



ANNEX 1

REPORT ON COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

“RAUDI CHEMICAL SALTS”

Project No. CDM.Val0359

Date: 15/05/2006

1 INTRODUCTION

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

2 PROJECT DETAILS

2.1 Project title

Raudi Chemical Salts.

2.2 Description of how and when the PDD was made publicly available

The Project Design Documents and its annexes were made publicly available from 11-03-2006 until 09-04-2006 on the website

<http://cdm.unfccc.int/Projects/Validation/view.html?ProjectId=N0V8BQCIBH5SRGIRDYUFGTDUEGVMYN&OE=SGS-UKL> and comments were invited through the UNFCCC CDM homepage.

3 COMMENTS RECEIVED

3.1 Description of how comments were received and made publicly available

Comments could be submitted through a web interface or by email or fax.

As per procedures on public availability of the CDM project design documents and for receiving comments as referred to in paragraphs 40b and 40c of the CDM modalities and procedures, any received comments are displayed from the end of the 30 days commenting period, at the website listed in section 2.2.

3.2 Compilation of all comments received

No comments received to the DOE during the 30 days commenting period.

4 EXPLANATION OF HOW COMMENTS HAVE BEEN TAKEN INTO ACCOUNT

No comments received.



ANNEX 2

LIST OF DOCUMENTS ATTACHED

Raudi Chemical Salts

Project No. CDM.Val0359

Date: 15/05/2006

- /1/ Annex 1: Report on Comments by Parties, Stakeholders and NGOs
- /2/ Annex 2: Comprehensive list of documents attached
- /3/ Annex 3 List of persons interviewed
- /4/ Annex 4: Validation Protocol (UK.AU4.CDM.Val0359)
- /5/ Annex 5: Overview of findings (UK.Findings.CDM.VAL0359)
- /6/ Annex 6: Answers from local assessor
- /7/ Annex 7: Validation Report (UK.AR6.CDM.VAL0359)
- /8/ Annex 8: Modalities of communication
- /9/ Letter of Approval from the Government of Brazil



ANNEX 3

Overview of documentation that has
been reviewed and list of persons
interviewed

RAUDI CHEMICAL SALTS

Project No. CDM.Val0359

Date: 15/05/2006

This document is an Annex to the validation report for CDM project activity registration. It gives overview of documentation that has been reviewed and names of persons that have been an interviewed as part of the validation.

List of documents reviewed

- /1/ Project Design Document "Raudi Chemical Salts", version 01 (09th February, 2006) and version 02 (17th, April 2006).
- /2/ Methodology and monitoring methodology AM0027 – "Substitution of CO₂ from fossil or mineral origin by CO₂ from renewable sources in the production of inorganic compounds", version 01 (28th November 2005).
- /3/ Tool for the demonstration and assessment of additionality, version 02 (28 November, 2005).

List of persons interviewed

	Name and position	Company name	Date interviewed
/1/	Janete Ferreira Bayer	Administrative Manager/Raudi	April 06 th , 2006
/2/	Fabio Jiciani	Production Manager/Raudi	April 06 th , 2006
/3/	Luís Antonio Gave	Technical Manager/Raudi	April 06 th , 2006
/4/	Melissa V. Hirschheimer	CDM Consultant/Ecoinvest	April 06 th , 2006

Validation Protocol

This validation protocol is designed to ensure that the project meets the requirements for CDM projects that are detailed in paragraph 37 of the CDM modalities and procedures. Each requirement is covered in a separate table. The following requirements are discussed in this protocol:

Requirement	Description	
Participation requirements	The participation requirements as set out in Decision 17/CP.7 need to be satisfied	Covered in table 1
Baseline and monitoring methodology	The baseline and monitoring methodology complies with the requirements pertaining to a methodology previously approved by the Executive Board	Baseline methodology is covered in table 2 Monitoring methodology is covered in table 4
Additionality	The project activity is expected to result in a reduction in anthropogenic emissions by sources of greenhouse gases that are additional to any that would occur in the absence of the proposed project activity	Covered in table 3
Monitoring plan	Provisions for monitoring, verification and reporting are in accordance with relevant decisions of the COP/MOP	Covered in table 5
Environmental impacts	Project participants have submitted to the designated operational entity documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts and, if those impacts are considered significant by the project participants or the host Party, have undertaken an environmental impact assessment in accordance with procedures as required by the host Party;	Covered in table 6
Comments by local stakeholders	Comments by local stakeholders have been invited, a summary of the comments received has been provided, and a report to the designated operational entity on how due account was taken of any comments has been received;	Covered in Table 7
Other requirements	The project activity conforms to all other requirements for CDM project activities in relevant decisions by the COP/MOP and the Executive Board.	Covered in Table 8

