-SPRE II
Environmental Management Plan (EMP)

Sub-project: Sanasomboune District, Champasack Province

2005
Table of Contents

Environment Part

1. Objective of the Guidelines
2. Sub-Project
3. Mitigation
4. Monitoring
5. Institution Arrangement
   a. Institutional Responsible and Capacity
   b. Environment Information Flow
6. Consultation with Local and Affected Groups
7. Schedule

Social Part

8. Property affected datasheet
1. Objective of the Guidelines

The objective of the Guidelines are to enable the responsible EDL Champasack Branch to carry out the EMP issues associated with construction of transmission lines to the village.

2. Sub-project Description

This sub-project will be near the way where the power line into the village, somewhere will be passed through the degred, rice paddy field and so on. For selecting the powr line route we have consultation with local for avoiding the effective to the population properties, in the special case (can not avoiding) we have to move or cutting the trees following the technic design, villagers will have a good coordination and no need any compensation.

- Technical Description of the sub-project

<table>
<thead>
<tr>
<th>Village</th>
<th>House hold</th>
<th>22 kV Line (m)</th>
<th>Number of Concrete Pole</th>
<th>Number of Transformers</th>
<th>0.4 kV Line (m)</th>
<th>Number of Concrete Pole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kengpho</td>
<td>111</td>
<td>903</td>
<td>13</td>
<td>1</td>
<td>1579</td>
<td>51</td>
</tr>
<tr>
<td>Sythouane</td>
<td>109</td>
<td>3050</td>
<td>41</td>
<td>1</td>
<td>6550</td>
<td>107</td>
</tr>
<tr>
<td>Nongmek</td>
<td>68</td>
<td></td>
<td>1</td>
<td>1</td>
<td>683</td>
<td>79</td>
</tr>
<tr>
<td>Solo gny</td>
<td>139</td>
<td>2019</td>
<td>27</td>
<td>1</td>
<td>4310</td>
<td>114</td>
</tr>
<tr>
<td>Singsamphanh</td>
<td>134</td>
<td>15072</td>
<td>202</td>
<td>1</td>
<td>2840</td>
<td>87</td>
</tr>
<tr>
<td>Phouthongloum</td>
<td>68</td>
<td>1950</td>
<td>28</td>
<td>1</td>
<td>2031</td>
<td>61</td>
</tr>
<tr>
<td>Pong</td>
<td>33</td>
<td></td>
<td>1</td>
<td>1</td>
<td>639</td>
<td>21</td>
</tr>
<tr>
<td>That</td>
<td>139</td>
<td>503</td>
<td>9</td>
<td>1</td>
<td>3120</td>
<td>80</td>
</tr>
<tr>
<td>Nakea</td>
<td>67</td>
<td>3614</td>
<td>11</td>
<td>1</td>
<td>2141</td>
<td>52</td>
</tr>
</tbody>
</table>

3. Mitigation Plan

Because of the power line will be passed through the old line, so no need to build a new power line, avoid to damage an environment anymore.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Issues</th>
<th>Mitigation Measure</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cutting the trees out of the right-of- way for construction work.</td>
<td>- Before clearing, trees will be marked for the line route and this will give exactly trees which one will be cut, for avoiding to damage of the properties as minimum as posible.</td>
<td>EDL &amp; Contractor</td>
</tr>
<tr>
<td></td>
<td>Noise pollution</td>
<td>- Construction would only take place during daytime, and if construction during local holiday is required, the local people would first be consulted in advance and get agreement from them.</td>
<td>Contractor</td>
</tr>
<tr>
<td></td>
<td>Dangerous from construction to the nearest population center</td>
<td>- Notice a sign for danger during the construction.</td>
<td>Contractor</td>
</tr>
<tr>
<td>Operation</td>
<td>Injuring and sickness of the workers</td>
<td>- Health and safety plan should be followed periodically, and should have medicine for the site.</td>
<td>Contractor</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Clearing and cutting the trees by the way of the construction</td>
<td>Pay attention for cutting the trees and do not burn the trees under the power line.</td>
<td>EDL &amp; local village</td>
<td></td>
</tr>
<tr>
<td>Transformer insulating and cooling oils leaks to contaminate water courses or soils</td>
<td>Monitoring of the transformer, If there is a leak immediate action will be taken either fix or renew them.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4. Monitoring Plan

