stakeholders and iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

In summary, it is DNV's opinion that the project, as described in the project design document of 5 January 2006, meets all relevant UNFCCC requirements for the CDM and correctly applies the approved baseline and monitoring methodology ACM0006. Hence, DNV requests the registration of the "Nueva Aldea Biomass Power Plant Phase 1" project in Chile as CDM project activity.

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Report title: "Nueva Aldea Biomass Power Plant Phase 1" Project in Chile		
Work carried out by: Santhosh Jayaram, Cintia Dias, Mario Epstein		
Work verified by: Michael Lehmann		
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Abbreviations

BM	Build margin
CAR	Corrective Action Request
CDEC-SIC	Dispatch Centre for the Central Interconnected System of the Republic of Chile
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH_4	Methane
CL	Clarification request
CONAMA	National Commission for the Environment (the DNA of Chile)
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNV	Det Norske Veritas
DNA	Designated National Authority
EID	Environmental Impact Declaration
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
N_2O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
OM	Operating margin
PDD	Project Design Document
SIC	Central Interconnected System of the Republic of Chile
tCO_2e	Tonne of CO_2 equivalents
UNFCCC	United Nations Framework Convention on Climate Change

1 INTRODUCTION

Celulosa Arauco y Constitución S.A. (Arauco) has commissioned Det Norske Veritas Certification Ltd. (DNV) to validate the "Nueva Aldea Biomass Power Plant Phase 1" project in Chile (hereafter called "the project"). This report summarises the findings of the validation of the project, performed on the basis of UNFCCC and host Party criteria for CDM projects, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation team consisted of the following personnel:

Mr Michael Lehmann	DNV Oslo, Norway	Team leader, Energy sector expert, Technical reviewer
Mr Santhosh Jayaram	DNV Hyderabad, India	CDM auditor
Ms Cintia Dias	DNV Rio de Janeiro, Brazil	CDM auditor
Mr Mario Epstein	DNV Porto Alegre, Brazil	CDM auditor

1.1 Validation Objective

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 and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

1.2 Validation Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against Kyoto Protocol criteria for the CDM, the CDM rules and modalities as agreed in the Marrakech Accords, the modalities and procedures for small-scale CDM project activities and relevant decisions by the CDM Executive Board, including the approved consolidated baseline and monitoring methodology ACM0006. The validation team has, based on the recommendations in the Validation and Verification Manual /8/, employed a risk-based approach, 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 project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Description of Proposed CDM Project

The objective of the "Nueva Aldea Biomass Power Plant Phase 1" project activity was to establish a new biomass co-generation unit with 30 MW of installed capacity using climate change neutral biomass (wood chips and wood residue) as fuel and supplying heat and power to the Nueva Aldea industrial complex and exporting surplus electricity to the grid. The project is already implemented and started regular operation on 1 January 2005.

Emission reductions are generated by displacing fossil-fuel based grid-electricity and avoiding that biomass will be left to decay or is burned in an uncontrolled manner. Over a 21-year

crediting period starting on 1 January 2005, the project's expected annual emission reductions are on average 106 122 tonnes of CO_2 equivalents (tCO_2e). Actual emission reductions will be dependent on the annual updated baseline grid emission factor to be calculated from data provided by CDEC-SIC (Dispatch Centre for the Central Interconnected System of Chile).

2 METHODOLOGY

The validation of the project started in October 2005. The validation consisted of the following three phases:

i) a desk review of the project design, baseline and monitoring plan

ii) follow-up interviews with project stakeholders

iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

In order to ensure transparency, a validation protocol was customised for the project, according to the Validation and Verification Manual /8/. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in Figure 1.

The completed validation protocol for "Nueva Aldea Biomass Power Plant Phase 1" project is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of validation protocol criteria or where a risk to the fulfilment of project objectives is identified. Corrective Action Requests (CAR) are 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 certified.

The term Clarification (CL) may be used where additional information is needed to fully clarify an issue.

Validation Protocol Table 1: Mandatory Requirements			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Validation report.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.*

Validation Protocol Table 2: Requirement checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	*Gives reference to documents where the answer to the checklist question or item is found.*	*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 (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification** is used when the validation team has identified a need for further clarification.*

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	***Ref. To checklist question in table 2***	***Summary of project participants' response***	***Validation conclusion***
If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.*	*The responses given by the Client or other project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

Figure 1 Validation protocol tables

2.1 Review of Documents

The PDD (version 1 of 24 October 2005 and version 2 of 5 January 2006) /1/ for the "Nueva Aldea Biomass Power Plant Phase 1" Project in Chile was assessed by DNV. Other documents, such as spreadsheets containing calculations of the applied combined margin emission coefficient /3/, the Environmental Impact Assessment, the Environmental Licences /4/ were also assessed. In addition, the licence requirements as well as documentation on the consultation process with local stakeholders were reviewed during the follow up interviews in order to ensure the accuracy of the information provided in the PDD.

2.2 Follow-up Interviews

On 11-12 October 2005 DNV performed interviews with Arauco in Chile and visited the Nueva Aldea industrial complex to confirm selected information and to resolve issues identified during the document review. The main topics of the interviews were:

- Relevant approvals and licences,
- Social benefits of project,
- Verification of applicability of methodology at site,
- Analysis of biomass availability,
- Data provided by CDEC-SIC,
- Evidence that CDM was seriously considered in the decision to implement the project,
- Details of NPV analysis,
- Procedures for training, calibration of monitoring equipment, maintenance of these equipment, record handling, internal audit, performance review, implementing corrective actions etc.,
- Environmental Impact Assessment, and
- Stakeholder comments.

2.3 Resolution of Clarifications and Corrective Action Requests

The objective of this phase of the validation was the resolution of any outstanding issues which needed to be clarified for DNV's positive conclusion on the project design.

The initial validation of the project identified one *Corrective Action Request* and three requests for *Clarification*. These requests, which were presented to the project participants in DNV's draft validation report of 30 November 2005 (rev. 0), were resolved during communications between Arauco and DNV and through the submission of a revised PDD (version 2 of 5 January 2006).

To guarantee the transparency of the validation process, the concerns raised and responses given are documented in the validation protocol in Appendix A.

3 VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

The final validation findings in this section relate to the project design as documented and described in the revised PDD of 5 January 2006 /1/.

3.1 Participation Requirements

The only project participant is Celulosa Arauco y Constitución S.A. of Chile. The host Party Chile meets all relevant participation requirements. No participating Annex I Party was identified for the project. The DNA of Chile has provided written approval of voluntary participation /2/.

3.2 Project Design

The project is a renewable energy project activity with an installed capacity of 30 MW using climate change neutral biomass (wood chips and wood residue) as fuel and supplying heat and power to the Nueva Aldea industrial complex and exporting surplus electricity to the grid. Approximately 60% of the electricity generated by the new power plant will be destined to serve the needs of the Nueva Aldea industrial complex. The remaining 40% of the electric power generation will be sold to free (unregulated) customers and to the spot market of the Central Interconnected System (SIC grid).

The Nueva Aldea Phase 1 power boiler is a fluidised bed boiler which is designed to burn sawdust and bark. The proposed project activity is designed to use own and third party biomass for steam and electric power generation. The project sources a significant part of its consumption requirements (40%) from a great number of small providers (mostly local sawmills). Without the project, the biomass at these mills would continue to be either dumped and left for decay or in some cases burned in the open air or in simple incinerators.

The project involved the installation of high-pressure boiler and a steam turbine, employing steam-Rankine cycle technology for generating electricity. The applied technology essentially comprises direct combustion of biomass in a boiler to generate steam, which is subsequently expanded through a turbine. This technology has been used successfully for many years for steam turbines.

A renewable crediting period of 7 years is selected (with the potential of being renewed twice), starting on 1 January 2005. The starting date of the project activity (construction) is 29 September 2003. The expected operational lifetime of the project is 25 years.