Small scale projects and AR projects have specific requirements which are covered in Table 9-11. Small scale SSC projects have special requirements which might deviate from the requirements of

other CDM projects. These requirements are tested in table 9. Please note that some questions in table 9 overlap with questions in the other tables. Where the questions in table 9 contradict or overlap questions elsewhere in the checklist, the questions in table 9 shall prevail. For the validation of small scale projects, assessor is required to address the questions in table 9 first before starting with the questions in the other tables.

Further remarks on the use of this document:

- text in *italic blue* is meant as guidance for the assessor
- MoV = Means of Verification, DR= Document Review, I= Interview

This protocol should be adapted as required. For example, if the project is not a small scale project or an AR project, some tables can be deleted.

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

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
1.1 The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	DR	PDD	No Annex 1 in this project.	Ok	Ok
1.2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	DR	PDD	No letter of approval of host country (Brazil) has been submitted to the validator.	Send the validation report to DNA	
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	DR	PDD UNF CCC site	Yes, Brazil: ratified on 23/August/2002	Ok	Ok
1.4 The project results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario	DR	PDD AM	Yes	Ok	Ok
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation	DR	PDD UNF CCC	The PDD was on the UNFCCC website until 09/04/2006.	Ok	Ok

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available		site	http://cdm.unfccc.int/Projects/Validation/view.html?ProjectId=N0V8BQCIBH5SRGIRDUXUFGTDUEGVMYN&OE=SGS-UKL No comments received.		
1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance	DR	PDD/ UNF CCC site	Yes. They use the current version.	Ok	Ok
1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA	DR/I	PDD	Raudi implemented the project without any public funding.	Verify	Ok
1.8 For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?			NA		
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects Table 11 for AR SSC projects			NA		
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment.	DR	PDD	To be confirmed by local assessor. It was confirmed during the site visit by local assessors.	Verify	Ok
1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	DR		To be confirmed by local assessor. It was confirmed during site visit.	Verify	Ok

Table 2 Baseline methodology(ies) (Ref: PDD Section B and E and Annex 3 and AM) Normal CDM projects only

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.1 Does the project meet all the applicability criteria listed in the methodology	PDD AM	DR	Yes. The criteria of applicability are: The residual CO₂ from the processing of biomass was already produced but was not used before the project activity, so that no diversion of CO₂ from other applications is due to project activity. Coopacana ethanol distillery operates before the implementation of Raudi project. The processing of sugarcane at the distillery underwent no substantial change to produce CO₂ used by the project activity. No additional significant energy quantities are required to prepare the renewable CO₂ from biomass processing for use in the production of inorganic compounds (related CO₂ emissions are below 1% of total emission reduction); All Carbon in the produced inorganic compounds stems from the CO₂ supplied during the production process. This is the case of Raudi. There are no substantial changes (e.g. product change) in the production process of inorganic compounds as a result of the project	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			activity; CO ₂ from fossil or mineral sources that is used for the production of inorganic compounds prior to the project activity will not be emitted to the atmosphere with the project activity; Production levels of the plant (tons of inorganic compound produced per year) not increase with the project activity.		
2.2 Is the project boundary consistent with the approved methodology	PDD AM	DR	Yes. The project boundary is according to methodology.	Ok	Ok
2.3 Are the baseline emissions determined in accordance with the methodology described	PDD AM	DR	Yes. The calculation of the baseline emissions (<i>B</i>) consists of : GHG emissions during final consumption (<i>BE</i>), GHG sequestration during final consumption (<i>BS</i>) and possible emissions related to the activity. $B = BE - BS + BI$ Where <i>BI</i> are not accounted, as justified in the PDD.	Ok	Ok
2.4 Are the project emissions determined in accordance with the methodology described	PDD AM	DR	Yes. The calculation of project emissions (<i>P</i>) consists of: GHG emissions during final consumption (<i>PE</i>), GHG sequestration during final consumption (<i>PS</i>) and other possible emissions related to the activity. $P = PE - PS + PI$ Where <i>PI</i> are not accounted, as justified in the PDD.	Ok	Ok
2.5 Is the leakage of the project activity determined in accordance with the methodology described	PDD AM I	DR	Leakage = 0 The main potential source of leakage for this project activity lies in an increase in	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			emissions due to diversion of CO ₂ from other users to the project as a result of the project activity. CO ₂ from the processing of biomass was already produced (by Coopcana) but was not used before the project activity; it was released to the atmosphere, as confirmed by local assessors.		
2.6 Are the emission reductions determined in accordance with the methodology described	PDD AM	DR	Yes. The formula used below is in compliance with the AM0027: $ER = 44 \cdot \frac{N}{M} \cdot m \cdot (k_p - k_b)$	Ok	Ok

