Report No. AT201-200604, Revision 04

Validation Report

Durgun Hydropower Project in Mongolia

MAR 5, 2007

Korea CDM Certification Office

KOREA ENERGY MANAGEMENT CORPORATION

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Validation Methodology	1. Desk Review 2. On-site Assessment 3. Review of Corrective Actions 4. Special Review		
Project Participants	Mitsubishi UFJ Securities Co., Ltd.	**Management Representative**	Yutaka Kobayashi
Project Title	Durgun Hydropower Project in Mongolia		
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Project Location	Durgun soum, Khovd aimag, Mongolia	**Tel**	
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Category	Energy Industries (renewable energy sources)		
Scope	The validation scope for the proposed CDM project includes: - Physical and geographical boundaries of the proposed project; - Legal, institutional, financial and technological aspects of the project; - GHG sources and types to be included within the boundaries; - Time periods to be covered by the project design; - Baseline scenario established; - Monitoring plan; - Environmental impacts caused by the proposed project; and, - Stakeholders' comments		
Objective	The objective of the validation is to assess by reviewing the project design documentation whether the proposed CDM project conforms to the requirements for CDM projects including Decision 17/CP.7, Modalities and Procedures for a CDM as defined in Article 12 of the Kyoto Protocol, Decision 3, 4/CMP.1 and relevant decisions of the CDM executive board.		
Validation Criteria	UNFCCC, Kyoto Protocol, Marrakesh Accords, Decision 3, 4/CMP.1, Relevant CDM EB Decisions		
Validation Date	1. Desk Review: 21 September 2006 ~ 29 September 2006 2. On-site Assessment: 9 October 2006 ~ 19 October 2006 3. Review of Corrective Actions: 13 November 2006 ~ 17 November 2006 4. Special Review: 1 March 2007 ~ 5 March 2007		

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1 Summary of the project activity

The Durgun Hydropower Project is a small scale grid-connected renewable energy project with a total of 12 MW turbines, i.e. three 4 MW Kaplan turbines. This project is to be constructed on Chono Kharaih River and is expected to operate all year round with a capacity factor of 36.2 per cent generating an estimated 38,000 MWh of electricity per year, which is to be provided to Bayan Ulgii, Khovd, and Uvs provinces. Its GHG emission reductions are estimated at 28,880 tCO_2/yr by displacing electricity that would otherwise be generated by a coal-based power plant.

The project is expected to significantly contribute to sustainable development in Mongolia by utilizing renewable and clean energy sources in respect of:

- Displacing imported fossil fuel with domestic resources for power generation;
- Preventing mass migration of local people to urban areas and degradation of remote areas;
- Providing jobs and training for semi-skilled and skilled workers during and after construction;
- During the construction period, bringing local villagers additional income through selling their agricultural produce to work;
- Providing assistance in the development of potential tourist attractions; and
- Incorporation of other productive water use projects such as water supply, irrigation, tourism, and recreation.

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2 Principles

The project design document (PDD) of the Durgun Hydropower Project in Mongolia is assessed based on the following principles

2.1 Completeness

The completeness of the PDD is ensured by assessing whether the project proponent has identified all greenhouse gases (GHG) sources directly attributable to the proposed project within the project boundary and indirect GHG emissions outside the project boundary

2.2 Consistency

The consistency of the PDD is ensured by assessing whether major factors used in the project plan such as data, formulae/algorithm and assumptions have been uniformly applied:

- Among potential baseline scenarios;
- Between the project and baseline scenario; and
- Between the baseline and monitoring methodology.

2.3 Accuracy

The accuracy of the PDD is ensured by assessing whether any material errors or omissions made in using data and estimating GHG emissions have been corrected, and uncertainties associated with GHG quantification have been minimized to the extent possible.

2.4 Transparency

The transparency of the PDD is ensured by assessing whether all assumptions, choices and procedures are clearly stated and substantiated such that another party may reach the same conclusions

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2.5 Relevance

The relevancy of the PDD is ensured by assessing whether selection of GHG sources, quantification procedures and potential baselines scenarios have been justified taking into account the requirements for the CDM project and the host country's particular situation.

2.6 Conservativeness

The conservativeness of the PDD is ensured by assessing whether the baseline has been established choosing values of parameters that generate a lower baseline projection and thereby reducing the possibility of over-estimating GHG emission reductions

3 Definitions of non-conformities and observations

3.1 Non-conformities

Non-conformities refer to validation findings that fail to fulfill the validation criteria such as failure to demonstrate additionality, lack of key information and exclusion of significant leakages. Non-conformities are divided into major and minor ones.

- Major non-conformity includes, inter alia:
  - failure to comply with the Modalities and Procedures of CDM projects;
  - occurrence of significant errors in the project baseline and monitoring methodologies
- Minor non-conformity includes, inter alia:
  - unclear descriptions and data sources;
  - minor miscalculation and misstatements

3.2 Observations

Observations include validation findings that are likely to be of non-conformity but with few evidences available at the moment and recommendations for improved documentation, data use, etc.

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4 Desk review

The desk review has been made during the period from 21 to 29 September by reviewing documents submitted by the project participants including the Project Design Document and supporting documentation in respect of completeness, consistency, accuracy, transparency, relevance, and conservativeness. The Validation Criteria, against which the project documentation is assessed, include the CDM modalities and procedures stipulated in the Marrakech Accords and Decision 3, 4/CMP.1, and relevant CDM EB decisions, and are specified in the Validation Checklist. The desk review focused mainly on the three aspects below:

- Demonstration of the project additionality;
- Calculation of baseline and project emissions; and
- Coverage of significant factors in the monitoring plan.

The scope of desk review depends primarily on the information provided by the project participants and could be extended by using additional reliable information which the Validation Team obtained from other sources.

4.1 Validation findings

The proposed project applied the approved baseline and monitoring methodologies for small-scale projects since its capacity is 12 MW, less than the 15 MW limit. Specifically, as the project generate electricity utilizing renewable sources and supply it to the grid, Category I.D, Grid-connected renewable electricity generation (ver 09) is applied. With regards to determination of baseline emissions, given that the current electricity system in Bayan Ulgii, Khovd, and Uvs provinces where the proposed project is supposed to supply electricity to, is made up of imports from Russia and local diesel generators that would be displaced by a coal-based power plant in the absence of the proposed project, the project design document conservatively used as a baseline emission factor a default value for diesel generators as stipulated in the AMS I.D version 9.