The project is expected to bring social (employment), environmental and economic benefits, thus contributing to the sustainable development objectives of the Chilean Government. The DNA of Chile confirmed that the project assists in achieving sustainable development /2/.

The validation did not reveal any information that indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards Chile.

3.3 Baseline Determination

The project applies the approved consolidated baseline methodology ACM0006 *"Consolidated baseline methodology for grid-connected electricity generation from biomass residues"*/. The project fulfils the conditions under which ACM0006 is applicable.

The project activity complies with project scenario 3 of ACM0006, i.e. the project activity involves installation of a new cogeneration plant at a site where currently no power generation occurs. The power generated by the project plant is fed into the grid or would in the absence of the project activity be purchased from the grid. The biomass would in the absence of the project activity (a) be used for heat generation in boilers at the project site and (b) be dumped or left to decay or burned in an uncontrolled manner without utilizing it for energy purposes.

The selected baseline scenario is that in absence of the CDM project activity Arauco would have installed a conventional power plant using biomass as fuel, but only generating low pressure steam and no electricity. This conventional power plant design is business-as-usual in the sawmill and plywood industry. The following baseline scenarios for project scenario 3 were selected in accordance with ACM0006:

For power generation:	The generation of power in existing and/or new grid-connected power plants (P4).
For heat generation:	The generation of heat in the boilers using the same type of biomass residues (H4).
For biomass use:	The biomass is dumped or left to decay or burned in an uncontrolled manner without utilising it for energy purposes AND the biomass is used for heat and/or electricity generation at the project site (B1 and B2)

In accordance with ACM0006, a grid emission coefficient is calculated for the power generation baseline scenario in accordance with ACM0002 /11/ as a combined margin emission coefficient. The electricity system selected to determine the combined margin emission coefficient is the SIC grid system in Chile. The combined margin emission coefficient is calculated as the weighted average of the simple adjusted operating margin (OM) emission coefficient and the build margin (BM) emission coefficient (see section 3.6).

For the heat generation, it is assumed that the same amount of heat that is produced by the biomass power plant in the project scenario would have been produced by a conventional low pressure boiler using biomass in the baseline scenario. Hence, no emission reductions result from heat generation.

Project scenario 3 of ACM0006 requires that the biomass baseline scenarios B1 and B2 are combined. Indeed, only part of the biomass used by the project would be left for decay or burned in an uncontrolled manner in the baseline scenario (B1) while some biomass would have been used for heat generation at the project site also in the baseline scenario (B2). It is thus assumed that only the "additional" biomass necessary to generate electricity is left for decay or burned in uncontrolled manner and that the remaining biomass would have been used for heat generation also in the baseline scenario.

3.4 Additionality

In accordance with ACM0006, the additionality of the project is demonstrated through the "*Tool for the demonstration and assessment of additionality*" /12/, which includes the following steps:

Step 0 -Preliminary screening based on the starting date of the project activity: The starting date of the CDM project activity (construction), i.e. 29 September 2003, falls between 1 January 2000 and the date of the registration of the first CDM project activity (18 November 2004). Evidence for the project's starting date was presented in the form of the first contract for the construction of the power plant. Evidence that the benefits of the CDM were considered in the decision to proceed with the project was presented in the form of e-mails and studies carried on by consultants on the opportunities of CDM and the mitigation of GHG emission and contacts with potential buyers of CERs from the project /4/.

Step 1 - Identification of alternatives to the project activity consistent with current laws and regulations: Alternatives to the project activity consistent with current laws and regulation were identified, simulating how electric power would be generated in the absence of the CDM project activity, how the heat would be generated in the absence of the project activity and what would happen to the biomass in the absence of the project activity.

Step 2 - *Investment analysis*: An investment comparison analysis shows an IRR of 9.4% for the project and an IRR of 16.9% for the selected baseline scenario (i.e. a conventional power plant using biomass as fuel, but only generating low pressure steam and no electricity).

Step 3 - Barrier analysis: Investment barriers, Technological barriers, and barriers due to prevailing practice are presented in the PDD:

a) *Investment barrier:* DNV has been able to confirm that in Chile there is a higher risk exposure for being a big (visible) player in the electric power generation industry. As a member of the CDEC-SIC dispatch centre, Arauco is exposed to 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. This higher risk exposure prevents companies whose core business is not power generation from investing in power cogeneration projects.
b) *Technological barrier.* DNV has been able to confirm that there are very few saw mills and plywood mills with integrated power generation. This could result in lack of skilled and trained manpower to operate this facility. In terms of the project design, the design is to maximise the energy output and uses high pressure steam, which is not a suitable system to the steam requirements of the saw mill and plywood mill. The mills have to modify their systems to suit to high pressure steam. This provides a technological barrier since this is the first saw mill and plywood mill with integrated cogeneration.
c) *Barriers due to prevailing practice:* DNV has been able to confirm that the steam requirements in saw mills and plywood mills are low pressure steam and that this project produces high pressure steam in order to maximize the power output which is not prevailing practise in Chile.

Step 4 - Common practice analysis: DNV has been able to confirm that the project is first of its kind as an integrated cogeneration plant using biomass residues installed at a saw and plywood mills.

Step 5 - Impact of CDM registration: It is demonstrated that the incentives from CDM will alleviate the economic and financial hurdles and the identified barriers.

Given the above and in particular the investment, technological and common practice barriers that the project faces, it is sufficiently demonstrated that the project is not a likely baseline scenario.

3.5 Monitoring Plan

The project correctly applies the approved consolidated monitoring methodology ACM0006 *"Consolidated baseline methodology for grid-connected electricity generation from biomass residues"*/10/.

Most of the data necessary to calculate baseline and project emissions will be directly monitored at regular intervals. The following parameters are to be monitored:

- Net electricity generated by the biomass power plant;
- Quantity of biomass combusted in the project plant;
- Average return trip distance between biomass supply sites and the project site;
- Average truck load of the trucks used for transportation of biomass;
- On-site use of fuel for transportation of biomass;
- Fossil fuel used in power boiler.

Moreover, the OM and BM emission coefficient will be updated annually based on data provided by CDEC-SIC.

Detailed responsibilities and authorities for project management, monitoring procedures and QA/QC procedures have been presented and were checked during follow-up interviews. The monitoring practices are considered appropriate.

In the absence of any guidance in ACM0006 for calculating the "additional" biomass necessary for generating electricity in addition to heat, the approach proposed by Arauco is deemed adequate for determining the share of biomass that is additionally needed in the project scenario compared to the amount of biomass that would have been consumed in the baseline scenario.

Based on an energy / mass balance carried out by a consultant for the design of the power plant in the project scenario and the design of the power plant in the baseline scenario (i.e. the technical specifications of a biomass power plant that would meet the heat demand of the Nueva Aldea industrial complex, but which would not have generated electricity), an electric power generation factor has been calculated. The result of the energy / mass balances, which was the basis for determining the electric power generation factor, was assessed by DNV and deemed appropriate. The electric power generation factor remains fixed over the crediting period of the project. The gross (monitored) electric power generation per month (MWh/month) of the Nueva Aldea power plant will be divided by this factor, resulting in an estimation of the "additional" biomass that was consumed by the power plant to generate electricity.

The PDD was revised to explicitly describe how additional biomass will be monitored and determined and that only additional biomass will be considered in the calculation of project and baseline emissions.

3.6 Calculation of GHG Emissions

In accordance with ACM0006 CH_4 emissions from combusting biomass and CO_2 emissions from of-site and on-site transports of biomass are accounted as project emissions.

A potential source of leakage is that the project diverts biomass from other users and thereby increases fossil fuel use. To account for this, a "biomass surplus index" indicator will be periodically monitored and calculated and if the indicator shows that there is a sufficient surplus of biomass in the area where the project is located, then leakage will be considered zero. In 2005, the ratio total biomass supply/total biomass demand was 1.82, confirming that the project is not expected to cause any leakage effects. Therefore, the project is not likely to result in biomass scarcity which could cause other biomass users to switch to other fuels (leakage effects to third parties).