Table 3 Additionality (Ref: PDD Section B3 and AM) Normal CDM projects only

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.1 Does the PDD follow all the steps required in the methodology to determine the additionality	PDD AM	DR	Yes. It was used the “Tool for the demonstration and assessment of additionality” and followed all steps.	Ok	Ok
3.2 Is the discussion on the additionality clear and have all assumptions been supported by transparent and documented evidence	PDD AM	DR	The barriers presented shall be confirmed by local assessor. Some information should be revised: - Design and construction starting date (July, 2002); - Information regarding scenario 3 (it can be excluded, as it is not applicable to Raudi). The PDD was revised (see version 2).	CAR 8	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.3 Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	PDD AM	DR	To be confirmed by local assessor. Five scenarios were discussed; the baseline scenario identified was "The use of CO ₂ from a particular existing or new plant, on-site or off-site, using non-renewable sources of CO ₂ , such as CO ₂ derived from thermochemical processing of fossil hydrocarbons, CO ₂ derived from mineral products, etc. If not used as input for the production of inorganic compounds, the CO ₂ would not be produced, and would not be emitted in the atmosphere".	Ok	Ok
3.4 Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	PDD AM	DR	To be confirmed by local assessor. Yes. In the absence of the CDM project activity what would happen is the use of the CO ₂ from non renewable source.	Ok	Ok

Table 4 Monitoring methodology (PDD Section D and AM) Normal CDM projects only

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4.1 Does the project meet all the applicability criteria listed in the monitoring methodology	PDD AM	DR	Yes. The same criteria applicable to baseline methodology apply to monitoring methodology. See section B.1.1.	Ok	Ok
4.2 Does the PDD provide for the monitoring of the baseline emissions as required in the monitoring methodology	PDD AM	DR	The project will apply the direct monitoring of emission reductions from the project activity.	Ok	Ok
4.3 Does the PDD provide for the monitoring of the project emissions as required in the monitoring	PDD AM	DR	The project will apply the direct monitoring of emission reductions from	CAR1	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
methodology			the project activity. The AM0027 requires the monitoring of the type of inorganic compound produced (to be performed annually after the start of project activity). The indicator n° 8 "Product" is not included in the table D.2.2.1 (PDD, section D). The PDD version 2 was verified and the item 8 was included in the monitoring plan (section D). CAR1 was closed out.		
4.4 Does the PDD provide for the monitoring of the leakage as required in the monitoring methodology	PDD AM	DR	Leakage =0	Ok	Ok
4.5 Does the PDD provide for Quality Control (QC) and Quality Assurance (QA) Procedures as required in the monitoring methodology	PDD AM	DR/I	Yes. The main indicator to be monitored is the total amount of chemical produced. It will be measured using mass or volume meters at the plant site and should be cross-checked with an annual energy balance that is based on purchased quantities and stock changes. Raudi is implementing its Quality Management System and it is expected to be ISO 9000 in the end of 2006. Written procedures and work instructions have been developed. The controls required for the project activity are part of Raudi operational routine. Production data is obtained from the	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			electronic control system that automatically monitors and control plant operations. The data is kept electronically in the system, with back-up available. Monthly reports are produced from these data.		