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Validation Results	In order to demonstrate the project's addtionality, the PDD analyzed investment barriers and showed that the project is not financially attractive under the baseline scenario. As for its environmental impacts on the local areas, an environmental impact analysis for the proposed project had been completed. As a result of the analysis, it was recommended that construction, restoration and rehabilitation works should be completed as planned in order to protect the environment. In addition, the project proponents conducted an opinion survey to invite local stakeholders' comments and to address any adverse impacts on local communities. However, the following several items that need further checks have been identified by the desk review: - It should be checked whether the proposed project conforms to relevant legislations including the Electricity Act and related permits from the local authorities (see Appendix B. A.2.2); - It should be checked whether the hydraulic turbines and its estimated capacity factor have been selected appropriately considering the project site's geological and hydrologic conditions (see Appendix B. A.4.5, B.3.2); - The project design document provides no descriptions in respect of technology transfer (see Appendix B. A.4.6); - There are no documentary evidences that financing for the proposed project does not involve ODA or public funding from Annex I countries (see Appendix B. A.4.9); - It should be checked that no other CDM projects or hydroelectric projects in the same project category have so far been developed or planned within or near the project site (see Appendix B. A.4.10); - It is not transparent what method between two options stipulated in AMS I.D version 9, i.e. Paragraph 8 and Paragraph 9, is applied in determining baseline emissions (see Appendix B. B.2.4); - It needs to be checked whether metering of electricity generation and calibration of meters are subject to national or international standards. (see Appendix B. D.1.2); - It should be checked how the EIA addresses public comments including adverse environmental impacts and relocation issues. (see Appendix B. F.3.1, G.1.3).	

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Validation Results	Based on the results of the desk review, the validation team requests the project proponents to provide more documentary evidences and justification in order to ensure the compliance of the PDD with the validation criteria. Additional documents and revised sections of PDD to be submitted prior to on-site assessment (deadline: 7 October 2006) are: 1) Official documents demonstrating that the proposed project conforms to relevant legislations including the Electricity Act and related permits from the local authorities (see Appendix B. A.2.2); 2) The written approval of voluntary participation from the designated national authorities of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development (see Appendix B. A.3.3~4); 3) Clarification on transfer of environmentally friendly technology (see Appendix B. A.4.6); 4) Technical documents about selection of a capacity factor for the proposed project (see Appendix B. A.4.5, B.3.2); 5) Documentary evidences that financing for the proposed project does not involve ODA or public funding from Annex I countries (see Appendix B. A.4.9); 6) Clarifications on what method between two options stipulated in AMS I.D version 9, i.e. Paragraph 8 and Paragraph 9, is applied in determining baseline emissions (see Appendix B. B.2.4); 7) Documentary evidences showing that the EIA sufficiently addresses public comments including adverse environmental impacts and relocation issues. (see Appendix B. F.3.1, G.1.3).	

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Validation Results	**5 On-site assessment and interview** On-site assessment has been performed during the period from 8 October to 19 October by making on-site visits and interviewing relevant persons particularly for the purpose of checking the remaining issues identified at the desk review. The on-site assessment focuses mainly on the three aspects below: 1) Compliance of the proposed project with relevant legislations; 2) Description of technology transfer through the proposed project; 3) Determination of a capacity factor for the proposed project; 4) Application of national or international standards for metering electricity generation; and 5) Adverse environmental impacts and relocation issues due to the construction and operation of the proposed project The major means of validation is by cross-check between documents and interviews with relevant persons. The key persons interviewed at the on-site assessment are as below: 1) Ganbold, Togooch. General Manager, Energy Research and Development Center, The Ministry of Fuel and Energy Mongolia; and 2) Baatar, Purev. Senior Engineer, Energy Research and Development Center, The Ministry of Fuel and Energy Mongolia. As a result of the on-site assessment, the validation team requests the project entity to take corrective actions against four non-conformities, i.e. one Major non-conformity and three Minor non-conformities identified within the deadline, 17 Oct. 2006, as agreed in the Validation Contract.	

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Validation Results	**5.1 On-site assessment findings** The Validation Team had found on the project site that a capacity factor for the proposed project activity was appropriately determined considering local topographical and hydrologic conditions. It has also been verified that the proposed project is in compliance with relevant legislation as demonstrated by official approval letters from the central and local government. In addition, the Validation Team confirmed that the proposed project would meet the power demand of relevant provinces which is at present suffering the severe lack of electricity, by displacing a coal power plant that would have otherwise been installed in the absence of the proposed project. As for environmental impacts and stakeholders comments, the Validation Team verified that the Environmental Impact Assessment Report sufficiently addressed negative environmental impacts and relocation of local herders. However, the project proponents had not demonstrated that financing for the proposed project does not involve ODA or public funding from Annex I countries and a small number of issues are weakly substantiated. Consequently the Validation Team has issued one Major non-conformity and three Minor non-conformities as identified at the on-site assessment : 1) Major non-conformity 1: there are no documentary evidences that financing for the proposed project does not involve ODA or public funding from Annex I countries. (see Appendix B. Checklist A.4.9); 2) Minor non-conformity 1: there are no descriptions about technology transfer through the proposed project activity in the project design document (see Appendix B. Checklist A.4.4); 3) Minor non-conformity 2: even though it is apparent that baseline emissions for the proposed project are determined conservatively, it is not transparent how to derive the baseline emissions following the baseline methodology stipulated in AMS I.D version 9. (see Appendix B. Checklist B.2.4); 4) Minor non-conformity 3: it should be described that metering of electricity generation and calibration of meters are subject to national or international standards. (see Appendix B. Checklist D.1.2).	

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Observations: the project participants have not yet submitted the written approval of voluntary participation from the designated national authorities of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development and private entities participating in the project have not been authorized by the designated national authorities of the Parties. These issues should be further checked prior to preparation of the Draft Validation Report.

6 Review of corrective actions

In response to the request for corrective actions against non-conformities identified, the project proponents submitted the revised project documentation to the Validation Team, of which the validation team made a thorough review during the period from 13 November to 17 November. Corrective actions of the project proponents and conclusions of the Validation Team are as follows:

1) **Major non-conformity 1**

   A. **Corrective Actions:** the Energy Research and Development has submitted the confirmation letter that the proposed project was financed by the Bank of China.

   B. **Conclusions:** the validation team concludes that the confirmation letter sufficiently demonstrates that financing for the proposed project does not involve ODA or public funding from Annex I countries.

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Validation Results	**2) Minor non-conformity 1** **A. Corrective Actions:** the revised PDD briefly describes technology transfer will be carried out during the construction and operation of the hydropower plant. **B. Conclusions:** the validation team made a site-visit and found that the proposed project is one of the largest hydropower projects that have ever been built in Mongolia and being constructed by both domestic and foreign engineers. Therefore the validation team concludes that construction and operation know-how will be transferred to the participating Mongolian companies through the project activities. **3) Minor non-conformity 2** **A. Corrective Actions:** in accordance with AMS I.D version 9, the Combined Margin emission factor for the Mongolian central grid is calculated and resultingly demonstrates that to adopt the baseline emission factor for diesel generators is a conservative approach in the context of the proposed project. **B. Conclusions:** the validation team concludes that the Combined Margin emission factor for the Mongolian central grid sufficiently justifies conservative application of the baseline emission factor for diesel generators in the context of the proposed project. **4) Minor non-conformity 3** **A. Corrective Actions:** the monitoring of electricity and the calibration of the installed equipment will be conducted in accordance with the Mongolian standard MNS-50,90; 2005, and MNS 2816; 2004. **B. Conclusions:** the validation team concludes that the revised monitoring plan sufficiently addresses metering of electricity generation and calibration of meters for the proposed project.	

