

F.No.12040/05/2021-FTC/IR  
Government of India  
Ministry of Personnel, Public Grievances and Pensions  
Department of Personnel and Training  
[Training Division]  
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Block-4, Old JNU Campus, New Delhi-110067

Dated: 19<sup>th</sup> August 2021

**TRAINING CIRCULAR**

**Subject: Knowledge Co-Creation Program on “Power Grid Planning and Operation” to be held online from 08.10.2021 to 08.11.2021 under the Technical Cooperation Program of the Government of Japan.**

The undersigned is directed to state that the Japan International Cooperation Agency (JICA) has invited applications for Knowledge Co-Creation Program on “Power Grid Planning and Operation” to be held online from 08.10.2021 to 08.11.2021 under the Technical Cooperation Program of the Government of Japan.

2. The program aims to support the organizations in their attempt to their quality issues in power transmission. In this course, participants will learn power grid planning, designing, operation and maintenance, through Japan’s Experience in power transmission, which is regarded as one of the most stable and efficient systems in the world. The course offers lectures and interactive sessions. Participants are expected to build networks through various formats of online discussion.
3. The applying organizations are expected to nominate officers / engineers in National grid operators or relevant governmental organizations in charge of planning and designing of transmission and substation equipment. The officers should have more than 5 years of professional experience in the relevant field. The applicant should be a graduates of engineering faculty of university or equivalent; have competent command over spoken and written English; must be in good health (both physically and mentally); between the ages of thirty (30) and fifty (50) years. More information may be seen in the general information brochure.
4. In addition, the following information in respect of the nominated officers may please be mentioned while furnishing the nomination:-
  - a) Whether attended any foreign training program in the past? If so, the duration/details thereof;
  - b) Whether clear from vigilance angle;
  - c) Age;
  - d) Whether working in North East State/J&K;
  - e) A brief in 50-100 words justifying the nomination.
5. This course is completely online and the participating organizations are expected to allow the participants to participate in this online interactive sessions (web conference by Zoom) will be organized 6 times in 2 groups at JST (Japan Standard Time) 13:00 -16:00 (UTC/GMT 04:00 – 07:00) and JST 16:00 – 21:00 (utc.gmt 09:00 – 12:00) (tentative).
6. It is, therefore, requested that the nomination of suitable candidates may please be forwarded **(in two copies)** to this Department in JICA’s prescribed format duly authenticated by

the HOD of the concerned Ministry/Department/State Governments/UTs in accordance with the eligibility criteria.

7. The applications should reach this Department through the Administrative Ministry/Department not later than **03.09.2021**. Nominations received after the prescribed date may not be considered. An advance copy may be sent to the JICA India Office via courier or email at [ShekarD.ID@jica.go.jp](mailto:ShekarD.ID@jica.go.jp) under intimation to DoPT at email id: [jitesh.gupta@nic.in](mailto:jitesh.gupta@nic.in) or [kailash.k@nic.in](mailto:kailash.k@nic.in). The details of the program (General Information Brochure) and application form may be drawn from the website of DoPT.



(Biswajit Banerjee)

Under Secretary to the Government of India

Tele no: 261941 67

To

- a) **Secretary, Ministry of Power, Shram Shakti Bhavan, New Delhi.**
- b) **Chief Secretaries to State Governments/Union Territories (with request to circulate the same amongst related Departments/Organizations under them) (through the website of this Department).**
- c) **Senior Representative, Japan International Cooperation Agency, 16<sup>th</sup> Floor, Hindustan Times House, 18-20 Kasturba Gandhi Marg, New Delhi -110001.**
- d) **NIC with request to post the circular along with the JICA's circular on this Department's website.**



# **【Online】**

# **Knowledge Co-Creation**

# **Program**

## **(Group & Region Focus)**

**General Information on**

**Power Grid Planning and Operation (A)**  
**課題別研修 電力系統計画・運用技術研修 (A)**

***JFY 2021***

**Course No. 202003155J001**

**Online Course Period: From October 8, 2021 to November 8, 2021**

This information pertains to one of the JICA Knowledge Co-Creation Programs (Group & Region Focus) of the Japan International Cooperation Agency (JICA) implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

JICA Knowledge Co-Creation Program (KCCP)

The Japanese Cabinet released the Development Cooperation Charter in February 2015, which stated, *“In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together.”* JICA believes that this ‘Knowledge Co-Creation Program’ will serve as a foundation of mutual learning process.

# I. Concept

## Background

Our everyday lives depend on stable power supply, which supports growth in all sectors as well as human and economic development. In some developing countries, the power sector has been developing to meet rapidly growing power demand. However, some countries still have room for improvement in terms of the quality of power supply, which represents stability, efficiency, optimization of power transmission.