The project has two baseline components. The first is the emissions that would be produced by the grid when producing an equivalent amount of electricity that is generated by the project and the second is the emissions that would have been produced from uncontrolled burning of biomass.

For the displacement of grid electricity, the combined margin emission coefficient for the SIC Chilean grid will be determined *ex-post* in accordance with the "simple- adjusted OM" approach and BM approach described in ACM0002.

For the *ex-ante* estimation of the project's emission reductions for displacing grid electricity, actual data on plant specific electricity generation and plant specific fuel consumption factors have been used to determine a combined margin emission factor for the year 2005. For future years, the OM and BM emission factors were calculated based on forecasted power generation in the SIC grid (based on the latest expansion plan and average hydropower generation). For 2005, the simple-adjusted OM emission coefficient was calculated to be 0.689 tCO_2e/MWh (applying a λ of 0.001) and the BM emission coefficient 0.251 tCO_2e/MWh, resulting in a combined margin emission coefficient of 0.470 tCO_2e/MWh (weighted average of the build and operating margin). The OM and BM emission coefficients are calculated in accordance with ACM0002 and were transparently presented in spreadsheets /3/. Since the OM and BM emission coefficients will be updated *ex-post* on an annual basis with date provided by CDEC-SIC for each year in which the projects generated electricity, DNV has not in detail verified the input data used to calculate the OM and BM emission coefficients used for the *ex-ante* estimation of the project's emission reductions.

Although the majority of the additional biomass would in absence of the project be left for decay, it is assumed - as required by ACM0006 to be conservative - that all additional biomass is burned in uncontrolled manner. CH_4 emissions from uncontrolled burning of biomass in the absence of the project are determined using an adequate IPCC default emission factor which was adjusted for uncertainty in accordance with ACM0006. However, Arauco will attempt measurements of CH_4 emissions to determine a specific CH_4 emission factor for uncontrolled burning of biomass.

3.7 Environmental Impacts

The environmental impacts of the project that were identified in the Environmental Impact Statement (EIS) are mitigated as follows: Liquid waste will be treated in a sewage treatment plant, solid residues, such as ash, plastics and industrial waste, will be sent to a landfill site and

atmospheric emissions, such as particulate matter, will be treated as per Chilean regulations. The EIS was submitted on 30 August 2004 and was approved on 10 March 2005 by Resolution N° 76/2005 /4/. Arauco has received an environmental license accomplishing all of these aspects /4/.

3.8 Comments by Local Stakeholders

The local stakeholders were invited through publications in local newspapers. The technical staff of the Company held meetings with the local community and authorities of the communities of Coelemu, Ranquil, Coelemu, Trehuaco and Quillon.

All technical and environmental aspects were resolved at the EIS and approved by the environmental authorities.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

DNV published the original PDD of October 2005 on the DNV Climate Change web site (http://www.dnv.com/certification/ClimateChange) and stakeholders were, through the UNFCCC CDM web site, invited to provide comments within a 30 days period from 26 October 2005 to 24 November 2005. No comments were received.

5 VALIDATION OPINION

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the "Nueva Aldea Biomass Power Plant Phase 1" project in Chile. The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism (CDM) as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design document and the subsequent follow-up interviews have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

The objective of the project activity was to establish a new biomass co-generation unit with 30 MW of installed capacity using biomass (wood chips and wood residue) and supplying heat and power to the Nueva Aldea industrial complex and exporting surplus electricity to the grid.

The only project participant is Celulosa Arauco y Constitución S.A. of Chile. The host Party Chile meets all relevant participation requirements. No participating Annex I Party was identified for the project. The DNA of Chile has provided written approval of voluntary participation.

By promoting renewable energy, the project is in line with the current sustainable development priorities of Chile. The DNA of Chile confirmed that the project assists in achieving sustainable development.

The project applies the approved consolidated baseline methodology ACM0006 "Consolidated baseline methodology for grid-connected electricity generation from biomass residues". The baseline methodology has been correctly applied and the assumptions made for the selected baseline scenario are sound. The selected baseline scenario is the installation of a conventional power plant using biomass as fuel, but only generating low pressure steam and no electricity. It is sufficiently demonstrated that the project is not a likely baseline scenario and that emission reductions attributable to the project are thus additional.

By displacing fossil fuel-based electricity with electricity generated from a renewable source and by avoiding emissions from uncontrolled burning of biomass, the project will result in emission reductions that are real, measurable and will give long-term benefits to the mitigation of climate change. The emission reductions forecast stated in the PDD is a likely estimate.

The monitoring methodology ACM0006 has been correctly applied. The monitoring plan provides for monitoring of the indicators necessary for the ex-post determination of project and baseline emissions. The combined margin emission coefficient will be updated on an annual basis.

Local stakeholders' comments were consulted and comments received were taken into account in the project design. Comments by Parties, stakeholders and NGOs were also invited via the UNFCCC web-site. No comments were received.

In summary, it is DNV's opinion that the project, as described in the project design document of 5 January 2006, meets all relevant UNFCCC requirements for the CDM and correctly applies the approved baseline and monitoring methodology ACM0006. Hence, DNV requests the registration of the "Nueva Aldea Biomass Power Plant Phase 1" project in Chile as CDM project activity.

REFERENCES

Documents provided by the project proponent that relate directly to the project:

/1/ Celulosa Arauco y Constitución S.A.: *CDM-PDD for the "Nueva Aldea Biomass Power Plant Phase 1 (Nueva Aldea Power Plant Phase 1)" project*, Version Nº1 of 24 October 2005 and Version Nº2 of 5 January 2006.

/2/ CONAMA (DNA of Chile): *Letter of Approval*, 12 October 2005

/3/ Celulosa Arauco y Constitución S.A.: *Combined Margin Calculation for Nueva Aldea*, (Excel spreadsheets).

/4/ CONAMA, Regional Commission of Bio-Bio: *Environmental licenses number 76/2005*.

/5/ CO_2e.com: *Proposal to Mr. Alejandro Perez, CEO of Arauco*, 10 September, 2003.

/6/ The OECD, UM/ECLAC: *Evaluation of the Environmental Performance*, Chile, 2005.

/7/ National Energy Commission of Chile: *Node Price Report*, September 2005.

Background documents related to the design and/or methodologies employed in the design or other reference documents:

/8/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*. http://www.vvmanual.info

/9/ Approved Baseline Methodology ACM0006: *"Consolidated baseline methodology for grid-connected electricity generation from biomass residues"*, Version 1 of 30 September 2005.

/10/ Approved Monitoring Methodology ACM0006: *"Consolidated monitoring methodology for grid-connected electricity generation from biomass residues"*. Version 01 of 30 September 2005.

/11/ Approved Baseline Methodology ACM0002: *"Consolidated baseline methodology for grid-connected electricity generation from renewable sources"*. Version 04 of 28 November 2005.

/12/ CDM Executive Board: *Tool for the demonstration and assessment of additionality.* Version 02 of 28 November 2005.

/13/ IPCC: *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*. http://www.ipcc.ch/

Persons interviewed during the validation, or persons contributed with other information that are not included in the documents listed above:

/14/ Gerardo Soto Hidalgo – Arauco Supervisor responsible for buying fuels

/15/ Fernando Alvarez – Forestal Arauco Research and Development Analyst

/16/ Sergio Vives – Lawyer Urquidi, Riesco & Compañía

/17/ Cristian Vásquez – Arauco Supervisor for the Electric maintenance

/18/ Christian Patrickson – Operations Manager of Arauco Generación S.A.