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7 Receipt of public comments

In accordance with Paragraph 40(c) of the CDM Modalities and Procedures, the project design document of the Durgun Hydropower Project in Mongolia had been posted on the UNFCCC CDM website for public comments from 14 SEP 2006 to 13 OCT 2006. As a result, no comments were received during that period.

8 Issuance of written approvals

The KEMCO validation team has received the written approvals from the designated national authorities of the Parties involved in the Durgun Hydropower Project in Mongolia, Japan (issued on 9 November 2006) and Mongolia (issued on 2 October 2006), which states the following:

1) The Parties, Japan and Mongolia approves that their participation in the Durgun Hydropower Project is voluntary
2) The Mongolian government, the host Party of the Durgun Hydropower Project, confirms the project activity contributes significantly to sustainable development in Mongolia.
3) The Parties, Japan and Mongolia authorize the project participants indicated in the PDD to participate in the Durgun Hydropower Project.

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9 Special Review

In accordance with the clarifications to implement the review process (version 06, adopted by EB28), in response to the request for review raised by the CDM Executive Board the KEMCO Validation Team has conducted a special review on the Durgun Hydropower Project in Mongolia form 1 March to 5 March 2007 as follows:

1) **Reason for Request 1**

   A. **Responses from Project Participants:** the revised monitoring plan includes cross-checking of monitoring data through comparing with the records from the substation and/or grid system, and routine calibration of meters through using back-up meters or conducting calibration when turbines are not operating. As for auxiliary fuel consumption for the project activity, the revised monitoring plan includes electricity imported from the grid as data to be monitored and in addition, the revised PDD explicitly states that there will be no on-site emissions due to auxiliary fuel consumption.

   B. **Comments from KEMCO:** It has been confirmed that Section D.4 of the revised PDD (version 03, 01/03/2007), sufficiently addresses cross-checking of monitoring data and use of back-up meters during routine calibration of meters. It has also been confirmed Section D.3 of the revised PDD sufficiently addresses monitoring of electricity imported from the grid and in addition, Section E.1.2.1 of the revised PDD explicitly states that there will be no on-site emissions due to auxiliary fuel consumption.

2) **Reason for Request 2**

   A. **Responses from Project Participants:** for reference purposes, increase of IRR due to registration as a CDM project is demonstrated in the response from the project participants.

   B. **Comments from KEMCO:** the additional analysis for IRR with CER revenues is not relevant to the proposed small-scale project.

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Validation Results	**3) Reason for Request 3** **A. Responses from Project Participants:** the revised PDD explicitly shows data sources for emission factor of the Mongolian Central Grid **B. Comments from KEMCO:** It has been confirmed that Appendix 3 of the revised PDD (version 03, 01/03/2007), sufficiently addresses data sources for emission factor of the Mongolian Central Grid. However, note that the proposed project has taken most conservative approach to determining the baseline emission factor i.e. 0.8 kgCO2eq/kWh for diesel generators, and the combined margin value is only presented in order to support that approach. **4) Reason for Request 4** **A. Responses from Project Participants:** the revised PDD describes that the electricity generated will be used mainly for commercial and residential purposes in the remote western provinces of Mongolia, and later be dispatched to the national central grid. **B. Comments from KEMCO:** the Mongolian coal-based central grid now does not reach the western provinces of Mongolia including Bayan Ulgii, Khovd and Uvs where local people are suffering significant shortage of electricity. The purpose of the proposed project is to meet that demand through the local grid as described in page 5 of the PDD. It has been confirmed that Section A.2 and Section A.4.2 of the revised PDD (version 03, 01/03/2007) sufficiently explains how the generated electricity will be utilized or will be dispatched to national grid.	

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10 Validation opinion

The KEMCO validation team has undertaken validation of the Durgun Hydropower Project in Mongolia which claimed approximately 28,880 tCO_2/yr annually by displacing electricity that would otherwise be generated by a coal-based power plant. To ensure the transparency and integrity of the validation, the validation team first had established the validation checklist taking into account UNFCCC, Kyoto Protocol, Marrakesh Accords, Decision 3, 4/CMP.1 and relevant decisions of the CDM executive board. Based on the checklist the validation of the project activity was undertaken in three stages, i.e. desk review (21 SEP 2006 ~ 29 SEP 2006), on-site assessment (9 OCT 2006 ~ 19 OCT 2006), review of corrective actions (13 NOV 2006 ~ 17 NOV 2006), and special review (1 MAR 2007 ~ 5 MAR 2007).

As a result of the desk review and on-site assessment, the validation team identified one Major non-conformity and three Minor non-conformities and then requested the project proponents to take corrective actions against them. In response to the request, the project proponents submitted the revised project documentation to the validation team, of which the validation team made a thorough review. Then the team fully agreed that all the significant non-conformities issued had been cleared.

In conclusion, the validation team is of the opinion that the Durgun Hydropower Project in Mongolia is in full compliance with all the major requirements for the CDM by leading to emission reductions additional to what would have otherwise occurred, providing for reliable and measurable emission reductions with the well-established monitoring plan and contributing to sustainable development in Mongolia through improvement of environmental condition and promotion of utilization of renewable energy resources in the local area.

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11 References

Documents and electronic files submitted by the Project Participants

[1] Mitsubishi UFJ Securities. Project Design Document version 03 (01/03/2007

[2] Construction Design Report on Civil Works & Electro-Mechanical Equipment Installation for Durgun Hydropower Project in Mongolia – Draft Document for Checking and Approving Main Scheme of the Project. Handan Inverstgation & Design Institute for Water Resources and Hydropower Asia Pacific Power-Tech Co., Ltd. OCT 2004.

Documents and websites referred to by KEMCO

[3] http://cdm.unfccc.int/DNA

[4] http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf

[5] http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html

[6] Annual Report 2005. Energy Regulatory Authority of Mongolia

[7] Mongolian Electricity Power Department. Power Sector Statistics 2005 (available in Mongolian only)

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	Role	Name	Organization /position	Scope of Validation	Signature
Validation Team	Team Leader, Lead Validator	Woo, Jae Hak	KEMCO	Sustainable Development, Environmental impacts, Stakeholder comments	
	Validator	Han, Seung-ho	KEMCO	Baseline methodology, Monitoring methodology, Estimation of GHG emissions	

Appendix	A. Validation Criteria B. Validation Checklist C. Review of Corrective Actions D. Special Review E. CVs of Validation Team

