(7)Duties and responsibilities of the applicant in the organization

(8) If the organization takes the form of a stock company, please explain within the extent you can.

a) Names of investors

b)Respective investor's share of the total capital of the organization

c) Company's share of the market

"I certify that I have examined this document and that I am satisfied the information presented is authentic. Therefore, I hereby nominate Mr./Ms._____
as a candidate for the course in ***The Improvement for Electric Power Distribution Grid*** on behalf of the government
of _____
_____."

Date:

Name of Endorser:

Title:

Name of Organization:

(Signature)

_____

ANNEX 3

## Country Report

### 1. Current situation of electric power distribution facilities

(1) Service voltage level for the respective contract categories

(Example)

| Contract capacity | Service voltage |
|---|---|
| less than 50kW | 100/200V |
| 50kW- less than 2,000kW | 6.6kV |
| Over 2,000kW | 22kV |

(2) Standard substation bank capacity for distribution and standard number of feeders

(Example)

| Area | Bank capacity | Number of feeders |
|---|---|---|
| City | 10,15, 20, 30MVA×3 | 6 feeders×3 |
| Rural | 10,15, 20, 30MVA×3 | 6 feeders×3 |

(3) Distribution system

(Example)

6.6kV : ungrounded-neutral three-phase three-wire system

(4) Distribution Power Grid

Please attach the typical distribution power grid map of your company.

(5)Standard capacity of distribution feeder (both overhead and underground)

(Example)

| descriptions | Maximum operating capacity | Maximum operating current |
|---|---|---|
| Overhead | about 4,500 kVA | 392 A |
| Underground | about 4,500kVA | 392 A |

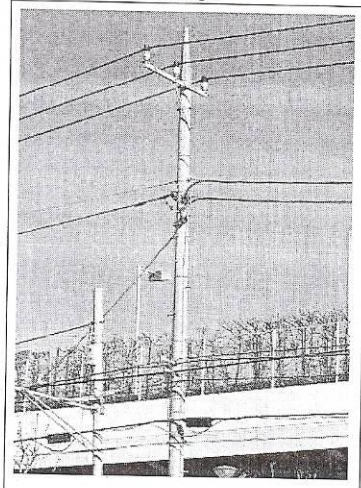
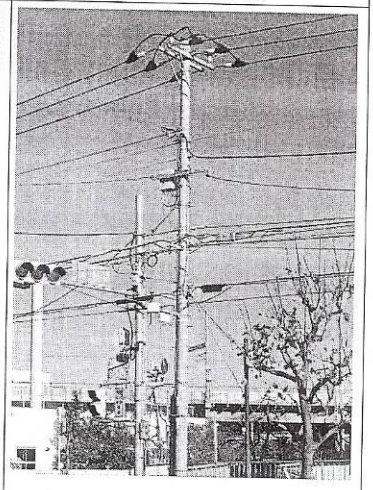
(6) Main distribution facilities

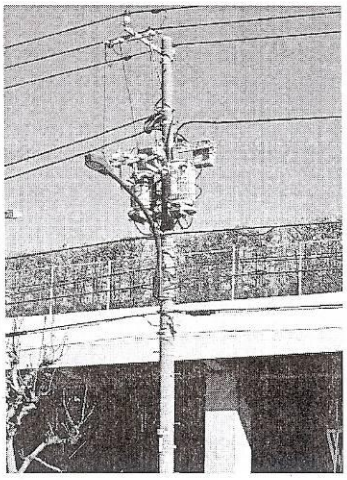
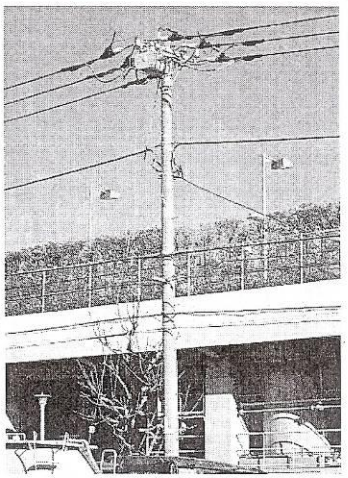
(Example)