Table 5 Monitoring plan (PDD Annex 4) Normal CDM projects only

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.1 Monitoring of Sustainable Development Indicators/ Environmental Impacts	PDD AM	DR/I	No monitoring of sustainable indicators/environmental was presented in the PDD. To close out the CAR, the following indicators were included in the revised PDD: - Amount of CO₂ derived from fossil sources used over the period; - Amount of steam and electricity from bagass used over the period; - Achieving all the necessary permits over the period; - Amount of employees in the plant for both qualification levels. CAR 2 was closed out.	CAR2	Ok
5.1.1 Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	PDD AM	DR/I	See above	See 5.1	Ok
5.1.2 Is the choice of indicators for sustainability	PDD AM	DR	See above	See 5.1	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
sustainability development (social, environmental, economic) reasonable?					
5.1.3 Will it be possible to monitor the specified sustainable development indicators?	PDD AM	DR	See Car 2 Yes.	See 5.1	Ok
5.1.4 Are the sustainable development indicators in line with stated national priorities in the Host Country?	PDD AM	DR	See CAR 2 Yes.	See 5.1	Ok
5.2 Project Management Planning					
5.2.1 Is the authority and responsibility of project management clearly described?	PDD AM	DR	Yes. The responsible for the project management is Raudi Indústria e Comércio managers.	Ok	Ok
5.2.2 Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD AM	DR/I	Yes. See item 5.2.1	Ok	Ok
5.2.3 Are procedures identified for training of monitoring personnel?	PDD AM	DR/I	Verify if specific training is required for implementation of the monitoring plan. No information presented in the PDD. Monitoring activities are part of operational routine of Raudi. The plant is implementing ISO 9000. Operations procedures are being developed.	See NIR 7	Ok
5.2.4 Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	PDD AM	DR/I	Information about potential unintended emissions and emergency procedures shall be verified by local assessor. No information was presented in the PDD. The only possible source	NIR3	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			of unintended emissions is the back-up CO2 tanks. There are controls in place to prevent accidents and leakage. In case of leakage, the amount of CO2 will be accounted as project emissions. NIR3 was closed out.		
5.2.5 Are procedures identified for calibration of monitoring equipment?	PDD AM	DR/I	The main indicator to be directly measured is the total amount of chemical produced. The monitoring plan did not provided information about meters calibration. It was informed that Raudi is implementing a Quality Management System to be certified against ISO 9000. Calibration procedure will be defined and implemented as part of the management system. Observation: The procedure for calibration should be implemented before the verification phase. CAR was close out.	CAR4	Obser vation
5.2.6 Are procedures identified for maintenance of monitoring equipment and installations?	PDD AM	DR/I	To be confirmed by local assessor. Yes, as verified during the site visit, Raudi is implementing its quality management system. All data is controlled and monitored from the plant control room, where all information is available electronically and with historic back up.	Verify	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.2.7 Are procedures identified for monitoring, measurements and reporting?	PDD AM	DR/I	To be confirmed by local assessor. All data for the monitoring of the project activity is monitored as part of plants. There are reports for each area involved. “Controle de Estoque de Matéria prima”. “Apuração do custo de insumos/Coopcana – por tonelada”. “Faturamento de insumos”. As described in the PDD, production data is obtained from the electronic control system that automatically monitors and control plant operations. The data is kept electronically in the system, with back-up available. Monthly reports are produced from these data. The calculation of emissions reductions is made through a Microsoft Excel spreadsheet, which contains formulae in accordance with the methodology. The data obtained from the consolidated reports shall be introduced in the spreadsheet and emissions reductions will be calculated automatically.	Verify	Ok
5.2.8 Are procedures identified for day-to-day records handling (including what records	PDD AM	DR/I	To be confirmed by local assessor. See also 5.2.7 Data is obtained from the electronic control system	Verify	Ok

CHECKLIST QUESTION		Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	to keep, storage area of records and how to process performance documentation)			Regarding records storage, the PDD defined that all monitored data related with the project activity will be stored until two years after the end of the crediting period, as required by CDM rules.		
5.2.9	Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	PDD AM	DR/I	To be confirmed by local assessor. Any direct measurements with mass or volume meters at the plant site should be cross-checked with an annual energy balance that is based on purchased quantities and stock changes. The sales receipts that contain the quantity sold may be used for cross-checking the total amount of chemical produced.	Verify	Ok
5.2.10	Are procedures identified for review of reported results/data?	PDD AM	DR/I	Data is obtained from the electronic control system that monitors and control plant operations, and monthly reports are produced from these data. See item 5.2.11 and CAR 5 about internal audits	Verify See also CAR 5	Ok
5.2.11	Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	PDD AM	DR/I	There are no procedures identified for internal audits. The procedures for internal audits are being development. CAR 5 was close out.	CAR 5	Ok
5.2.12	Are procedures identified for project performance reviews	PDD AM	DR	See item 5.2.11 and 5.2.13	See also CAR	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
before data is submitted for verification, internally or externally?				5	
5.2.13 Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	PDD	DR	No procedures for Corrective actions. For closing out CAR 6, it was explained by Raudi that the quantity of raw material and final product can be cross-checked with measured parameters of the system and mass balances. It is possible to perform a mass balance of each product and production route so that inconsistencies are verified and data can be corrected. In addition, a QMS is been implementing in the company and its procedures will included corrective actions procedures. CAR 6 was closed out.	CAR6	Ok