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Appendix A

Validation Criteria

REQUIREMENT	Reference	Conclusion	Comments
1. The project shall assist non-Annex I Parties in achieving sustainable development, which shall be confirmed by the host Party in the form of a written approval of voluntary participation.	Kyoto Protocol (KP) Article 12.2, Marrakech Accords(MA) CDM Modalities and Procedures (M&P) paragraph 29	Checked	See Appendix B. A.3.3~4
2. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC and lead to real, measurable and give long-term benefits related to the mitigation of climate change.	KP Article 12.2, 5(b)	Checked	See Appendix B. A.4.8
3. The project shall assist Annex I Parties in achieving compliance with part of their emission reduction commitment under Article 3 of the Kyoto Protocol.	KP Article 12.2	Checked	See Appendix B. A.4.8
4. Emission reductions attributable to the project shall be additional to any that would occur in the absence of the project activity.	KP Article 12.5(c), MA CDM M&P paragraph 37(d), 43	Checked	See Appendix B. A.4.7
5. The project activity should lead to the transfer of environmentally safe and sound technology and know-how.	MA Decision 17/CP.7	Checked	See Review of Corrective Actions No.2
6. Public funding for the project from Annex I Parties shall not result in a diversion of official development assistance	MA Decision 17/CP.7	Checked	See Review of Corrective Actions No.1
7. Participation in the CDM shall be voluntary, which shall be approved by each party involved	KP Article 12.5(a), MA CDM M&P paragraph 28, 40(a)	Checked	See Appendix A-2. A.3.3~4
8. Parties participating in the CDM shall designate a national authority for the CDM	MA CDM M&P paragraph 29	Checked	See Appendix B. A.3.1
9. Parties participating in the CDM shll be a Party to the Kyoto Protocol	MA CDM M&P paragraph 30, 31	Checked	See Appendix B. A.3.2
10. The proposed project activity shall meet the eligibility criteria for small-scale CDM project activities set out in paragraph 6 (c) of decision 17/CP.7	Simplified Modalities and Procedures for Small Scale Projects, paragraph 12a	Checked	See Appendix B. A.4.2

REQUIREMENT	Reference	Conclusion	Comments
11. The proposed project activity shall conform to one of the project categories in appendix B to the Simplified Modalities and Procedures for Small Scale Projects	Simplified Modalities and Procedures for Small Scale Projects, paragraph 12b	Checked	See Appendix B. A.4.3
12. The proposed project activity shall not be a debundled component of a larger project activity, as determined through appendix C to the Simplified Modalities and Procedures for Small Scale Projects	Simplified Modalities and Procedures for Small Scale Projects, paragraph 12c	Checked	See Appendix B. A.4.10
13. The project design document is in conformance with the Small Scale CDM-PDD format	Simplified Modalities and Procedures for Small Scale Projects, Appendix A	Checked	The PDD of the proposed project was prepared in accordance with UNFCCC Small-scale CDM-PDD Format Version 02.
14. The proposed project activity shall use the simplified baseline and monitoring methodologies specified in appendix B to the Simplified Modalities and Procedures for Small Scale Projects for its project category	Simplified Modalities and Procedures for Small Scale Projects, paragraph 14	Checked	See Appendix B. B.2.1, D.2.1
15. Comments by local stakeholders are invited, a sum mary of these provided and how due account was taken of any comments received	Simplified Modalities and Procedures for Small Scale Projects, paragraph 22b	Checked	See Appendix B. G.1~3
16. An analysis of the environmental impacts of the project activity is carried out and documented if required by the Host Party	Simplified Modalities and Procedures for Small Scale Projects, paragraph 22c	Checked	See Appendix B. F.1.1~3
17. The project activity conforms to all other requirements for CDM project activities in the CDM modalities and procedures that are not replaced by the Simplified Modalities and Procedures for Small Scale Projects	Simplified Modalities and Procedures for Small Scale Projects, paragraph 22f	Checked	See Review of Corrective Actions No.3, 4
18. Parties, stakeholders and UNFCCC accredited NGOs have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made	Simplified Modalities and Procedures for Small Scale Projects, paragraph 23b,c	Checked	The PDD of the proposed project will have been posted for 30 days on the

REQUIREMENT	Reference	Conclusion	Comments
publicly available.			CDM website for public comments from 14 SEP 2006 to 13 OCT 2006. As a result, no comments were received during that period.
19. Emission reductions attributable to the project shall be adjusted for leakage	Simplified Modalities and Procedures for Small Scale Projects, paragraph 30	Checked	See Appendix B. E.1.6
20. The project boundary shall encompass all anthropogenic emissions by sources of greenhouse gases under the control of the project participants that are significant and reasonably attributable to the CDM project activity	Simplified Modalities and Procedures for Small Scale Projects, paragraph 31	Checked	See Appendix B. E.1.1, E.1.6