| | | |
|---|---|---|
| Pole | Type | Reinforced Concrete Pole |
| | Length [m] | 7 ~ 17 |
| Wire | Material | Cupper |
| | Size [sq] | LV: 22, 38, 60<br>HV: 22, 38, 60, 100, 150 |
| Transformer | Phase | Single phase |
| | Capacity [kVA] | 5, 10, 20, 30, 50, 75, 100 |
| Switch gear | Type | Air Switch<br>Gas Switch |
| | Capacity [A] | 200, 400, 600 |

(7) Picture of distribution pole framing（配電装柱の写真）

(Example)

| Straight | Branch Dead-End |
|---|---|
|  |  |

| Transformer | Switch gear |
|---|---|
|  |  |

(8) Faults

・Number of distribution line faults （number of cases :during Fiscal Year 2009 , and 2010）

| Descriptions | | FY 2009 | FY 2010 |
|---|---|---|---|
| Total number of faults (unit: cases) | | | |
| Causes detail | Lightning | | |
| | Bird and beast | | |
| | Wind /Rainstorm | | |
| | Old facilities | | |
| | Human causes | | |
| | unknown | | |

| | | | |
|---|---|---|---|
| | others | | |
| SAIDI *1 | | | |
| SAIFI *2 | | | |

*1 SAIDI (System Average Interruption Duration Index) unit : minutes / year・customer

*2 SAIFI (System Average Interruption Frequency Index) unit : times / year・customer

(9) Maintenance

The frequency of patrol (inspection) for distribution equipments

(10) Please describe the equipment or any parts to repair the most in distribution facilities and how to repair them. (Describe about them over three contents)

(11) Power line protection system

(12) Specification for main distribution facilities

Please describe the specification for main distribution facilities such as electric power pole, pole-switch, pole-transformer, conductor, cable, etc.

(13) General information

- Area of the country
- Population
- Temperature (maximum, minimum, average)

2. General Data

| Descriptions | | | Fiscal Year | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2006 | 2007 | 2008 | 2009 | 2010 |
| Electric Power Demand (GWh) | Household | | | | | | |
| | Agriculture | | | | | | |
| | Commercial | | | | | | |
| | Industries | | | | | | |
| | Others | | | | | | |
| | Total | | | | | | |
| Maximum Peak Load (MW) [Date] | | | | | | | |
| Annual Load Factor (%) | | | | | | | |
| Transmission/Distribution Loss (%) | | | | | | | |
| Power Supply Reserve Margin (%) | | | | | | | |
| Generating Capacity (MW) | Hydro-electric | Conventional | | | | | |
| | | Pumped Storage | | | | | |
| | | Sub-total | | | | | |
| | Thermal | Coal | | | | | |
| | | Oil-Based | | | | | |
| | | Gas Turbine | | | | | |
| | | Combined | | | | | |
| | | Diesel | | | | | |
| | | Sub-total | | | | | |
| | Nuclear Power | | | | | | |
| | Wind Power | | | | | | |
| | Geothermal | | | | | | |
| | Others | | | | | | |
| | Total | | | | | | |
| Rural Electrification (%) | | | | | | | |
| Number of Customers | | | | | | | |
| Number of Employees | | | | | | | |
| Average Power Rate (Yen/kWh) * | | | | | | | |