## For what?

This program aims to support the organizations in their attempt to their quality issues in power transmission. In this course, participants will learn power grid planning, designing, operation and maintenance, through Japan's experience in power transmission, which is regarded as one of the most stable and efficient systems in the world. The course offers lectures and interactive sessions. Participants are expected to build networks through various formats of online discussion.

## For whom?

This program is designed for electrical power engineers working in electric power transmission sector of the national grid operators or government-owned power companies. In some countries, non-governmental institutions can be included.

The engineers in charge of technical training in their workplace are also encouraged to participate in the program to disseminate knowledge and transfer skills acquired through this course.

## How?

Through self-study and online interactive Q&A sessions, participants shall gain insight to the principle of planning of reliable power transmission network and tips for operational efficiency based on Japan's experience. Participants are expected to formulate an "Action Plan" with ideas to address relevant issues in participants' country.

## Sustainable Development Goals (SDGs)

JICA is committed to achieving the SDGs. This program is to contribute to following goals.



## II. Description

**1. Title (Course No.)**  
**Power Grid Planning and Operation (A)**  
**202003155J001**

**2. Course Period**  
From **October 8, 2021 to November 8, 2021**

During the period, online interactive sessions (web conference by Zoom) will be organized 6 times in 2 groups at JST (Japan Standard Time) 13:00 - 16:00 (UTC/GMT 04:00 - 07:00) and JST 16:00 - 21:00 (UTC/GMT 09:00 -12:00) (Tentative).

Tentative Program: Fixed schedule will be shared to the accepted participants with the Notice of Acceptance.

Date	Time	
October, 1 (Fri) 2021	-	Submission & sharing of Inception Report
October, 1 (Fri)	UTC/GMT 03:00-	Downloading & Reading Lecture Materials
October, 8 (Fri)	UTC/GMT 04:00 - 07:00, 09:00 - 12:00	Orientation, Q&A session
October, 11 (Mon)	UTC/GMT 04:00 - 07:00, 09:00 - 12:00	Discussion on Inception Reports
October, 12 (Tue)	UTC/GMT 04:00 - 07:00, 09:00 - 12:00	Q&A session
October, 15 (Fri)	UTC/GMT 04:00 - 07:00, 09:00 - 12:00	Homeroom, Q&A session
October, 20 (Wed)	UTC/GMT 04:00 - 07:00, 09:00 - 12:00	Q&A session
October, 22 (Fri)	UTC/GMT 05:00 - 10:00	Individual Consultation
October, 26 (Tue)		Submission of Action Plan

<Important Note>

In the context of the COVID-19 pandemic, please note that there is a possibility the course period may be changed, shortened, or the course itself cancelled.

### 3. Target Regions or Countries

Egypt, Guyana, India, Iraq, Jordan, Laos, Nepal, Pakistan, Palestinian Authority, Papua New Guinea, Sri Lanka

### 4. Eligible / Target Organization

This program is offered to senior electrical engineers working in national grid operators or equivalent governmental organizations in power sector.

### 5. Capacity (Upper limit of Participants)

13 participants

**6. Language**

English

**7. Objective(s)**

- Participants gain knowledge related to power grid system planning and operation.
- Participants formulate an Action Plan to address relevant issues in each country.

**8. Overall Goal**

Capacity of planning and operation in national power grid is improved in participating organizations.

## 9. Output and Contents

This course consists of the following components. (Subject to minor change.)

Expected Module Output	Subjects/Agendas	Methodology
To clarify issues and opportunities concerning the power system in home country.	Inception Report preparation, sharing and discussion	<ul style="list-style-type: none"> <li>✓ Preparing an Inception Report</li> <li>✓ Online discussion</li> </ul>
To be able to share the knowledge on the grid system and operation practices in Japan.	Overview of power grid system operation in Japan, including power system reform	<ul style="list-style-type: none"> <li>✓ Reading Lecture Materials</li> <li>✓ Online Q&amp;A Consultation</li> </ul>
To be able to share the knowledge and technology of power system planning.	(1) System planning (e.g. transition of power system expansion in electric company)	<ul style="list-style-type: none"> <li>✓ Reading Lecture Materials</li> </ul>
	(2) Function of engineering department and system operation department. Allocation of roles between utility company and contractor	
To be able to share the knowledge and technology of power system operation.	(1) System reliability (e.g. supply-demand control, voltage regulation, mitigation of cascading blackout, trans-regional operation)	<ul style="list-style-type: none"> <li>✓ Online Q&amp;A Consultation</li> </ul>
	(2) Role of power system division and affiliated company in power system operation and maintenance	