Appendix B

Validation Checklist

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
A. General Description of Project Activity *In this section, the project design is assessed including the project purpose, how technology will be transferred and whether public funding from Annex I Parties results in a diversion of official development assistance.*						
A.1. Title of the small-scale project activity *Note:*						
A.1.1. Does the title characterize the project activity clearly and properly?		[1]	Document Review	1. Checked: the project title, Durgun Hydropower Project in Mongolia is clearly described	OK	OK
A.2. Description of the small-scale project activity *Note:*						
A.2.1. Is the purpose of the project activity clearly described?		[1]	Document Review	1. Checked: the proposed project aims to generate electricity utilizing energy in water flows from a higher reservoir.	OK	OK
A.2.2. Is the project in compliance with relevant legislation in the host country?		[1]	Document Review	1. Checked: it had been checked that the proposed project received official approval letters from the central and local governments.	OK	OK
A.2.3. Does the project contribute to sustainable development of the host country from environmental, social and economic perspectives?		[1]	Document Review	1. Checked: the proposed project is expected to bring the host country and local areas social and environmental benefits including diversification of energy sources, job creation, and tourist attraction.	OK	OK
A.3. Project Participants *Note:*						
A.3.1. Have Parties participating in the project designated a national		[3]	Document Review	1. Checked: Mongolia has designated the Ministry for Nature and Environment as a national	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	authority for the CDM?			authority for the CDM.		
A.3.2.	Is the host country a Party to the Kyoto Protocol?	[4]	Document Review	1. Checked: Mongolia had accepted the Kyoto Protocol in 1999	OK	OK
A.3.3.	Have the project received the written approval of voluntary participation from the designated national authorities of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development?			1. To be checked: the project participants have not submitted the written approvals of voluntary participation.	To be checked	OK
A.3.4.	Have a private and/or public entity participating in the project been authorized by the designated national authorities of the Party?			Ditto	To be checked	OK
A.4.	**Technical description of the small-scale project activity** *Note:*					
A.4.1.	Is the location of the project activity clearly described?	[1]	Document Review	1. Checked: the address of the hydroelectric power plant has been clearly described: Durgun soum, Khovd aimag	OK	OK
A.4.2.	Does the project qualify as a small scale CDM project activity in Paragraph 6(c) of decision 17/CP.7 of the Marrakech Accords?	[1]	Document Review	1. Checked: the rated power of the proposed project is 12 MW (3×4 MW).	OK	OK
A.4.3.	Does the project activity conform with one of the project categories defined in Appendix B to the	[1][5]	Document Review	1. Checked: the proposed project belongs to the category of I.D/version 9, Grid connected	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	simplified M&P for small scale CDM project activities?			renewable electricity generation.		
A.4.4.	Is it justified how the project activity conforms to the project categories?	[1][5]	Document Review	1. Checked: the proposed project generates electricity utilizing renewable resources and feed it to the grid	OK	OK
A.4.5.	Does the project design engineering reflect current good practices?	[1][2]	Document Review	1. Checked: it had been verified that the Kaplan type hydraulic turbines have been selected appropriately considering the local topographical and hydrologic conditions.	OK	OK
A.4.6.	Are the environmentally safe and sound technology and know how transferred to the host Party through the project?	[1]	Document Review	1. Minor non-conformity 1: the project design document provides no descriptions in respect of technology transfer.	Minor NC	OK
A.4.7.	Are the GHGs emissions reductions additional to what would occur in the absence of the project?	[1]	Document Review	1. Checked: See Section B.	OK	OK
A.4.8.	Does the project design clearly and consistently indicate the chosen crediting period, the total estimation of emission reductions for the chosen crediting period?	[1]	Document Review	1. Checked: the annual emission reductions are estimated at 30,400 metric tonnes of CO_2eq with a capacity factor of 36.2 per cent.	OK	OK
A.4.9.	In case public funding from Annex I Parties is involved, does the project provide an affirmation that such funding does not result in a diversion of official development assistance?	[1]	Document Review	1. Major non-conformity 1: there are no documentary evidences that financing for the proposed project does not involve ODA or public funding from Annex I countries.	Major NC	OK
A.4.10.	Has the confirmation been	[1]	Document	1. Checked: it has been checked that no other CDM	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	provided that the project activity is not a debundled component of a larger project activity?		Review Witnessing	projects or hydroelectric projects in the same project category have so far been developed or planned within or near the project site		
B. Application of a Baseline methodology *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. Title and reference of the project category applicable to the project activity *Note:*						
B.1.1.	Has the PDD properly referred to the most recent list of the small scale CDM project activity categories in Appendix B of the simplified M&P for small scale CDM projects?	[1]	Document Review	1. Checked: the most recent list of the small scale CDM project activity categories has been properly referred to at the CDM website.	OK	OK
B.2. Project category applicable to the project activity *Note:*						
B.2.1.	Has the PDD justified the choice of the applicable baseline calculation for the project category as provided for in Appendix B of the simplified M&P for small scale CDM project activities?	[1]	Document Review	1. Checked: the proposed project is a grid-connected renewable electricity generation project such that baseline calculation is undertaken in accordance with AMS. I. D version 9	OK	OK
B.2.2.	Has the PDD described how the baseline methodology is applied in	[1]	Document Review	1. Minor non-conformity 2: see Checklist Question B.2.4.	Minor NC	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	the context of the project activity?					
B.2.3.	Has the PDD explained the basic assumptions of the baseline methodology in the context of the project activity?	[1]	Document Review	1. Checked: it is assumed that the proposed project displaces electricity that would be otherwise generated by a coal-based power plant.	OK	OK
B.2.4.	Has the baseline been determined in a transparent and conservative manner?	[1][7]	Document Review	1. Minor non-conformity 2: Even though it is apparent that baseline emissions for the proposed project are determined conservatively, i.e. application of the lowest emission factor for diesel generators, it is not transparent how to derive the baseline emissions following the baseline methodology stipulated in AMS I.D version 9.	Minor NC	OK
B.2.5.	Has the PDD provided the key information and data used to determine the baseline scenario (variables, parameters, data sources, etc.)?	[1]	Document Review	1. Checked: in accordance with AMS. I. D version 9 the baseline emissions are the product of a default emission factor by estimated electricity generation.	OK	OK
B.3.	**Description of how the anthropogenic emissions of GHG by sources are reduced below that would have occurred in the absence of the registered CDM project activity** *Note:*					
B.3.1.	Is it justified that the proposed project activity qualifies to use simplified methodologies?	[1]	Document Review	1. Checked: the proposed project is a renewable energy project with its capacity less than 15MW.	OK	OK
B.3.2.	Is the discussion and demonstration of the additionality of the project activity transparent?	[1]	Document Review	1. Checked: it had been verified that the capacity factor of the hydroelectric plant is determined appropriately considering local meteorological	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
				conditions.		
	B.3.3. Is it demonstrated that the project activity itself is not a likely baseline scenario (e.g. through demonstrating investment barriers, technology barriers, barriers to prevailing practices, and/or other barriers showing that emissions would have been higher without the project activity)?	[1][2][6]	Document Review	1. Checked: in order to demonstrate the addtionality of the proposed project, the project design document describes that the project are faced with investment barriers due to its low IRR, i.e. 4.98 per cent, compared to the interest rate of the Central Bank, i.e. 8 per cent. In addition, it had been verified that the IRR was properly calculated with verifiable values including total investment costs, O&M costs, electricity tariff, and estimation of electricity sales.	OK	OK
	B.3.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	[1]	Document Review Interview	1. Checked: there are no regulations in Mongolia that require the use of renewable energy sources and no other incentives from the government than purchase of the renewable-based electricity generations at the same price as other power generation.	OK	OK
	B.3.5. Is it showed why the emissions in the baseline scenario would likely exceed emissions in the project scenario by analyzing both scenarios?	[1]	Document Review	1. Checked: The proposed project is deemed to be zero emission technology	OK	OK
	B.4. Description of the project boundary for the project activity *Note:*					
	B.4.1. Is the project boundary clearly defined?	[1]	Document Review	1. Checked: the spatial extent of the project boundary for the proposed project includes the physical and geographical site of the hydropower project.	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
B.4.2.	Is the project boundary consistent with the guidance for the applicable project category in Appendix B of the simplified M&P for small scale CDM project activities?	[1]	Document Review	Ditto	OK	OK
B.5. Details of baseline and its development *Note:*						
B.5.1.	Has the PDD specified the baseline for the project activity using a methodology specified in the applicable project category in Appendix B of the simplified M&P for small-scale CDM projects?	[1]	Document Review	1. Checked: details about calculation of baseline emission for the proposed project are specified in Section E of the PDD	OK	OK
B.5.2.	Has the date of completion of the baseline study and the name of person(s)/entity(ies) determining the baseline clearly been stated?	[1]	Document Review	1. Checked: the date of completion of the baseline study is 30 August 2006 and the entity determining the baseline scenario is the Clean Energy Finance Committee of the Mitsubishi UFJ Securities.	OK	OK
B.5.3.	Is contact information clearly provided and is it indicated that the person/entity is a project participant listed in Annex I?	[1]	Document Review	1. Checked: the contact information on the entity determining the baseline methodology is clearly provided	OK	OK
C. Duration of the Project/ Crediting Period *It is assessed whether the temporal boundaries of the project are clearly defined.*						
C.1. Duration of the project activity *Note:*						