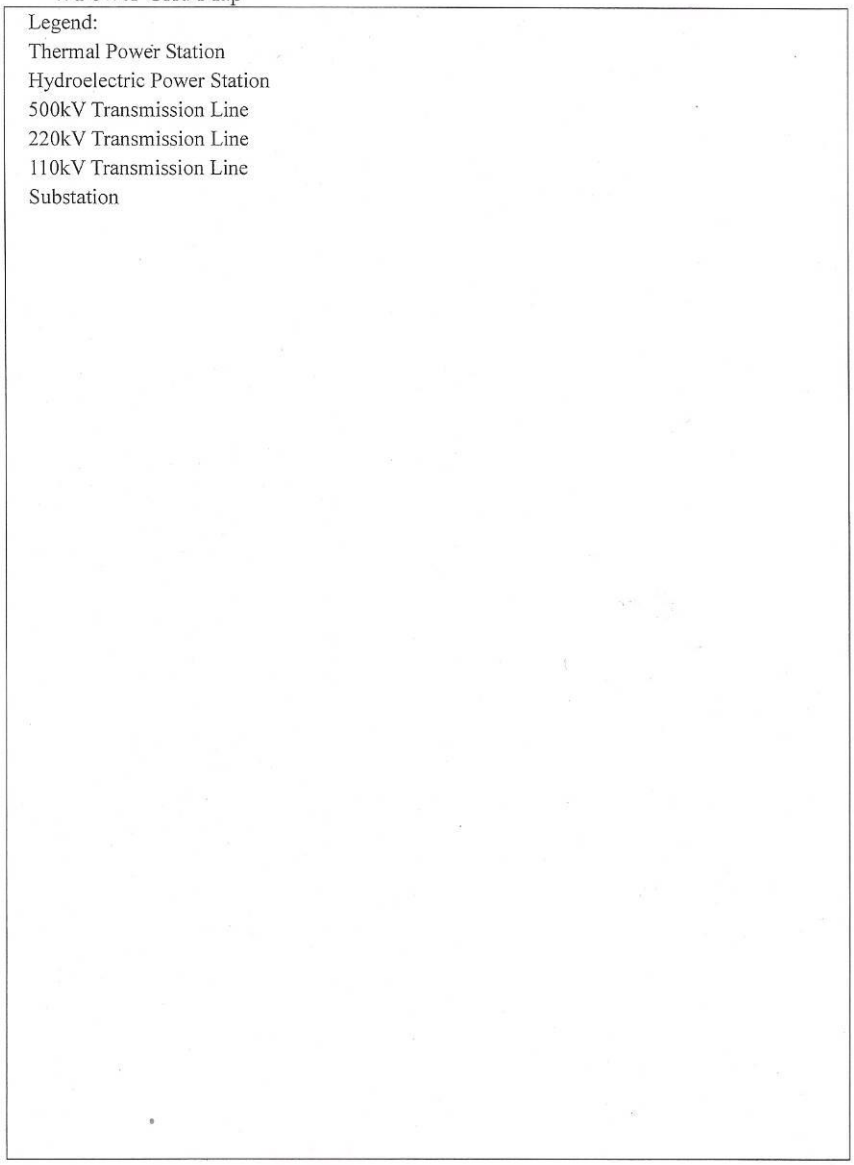
* US Dollar 1 = Japanese Yen 100.

3. System Diagram of Electric Power Industry and Company Organization Chart

System Diagram of Electric Power Industry

Company Organization Chart

4. Power Grid Map



5. Generation Capacity of IPPs

| Description | | Fiscal Year | | | | |
|---|---|---|---|---|---|---|
| | | 2005 | 2006 | 2007 | 2008 | 2009 |
| Hydro-electric (MW) | Conventional | | | | | |
| | Pumped Storage | | | | | |
| | Sub-total | | | | | |
| Thermal (MW) | Coal | | | | | |
| | Oil-Based | | | | | |
| | Gas Turbine | | | | | |
| | Combined | | | | | |
| | Diesel | | | | | |
| | Others | | | | | |
| | Sub-total | | | | | |

6. Future Plan (Demand Forecasting)

| Description | | | FY 2009 | | Around FY 2015 | |
|---|---|---|---|---|---|---|
| | | | | Percent | | Percent |
| Electric Power Demand (GWh) | | | | | | |
| Maximum Daily Load (MW) | | | | | | |
| Supply Reserve Margin (%) | | | | | | |
| Generating Capacity (MW) | Hydro-electric | Conventional | | | | |
| | | Pumped storage | | | | |
| | | Sub-total | | | | |
| | Thermal | Coal | | | | |
| | | Oil-Based | | | | |
| | | Gas Turbine | | | | |
| | | Combined | | | | |
| | | Diesel | | | | |
| | | Sub-total | | | | |
| | Nuclear Power | | | | | |
| | Wind Power | | | | | |
| | Geothermal | | | | | |
| | Others | | | | | |
| | IPPs | | | | | |
| | Total | | | | | |

7. Electricity Tariff

Please attach an electricity tariff of your company.