/19/ Germán Vargas Torres – Arauco Risk manager

/20/ Claudia Flores – Consultant for Applus Programme

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APPENDIX A

CDM VALIDATION PROTOCOL

Table 1 Mandatory Requirements for Clean Development Mechanism (CDM) Project Activities

Requirement	Reference	Conclusion	Cross Reference / Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art.12.2	OK	Table 2, Section E.4.1
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, CDM Modalities and Procedures §40a	OK	Table 2, Section A.3
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	OK	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authority of each party involved	Kyoto Protocol Art. 12.5a, CDM Modalities and Procedures §40a	OK	Table 2, Section A.3.2
5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section E
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Kyoto Protocol Art. 12.5c, CDM Modalities and Procedures §43	OK	Table 2, Section B.2
7. In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of these Parties	Decision 17/CP.7, CDM Modalities and Procedures Appendix B, § 2	OK	There is no public funding involved in the project. The validation did not reveal any information that indicates that the project can be seen as a diversion of ODA funding towards Chile.
8. Parties participating in the CDM shall designate a national	CDM Modalities and	OK	Chile: Comisión Nacional del

Requirement	Reference	Conclusion	Cross Reference / Comment
authority for the CDM	Procedures §29		Medio Ambiente (CONAMA)
9. The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol	CDM Modalities §30/31a	OK	Chile: Ratification on 26 August 2002
10. The participating Annex I Party's assigned amount shall have been calculated and recorded	CDM Modalities and Procedures §31b	N/A	No Annex 1 Party is yet identified
11. The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7	CDM Modalities and Procedures §31b	N/A	No Annex 1 Party. is yet identified
12. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received	CDM Modalities and Procedures §37b	OK	Table 2, Section G
13. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	CDM Modalities and Procedures §37c	OK	Table 2, Section F
14. Baseline and monitoring methodology shall be previously approved by the CDM Executive Board	CDM Modalities and Procedures §37e	OK	Table 2, Section B.1.1 and D.1.1
15. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	CDM Modalities and Procedures §37f	OK	Table 2, Section D
16. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	CDM Modalities and Procedures §40	OK	DNV published the PDD of 24 October 2005 on the DNV Climate Change web site (http://www.dnv.com/certification/ClimateChange) and stakeholders were, through the UNFCCC CDM web site, invited to provide comments within a 30 days period

Requirement	Reference	Conclusion	Cross Reference / Comment
			from 26 October 2005 to 24 November 2005. No comments were received.
17. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	CDM Modalities and Procedures §45c,d	OK	Table 2, Section B.2
18. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	CDM Modalities and Procedures §47	OK	Table 2, Section B.2
19. The project design document shall be in conformance with the UNFCCC CDM-PDD format	CDM Modalities and Procedures Appendix B, EB Decision	OK	

Table 2 Requirements Checklist

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
A. General Description of Project Activity *The project design is assessed.*					
A.1. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project.*					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	/1/	DR	The project is located in the Nueva Aldea industrial complex site, Community of Ránquil, in the province of Nuble, Bio-Bio Region, Chile.		OK
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	/1/	DR	The project's system boundary includes the biomass boiler, generation of electricity, generation of steam for process, and fuel transportation. The system boundary also includes the electricity supplied to grid, the electricity system (In reference to OM and BM) and the industrial complex, the steam supplied to the industrial complex.		OK
A.2. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.*					
A.2.1. Does the project design engineering reflect current good practices?	/1/	DR	The project design engineering reflects current good practices.		OK
A.2.2. Does the project use state of the art technology	/1/	DR	The project will be employing steam-		OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
or would the technology result in a significantly better performance than any commonly used technologies in the host country?			Rankine cycle technology for generating electricity from biomass. This essentially comprises direct combustion of biomass in a boiler to generate steam, which is subsequently expanded through a turbine.		
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	/1/	DR	The technology has been used successfully for many years for steam turbines and so is unlikely to be substituted by other better technologies at least during the project lifetime.		OK
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	/1/	DR I	Since this is a green field project, the training and meeting maintenance requirements will depend on the competence of the people inducted to the project. The Nueva Aldea Phase 1 management has training procedures in place and periodically conducts training sessions to the power plant operators. Internal audits have been carried out. This was checked by the validator during the Nueva Aldea plant visit.		OK
A.2.5. Does the project make provisions for meeting training and maintenance needs?	/1/	DR	Yes.		OK
A.3. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	/1/ /4/	DR	Yes. Nueva Aldea received the environmental license in 10 March 2005.		OK
A.3.2. Is the project in line with host-country specific CDM requirements?	/1/ /2/	DR	The written confirmation by the DNA of Chile that the project assists in achieving sustainable development has been		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			received.		
A.3.3. Is the project in line with sustainable development policies of the host country?	/1/ /2/ /6/	DR	Biomass power cogeneration constitutes a sustainable source of power generation that brings advantages for mitigating global warming. Using the available natural resources in a more rational way, the project may help to enhance the development of renewable energy sources, in particular the use of biomass generated as a by-product of the forestry industry, which has a significant potential in Chile.		OK
A.3.4. Will the project create other environmental or social benefits than GHG emission reductions?	/1/ /4/	DR	Social benefits are mentioned in the EIA of the Nueva Aldea industrial project. The construction of the expansion of the Nueva Aldea industrial complex (not only the CDM project) will create employment of 1,200 to 2,600 persons. During the operation phase it will create 1,200 new jobs. In addition, will be implemented agricultural development plan, cultural / recreational plan and education and training plan.		OK
B. Project Baseline *The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*					
B.1. Baseline Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B.1.1 Is the baseline methodology previously approved	/1/	DR	The project applies the approved		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
by the CDM Executive Board?	/9/		consolidated baseline methodology for grid-connected electricity generation from biomass residues, ACM0006		
B.1.2 Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?	/1/	DR	Yes. The methodology is applicable for the following reasons: It is a new power generation plant at a site where currently no power generation occurs ("Power" Greenfield Projects). No other biomass types than biomass residues (sawdust and bark) will be used in the project plant and these biomass residues are the predominant fuel used in the project plant. The implementation of the project will not increase the biomass production in the facility. The biomass stored at the project facility will not be stored for more than one year. In this project it will not be stored more than a week. No significant energy quantities, except for transportation of biomass, are required to prepare the biomass residues for fuel combustion.		OK
B.2 Baseline Determination *The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.*					

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
B.2.1 Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	/1/ /9/	DR	Yes, the chosen scenario 3 of ACM0006 is the most plausible baseline scenario among alternatives. The chosen baseline is a combination of the following scenarios given in ACM0006. P4 – The generation of power in existing and/or new grid-connected power plants. – This is only credible alternative applicable. H4 – The generation of heat in the boilers using the same type of biomass residues. – This is more conservative compared to H6, which will be generation of heat using fossil fuels. B1– The biomass is dumped or left to decay or burned in an uncontrolled manner without utilising it for energy purposes. – Although there is another power plant which utilises biomass for energy is located, the surplus availability of biomass residues are 3.3 times as required by all power generation projects (grid connected), and since this quantity is dumped or left to decay or burned in an uncontrolled manner, this is the most plausible alternative. The approaches L2 and L3 were used to demonstrate abundance of biomass. The key information and parameters to determine the baseline scenario and the calculation of additional biomass and fossil fuel consumption was included in the PDD as Annex 3. Scenario 3 of ACM0006 requires that the	CAR 1	