Table 6 Environmental Impacts (Ref PDD Section F and relevant local legislation)
Normal CDM projects only

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
6.1 Has an analysis of the environmental impacts of the project activity been sufficiently described?	PDD	DR	To be confirmed by local assessor. There are environmental licenses issued by State and Federal environmental agencies. See list of documents consulted during the site visit.	Verify	Ok
6.2 Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PDD	DR	To be confirmed by local assessor. The environmental agency did not require	Verify	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			agency did not require Environmental Impact Assessment (EIA) for the project activity.		
6.3 Will the project create any adverse environmental effects?	PDD	DR	To be verified by local assessor. No significant environmental impacts were identified.	Verify	Ok
6.4 Are transboundary environmental impacts considered in the analysis?	PDD	DR	To be verified by local assessor. No adverse transboundary impact was identified.	Verify	Ok
6.5 Have identified environmental impacts been addressed in the project design?	PDD	DR	No environmental impacts have been identified.	Verify	Ok
6.6 Does the project comply with environmental legislation in the host country?	PDD	DR	Verify. Yes. Verify list of documents consulted (required environmental licenses).	Verify	Ok

Table 7 Comments by local stakeholders (Ref PDD Section G) All CDM projects activities

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7.1 Have relevant stakeholders been consulted?	PDD	DR	Verify letters sent. Yes. The list of stakeholders consulted was provided and included the relevant stakeholders, as defines by Brazilian DNA.	Verify	Ok
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD	DR	Yes. Letters were sent in local language.	Verify	Ok
7.3 If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	PDD	DR	Verify letters sent. Letters was sent in 10/03/2006 according Brazilian Resolution #1.	Verify	Ok

CHECKLIST QUESTION	Ref.	MoV ^a	COMMENTS	Draft Concl	Final Concl
7.4 Is a summary of the stakeholder comments received provided?	PDD	DR	Yes, one comment received. See section G of the PDD.	Verify	Ok
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	Yes. See section G of the PDD.	Verify	Ok

Table 8 Other requirements. All CDM project activities

CHECKLIST QUESTION	Ref.	MoV ^a	COMMENTS	Draft Concl	Final Concl
8.1 Project Design Document					
8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without modifying/adding headings or logo, format or font.	PDD	DR	Yes.	Ok	Ok
8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified	PDD	DR	Yes.	Ok	Ok
8.2 Technology to be employed					
8.2.1 Does the project design engineering reflect current good practices?	PDD	DR	Yes.	Ok	Ok
8.2.2 Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	PDD	DR	It is a new technology. Technology employed was developed by Raudi, patent #PI0002730-8, July 13, 2000 INPI – Brazil. The CO ₂ produced from the sugarcane fermentation at Coopcana is transported through a pipeline, from ethanol distillery, to the chemical salts plant.	Ok	Ok
8.3 Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR	No.	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV ¹	COMMENTS	Draft Concl	Final Concl
8.2.4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PDD	DR/I	Verify if specific training is required for implementation of the project and its monitoring plan. No information presented in the PDD. No specific training was required. The project activity is the operational routine of Raudi. The plant is implementing ISO 9000 and operational procedures are being developed. NIR 7 was close out.	NIR 7	Ok
8.3 Duration of the Project/ Crediting Period					
8.3.1 Are the project's starting date and operational lifetime clearly defined and reasonable?	PDD	DR	Section C1.1- Starting date: 11/07/2002 Section C1.2. - Lifetime: 30 years.	Ok	Ok
8.3.2 Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	PDD	DR	7 years.	Ok	Ok
8.3.3 Does the project's operational lifetime exceed the crediting period	PDD	DR	Yes.	Ok	Ok

Table 9 Additional requirements for SSC projects
Table 10 Additional requirements for AR projects
Table 11 Additional requirements for SSC AR projects
Table 12 Additional information to be verified by local assessors / site visit

