Site-visit Report for Validation

Shimizu Corporation

“Nubarashen Landfill Gas Capture and Power Generation Project in Yerevan”

Project No. JQA-CDM-L-P0015

24 January 2005

JQA
Japan Quality Assurance Organization
Site-visit Report for Validation on “Nubarashen Landfill Gas Capture and Power Generation Project in Yerevan”

1. Introduction
This is the Site-visit report, which was implemented from 20 December to 23 December 2004 as a part of background investigations and Follow-up interviews of the CDM validation process against the project activity “Nubarashen Landfill Gas Capture and Power Generation Project in Yerevan” proposed by Shimizu Corporation and other participants.
According to the JQA’s validation procedure, the Desk Review had already been implemented, and the items to be followed by the Site-Visit including interviews with Armenian governmental officials was indicated in the “Desk Review Report for Validation (Project No.-JQA-CDM-L-P0015-DR)”.
The meeting plan with key persons in Armenian government was prepared through the cooperation with an Armenian coordinator and successfully implemented.

2. Project participants
➢ Shimizu Corporation (Japan)
➢ Hokkaido Electric Power Company, Incorporated (Japan)
➢ Mitsui & CO., Ltd. (Japan)
➢ Municipality of Yerevan City (Armenia)

3. Schedule
20 December 2004 The Ministry of Energy, Municipality of Yerevan City
21 December 2004 The Ministry of Nature Protection, Public Service Regulatory Commission
22 December 2004 The Ministry of Urban Development, DNA
23 December 2004 Nubarashen Landfill Site

4. JQA Site-visit Member
Assessment Team Leader : Itaru Watanabe JQA certified CDM Lead Assessor
(note) The team is arranged by two assessors. However Site-visit was conducted only by the team leader, this report was prepared after discussion in the team.

5. Outline of Site-visit
1) Procedure of the meeting
① Self introduction each other
② Purpose of the meeting by JQA
③ Questions and answers

2) Items to be investigated
   a) Designated National Authority
      ➢ SD policy including Environmental Impact Assessment
      ➢ CDM approval and authorization procedures
      ➢ Invitation of local stakeholders comments
   b) Ministry of Nature Protection
      ➢ Current regulations and future policies about air pollution, groundwater treatment, waste management
      ➢ Forecast of waste generation and trends of municipal waste
   c) Public Service Regulatory Commission
      ➢ Approval procedures for the project activity
      ➢ Technologies in Armenia related to methane recovery and its use
   d) Ministry of Energy and/or Grid Operator & Distribution Company
      ➢ Grid operation connected to the power generation of the project activity including grid operation data availability
      ➢ Power purchase agreement with the participants of the CDM project activity
   e) Project participants of Armenia (Municipality of Yerevan City)
      ➢ The project activity operation and management including monitoring plan implementation, personnel training, internal audit plan, etc.,
      ➢ Composition of landfill waste and its future
   f) Visit to landfill site and interviews of local stakeholders (if necessary)
      ➢ Photos and Interviews with District administration of Erebuni and/or Erebuni Cleaning Ltd.

6. Meeting Results and Findings
   a) Ministry of Energy
      ① Date and time
         ➢ 20 December 2004  11:00 - 13:00
      ② Interviewees
         ➢ Mr. Levon Vardanyan, Head of Department Development and External Relations
         ➢ Dr. Alexander Kocharyan, Head of Renewable Energy Department
         ➢ Mr. Hrach Tsugunyan, Standard of Normalization Department
Comments and opinions

- Priority of energy policy (Renewable energy, gas pipeline, nuclear generation)
  - Hydro power: several projects has been established
  - Wind power: on going (20 MW)
  - Geo thermal power: under development
- The power generation of this project activity is appropriate for the energy policy. Ministry of Energy is positive to this project activity.
- GDP increases 10-13% annually, but energy consumption decreases gradually because the commercial loss ratio (10-11% not-for-payment) has been improved gradually.
- The data sources (daily, weekly, monthly and annually) of the “Diary Average Load-covering Diagram” in the PDD page 56 is reported to CIS and available for the public.

b) Municipality of Yerevan City

- Date and time
  - 20 December 2004  16:00 - 18:00
- Interviewees
  - Mr. Ashot Sargsyan, Head of Civil Construction, Municipal Services and City Development
  - Mr. Romik Kosemyan, Head of Ecological Department
  - Mr. Ashot Petzosyan, Deputy Head of foreign Relations Department
- Comments and opinions
  - Waste generation amount: The table 3 in the PDD shows a reasonable estimation in the past, current and future
  - Groundwater: at present no regulation for landfill site, so no monitoring system
  - Waste management improvement plan: How to manage and/or classify the waste has been discussed
  - Landfill site availability: It is available for several decades due to the improvement plan
  - Publicity of the proposed project activity: A newspaper “Yerevan Seven Days” had made the project activity open as an article. There is no adverse comment and the municipality feels all of citizens including NGOs are positive to the project activity.