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			biomass scenarios B1 and B2 are combined. Indeed, only part of the biomass would be left to decay or burned in an uncontrolled manner in the baseline scenario (B1). Some biomass would be used for heat generation at the project site (B2). Section D.2.1.4.1 of the PDD states that "Consistent with D.2.1.2, only the additional biomass related to the project activity will be considered for estimating baseline emissions due to avoided biomass disposal and therefore, susceptible for being credited with CERs." In, addition, Annex 3 describes an approach for calculating additional biomass. However, the PDD needs to be revised to explicitly describe how additional biomass will be monitored and determined (in Section D.2.1.1 and D.2.1.4.1) and whether only CH_4 emission from the combustion of additional biomass will be considered (in Section D.2.1.2.1).		
B.2.2 Has the baseline been determined using conservative assumptions where possible?	/1/	DR	Yes, as in the methodology ACM0006, it is assumed that the biomass is burned in uncontrolled manner for baseline scenarios, natural decay or uncontrolled burning. Burning of biomass generates much lower emissions of CH_4 than letting it to decay, as happens in Chile where it is left in piles for natural decay.		OK
B.2.3 Has the baseline been established on a project-specific basis?	/1/	DR	Yes		OK
B.2.4 Does the baseline scenario sufficiently take into	/1/	DR	Yes, the baseline scenario takes into		OK

Checklist Question		Ref.	MoV*	Comments	Draft Concl	Final Concl
	account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	/7/		account national policies, in terms of policies for electricity generation. Most recent modifications of the Chilean electric legislation (Short Law I, approved in January 20th, 2004 and Short Law II, approved in May 2005) have tried to spur investment in the electric power sector, and are intended to contribute to reverse the low trend of investment in the industry.		
B.2.5	Is the baseline determination compatible with the available data?	/1/	DR	Compatible as per available data and based on IPCC guidelines.		OK
B.2.6	Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	/1/	DR	Yes.		OK
B.2.7	Is it demonstrated/justified that the project activity itself is not a likely baseline scenario?	/1/ /4/ /5/ /7/ /12/	DR I	In accordance with ACM0006, the additionality of the project is demonstrated through the "Tool for the demonstration and assessment of additionality", which includes the following steps: Step 0 -Preliminary screening based on the starting date of the project activity: The starting date of the CDM project activity (construction), i.e. 29 September 2003, falls between 1 January 2000 and the date of the registration of the first CDM project activity (18 November 2004). Evidence for the project's starting was presented in the form of the first contract for the construction of the power plant. Evidence that the benefits of the CDM were considered in the decision to proceed with the project was presented in the form of e-mails and studies carried on		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			by consultants on the opportunities of CDM and the mitigation of GHG emission and contacts with potential buyers of CERs from the project /4/. Step 1 - Identification of alternatives to the project activity consistent with current laws and regulations: Alternatives to the project activity consistent with current laws and regulation were identified, simulating how electric power would be generated in the absence of the CDM project activity, how the heat would be generated in the absence of the project activity and what would happen to the biomass in the absence of the project activity. Step 2 - Investment analysis: An investment comparison analysis shows an IRR of 9.4% for the project and an IRR of 16.9% for the selected baseline scenario. Step 3 - Barrier analysis: Investment barriers, Technological barriers, and barriers due to prevailing practice are presented in the PDD: a) Investment barrier: DNV was able to confirm that in Chile there is a higher risk exposure for being a big (visible) player in the electric power generation industry. As a member of the CDEC-SIC dispatch centre, Arauco is exposed to fines applied to power generators by the national authority. According to the law, these fines are applied in proportion to the installed capacity of		

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			each electric power company. This higher risk exposure prevents companies whose core business is not power generation from investing in power cogeneration projects. b) Technological barrier. DNV was able to confirm that there are very few saw mills and plywood mills with integrated power generation. This could result in lack of skilled and trained manpower to operate this facility. In terms of the project design, the design is to maximise the energy output and uses high pressure steam, which is not a suitable system to the steam requirements of the saw mill and plywood mill. The mills have to modify their systems to suit to high pressure steam. This provides a technological barrier since this is the first saw mill and plywood mill with integrated cogeneration. c) Barriers due to prevailing practice: DNV was able to confirm that the project is first of its kind as an integrated cogeneration plant using biomass residues installed at a saw and plywood mill. Step 4 - Common practice analysis: DNV was able to confirm that the steam requirements in a saw mill and plywood mill are low pressure steam and that this project produces high pressure steam in order to maximize the power output. Step 5 - Impact of CDM registration: It is demonstrated that the incentives from CDM		

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			will alleviate the economic and financial hurdles and the identified barriers. Given the above and in particular the investment, technological and common practice barriers that the project faces, it is sufficiently demonstrated that the project is not a likely baseline scenario.		
B.2.8 Have the major risks to the baseline been identified?	/1/	DR	The only risk to the baseline seems to be the possibility of other renewable energy sources (like Hydroelectricity) taking up a major share of the generation capacity in Chile.		OK
B.2.9 Is all literature and sources clearly referenced?	/1/	DR	Yes		OK
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					
C.1.1 Are the project's starting date and operational lifetime clearly defined and reasonable?	/1/	DR I	The project starting date is 29 September 2003 (construction). Its life time will be of minimum 25 years.		OK
C.1.2 Is the assumed crediting time clearly defined (renewable crediting period of seven years with two possible renewals or fixed crediting period of 10 years with no renewal)?	/1/	DR	Yes, the project applies for a renewable crediting period of 7 years starting on 1 January 2005.		OK
D. Monitoring Plan *The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed ((Blue text contains requirements to be assessed for optional review of monitoring*					

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
methodology prior to submission and approval by CDM EB).					
D.1. Monitoring Methodology It is assessed whether the project applies an appropriate baseline methodology.					
D.1.1 Is the monitoring methodology previously approved by the CDM Executive Board?	/1/ /10/	DR	The project applies the approved consolidated monitoring methodology for grid-connected electricity generation from biomass residues ACM0006.		OK
D.1.2 Is the monitoring methodology applicable for this project and is the appropriateness justified?	/1/	DR	Yes. The methodology is applicable for the following reasons: It is a new power generation plant at a site where currently no power generation occurs ("Power" Greenfield Projects). No other biomass types than biomass residues (sawdust and bark) will be used in the project plant and these biomass residues are the predominant fuel used in the project plant. The implementation of the project will not increase the biomass production in the facility. The biomass stored at the project facility will not be stored for more than one year. In this project it will not be stored more than a week. No significant energy quantities, except for transportation of biomass, are required to prepare the biomass residues for fuel combustion.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
D.1.3 Does the monitoring methodology reflect good monitoring and reporting practices?	/1/	DR	Yes, the data is directly monitored wherever possible which should ensure more accurate estimation of GHG emission reductions.		OK
D.1.4 Is the discussion and selection of the monitoring methodology transparent?	/1/	DR	Yes		OK
D.2. Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.2.1 Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/1/	DR	Yes. The data will be archived in electronic form and be kept for two years after the end of the last crediting period.		OK
D.2.2 Are the choices of project GHG indicators reasonable?	/1/	DR	Yes. The project emissions are estimated in terms of: - Emissions from biomass controlled burning in the boiler, - Emissions from biomass transportation to the biomass power plant - Emissions from biomass transportation within the power plant site - Emissions from fossil fuel consumption in the boiler. However, the PDD needs to be revised to explicitly describe how additional biomass will be monitored and determined (in Section D.2.1.1) and whether only CH_4 emission from the combustion of additional	~~CAR 1~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			biomass will be considered (in Section D.2.1.2.1).		
D.2.3 Will it be possible to monitor / measure the specified project GHG indicators?	/1/	DR	Yes, most of the data will be directly monitored at regular intervals. The following parameters are to be monitored: Electricity generated from the project. Quantity of biomass of type i combusted in the project plant. Net calorific value of biomass fuel type i. Average return trip distance between biomass fuel supply sites and the project site. Average truck load of the trucks used for transportation of biomass. Average CO_2 emission factor for transportation of biomass with trucks. Emission factors. On-site use of transport fuel. Fossil fuel used in power boiler.		OK
D.2.4 Will the indicators give opportunity for real measurements of project emissions?	/1/	DR	Yes		OK
D.2.5 Will the indicators enable comparison of project data and performance over time?	/1/	DR	Yes		OK
D.3. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
D.3.1 Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/	DR	Yes.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
D.3.2 Are the choices of leakage indicators reasonable?	/1/	DR	The probable source identified for leakage is that the project diverts biomass from other users and thereby increases fossil fuel use. Leakage will be accounted-for only if the biomass supply is not abundant around the power plant. To account for this, a "biomass surplus index" indicator will be periodically monitored and calculated and if the indicator shows enough quantity of biomass, then leakage will be considered zero. In 2005, the ratio total biomass supply/total biomass demand was 1.82, confirming that the leakage is zero.		OK
D.3.3 Will it be possible to monitor / measure the specified leakage indicators?	/1/	DR	Yes. In the event biomass is not abundant around the power plant, leakage is calculated. The following are monitored: Amount of biomass of type i fired in all grid-connected power plants in the region / country. Quantities of biomass of type i that are available in surplus in the region / country.		OK
D.3.4 Will the indicators give opportunity for real measurements of leakage effects?	/1/	DR	Yes		OK
D.4. Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.4.1 Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions	/1/	DR	Yes.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
during the crediting period?					
D.4.2 Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/	DR	Yes. The baseline emissions are estimated in terms of: - Emissions from avoided biomass disposal; - Emissions from grid electricity displacement. Section D.2.1.4.1 of the PDD states that "Consistent with D.2.1.2, only the additional biomass related to the project activity will be considered for estimating baseline emissions due to avoided biomass disposal and therefore, susceptible for being credited with CERs." In, addition, Annex 3 describes an approach for calculating additional biomass. However, the PDD needs to be revised to explicitly describe how additional biomass will be monitored and determined (in Section D.2.1.1 and D.2.1.4.1).	~~CAR 1~~	OK
D.4.3 Will it be possible to monitor / measure the specified baseline indicators?	/1/	DR	Yes. The following parameters are to be monitored: - Net quantity of electricity displaced by the project activity from the grid. - CO_2 emission factor of the grid. (OM and BM also monitored separately) - Amount of each fossil fuel consumed by each power source / plant. - CO_2 emission coefficient of each fuel type i consumed by the electric power generators in the relevant grid. - Electricity generation of each power	~~CL 1~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			source / plant j/k or n. - Identification of power source / plant for the OM calculation. - Identification of power source / plant for the BM calculation. - Fraction of time during which low-cost / must-run sources are on the margin. - The merit order in which power plants are dispatched by documented evidence. - Electricity imports to the project electricity system. - CO_2 emission coefficient of fuels used in connected electricity systems (if imports occur). - Net quantity of thermal energy generated by the cogeneration plant of the project activity. - Net calorific value of the fossil fuel type i used in a boiler in the absence of the project activity. Since the project will apply the simple adjusted OM method, it needs to be clarified why the merit order in which power plants are dispatched will be monitored. Since the project will not displace heat generation based on fossil fuels (the project applies H4), it needs to be clarified why net quantity of thermal energy generated by the cogeneration plant and the net calorific value of the fossil fuel in a boiler in the		