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Verify evidences of start date of the project activity.	Site visit	DR/I	Confirmed start date on 11/07/2002, when the contract between Raudi and Coopcana was signed (see below)	Ok	Ok
Verify the project installation (CO2 pipeline, CO2 tanks etc).	Site visit	DR/ site visit	The installations were verified during the site visit and comply with the PDD description.	Ok	Ok
Verify the types of products (salts) produced in the plant	Site visit	DR	Verified production reports. They complied with the products described in the PDD.	Ok	Ok
Verify environmental licenses and legal requirements	Site visit	DR	Preliminary license, n° 7167, dated 18/03/2005, issued by Instituto Ambiental do Paraná (IAP). Installation license, n° 3951, dated 12 April 2006 (valid until April 2007), issued by Instituto Ambiental do Paraná (IAP). It was sent to SGS after the site visit.	Ok	Ok
Verify contract for CO2 (from biomass) supplying (between Raudi and the supplier Coopcana).	Site visit	DR/ site visit	It was verified the agreement signed between Raudi e COOPCANA, on 11/07/2002 (see Ref.3).	Ok	Ok
Verify records and raw material stock controls	Site visit	DR/ site visit	Verified documents (see Ref. 4,5,7,and 8)	Ok	Ok
Verify copy of the letters sent to stakeholders an ARs. Verify if had any	Site Visit	Dr/ Site	Documented evidences were verified; letters sent on 10/03/2006 to:	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV ^a	COMMENTS	Draft Concl	Final Concl
answer or not.		visit	on 10/03/2006 to: Prefeitura Municipal de São Carlos do Avaí (São Carlos do Avaí City Hall); Câmara Municipal de São Carlos do Avaí (Municipal Assembly of São Carlos do Avaí); Secretaria do Meio Ambiente de São Carlos do Avaí (Environmental Agency of São Carlos do Avaí); Instituto Ambiental do Paraná – IAP (Environmental Institute of Paraná); Ministério Público do Paraná (State Attorney for the Public Interest of the State of Paraná); FBMS Forum Brasileiro de ONG's, Movimentos Sociais para o meio ambiente (Brazilian Forum of NGOs and Social Movements for the Development and Environment); Associação dos Municípios do Noroeste-PR (Noroeste Association).		

References consulted during Ground Truthing and brief summary of content / significance [please try to obtain a hard copy where ever possible]:

Ref no.	Title (full bibliographic reference if possible)	Brief note on content / significance	Hard copy (Y/n)
1	Environmental permission n° 6399, 14/01/2003, issued by Instituto Ambiental do Paraná.	Environmental permission for production of bicarbonates.	Y
2	Environmental Control Plan (Plano de Controle Ambiental), protocol IAP N° 8508920, February, 2006.	Environmental report covering the environmental control plan.	Y

3	Contrato particular de fornecimento e Captação de matéria-prima – produtos e subprodutos da indústria canavieira – e outras avenças.	Agreement between Raudi e COOPCANA regarding the raw material supplying, signed on 11/07/2002.	Y
4	Apuração do custo de insumos/COOPCANA – por tonelada.	Control of raw material costs (CO2).	Y
5	Faturamento de Insumos.	Invoicing of insumes.	Y
6	Dispatching/entrance checklist	Dispatching and check in checklist: form filled at the industrial unit entrance, where the trucks are checked and weighted.	Y
7	Controle de estoque de matéria-prima	Stock control of raw material.	Y
8	Resumo anual Aquisição material-prima: CO2	Annual summary – purchasing of raw material (CO2)	Y
9	Invoice – Destilaria São Carlos.	Invoice related to Stream and CO2 purchasing, n° 037676 issued on 17/12/2004.	Y
10	Invoice – White Martins	Invoice related to CO2 purchasing, n° 0410 issued 15/04/2006.	Y

Individuals interviewed during Validation and Ground Truthing [name, position and contact details, plus a brief summary of points discussed

Date met	Name	Position	Contact details	Brief note on subject of interview
April 06 th , 2006	Janete Ferreira Bayer	Administrating Manager/Raudi	bayer@raudi.com.br	Operational issues
April 06 th , 2006	Fabio Jiciani	Production Manager/Raudi	jiciani@raudi.com.br	Technical issues and operational issues
April 06 th , 2006	Luís Antonio Gave	Technician Manager/Raudi	gave@raudi.com.br	Technical issues
April 06 th , 2006	Melissa V. Hirschheimer	CDM Consultant/Ecoinvest	melissa@ecoinvestcarbon.com	PDD developing, monitoring plan, baseline.