c) The Ministry of Nature Protection
① Date and time
- 21 December 2004  11:00 - 13:30

② Interviewees
- Dr. Simon Papyan  First Deputy Minister
- Dr. Aram Gabrielyan, Head of Department of Environmental Protection
- Ms. Diana Harutyunyan, Project Coordinator and UNDP/GEF "National Capacity Assessment", expert of Climate Change Programmes
- Ms. Rubina Stepanyan, Project Assistant
- Ms. Nune Hovhannisyan, Project Division Department of International Cooperation

③ Comments and opinions
- The Ministry has a positive opinion to this project activity.
- The sustainable development policy of Armenia includes:
  - Supply and security of energy
  - Prevention of groundwater contamination
  - Solid waste disposal
- There is a Waste Processing Plan to be implemented in near future using Italian funds. The project participants of Nubarashen Landfill project should be avoided confliction with that project.
- Shimizu Corporation should have a definite contract agreement with the level of Mayor of Yerevan city for ensuring the engagement of Yerevan city.

d) Public Service Regulatory Commission
① Date and time
- 21 December 2004  15:00 - 16:30

② Interviewees
- Dr. Robert Kharazyan, Member of Public Service Regulatory Committee
- Mr. Robert Tsuyyan, Advisor of PSRC
- Mr. Gareguin Baghramyan, head of the tariff department
- Mr. Armen Yayloyan, Chief Specialist of the monitoring Department

③ Comments and opinions
- The project activity is positive.
- There is no problem for contracting the purchase agreement with CJSC for a long term.
- Until 2016 the tariff is US$ 0.07 /kWh. After 2016, it depends on the situation and should be needed some decisions at that time.
- PSRC makes a rule for application of renewable energy project and CJSC
operates the rule faithfully.

e) Ministry of Urban Development

① Date and time
  ➢ 23 December 2004  11:00 - 12:00

② Interviewees
  ➢ Mr. Karlen Gevorgyan  Deputy Minister
  ➢ Mr. Samvel Srpanyan  Head of Communal Division

③ Comments and opinions
  ➢ There is no regulation regarding collecting stakeholders' comments on such a project activity, because of small scale.
  ➢ There is no actual activity of the consulting commission organized by the Ministry of Urban Development so far.
  ➢ The purpose of the commission is to propose a comment on how to improve solid waste disposal and collecting system.
  ➢ In near future some discussion will be done.
  ➢ The members of the commission are UNDP, USAID, GTZ, Armenian Women’s Organization, Ecological Institute, EU Armenian Representative, etc.,
  ➢ The DNA issues the Written Approval Letter on behalf of Armenia.
  ➢ Anyway the Ministry is positive to the project activity.

f) Designated National Authority

① Date and time
  ➢ 23 December 2004  14:30 -17:00

② Interviewees
  ➢ Dr. Aram Gabrielyan, DNA
  ➢ Ms. Rubina Stepanyan, Project Assistant
  ➢ Ms. Nune Hovhannisyan, Project Division Department of International Cooperation

③ Comments and opinions
  ➢ The project activity is in conformance with Armenian Sustainable Development Policy.
  ➢ There is no negative impact on the environment of surrounding area.
  ➢ But SOx and NOx should be monitored.
  ➢ A draft approval procedure has been developed and will be officially decided in near future
  ➢ The approval of a project activity will be finally issued by the Prime Minister
after deliberation of the Minister of Nature Protection, the Minister of Social Affairs and the Minister of Trade and Economy.

- All of related Ministers are provided the PDD and have opportunities of providing their opinions.
- The procedure would be a simple one and will be provided on the Armenian official website in English.

7. Conclusion

Every governmental official expresses to support this project activity aggressively, because it meets Armenian sustainable development policy and energy policy, however there are a few comments on the use of terms to be more appropriately.

At the landfill site there was no problematic issue relating to the site location, estimated amounts of municipal waste carried into the site, current waste treatment and environmental impacts on local residents through observations and interviews with workers.

According to these investigations and interviews, the assessment team draws a conclusion that there is no additional CARs to the desk review in the background investigations in Yerevan City.