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			absence of the project activity will be monitored.		
D.4.4 Will the indicators give opportunity for real measurements of baseline emissions?			Yes		OK
D.5. Monitoring of Sustainable Development Indicators/ Environmental Impacts *It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.*					
D.5.1 Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	/1/	DR	No. Neither the baseline and monitoring methodology applied by the project nor the DNA of Chile requires monitoring of sustainable development indicators.		OK
D.6. Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
D.6.1 Is the authority and responsibility of project management clearly described?	/1/	DR I	Yes, Arauco is responsible for project management		OK
D.6.2 Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	/1/	DR I	Yes. These have been described in section D.4 of the PDD		OK
D.6.3 Are procedures identified for training of monitoring personnel?	/1/	DR I	The Nueva Aldea Phase 1 management has training procedures in place and periodically conducts training sessions to the Nueva Aldea power plant operators. Internal audits have been carried out. This was checked by the validator during the visit at the Nueva Aldea plant.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
D.6.4 Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR I	See D.6.3		OK
D.6.5 Are procedures identified for calibration of monitoring equipment?	/1/	DR I	See D.6.3		OK
D.6.6 Are procedures identified for maintenance of monitoring equipment and installations?	/1/	DR I	See D.6.3		OK
D,6,7 Are procedures identified for monitoring, measurements and reporting?	/1/	DR I	Yes. These have been described in section D.4 of the PDD.		OK
D.6.8 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/	DR I	See D.6.3		OK
D.6.9 Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	/1/	DR I	Uncertainties are expected to be minimum, considering the nature of the project. Such procedures are not imperative to the project.		OK
D.6.10 Are procedures identified for review of reported results/data?	/1/	DR I	Yes. These have been described in section D.4 of the PDD		OK
D.6.11 Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	/1/	DR I	See D.6.3		OK
D.6.12 Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	/1/	DR I	See D.6.3		OK
D.6.13 Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	/1/	DR I	See D.6.3		OK
E. Calculation of GHG Emissions by Source *It is assessed whether all material GHG emission*					

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.					
E.1. Predicted Project GHG Emissions *The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.*					
E.1.1 Are all aspects related to direct and indirect GHG emissions captured in the project design?	/1/	DR	Direct on-site emissions are restricted to: - CH_4 emissions from controlled combustion of biomass; - CO_2 emissions from the combustion of supplementary fossil fuels; - CO_2 emissions from on-site transportation. - Off site emissions are those due to off-site transportation. Only the "additional" biomass and fossil fuel consumption will be considered to calculate the net project activity GHG emission. The calculation of "additional" biomass and additional fossil fuel consumption is described in the Annex 3 of the PDD. The 1st equation to calculate the electric power factor needs further clarifications, in particular with regard to how the biomass consumption without the CDM project is determined. In addition, section E.1.1.1 should describe how the additional biomass has been calculated, including the results of	~~CL 2~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			the application of the three calculation steps described in Annex 3. In computing the biomass emissions, the Project uses as one of the input parameters the volume of purchased bark and sawdust. The conversion factor from volume to mass or to the amount of energy generated was taken from the Trupan Power Plant, an enterprise in another location. It is suggested that Nueva Aldea starts weighing the biomass and measuring the moisture content of the matter at its own power plant as soon as possible.		
E.1.2 Are the GHG calculations documented in a complete and transparent manner?	/1/	DR	Yes. A new Annex (3) was added to the PDD, with all baseline data. The Excel spreadsheet with the Operating Margin is available /3/.		OK
E.1.3 Have conservative assumptions been used to calculate project GHG emissions?	/1/	DR	In establishing the conservativeness factor for CH_4 emission factor, if IPCC values are used, the uncertainty range has to be considered more than 100%. If any other range is assumed justification with data should be provided, rather than justification through process.	~~CL 3~~	OK
E.1.4 Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	/1/	DR	Yes. See E.1.3		OK
E.1.5 Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	/1/	DR	Yes. CH_4 and CO_2 have been considered.		OK
E.2. Leakage					