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
C.1.1.	Has the project's starting date been chosen as the date at which the implementation or construction or real action of the project activity begins?	[1]	Document Review	1. Checked: the starting date of the proposed project activity is 8 June 2004	OK	OK
C.1.2.	Is the operational lifetime of the project activity clearly defined and reasonable?	[1]	Document Review	1. Checked: the operational lifetime of the proposed project activity is 100 years and thus considered as relevant for the project activity	OK	OK
C.2.	**Choice of the crediting period and related information**					
	Note:					
C.2.1.	In the case of the project started between 1 January 2000 and the date of the registration of the first CDM project activity and has been submitted for registration prior to 31 December 2005, has the PDD provided reliable evidence to demonstrate that?	[1]	Document Review	1. Checked: The proposed project activity will claim credits since November 2007	OK	OK
C.2.2.	Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two times 7 years or fixed crediting period of max. 10 years)?	[1]	Document Review	1. Checked: the crediting period for the proposed project activity is seven years with renewal	OK	OK
C.2.3.	Is the assumed crediting time chosen as below the operational lifetime of the project activity?	[1]	Document Review	1. Checked: the crediting period chosen is below the operational lifetime of the proposed project activity, 100 years.	OK	OK
C.2.4.	Are the starting date and length of the crediting period clearly and properly stated?	[1]	Document Review	1. Checked: the first crediting period starts in 1 November 2007 and lasts over seven years	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
D. Application of a monitoring methodology and plan *In this section it is assessed whether the monitoring plan is properly established in accordance with the baseline methodology ensuring reliable emission reductions*						
	D.1. Title and reference of approved monitoring methodology applied to the project activity *Note:*					
	D.1.1. Has the PDD properly referred to the most recent list of the small scale CDM project activity categories in Appendix B of the simplified M&P for small scale CDM projects?	[1]	Document Review	1. Checked: the most recent list of the small scale CDM project activity categories has been properly referred to at the CDM website.	OK	OK
	D.1.2. If a national or international monitoring standard has to be applied to monitor certain aspects of the project activity, has the PDD provided a reference to the source where a detailed description of the standard can be found?	[1]	Document Review	1. Minor non-conformity 3: It should be described that metering of electricity generation and calibration of meters are subject to national or international standards.	Minor NC	OK
	D.2. Justification of the choice of the methodology and why it is applicable to the project activity *Note:*					
	D.2.1. Has the PDD justified the choice of the monitoring methodology applicable to the project category	[1]	Document Review	1. Checked: the proposed project is a grid-connected renewable electricity generation project such that baseline calculation is	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	as provided for in Appendix B of the simplified M&P for small scale CDM project activities?			undertaken in accordance with AMS. I. D version 9		
D.3.	**Data to be monitored**					
	Note:					
D.3.1.	Does the monitoring methodology reflect good monitoring and reporting practices?	[1]	Document Review	1. Minor non-conformity 3: see Checklist Question D.1.2.	Minor NC	OK
D.3.2.	Does the methodology address possible monitoring errors or uncertainties addressed?	[1]	Document Review	Ditto	Minor NC	OK
D.3.3.	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]	Document Review	1. Checked: The proposed project generates electricity utilizing renewable resources and thus is deemed to be zero emission technology	OK	OK
D.3.4.	Will it be possible to monitor / measure project emissions as described in the monitoring plan?	[1]	Document Review	Ditto	OK	OK
D.3.5.	Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining the baseline within the project boundary during the crediting period?	[1]	Document Review	1. Checked: electricity supplied to the grid will be monitored in order to account for baseline emissions	OK	OK
D.3.6.	Will it be possible to monitor / measure baseline emissions as	[1]	Document Review	1. Checked: a meter will be installed to constantly	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	described in the monitoring plan?			monitor electricity generation.		
D.3.7.	Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	[1]	Document Review	1. Checked: The proposed project is deemed to lead to no leakages	OK	OK
D.3.8.	Will it be possible to monitor / measure leakage as described in the monitoring plan?	[1]	Document Review	Ditto	OK	OK
D.4.	**Qualitative explanation of how quality control (QC) and quality assurance (QA) procedures undertaken** *Note:*					
D.4.1.	Are procedures identified for monitoring, taking measurements and reporting?	[1]	Document Review	1. Checked: all readings will be taken by a meter under the supervision of a representative from the management and an electronic spreadsheet file will be kept to accumulate all monitored variables.	OK	OK
D.4.2.	Are procedures identified for training of monitoring personnel?	[1]	Document Review	1. Checked: the staff will be trained in the operation of all monitoring equipments	OK	OK
D.4.3.	Are procedures identified for emergency preparedness?	[1]	Document Review	1. Checked: see Checklist Question D.4.1 above	OK	OK
D.4.4.	Are procedures identified for calibration of equipment?	[1]	Document Review	1. Checked: all monitoring equipments will be periodically calibrated to the highest standards by the project staff.	OK	OK
D.4.5.	Are procedures identified for monitoring of maintenance needs for equipment and installations?	[1]	Document Review	1. Checked: see Checklist Question D.4.4 above	OK	OK
D.4.6.	Are procedures identified for	[1]	Document	1. Checked: the data will be evaluated regularly to	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	review or checks of reported results/data?		Review	ensure the availability of pertinent information for verification		
D.4.7.	Are procedures identified for internal audits to confirm that the project has been monitored as planned?	[1]	Document Review	1. Checked: see Checklist Question D.4.6 above	OK	OK
D.4.8.	Are procedures identified for corrective actions?	[1]	Document Review	1. Checked: see Checklist Question D.4.6 above	OK	OK
D.5.	**Operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects, generated by the project activity** *Note:*					
D.5.1.	Is the authority and responsibility of project management clearly described?	[1]	Document Review	1. Checked: ERDC (Energy Research and Development Center) will appoint an executive to be responsible for all data monitoring, acquisition and recording for CDM purposes	OK	OK
D.5.2.	Is the authority and responsibility for monitoring, measurement and reporting project emission, baseline emission and leakage data over time clearly described?	[1]	Document Review	1. Checked: see Checklist Question D.5.1 above	OK	OK
D.6.	**Name of person/entity determining the monitoring methodology** *Note:*					
D.6.1.	Is contact information provided and is it indicated that the person/entity determining the monitoring	[1]	Document Review	1. Checked: the contact information on the entity determining the monitoring methodology is clearly provided	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	methodology is a project participant listed in Annex I?					
E. Estimation of GHG Emissions by Sources *It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.*						
E.1. Formulae used *Note:*						
E.1.1.	Does the PDD clearly describe the formulae used to estimate all significant **direct and indirect GHG emissions** within the project boundary for each gas, source, formulae/algorithm, emissions in units of CO_2 equivalent?	[1]	Document Review	1. Checked: The proposed project generates electricity utilizing renewable resources and thus is deemed to be zero emission technology	OK	OK
E.1.2.	In the case of direct monitoring of emission reductions, are directly estimated emission reductions provided?	[1]	Document Review	Ditto	OK	OK
E.1.3.	Are the project emission calculations documented in a complete and transparent manner?	[1]	Document Review	Ditto	OK	OK
E.1.4.	Have conservative assumptions been used to calculate project emissions?	[1]	Document Review	Ditto	OK	OK
E.1.5.	Are uncertainties in the project emissions estimates properly	[1]	Document Review	Ditto	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	addressed in the documentation?					
E.1.6.	Does the PDD clearly describe the formulae used to estimate **leakage effects** for each gas, source, formulae/algorithm, emissions in units of CO_2 equivalent?	[1]	Document Review	1. Checked: The proposed project is deemed to lead to no leakages	OK	OK
E.1.7.	Are the leakage calculations documented in a complete and transparent manner?	[1]	Document Review	Ditto	OK	OK
E.1.8.	Have conservative assumptions been used when calculating leakage?	[1]	Document Review	Ditto	OK	OK
E.1.9.	Are uncertainties in the leakage estimates properly addressed?	[1]	Document Review	Ditto	OK	OK
E.1.10.	Does the sum of estimated GHG emissions within project boundary and estimated leakage clearly represent the emissions attributable to project activity?	[1]	Document Review	1. Checked: The proposed project is deemed to zero emission technology and lead to no leakages	OK	OK
E.1.11.	Does the PDD clearly describe the formulae used to estimate all **baseline emissions** identified in the baseline methodology for each gas, source, formulae/algorithm, emissions in units of CO_2 equivalent?	[1]	Document Review	1. Checked: the baseline emissions for the proposed project have been estimated using an emission factor for diesel generators presented in the AMS. I. D version 9.	OK	OK
E.1.12.	Are the baseline emission calculations documented in a complete and transparent manner?	[1]	Document Review	1. Checked: the equation for estimation of baseline emissions are clearly presented in Section E.1.2.4.	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	E.1.13. Have conservative assumptions been used when calculating baseline emissions?	[1]	Document Review	1. Checked: See Checklist Question B.2.4 above.	OK	OK
	E.1.14. Are uncertainties in the baseline emission estimates properly addressed in the documentation?	[1]	Document Review	1. Checked: there are few uncertainties in selecting major parameters including electricity generation and an emission factor.	OK	OK
	E.1.15. Does difference between emissions from the project activity and baseline emissions clearly represent the emission reductions due to the project activity?	[1]	Document Review	1. Checked: since it is assumed that the proposed project releases almost zero greenhouse gases (GHGs), electricity generation displaced by the project is equal to the emission reductions attributable to the project.	OK	OK
	E.2. Table providing values obtained when applying formulae above *Note:*					
	E.2.1. Have all significant values obtained from calculation provided in the Table?	[1]	Document Review	1. Checked: the table in Section E.2 provides key values for estimating emission reductions.	OK	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. If required by the Host Party, documentation on the analysis of the environmental impacts of the project activity *Note:*					
	F.1.1. Does the project comply with environmental legislation in the	[1]	Document Review	1. Checked: according to the Law on Environmental Impact Assessment, an environmental impact	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
	host country?			analysis for the proposed project had been completed.		
F.1.2.	Is the project activity likely to create any adverse environmental effects?	[1]	Document Review	1. Checked: As a result of the Environmental Impact Assessment (EIA), several negative impacts on local ecosystems had been identified.	OK	OK
F.1.3.	Have the environmental impacts identified been properly addressed in the PDD?	[1]	Document Review	1. Checked: It had been verified that the Environmental Impact Assessment Report sufficiently addressed negative environmental impacts and relocation of local herders.	OK	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. Brief description how comments by local stakeholders have been invited and compiled *Note:*						
G.1.1.	Is the process clearly described by which comments by local stakeholders have been invited and compiled?	[1]	Document Review	1. Checked: a local survey had been carried out among the residents where the project is to be located.	OK	OK
G.1.2.	Has an invitation for comments by local stakeholders made in an open transparent manner, in a way that facilitates comments to be received from local stakeholders and allow for a reasonable time for comments to be submitted?	[1]	Document Review	1. Checked: the survey was conducted by interviewing randomly selected herder and local households living nearby the project site.	OK	OK