8. Electric Power Industry in the Future

(Restructuring the Power Market, Privatization of the Power Utilities, Pooling System of the Power Market, etc)

9. Training System of a new employee at your department

| | Objective | Subject |
|---|---|---|
| 1st year | | |
| 2nd - 3rd years | | |
| After 3years | | |

10. Work clothes and shoes Size

Participants will be required to wear a helmet, work clothes and work shoes in a technical visit or a fieldwork during the training.

Please fill in all the blanks so that Japanese side can prepare them in advance even if the participants bring their own.

| | | |
|---|---|---|
| Work jacket | Neck circumference<br>cm | Chest circumference<br>cm |
| Work pants | Waist circumference<br>cm | Inseam(length of the inside leg)<br>cm |

| | |
|---|---|
| Work shoes | cm |

ANNEX-4

Notes for making Issue Analysis Sheet and Dissemination Plan

## ❶Issue Analysis Sheet ( ANNEX 4(1))

1. This sheet consists of 4 parts, (A) Issue, (B) Cause, (C) Measure, (D) Target.
2. Please describe the issues which you and your organization face at present in the (A).
3. Please analyze the issues in three aspects, Human or Organization, Material and Budget in the (B).
4. Please describe the necessary countermeasures which you think of now in the (C).
5. Please describe the targets desired to obtain from this training in the (D).

**The Issue Analysis Sheet should be filled out based on the discussion with your superior or related personnel about this matter, as it is essential documents which enable the training program to meet the participants' needs.**

## ❷Dissemination Plan (ANNEX 4(2))

6. This plan consists of 4 parts, (E) Result, (F) How to promote, (G)Your own activities and (H) Period.
7. Based on the(D) Target, please describe the results in the (E). If the results aere more than you expected, you can write down additionally.
8. Please describe the measures to promote what you have got through this training course in your organization when you return to your country. It is preferable to describe the details as much as possible.
9. Please describe your estimated period to conduct your plan which you described in the (F)
10. Please describe your own opinions and actions (G).
11. The more concrete you write your dissemination plan, the better it will be.

<Sample>

**ANNEX 4 (1) Issue Analysis Sheet: Please fill in the blanks before arrival in Japan**

| No | (A). Issue | (B). Cause | | (C). Measure<br>Human: Describe how to improve of human ability.<br>Material: Describe the necessary performance.<br>Money: Describe the rough estimate. | (D). Target<br>Knowledge and Experience desired to obtain from this training course. |
|---|---|---|---|---|---|
| | | Sort | Detail | | |
| Ex | Transformer accident often makes blackout. | Human or Organization | -Periodic patrol and inspection are not conducted. | - Make a rule for maintenance. | -Learning how to maintain the each equipment in Japan and other countries.<br>-Discussing with Japanese experts and other trainees about maintenance, and looking for the suitable way to my country. |
| | | Material | -Insulated material of bushings is weak. | -Change the specifications of transformers. | -Finding the difference in specification between Japan and my country.<br>-Discussing with Japanese experts and other trainees about suitable specification. |
| | | Budget | -Deterioration of various equipment (due to the shortage of budget) | -To replace 100 transformers a year, we need US$50000/year for the next ten years. | - |
| 1 | | Human or Organization | - | - | - |
| | | Material | - | - | - |
| | | Budget | - | - | - |

| No | (A). Issue | (B). Cause | | (C). Measure<br>Human: Describe how to improve of human ability.<br>Material: Describe the necessary performance.<br>Money: Describe the rough estimate. | (D). Target<br>Knowledge and Experience desired to obtain from this training course. |
|---|---|---|---|---|---|
| | | Sort | Detail | | |
| 2 | | Human or Organization | - | - | - |
| | | Material | - | - | - |
| | | Budget | - | - | - |
| 3 | | Human or Organization | - | - | - |
| | | Material | - | - | - |
| | | Budget | - | - | - |
| 4 | | Human or Organization | - | - | - |
| | | Material | - | - | - |
| | | Budget | - | - | - |