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.					
E.2.1 Are potential leakage effects beyond the chosen project boundaries properly identified?	/1/	DR	Yes. The probable source identified for leakage is that the project diverts biomass from other users and thereby increases fossil fuel use. Leakage will be accounted-for only if the biomass supply is not abundant around the power plant. To account for this, a "biomass surplus index" indicator will be periodically calculated and monitored and if the indicator shows enough quantity of biomass, then leakage will be considered zero. In 2005, the ratio total biomass supply/total biomass demand was 1.82, confirming that the leakage is zero.		OK
E.2.2 Have these leakage effects been properly accounted for in calculations?	/1/	DR	Yes. The supply / demand status within the Nueva Aldea Power Plant Phase 1 influence area will be periodically monitored as indicated in the chosen baseline and monitoring methodologies applied to this project activity.		OK
E.2.3 Does the methodology for calculating leakage comply with existing good practice?	/1/	DR	Yes, it complies with the methodology ACM0006.		OK
E.2.4 Are the calculations documented in a complete and transparent manner?	/1/	DR	Yes.		OK
E.2.5 Have conservative assumptions been used when calculating leakage?	/1/	DR	Yes		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
E.2.6 Are uncertainties in the leakage estimates properly addressed?	/1/	DR	Yes		OK
E.3. Baseline Emissions *The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.*					
E.3.1 Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	/1/ /3/	DR	Baseline emissions are from avoided open air burning of biomass, displacement of grid electricity and displacement of thermal energy. Baseline emissions for avoided open air burning of biomass are transparently calculated using appropriate emission coefficients. For the displacement of grid electricity, the electricity baseline emission coefficient of the SIC Chilean grid is estimated by determining an OM and BM emission coefficient in accordance with ACM0002 as required by ACM0006. The calculations of the OM and BM emission coefficient used to estimate emissions reductions were transparently presented in Excel spreadsheets. Since low-cost/must run resources constitute more than 50% of total grid generation in the SIC Chilean grid, the simple adjusted OM is applied. According to ACM0002, the preferred option for determining the OM, the dispatch data analysis OM, However, the choice of the		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			simple adjusted OM is justified given that the dispatch data analysis OM requires easy access to dispatch data and processing of a lot of data which would involve unreasonable costs for a company like Arauco whose core business is not the generation of energy. The simple adjusted OM emission coefficient will be calculated ex-post in the year in which the project generation occurs. During the first crediting period, the BM emission coefficient will be calculated ex post in the year in which the project generation occurs, In subsequent crediting periods, the BM emission coefficient is calculated ex-ante. For the OM and BM calculation in the PDD for generation in 2005, the project proponent estimated the OM and BM based on a realistic estimate of the electric power generation in 2005. The resulting combined margin is 465.64 (tCO_2/GWh). For future years the OM and BM emission coefficients were estimated based on expected future generation (based on latest expansion plan and average hydropower generation). The combined margin emission coefficients are deemed reasonable and are appropriate for the ex-ante estimation of emission reductions due to displacement of electricity. The key information and parameters to determine the baseline scenario and the		

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			calculation of additional biomass and fossil fuel consumption was included in the PDD as Annex 3.		
E.3.2 Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	/1/	DR	The system boundary includes the electricity supplied to grid, the electricity system (for the calculation of OM and BM emission coefficient) and the industrial complex, the steam supplied to the industrial complex. There are no Imports from neighbouring grids.		OK
E.3.3 Are the GHG calculations documented in a complete and transparent manner?	/1/	DR	Only the "additional" biomass is considered to calculate the CH_4 emissions from uncontrolled burning of biomass. The calculation of "additional" biomass and additional fossil fuel consumption is described in the Annex 3 of the PDD. The 1st equation to calculate the electric power factor needs further clarifications, in particular with regard to how the biomass consumption without the CDM project is determined. In addition, section E.4.1 should describe how the additional biomass has been calculated, including the results of the application of the three calculation steps described in Annex 3.	~~CL 2~~	OK
E.3.4 Have conservative assumptions been used when calculating baseline emissions?	/1/ /9/	DR	In establishing the conservativeness factor for CH_4 emission factor, if IPCC values are used, the uncertainty range has to be considered more than 100%. If any other range is assumed justification with data should be provided, rather than justification	~~CL 3~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			through process.		
E.3.5 Are uncertainties in the GHG emission estimates properly addressed in the documentation?	/1/	DR	Yes.		OK
E.3.6 Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	/1/	DR	Yes.		OK
E.4. Emission Reductions *Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.*					
E.4.1 Will the project result in fewer GHG emissions than the baseline scenario?	/1/	DR	Yes the project is expected to on the average reduce 106 122 tCO_2e per year over a 21 years crediting period.		OK
F. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					
F.1.1 Has an analysis of the environmental impacts of the project activity been sufficiently described?	/1/ /4/	DR I	The following impacts of the project were identified and are mitigated as follows: Liquid wastes will be treated in a sewage treatment plant. Solid residues such as ash, plastics and industrial wastes will be sent to a landfill site. These practices are in compliance with the Chilean regulations. Atmospheric emissions such as particulate matter, will be treated as per Chilean regulations.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			Celulosa Arauco y Constitución S.A. has received an environmental license addressing all of these aspects /4/.		
F.1.2 Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/1/	DR I	Yes, there are requirements for EIA and the EIA was submitted on August 30, 2004 and was approved on March 10, 2005 by Resolution N° 76/2005 /4/.		OK
F.1.3 Will the project create any adverse environmental effects?	/1/	DR I	Not likely, all the identified major environmental impacts will be taken care of through proper waste treatment and disposal methods as per Chilean regulations.		OK
F.1.4 Are transboundary environmental impacts considered in the analysis?	/1/	DR	No transboundary environmental impacts are likely to occur		OK
F.1.5 Have identified environmental impacts been addressed in the project design?	/1/	DR	Yes		OK
F.1.6 Does the project comply with environmental legislation in the host country?	/1/	DR	Yes.		OK
G. Stakeholder Comments *The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.*					
G.1.1 Have relevant stakeholders been consulted?	/1/	DR I	Yes, the local community and authorities were consulted.		OK
G.1.2 Have appropriate media been used to invite comments by local stakeholders?	/1/ /4/	DR I	The following media were used for inviting comments: Publications in local newspapers. Meeting of technical staff of the Company and local community and authorities. (Community of Coelemu and Ranquil).		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			Meetings with the communities of Ranquil, Coelemu, Trehuaco and Quillon and the management of the Company.		
G.1.3 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?	/1/ /4/	DR I	Yes, as part of the requirements for an Environmental Impact Assessment the Arauco carried out a local consultation process with the stakeholders through publications in local newspapers and community meetings.		OK
G.1.4 Is a summary of the stakeholder comments received provided?	/1/ /4/	DR I	Yes. In the EIS /4/.		OK
G.1.5 Has due account been taken of any stakeholder comments received?	/1/	DR I	All technical and environmental aspects were resolved and have also been approved by the environmental authorities.		OK

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
CAR 1 Scenario 3 of ACM0006 requires that the biomass scenarios B1 and B2 are combined. Indeed, only part of the biomass would be left to decay or burned in an uncontrolled manner in the baseline scenario (B1). Some biomass would be used for heat generation at the project site (B2). Section D.2.1.4.1 of the PDD states that "Consistent with D.2.1.2, only the additional biomass related to the project activity will be considered for estimating baseline emissions due to avoided biomass disposal and therefore, susceptible for being credited with CERs." In, addition, Annex 3 describes an approach for calculating additional biomass. However, the PDD needs to be revised to explicitly describe how additional biomass will be monitored and determined (Section D.2.1.1 and D.2.1.4.1) and whether only CH4 emission from the combustion of additional biomass will considered (Section D.2.1.2.1).	B.2.1 D.2.2 D.4.2	In the proposed project activity only the "additional biomass" will be considered related to the project activity. That is, the additional biomass that results from comparing the real (with project) situation with a baseline situation in which a conventional power plant with no electric power generation would have been installed at the Nueva Aldea site. For simplicity reasons, the PDD states that ALL the biomass consumed in the power boiler will be monitored. Then, following the calculation steps described in Annex 3 of the PDD, the additional biomass will be calculated. This calculation is based in energy / mass balances of the real power plant and a power plant without electric power generation. It must be realized that given that the Nueva Aldea project activity is part of an expansion project of the Nueva Aldea mill, it is not possible to take past biomass consumption figures of Nueva Aldea in order to estimate a baseline biomass fuel consumption. The same thing happens with the additional fossil fuel consumption. The proposed method is based on theoretical parameters and calculations of a baseline plant configuration that would have used the same type of equipment used in the real (with project)	OK Annex 3, which describes the approach for calculating "additional biomass", was further elaborated. In the absence of any guidance in ACM0006 for calculating the "additional" biomass necessary for generating electricity in addition to heat, the approach proposed by Arauco is deemed adequate for determining the share of biomass that is needed additionally in the project scenario compared to the amount of biomass that would have been consumed in the baseline scenario. Based on an energy / mass balance carried out by a consultant for the design of the power plant in the project scenario and the design of the power plant in the baseline scenario (i.e. the technical specifications of a biomass power plant that would meet the heat demand of the Nueva Aldea industrial complex, but which would not have generated electricity), an electric power generation factor has been calculated. The result of the energy / mass balances, which