KEMCO	Small Scale Projects Validation Checklist	Ref.	MoV	Comments	Draft Concl.	Final Concl.
G.1.3.	Has detailed description been provided to stakeholders in a manner which allows the local stakeholders to understand project activity?	[1]	Document Review	Ditto	OK	OK
G.1.4.	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]	Document Review	1. Checked: a local stakeholder consultation process had been carried out as part of an environmental impact assessment	OK	OK
G.2.	**Summary of the comments received** *Note:*					
G.2.1.	Have relevant stakeholders been consulted?	[1]	Document Review	1. Checked: randomly selected herder and local households living nearby the project site was interviewed through the survey and as a result 39 responses were received.	OK	OK
G.2.2.	Is a summary of the comments received provided?	[1]	Document Review	1. Checked: the survey results are summarized in Section G..2.	OK	OK
G.3.	**Report on how due account was taken of any comments received** *Note:*					
G.3.1.	Has due account been taken of any comments received?	[1]	Document Review	1. Checked: It had been verified that the Environmental Impact Assessment Report sufficiently addressed negative environmental impacts and relocation of local herders.	OK	OK

Appendix C

Review of Corrective Actions

Non-conformities	Reference	Corrective Actions	Comments
1. Major non-conformity 1: there are no documentary evidences that financing for the proposed project does not involve ODA or public funding from Annex I countries.	Checklist A.4.9	The Energy Research and Development has submitted the confirmation letter that the proposed project was financed by the Bank of China.	The validation team concludes that the confirmation letter sufficiently demonstrates that financing for the proposed project does not involve ODA or public funding from Annex I countries.
2. Minor non-conformity 1: there are no descriptions about technology transfer through the proposed project activity in the project design document.	Checklist A.4.4	The revised PDD briefly describes technology transfer will be carried out during the construction and operation of the hydropower plant.	The validation team made a site-visit and found that the proposed project is one of the largest hydropower projects that have ever been built in Mongolia and being constructed by both domestic and foreign engineers. Therefore the validation team concludes that construction and operation know-how will be transferred to the participating Mongolian companies through the project activities.
3. Minor non-conformity 2: even though it is apparent that baseline emissions for the proposed project are determined conservatively, it is not transparent how to derive the baseline emissions following the baseline methodology stipulated in AMS I.D version 9.	Checklist B.2.4	In accordance with AMS I.D version 9, the Combined Margin emission factor for the Mongolian central grid is calculated and resultingly demonstrates that to adopt the baseline emission factor for diesel generators is a conservative approach in the context of the proposed project.	The validation team concludes that the Combined Margin emission factor for the Mongolian central grid sufficiently justifies conservative application of the baseline emission factor for diesel generators in the context of the proposed project.
4. Minor non-conformity 3: it should be described that metering of electricity generation and calibration of meters are subject to national or international standards.	Checklist D.1.2	The monitoring of electricity and the calibration of the installed equipment will be conducted in accordance with the Mongolian standard MNS-50,90; 2005, and MNS 2816; 2004.	The validation team concludes that the revised monitoring plan sufficiently addresses metering of electricity generation and calibration of meters for the proposed project.