**◇Expectation to the applied training Program**

**Please describe what you intend to achieve in the training program.**

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**ANNEX 4 (2) ~ fill in the blanks until Interim Plan presentation(June 20,2012) ~**

| No | (E). Result<br>Knowledge and experience you should adopt in your country | (F). How to promote | (G).your own activities | (H). Period | | |
|---|---|---|---|---|---|---|
| Ex<br>(Human) | -In Japan, there is a clear and accurate rule for various patrols and inspections and they are conducted strictly as the rules.<br>---> We should make a maintenance rule.<br><br>-In order to maintain the equipments effectively, it is necessary to store the results in a database.<br>---> We should make a database system to store the result of patrols and inspections. | - Considering the best way of making database of patrol and inspection. | -Building a tentative database, and explain it to your boss | 2012<br>/6 | ~ | 2012<br>/8 |
| | | - Making the guideline for patrol/inspection, such as frequency and data management, and distribute it to all office. | -Organizing a working group with the related department | 2012<br>/6 | ~ | 2012<br>/9 |
| | | - Holding the training for the above manual at every office | Arranging a training | 2012<br>/9 | ~ | 2013<br>/1 |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |

## *For Your Reference*

### JICA and Capacity Development

The key concept underpinning JICA operations since its establishment in 1974 has been the conviction that "capacity development" is central to the socioeconomic development of any country, regardless of the specific operational scheme one may be undertaking, i.e. expert assignments, development projects, development study projects, training programs, JOCV programs, etc.

Within this wide range of programs, Training Programs have long occupied an important place in JICA operations. Conducted in Japan, they provide partner countries with opportunities to acquire practical knowledge accumulated in Japanese society. Participants dispatched by partner countries might find useful knowledge and re-create their own knowledge for enhancement of their own capacity or that of the organization and society to which they belong.

About 460 pre-organized programs cover a wide range of professional fields, ranging from education, health, infrastructure, energy, trade and finance, to agriculture, rural development, gender mainstreaming, and environmental protection. A variety of programs are being customized to address the specific needs of different target organizations, such as policy-making organizations, service provision organizations, as well as research and academic institutions. Some programs are organized to target a certain group of countries with similar developmental challenges.

### Japanese Development Experience

Japan was the first non-Western country to successfully modernize its society and industrialize its economy. At the core of this process, which started more than 140 years ago, was the *"adopt and adapt"* concept by which a wide range of appropriate skills and knowledge have been imported from developed countries; these skills and knowledge have been adapted and/or improved using local skills, knowledge and initiatives. They finally became internalized in Japanese society to suit its local needs and conditions.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated from this "*adoption and adaptation*" process, which, of course, has been accompanied by countless failures and errors behind the success stories. We presume that such experiences, both successful and unsuccessful, will be useful to our partners who are trying to address the challenges currently faced by developing countries.

However, it is rather challenging to share with our partners this whole body of Japan's developmental experience. This difficulty has to do, in part, with the challenge of explaining a body of "tacit knowledge," a type of knowledge that cannot fully be expressed in words or numbers. Adding to this difficulty are the social and cultural systems of Japan that vastly differ from those of other Western industrialized countries, and hence still remain unfamiliar to many partner countries. Simply stated, coming to Japan might be one way of overcoming such a cultural gap.

JICA, therefore, would like to invite as many leaders of partner countries as possible to come and visit us, to mingle with the Japanese people, and witness the advantages as well as the disadvantages of Japanese systems, so that integration of their findings might help them reach their developmental objectives.

*CORRESPONDENCE*

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