8. Appendix :

1. Signatures of interviewees
2. Environmental Laws of RA(Republic of Armenia)

Prepared by Team Leader (Name)

______________________________
Itaru Watanabe

Date of Issue : 24 January 2005
Appendix 1: Signatures of interviewees

1. Leon Vardanyan, Head of Department Development and External Relations

2. Alexander Kocharyan, Head of Renewable Energy

3. Hrach Tsigaryan, Director of Natural Resources

4. Anna Harutyunyan, Project Director, Deputy Head of the International Cooperation Department

5. Anna Harutyunyan - Project Coordinator, Deputy Head of “National Capacity Assessment” Project of Climate Change Programme of the Ministry of Nature Protection (22 Dec. 2004)

6. Hamlet Khachatryan - Advisor of M. Arakelian


8. Vahagn Simone - Chief Specialist of the Monitoring, Control and Security Department


10. Romin Kosanyan - Head of Ecological Department

11. Arshak Petrosyan - Head of the Tariff Department of the Ministry of Urban Development

12. Arshak Tsyuryan - Head of the Department of Civil Construction, Municipal Service and City Improvement


14. Karlen Gevorgyan - Deputy Minister of the Ministry of Urban Development, RA

Appendix 2:

Environmental Laws of RA

<table>
<thead>
<tr>
<th>Law</th>
<th>In Force</th>
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<tbody>
<tr>
<td>2. Principles of Legislation on People Protection in RA</td>
<td>April 15, 1993</td>
</tr>
<tr>
<td>3. RA Law on Specially Protected Areas</td>
<td>December 18, 1991</td>
</tr>
<tr>
<td>4. RA Law on Fish Protection in RA</td>
<td>March 3, 2001</td>
</tr>
<tr>
<td>5. RA Law on Water Code (last amendment on December 18, 1992)</td>
<td>March 3, 2001</td>
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<tr>
<td>6. RA Code on Entrails</td>
<td>March 19, 1992</td>
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<td>7. RA Forest Code</td>
<td>November 1, 1994</td>
</tr>
<tr>
<td>8. RA Law on Air Protection (last amendment on April 25, 2001)</td>
<td>December 11, 1994</td>
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<tr>
<td>10. RA Law on Forest Protection and Natural Use Policies</td>
<td>December 11, 1994</td>
</tr>
<tr>
<td>11. RA Law on Parks of Nature Protection (last amendment on December 5, 2000)</td>
<td>April 26, 2000</td>
</tr>
<tr>
<td>12. RA Law on Purposeful Use of Nature Protection Fees Paid by Organizations (last amendment on December 14, 2001)</td>
<td>June 11, 2001</td>
</tr>
<tr>
<td>13. RA Law on Flora</td>
<td>December 22, 1999</td>
</tr>
<tr>
<td>14. RA Law on Fauna</td>
<td>May 3, 2000</td>
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<tr>
<td>15. RA Law on Protection and Quarantine of Plants</td>
<td>2000</td>
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<tr>
<td>16. RA Law on Hydro-meteorological Service (last amendment on April 26, 2002)</td>
<td>March 9, 2001</td>
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<tr>
<td>17. RA Law on Lake Sevan</td>
<td>June 14, 2001</td>
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<tr>
<td>18. RA Law on Annual Program of Lake Sevan Ecosystem Restoration, Conservation, Reproduction and Use</td>
<td>December 27, 2001</td>
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<td>20. RA Law on Environmental Education</td>
<td>December 17, 2001</td>
</tr>
<tr>
<td>21. RA Law on Seismic Protection</td>
<td>July 6, 2002</td>
</tr>
<tr>
<td>23. RA Law on Simplifying the Code on Administrative Sanctions</td>
<td>November 11, 1999</td>
</tr>
<tr>
<td>25. RA Law on Safe Use of Nuclear Power for Peaceful Purposes</td>
<td>February 1, 1998</td>
</tr>
<tr>
<td>26. RA Law on Use of Air Space</td>
<td>April 16, 1997</td>
</tr>
<tr>
<td>27. RA Law on Protection of Achievement</td>
<td>November 23, 1999</td>
</tr>
<tr>
<td>29. RA Law on Waste</td>
<td>November 9, 1999</td>
</tr>
<tr>
<td>30. RA Law on Food Security</td>
<td>December 8, 1999</td>
</tr>
<tr>
<td>31. RA Law onдFire and Security</td>
<td>June 15, 1996</td>
</tr>
<tr>
<td>32. RA Law on Activities of State Agricultural Inspections</td>
<td>May 15, 1996</td>
</tr>
<tr>
<td>33. RA Law on Protection and Use of Historic and Cultural Monuments and Historic Environment</td>
<td>November 11, 1998</td>
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