Appendix D

Special Review

Reason for Request	Reference	Response from Project Participants	Comments
1. The PDD (version 02, 10/11/2006) lacks explaining cross-checking of monitored electricity generation data; provision for any back-up metering in case of routine calibration; auxiliary electricity consumption; import electricity if there is a need.	Reason for Request 1	The revised monitoring plan includes cross-checking of monitoring data through comparing with the records from the substation and/or grid system, and routine calibration of meters through using back-up meters or conducting calibration when turbines are not operating. As for auxiliary fuel consumption for the project activity, the revised monitoring plan includes electricity imported from the grid as data to be monitored and in addition, the revised PDD explicitly states that there will be no on-site emissions due to auxiliary fuel consumption.	It has been confirmed that Section D.4 of the revised PDD (version 03, 01/03/2007), sufficiently addresses cross-checking of monitoring data and use of back-up meters during routine calibration of meters. It has also been confirmed Section D.3 of the revised PDD (version 03, 01/03/2007), sufficiently addresses monitoring of electricity imported from the grid and in addition, Section E.1.2.1 of the revised PDD explicitly states that there will be no on-site emissions due to auxiliary fuel consumption.
2. The project's additionality has been assessed based on IRR only, (PDD lacks showing IRR with CDM revenue)	Reason for Request 2	For reference purposes, increase of IRR due to registration as a CDM project is demonstrated in the response from the project participants.	In accordance with the Simplified modalities and procedures for small-scale CDM project activities, a small scale CDM project, in demonstrating its additionality, is required only to show barriers e.g. investment barriers that the proposed project are faced with. BUT it should be noted that CER revenues could be considered in demonstrating the additionality of large-scale projects, i.e. Step 5 Impacts of CDM registration of the Additionality Demonstration Tool. In KEMCO's opinion, the additional analysis for IRR with CER revenues is not relevant to the proposed small-scale project.

Reason for Request	Reference	Response from Project Participants	Comments
3. The PDD (version 02, 10/11/2006) lacks references on Mongolian electricity generation data in order to estimate combined margin emission factor	Reason for Request 3	The revised PDD explicitly shows data sources for emission factor of the Mongolian Central Grid.	It has been confirmed that Appendix 3 of the revised PDD (version 03, 01/03/2007), sufficiently addresses data sources for emission factor of the Mongolian Central Grid. However, note that the proposed project has taken most conservative approach to determining the baseline emission factor i.e. 0.8 kgCO2eq/kWh for diesel generators, and the combined margin value is only presented in order to support that approach.
4. The PDD (version 02, 10/11/2006) lacks explaining how the generated electricity will be utilized or will be dispatched to national grid.	Reason for Request 4	The revised PDD describes that the electricity generated will be used mainly for commercial and residential purposes in the remote western provinces, and later be dispatched to the national central grid.	The Mongolian coal-based central grid now does not reach the western provinces of Mongolia including Bayan Ulgii, Khovd and Uvs where local people are suffering significant shortage of electricity. The purpose of the proposed project is to meet that demand through the local grid as described in page 5 of the PDD. It has been confirmed that Section A.2 and Section A.4.2 of the revised PDD (version 03, 01/03/2007) sufficiently explains how the generated electricity will be utilized or will be dispatched to national grid.

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Appendix E

CVs of Validation Team

KEMCO

Personal History

Name	Woo, Jaehak (Mr.)		
ID No.	-	Phone No.	(031) 260 – 4831
Date of employment/ Contract date	1990. 01. 04	Scope of Qualification	Sectoral Scope 1~13, 15
Classification	☐ Full-time Validator/verifier ■ Full-time Lead Validator/verifier ☐ Part-time Validator/verifier ☐ Part-time Lead Validator/verifier ☐ Technical Expert ☐ Committee member( ) ☐ Others( )		
Organization	Korea Energy Management Corporation	Position	Team Leader, Korea CDM Certification Office

	Description
Educational background	1) 1982-1986 Seoul National University, College of Engineering, Mining and Petroleum Engineering (Bachelor of Science) 2) 1986-1988 Seoul National University, College of Engineering, Mining and Petroleum Engineering (Candidate Master of Science)
Work experience	1) 2006: Undertook validation of Yangyang Renewable Energy Project (3MW Wind power and 1.4MW Hydroelectric power), KOSEP hydroelectric projects, and LG Chem Fuel Switching Project 2) 2006–Present: Carrying out Corporate GHG Inventory Verification Prototype Project (LG Chem and SK corp.) 3) 2005-Present: Providing support in implementation of national policies for climate change mitigation 4) 2004: Engaged in establishing the plan on national sustainable development in the energy sector as an expert in the National Sustainable Development Committee 5) 1999-2003: Managed resources technology R&D projects 6) 1993-1998: Managed energy efficient technology R&D projects 7) 1990-1992: Managed new and renewable energy technology R&D projects
Certificate	
Training	Completed training course for GHG auditors - Date: 2 Jan. 2006 ~ 6 Jan. 2006 (44 hours) - Training organization: Korea Energy Management Corporation
Publications	
Linguistic abilities	1) Korean: A 2) English: A

Date of preparation : 28 November 2006

KEMCO

Personal History

Name	Han, Seung-Ho (Mr.)		
ID No.	-	Phone No.	(031) 260 – 4883
Date of employment/ Contract date	March 1, 2000	Scope of Qualification	Sectoral Scope 1~15
Classification	■ Full-time Validator/verifier ☐ Full-time Lead Validator/verifier ☐ Part-time Validator/verifier ☐ Part-time Lead Validator/verifier ☐ Technical Expert ☐ Committee member( ) ☐ Others( )		
Organization	Korea Energy Management Corporation	Position	GHG Auditor, Korea CDM Certification Office

	Description
Educational background	3) 1990-1994 Yonsei University, Department of Science, Physics (Bachelor's degree) 4) 1995-2000 Seoul National University, Environmental Studies, Urban Planning major(Mater's degree)
Work experience	March 2000 – present: Project Coordinator, GHG Auditor, Korea CDM Certification Office, Korea Energy Management Corporation 1. 2006: Conducted validation of several CDM projects: Yangyang Renewable Energy Project; LG Chem Fuel Switching Project 2. 2005: Conducted validation of the Gangwon Wind Park Project as a validation team leader 3. 2002～2004: Developed the manual and procedures for a CDM certification. 4. 2001～2004: Performed analysis of GHG reduction potentials for a heat pump project, refinery waste recovery project, wind power project and landfill gas utilization project. 5. 2000～2001: Produced reports on Climate Change and renewable energy policies of developed countries
Certificate	1) Certificate of Environmental Engineer(1st) 2) Environmental Auditor (ISO 14001)
Training	Completion of the training course for environmental auditors (ISO 14001) - Date: 21 Jan. 2002 ～ 25 Jan. 2002 (44 hours) - Training organization: Korean Standards Organization
Publications	1) Master's thesis "A study on GHGs mitigation options through forestry projects"(2000) 2) General Approaches to Validation of CDM Projects (2005) 3) Analysis on Leakage Effects Attributable to CDM Projects (2006) 4) Application of Approved Baseline Methodologies for CDM Projects in Korea-Case Study: Landfill Gas-to-Electricity Projects (2006) 5) Assessment of Data Uncertainty in Verifying Corporate GHG Emissions(2006)
Linguistic abilities	3) Korean: A 4) English: A
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