	(3) Challenges and opportunities on interconnection of renewable energy.	
To be able to share the knowledge and technology of operation and maintenance for power system equipment.	(1) System reliability (e.g. supply-demand control, voltage regulation, mitigation of cascading blackout, trans-regional operation)	
	(2) Quality Control of equipment	
	(3) Quality Control of power transmission facilities	
	(4) Substations	
To formulate Action Plan formulation on planning, designing, operation and maintenance of power system in each home country	(1) Guidance for creating the Action Plan	✓ Online guidance
	(2) Preparation and submission of the Action Plan	✓ Writing an Action Plan ✓ Feedback via E-mail

- During this three-week program, you are supposed to:
  - prepare an Inception Report before the commencement of the program;
  - read 12 sets of lecture material;
  - participate in 6 online discussion / Q&A sessions (the length of each session can vary); and
  - develop an Action Plan.

You are responsible for time management. Please make sure that you discuss this with your supervisor in your organization so that you have enough time to focus on your course work.

- Participants who have successfully completed the program will be awarded a certificate by JICA.



## III. Eligibility and Procedures

### 1. Expectations to the Applying Organizations

- (1) This course is designed primarily for organizations that intend to address specific issues or problems identified in their operation. Applying organizations are expected to use the program for those specific purposes.
- (2) This program is enriched with contents and facilitation schemes specially developed in collaboration with relevant prominent organizations in Japan. These special features enable the program to meet specific requirements of applying organizations and effectively facilitate them toward solutions for the issues and problems.

### 2. Nominee Qualifications

Applying organizations are expected to select nominees who meet the following qualifications.

#### (1) Essential Qualifications

- 1) Current Duties: Engineers in national grid operators or relevant governmental organizations in charge of planning and designing of transmission and substation equipment.
- 2) Experience in the relevant field: Have at least 5 years of experience in the field of power transmission.
- 3) Educational Background: Graduates of engineering faculty of university or equivalent.
- 4) Language: Smooth communication in English.
- 5) Technical Requirements for the Online Course (Computer)

#### Technology Proficiency:

-Basic computer skills such as sending/receiving email with attachments, and using a web browser.

-Online course may be delivered using the services including web conferences (Zoom), Cloud Storage and You Tube.

\*JICA's technical support and online tutorials are limited. The ability to be self-directed in learning new technology skills is required.

#### Internet Connection:

-High speed broadband connection (at least 2Mbps).

\* Internet connection charges incurred for your program participation shall be borne by you/your organization.

#### Hardware (minimum requirements):

- Regular access to a computer, either at home or in your office.

- Operating System: Windows or Mac OS (an updated version of OS is preferred).
- Processor: Intel Core 2 Duo or higher; 2GHz or higher
- Memory: 4GB of RAM or higher
- Hard Drive Space: 5GB free disk space
- Browser: Google Chrome is preferred browser. (Edge, Firefox, Safari can be used)
- Others: Webcam microphone, and audio output device (speaker or headset)

**Software (which may be required):**

-Zoom Client for Meeting (<https://zoom.us/download>)

\*If you are using your office computer and use of Zoom is not authorized by your IT administrator, please notify JICA at the time of application.

6) Health: must be in good health to participate in the program.

7) Attendance Requirement: Participation in the program and submission of reports are essential requirements for the completion of the course.

**(2) Recommended Qualifications**

- 1) Age: Between the ages of thirty (30) and fifty (50) years
- 2) Gender Consideration: JICA promotes gender equality. Women are encouraged to apply for the program.

**3. Required Documents for Application**

**(1) Application Form:** The Application Form is available at **the JICA overseas office (or the Embassy of Japan)**

**(2) Photocopy of Passport or ID:** The photocopy should include name, date of birth, nationality, sex, ID number and Expire date.

**(3) English Score Sheet (Photocopy):** To be submitted with the Application Form, if the nominees have any official English examination scores. (e.g., TOEFL, TOEIC, IELTS)

**(4) Country Report (V. ANNEX):** To be submitted with the Application Form. Typewritten in English in double spacing (about 6 to 9 pages of A-4 size). The latest annual report published by the applicant's organization should also be attached, only if and when available in English.

\* Note: Applicants are strongly expected to typewrite the documents. There are many applications disqualified from the selection because of the illegible letter

in those documents.

#### **4. Procedures for Application and Selection**

##### **(1) Submission of the Application Documents**

Closing date for applications: **Please confirm the local deadline with the JICA overseas office (or the Embassy of Japan).**

(All required material must arrive at JICA Center in Japan by **September 15, 2021**)

##### **(2) Selection**

Primary screening is conducted at the JICA overseas office (or the embassy of Japan) after receiving official documents from your government. JICA Center will consult with concerned organizations in Japan in the process of final selection. Applying organizations with the best intentions to utilize the opportunity will be highly valued.