<table>
<thead>
<tr>
<th>Phase</th>
<th>Parameter is to be monitored</th>
<th>Where</th>
<th>How</th>
<th>When</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Health and safety of the workers</td>
<td>Right-of-way construction 22kV and 0,4 kV</td>
<td>- Review of healthy and safety of the contractor’s workers and population.</td>
<td>Monthly review of Contractor’s Health &amp; Safety Plan before construction begins; monitor worker health and safety periodically</td>
<td>EdL; and Independent Third Party Monitor</td>
</tr>
<tr>
<td>Operation</td>
<td>Transformer insulating and cooling oils leaks to contaminate water courses or soils</td>
<td>Transformer</td>
<td>- Daily inspection on leaking of the transformer, cleanout and disposal of any spilled insulating/cooling oils</td>
<td>As per EdL substation systems inspection schedule</td>
<td>EDL and population report</td>
</tr>
</tbody>
</table>

### 5. Institutional Arrangement

#### 5.1 Institutional Responsibility and Capacity

Environmental unit is part of the Planning Division under EDL Champasack branch and will be report to this organization. For the best result of the work EdL will be coordinated with district and village concerned in this sub-project.

#### 5.2 Environmental Information Flow

Environmental unit will report directly to Planning Division and Director of EdL Branch. The report will also be copy to Environmental Office in Vientiane and concerned district for monitoring and supervision of the work.

### 6. Consultation with Local People and Project Affected Groups
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Date: <strong>26/01/04</strong></th>
<th>Venue: <strong>Kengpho village</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants Name</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Mr. Sysavath</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Kafkaikham</td>
<td>Deputy Head of village</td>
</tr>
<tr>
<td>Mr. Samaan</td>
<td>Deputy Head of village</td>
</tr>
<tr>
<td>Mr. Sisamly</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mrs. Simmahan</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mrs. Siradaphone</td>
<td>Forest</td>
</tr>
<tr>
<td>Mr. Somboone</td>
<td>Youth</td>
</tr>
<tr>
<td>Mr. Koukeo</td>
<td>Security</td>
</tr>
</tbody>
</table>

Agenda:

1. Discussion propose construction of the 22kV and 0.4kV transmission line how to minimise the construction work to environment and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed

Signed

Sysavath

Village head

EdL staff
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Date: 28/01/04</th>
<th>Venue: Sithouan village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants Name</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Mr. Bounna</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Khoune</td>
<td>Village Elder</td>
</tr>
<tr>
<td>Mr. Pone</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Sieng</td>
<td>Security</td>
</tr>
<tr>
<td>Mrs. Kom</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mr. Soukpaseuth</td>
<td>Youth</td>
</tr>
<tr>
<td>Mr. Khamphanh</td>
<td>Forest</td>
</tr>
</tbody>
</table>

Agenda:

1. Discussion propose construction of the 22kV and 0.4kV transmission line how to minimise the construction work to environment and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed

Signed

Bounna

Village head

EdL staff
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Participants Name</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Vanhdy</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Veo</td>
<td>Deputy head of village</td>
</tr>
<tr>
<td>Mr. Kong</td>
<td>Deputy head of village (culture)</td>
</tr>
<tr>
<td>Mr. Phanh</td>
<td>Village Elderly</td>
</tr>
<tr>
<td>Mrs. Phonh</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mr. Sene</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Vanh</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Phone</td>
<td>Youth</td>
</tr>
<tr>
<td>Mr. Khek</td>
<td>Forest</td>
</tr>
</tbody>
</table>

Date: 22/01/04  Venue: Nong Mek village

Agenda:

1. Discussion propose construction of the 22kV and 0.4kV transmission line how to minimise the construction work to environmetal and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed

Signed

Vandy

Village head  EdL staff
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Date: 27/01/04</th>
<th>Venue: Solo Gnay village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants Name</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Mr. Kichanh</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Chanekham</td>
<td>Deputy head of village</td>
</tr>
<tr>
<td>Mr. Somdeth</td>
<td>Village elderly</td>
</tr>
<tr>
<td>Mrs. Sa</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mr. Phosay</td>
<td>Youth</td>
</tr>
<tr>
<td>Mr. Hongkham</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Sene</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Ki</td>
<td>Forest</td>
</tr>
</tbody>
</table>

Agenda:

1. Discussion propose construction of the 22kV and 0.4kV transmission line how to minise the construction work to environment and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed

Signed

Kichanh

Village head

EdL staff
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Participants Name</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Khamphanh Phonedeth</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Kisay</td>
<td>Deputy head of village</td>
</tr>
<tr>
<td>Mr. Bounnong Saithavy</td>
<td>Deputy head of village</td>
</tr>
<tr>
<td>Mr. Khamsing Thanabuasy</td>
<td>Village Elderly</td>
</tr>
<tr>
<td>Mrs. Naly</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mr. Khammanh</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Lan</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Somlith</td>
<td>Youth</td>
</tr>
</tbody>
</table>