ANNEX 5 - FINDINGS OVERVIEW

FINDINGS FROM VALIDATION OF *RAUDI CHEMICALS SALTS*

Each Table below represents a finding from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified.

Description of table:

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

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

Please note that this is an open list and more findings may be added as validation progresses.

Date: 28/03/06

Raised by: Fabian Gonçalves

No.	Type	Issue	Ref
1	CAR	The AM0027 requires the monitoring of the type of inorganic compound produced (to be performed annually after the start of project activity). The indicator n° 8 "Product" is not included in the table D.2.2.1 (PDD, section D).	4.3
Date: 17/April/2006			
The PDD was revised incorporating "Item 8 – Product" in the monitoring plan.			
Date: 25/04/2006.			
[Acceptance and close out] The PDD version 2 was verified and the item 8 was included.			
CAR 1 was closed out.			

Date: 28/03/06

Raised by: Fabian Gonçalves

No.	Type	Issue	Ref
2	CAR	No monitoring of sustainable indicators/environmental impacts was described in the PDD.	5.1 - 5.1.4
Date: 17/April/2006			
The project activity contributes to sustainable development by:			
– Fostering a new technology that promotes the reduction of fossil carbon dependency in the chemical industry by using renewable carbon sources, such as that produced in biomass processing facilities.			

- The consumption of steam and electricity produced with biomass contributes to fostering this practice, instead of grid electricity and fossil fuel use.
- It was not necessary to enrol an Environmental Impact Assessment. All the permits the plants requires to operate have been obtained which is strong evidence that the process does not have any significant negatives impacts. Also, the environmental agency did not make any exigencies concerning the environmental impacts.
- The installation of the plant had significant impacts on creating local jobs. The maintenance of the current situation will increase people income, what would not happen in the absence of the project activity. Besides, for the plant properly operate it is necessary to count on the presence of Engineers that can assure the safe of the procedures as well as the improvement of the qualification.
- Raudi invests in the development of new projects and products with some partners like IPT – *Instituto de Pesquisas Tecnológicas* – which provide the continuation of the research using the biomass to improve the quality of the process and develop new technologies using the renewable sources in an efficient manner.
- The technology implemented by the Raudi project is an innovating one and considering the potential of the region in producing biomass, is applicable to other industries that could be settled in the same region and so help to increase the indicators of sustainable listed above.

Considering the point listed above, the indicators that can measure the sustainability of the Raudi project are the following.

- Amount of CO₂ derived from fossil sources used over the period.
- Amount of steam and electricity from bagasse used over the period.
- Achieving all the necessary permits over the period
- Amount of employees in the plant for both qualification levels.

Date: 25/04/2006

[Acceptance and close out] The PDD version 2 presents the sustainable development indicators to be monitored, as mentioned above. CAR 2 was closed out.

Date: 28/03/06

Raised by: Fabian Gonçalves

No.	Type	Issue	Ref
3	NIR	Provide additional information about unintended emissions and procedures for emergency.	5.2.4

Date: 17/April/2006

The only possible source of unintended emissions is the back-up CO₂ tanks. In case any emergency causes unintended emissions the amount of CO₂ that leaks from the tanks will be accounted in the project emissions. This variable is measured as part of the monitoring plan.

Date: 25/04/2006.

[Acceptance and close out]: As verified during the site visit, the process is controlled and monitored. There are measures in place to prevent accidents and leakages. Raudi is

implementing a Quality Management System and internal procedures have been developed. There are controls from which would be possible quantify the leakage. NIR3 was closed out.

Date: 28/03/06 **Raised by: Fabian Gonçalves**

No.	Type	Issue	Ref
4	CAR	Did not identify procedures for calibration.	5.2.5
Date: 17/April/2006			
All the equipment installed was calibrated before installation. At the moment, the plant is being certified under ISO 9000. Formal calibration procedures are being developed together with this process. The forecast is to have all the procedures ready and operational in the second half of 2006.			
Date: 25/04/2006. [Acceptance and close out]: It was verified that there is a informal plan for implementation of calibration procedures. Documented evidences regarding calibration of the weigh bridge were provided. CAR 4 was closed out and a observation was raised.			

Date: 28/03/06 **Raised by: Fabian Gonçalves**

No.	Type	Issue	Ref
5	CAR	There are no procedures for internal audits.	5.2.11
Date: 17/April/2006			
The plant is implementing a quality management system and will apply to ISO 9000 certification. Plan and procedures for internal audits are being developed as part of the management system. It is expected to have all the procedures prepared and implemented in the second semester of 2006.			
Date: 25/04/2006 [Acceptance and close out]: It was verified that there is a plan for preparing and implementing internal audits procedures. CAR 5 was closed out and an observation was raised.			