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
		power plant. This approach allows to calculate: 1. The additional biomass related to the project activity. Thus, by monitoring the total biomass consumption in the Nueva Aldea biomass power plant, the additional biomass can be calculated and therefore monitored. 2. The fossil fuel consumption related to the project activity for both; the fossil fuel for external biomass transportation to the power plant and the internal fossil fuel consumption. The underlying rationale behind this calculation simply assumes a relation of direct proportionality between the amount of biomass burned in the power boiler and the fossil fuel consumption, either for biomass transportation and for start-up operations. The calculations in 1 and 2 allow to calculate part of the baseline and project emissions. In particular, the additional biomass calculation allows to calculate / estimate the CH_4 emission in both the baseline scenario (biomass decomposition) and the project scenario (minor CH4 emissions in the Nueva Aldea power boiler). According to this method, ONLY the additional biomass is considered for baseline and project emissions. The same	was the basis for determining the electric power generation factor, was assessed by DNV and deemed appropriate. The electric power generation factor remains fixed over the crediting period of the project. The gross (monitored) electric power generation per month (MWh/month) of the Nueva Aldea power plant will be divided by this factor, resulting in an estimation of the "additional" biomass that was consumed by the power plant to generate electricity. The PDD was revised to explicitly describe how additional biomass will be monitored and determined (Section D.2.1.1 and D.2.1.4.1) and that only CH_4 emission from the combustion of additional biomass will be considered (Section D.2.1.2.1).

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
		happens with the emissions related to fossil fuels. A detailed explanation of the monitoring of the total biomass and the calculation of the additional biomass and fossil fuel was added in sections: D.2.1.1 and D.2.1.2.4. An explicit link to Annex 3 was also provided, in which a step-by-step calculation of the additional biomass was added.	
CL 1 Since the project will apply the simple adjusted OM method, it needs to be clarified why the merit order in which power plants are dispatched will be monitored. Since the project will not displace heat generation based on fossil fuels (the project applies H4), it needs to be clarified why net quantity of thermal energy generated by the cogeneration plant and the net calorific value of the fossil fuel in a boiler in the absence of the project activity will be monitored.	D.4.3	The observation is indeed pertinent, since the project proponent does not intend to use the dispatch method to calculate the OM. This information will not be monitored and thus, can be deleted from the monitoring plan of the PDD. The same argument used above applies for the monitoring of the net quantity of thermal energy generated by the cogeneration plant and the net calorific values of the fossil fuels that would have been used in the absence of the project activity. Steam generation in the Nueva Aldea power plant is considered part of the baseline and therefore not subject to be credited with CERs. This information can be deleted from the monitoring plan in the PDD as well.	OK The PDD was revised accordingly. However, it needs to be clarified if the net quantity of steam needs to be monitored in order to calculate electric power generation factor and thus the additional biomass.
CL 1 (continued) It needs to be clarified if the net quantity of steam needs to be monitored in order to calculate the electric power generation factor used to determine the additional biomass.	D.4.3	To calculate the electric power generation factor it is possible to monitor the total amount of steam (enthalpy, in reality) or the total amount of biomass. Both variables are directly related. However, the monitoring of steam has the disadvantage that some of	OK The complimentary information provided clarifies that the net quantity of steam does not need to be monitored to calculate the electric power generation factor

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
		the steam is used for both the process and to generate electric power (i.e. turbine extractions), while the rest goes straight through the turbine for electric power generation alone. This adds complexity to the monitoring of this variable and consequently to the calculation of the project and baseline biomass quantities. Using total biomass amounts in each scenario is much simpler, accurate and straightforward. More so, if the biomass consumption will have to be monitored anyway for baseline and project emissions.	used to determine the additional biomass. The revised PDD confirmed that the calculated electric power generation factor remains fixed over the crediting period of the project and is not updated ex-post.
CL 2 The calculation of "additional" biomass and additional fossil fuel consumption is described in the Annex 3 of the PDD. The 1st equation to calculate the electric power factor needs further clarifications, in particular with regard to how the biomass consumption without the CDM project is determined. In addition, section E.1.1.1 and E.4.1 should describe how the additional biomass has been calculated, including the results of the application of the three calculation steps described in Annex 3.	E.1.1 E.3.3	The PDD presents a detailed energy / mass balance of the project scenario and the baseline scenario. From these calculations, the project proponent obtained the total biomass that would be consumed in a power plant that does not generate electric power but the necessary steam required by the Nueva Aldea plant. A detailed calculation of the additional biomass for the Nueva Aldea project activity is provided to illustrate how the equations are applied in this case. A more detailed explanation about the baseline steam generation and steam consumption was provided in the PDD. The baseline biomass (and fossil fuel) consumption result from a standard and modern mill design. These figures were calculated and provided by the consultant who designed the plant expansion at Nueva	OK In the absence of any guidance by ACM0006 for calculating "additional biomass" for situations where biomass scenarios B1 and B2 are combined, the approach proposed by Arauco is deemed adequate for determining the share of additional biomass that is needed in the project compared to the amount of biomass that would have been consumed in the baseline scenario (see also final conclusion on CAR 1).

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
		Aldea. The calculations are based on energy / mass conservation principles and modern equipment parameters (i.e. efficiencies) which are used to simulate the behaviour of these types of plants.	
CL 3 In establishing the conservativeness factor for CH_4 emission factor, if IPCC values are used, the uncertainty range has to be considered more than 100%. If any other range is assumed justification with data should be provided, rather than justification through process.	E.1.3 E.3.4	As stated in PDD section E.1.1.1, considering that the Nueva Aldea Phase 1 Power Plant is equipped with a fluidized bed boiler, which is far more efficient than a stoker boiler, the proposed "conservativeness factor" for the correction of the methane emission factor fore combustion of biomass is 1.02, the lowest from the ones proposed by the baseline methodology. It is assumed that the biomass is burned in uncontrolled manner for both of the baseline scenarios, natural decay or uncontrolled burning. Burning of biomass generates much lower emissions of CH_4 than letting it to decay, as happens in Chile where it is left in piles for natural decay.	CH_4 emission factor for determining project CH_4 emissions from combustion of biomass: If IPCC values are used, ACM0006 requires that the CH_4 emission factor is corrected for uncertainties to 21.55 kg/TJ. However, since the power plant is equipped with a fluidized bed boiler, which is far more efficient than a stoker boiler, the proposed "conservativeness factor" for the correction of the methane emission factor of 1.02 is deemed adequate. CH_4 emission factor for determining baseline CH_4 emissions due to natural decay or uncontrolled burning of biomass: It is correct that CH_4 emissions from decay of biomass are larger than CH_4 emissions from uncontrolled burning of CH_4. It also correct that scenario for the biomass scenario B1 in ACM0006, which assumes that all biomass would be burned in an uncontrolled manner, is conservative.

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
			Nonetheless, despite the above, ACM006 requires to discount the IPCC emission factor for CH_4 emissions from uncontrolled burning to 219 kg/TJ.
CL 3 (continued) ACM006 requires to discount the IPCC emission factor for CH_4 emissions from uncontrolled burning of biomass to 219 kg/TJ.	E.3.4	The most conservative figure will be used instead. However, the project participant will probably attempt a CH_4 emission coefficient measurement in the future, in order to have a more fair (and accurate) CH4 emission coefficient for the baseline scenario.	OK The PDD was revised and the IPCC emission factor for CH_4 emissions from uncontrolled burning was discounted to 219 kg/TJ.

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