Date: 29/01/04
Venue: Singsamphanh village

Agenda:

1. Discussion propose construction of the 22kV and 0,4kV transmission line how to minimise the construction work to environment and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed
Signed

Khamphanh

Village head
EdL staff
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Participants Name</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Sithon</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Khamtanh</td>
<td>Deputy head of village</td>
</tr>
<tr>
<td>Mr. Bounthan</td>
<td>Deputy head of village</td>
</tr>
<tr>
<td>Mr. Boun thieng</td>
<td>Village Elderly</td>
</tr>
<tr>
<td>Mrs. Bounsy</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mr. Bounmak</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Sonexay</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Sythone</td>
<td>Youth</td>
</tr>
<tr>
<td>Mr. Bouasy</td>
<td>Forest</td>
</tr>
</tbody>
</table>

Venue: Phouthong loum village

Agenda:

1. Discussion propose construction of the 22kV and 0.4kV transmission line how to minise the construction work to environment and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed

Signed

Sithonh Nahaphasith

Village head

EdL staff
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Date: 28/01/04</th>
<th>Venue: Pong village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants Name</td>
<td>Responsibiltiy</td>
</tr>
<tr>
<td>Mr. Bounna</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Vira</td>
<td>Deputy Head of village</td>
</tr>
<tr>
<td>Mr. My</td>
<td>Deputy Head of village (culture)</td>
</tr>
<tr>
<td>Mr. Chom</td>
<td>Village Elderly</td>
</tr>
<tr>
<td>Mrs. Veth</td>
<td>Woman union</td>
</tr>
<tr>
<td>Mr. Phone</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Khammeune</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Thengkham</td>
<td>Youth</td>
</tr>
</tbody>
</table>

Agenda:

1. Discussion propose construction of the 22kV and 0,4kV transmission line how to minise the construction work to environemtn and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed

Bounana

Village head

EdL staff
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Date: 31/01/04</th>
<th>Venue: That village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants Name</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Mr. Boussieng</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Chanephila</td>
<td>Village Elderly</td>
</tr>
<tr>
<td>Mrs. Sirivanh</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mr. Soubinh</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Bouning</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Nouxay</td>
<td>Youth</td>
</tr>
</tbody>
</table>

Agenda:

1. Discussion propose construction of the 22kV and 0,4kV transmission line how to minimise the construction work to environment and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed

Signed

Boussieng

Village head

EdL staff
Consultation

- Date/venue of consultation meeting

<table>
<thead>
<tr>
<th>Date: 300104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venue: Nake village</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants Name</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Bounpanh</td>
<td>Head of village</td>
</tr>
<tr>
<td>Mr. Sy pang</td>
<td>Village elderly</td>
</tr>
<tr>
<td>Mrs. Keo oudone</td>
<td>Woman Union</td>
</tr>
<tr>
<td>Mr. Sone</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Bounthong</td>
<td>Security</td>
</tr>
<tr>
<td>Mr. Kong</td>
<td>Youth</td>
</tr>
<tr>
<td>Mr. Thithoua</td>
<td>District Employee</td>
</tr>
</tbody>
</table>

Agenda:

1. Discussion propose construction of the 22kV and 0.4kV transmission line how to minimise the construction work to environment and village properties.

Summary minute of meeting, comment, question and response by presenter.

1. All villagers and village authority agreed with proposed construction of the line to village. If there is a need for cutting trees from the right of way village will not need any compensation. During construction of the line village will provide labour as much as village can and will give a place to live for construction team.

Sealed and signed Signed

Bounpanh

Village head EdL staff
7. Schedule

<table>
<thead>
<tr>
<th>Sub-project</th>
<th>Construction</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22kV</td>
<td>0,4kV</td>
</tr>
<tr>
<td></td>
<td>Pole election</td>
<td>Line stringing</td>
</tr>
<tr>
<td>Kengpho</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Sythouane</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Nongmek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solo gnay</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Singsamphanh</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>Phouthong loum</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Pong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>That</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Nakea</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Based on those above schedule for the mitigation and monitoring could be:

<table>
<thead>
<tr>
<th>Sub-project</th>
<th>Survey</th>
<th>Design</th>
<th>Approval</th>
<th>Pre-Construction</th>
<th>Construction</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kengpho</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mitigation</td>
</tr>
<tr>
<td>Sythouane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Monitoring</td>
</tr>
<tr>
<td>Nongmek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solo gnay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singsamphanh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phouthong loum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pong</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>That</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nakea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>