Date: 28/03/06 **Raised by: Fabian Gonçalves**

No.	Type	Issue	Ref
6	CAR	There are no procedures for corrective actions.	5.2.13
Date: 17/April/2006			
The plant is implementing a quality management system and will apply to ISO 9000 certification. The quantity of raw material and final product can be cross-checked with measured parameters of the system and mass balances. It is possible to perform a mass balance of each product and production route so that potential inconsistencies could be verified and data could be corrected.			
Date: 25/04/2006 [Acceptance and close out]: It was verified that there is a plan for preparing and implementing procedures for corrective actions. The quantity of raw material and final product can be cross-checked with measured parameters of the system and mass balances. CAR 6 was closed out and an observation was raised.			

Date: 28/03/06 **Raised by: Fabian Gonçalves**

No.	Type	Issue	Ref
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7	NIR	Provide more information about training requesting, as the PDD mention that many changes were necessary for the project activity.	8.2.4/5.2.3
Date: 17/April/2006 The project activity is the installation of a new plant, so the training required for the CDM project activity is the same involved in plant operations.			
Date: 25/04/2006 [Acceptance and close out] It was verified that the controls required for the project activity are part of Raudi plant operational routine. Production data is obtained from the electronic control system that automatically monitors and control plant operations. No specific training, besides the operational training, has been required. Operators and staff were interviewed about their tasks and demonstrated knowledge about them. NIR 7 was closed out.			

Date: 28/03/06

Raised by: Fabian Gonçalves

No.	Type	Issue	Ref
8	CAR	The discussion on the additionality presented some assumptions that were not clear, as: the project design and construction starting date (step 0) and information regarding scenario 3 (it seems to be not applicable to Raudi).	3.2
Date: 17/April/2006: - Design and construction starting date is July, 2002; - scenario 3 was excluded			
Date: 25/04/2006 [Acceptance and close out] The PDD was revised (see version 2). CAR 8 was closed out.			

Observations:

- The procedures that have been developed as part of the Quality Management System of Raudi should be effectively implemented BEFORE the verification stage (see responses to CARs 4, 5 and 6).



Annex 6 Local assessment checklist

Raudi Chemical Salts Project (CDM.VAL 0359)

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document. It serves as a “reality check” on the project. It is to be completed by SGS Brazil.

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Verify evidences of start date of the project activity.	Confirmed start date on 11/07/2002, when the contract between Raudi and Coopcana was signed (see below)	DR/I	No
Verify the project installation (CO2 pipeline, CO2 tanks etc).	The installations were verified during the site visit and comply with the PDD description.	DR/ site visit	No
Verify the types of products (salts) produced in the plant	Verified production reports; they complied with the products described in the PDD.	DR	No
Verify environmental licenses and legal requirements	Preliminary license, n° 7167, 18/03/2005, issued by Instituto Ambiental do Paraná (IAP). Document send after the site visit: Installation license, n° 3951, 12 April 2006, issued by Instituto Ambiental do Paraná (IAP).	DR/Site visit	No
Verify contract for CO2 (from biomass) supplying (between Raudi and the supplier Coopcana).	Agreement between Raudi e COOPCANA, 11/07/2002.	DR/ Site visit	No
Verify records and raw material stock controls	Verified documents (see Ref. 4,5,7,and 8)	DR/Site visit	No
Verify copy of the letters	Verified copy of the letters and AR's that were sent	DR	No

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
sent to stakeholders an ARs. Verify if had any answer or not.	10/03/2006: Prefeitura Municipal de São Carlos do Avaí (São Carlos do Avaí City Hall); Câmara Municipal de São Carlos do Avaí (Municipal Assembly of São Carlos do Avaí); Secretaria do Meio Ambiente de São Carlos do Avaí (Environmental Agency of São Carlos do Avaí); Instituto Ambiental do Paraná – IAP (Environmental Institute of Paraná); Ministério Público do Paraná (State Attorney for the Public Interest of the State of Paraná); FBMS Forum Brasileiro de ONG's, Movimentos Sociais para o meio ambiente (Brazilian Forum of NGOs and Social Movements for the Development and Environment); Associação dos Municípios do Noroeste-PR (Noroeste Association).		