The Government of Japan will examine applicants who belong to the military or other military-related organizations and/or who are enlisted in the military, taking into consideration of their duties, positions in the organization and other relevant information in a comprehensive manner to be consistent with the Development Cooperation Charter of Japan.

##### **(3) Notice of Acceptance**

The JICA overseas office (or the Embassy of Japan) will notify the results **not later than September 24, 2021.**

#### **5. Additional Document(s) to be submitted by Accepted Participants**

##### **(1) Inception Report -- to be submitted by **October 1, 2021.****

Before the commencement of this course, accepted participants are required to prepare an Inception Report. Detailed information is provided in the VI. ANNEX "Inception Report". The report should be uploaded to a designated folder on GIGAPOD of JICA Kansai Center by October 1, 2021. The URL of the GIGAPOD will be notified with acceptance notice.

The report should be prepared using the Microsoft Power Point (PPT) and include the following information. You will not be requested to present your report during the course, so your report needs to be self-explanatory. To this end, please make sure that you supplement the contents with additional information using the note function.

- 1) Key Statistical profiles of your country
- 2) The organization of the electric power sector and role of your organization and the

nature of your duty

- 3) Current situation of electric power and transmission facilities (a summary the information presented in your Country Report)
- 4) Current issues identified in electric power transmission in your country and the analysis of the possible causes
- 5) What you wish to gain from this program

**(2) Action Plan:** Participants are expected to submit an Action Plan towards the end of the program. The guidance on how to develop an Action Plan will be organized during the program. Upon submission, the lecturers will provide feedback on your Action Plan for further improvement.

## **6. Conditions for Participation**

The participants of KCCP are required

- (1)** to strictly observe the course schedule
- (2)** not to change the program topics
- (3)** not to record or share the online contents without JICA's permission

## IV. Administrative Arrangements

### 1. Organizer (JICA Center in Japan)

JICA Kansai Center (JICA Kansai)

Program Officer

Ms. OI Yoshiko ([Oi.Yoshiko@jica.go.jp](mailto:Oi.Yoshiko@jica.go.jp))



Logistic Officer

Ms. KONO Yukiko ([Kono.Yukiko@jica.go.jp](mailto:Kono.Yukiko@jica.go.jp))



### 2. Implementing Partner

- Japan Electric Power Information Center (JEPIC)

<https://www.jepic.or.jp/en/>

Mr. TAKAHASHI Hideo

Deputy Director, Electric Power Cooperation Department



- Kansai Electric Power Co., Inc.(KEPCO)

<https://www.kepcoco.jp/english/>

Mr. INOUE Akira, Lecturer

Kansai Transmission and Distribution Inc.

Kansai Electric Power Group



Mr. MATSUSHITA Kazunori, Lecturer

Kansai Electric Power Co. Ltd.

International Business and Cooperation Division



Ms. SEKIODA Akari, Lecturer

Kansai Electric Power Co. Ltd.

International Business and Cooperation Division



## V. Annex

### Country Report

#### Information and Data on Basic Energy and Power of your Country

**All applicants** are expected to fill the form and submit it **with the Application Form** to JICA office in your country.

Country: \_\_\_\_\_

Name: \_\_\_\_\_

#### 1. Utility

(a) Major Electric Power Utilities (Public or Private)

(b) System of Electric Power Utilities

Situation of deregulation

Situation of unbundling the transmission and distribution sectors

#### 2. Availability of Energy Resources

(a) Reserve of fossil energy (if endowed) in Year 20?? (Specify the year of data)

Fossil Energy	Estimated Amount of Reserve	Unit
Coal		Ton
Oil		Barrel
Natural Gas		m <sup>3</sup>

(b) Potential of Renewable Energy

Forms of Renewable Energy	Estimated Amount of Potential	Unit
Biomass in Year 20?? ( Specify the year of data)		Ton or m <sup>3</sup>
Hydropower in Year 20?? ( Specify the year of data)		MW

Form of Renewable Energy	Annual Average Irradiation	Unit
Photovoltaic		kWh/m <sup>2</sup> /day

Form of Renewable Energy	Annual Average Wind Speed with Specific Site Names (Please select several representative sites)	Unit
Wind Power		meter/Second

3. Annual Production of Fossil Energy (if produced)

Forms of Fossil Energy	Amount of Annual Production	Year of Production	Unit
Coal			Ton
Oil			Barrel
Natural Gas			m <sup>3</sup>

4. Primary Energy Supply<sup>1</sup> by Forms of Energy in Year 20?? (Specify the year of data)

Unit: Joule or specify unit

Forms of Energy		Primary Energy Supplied	Percentage
Fossil Energy	Coal		
	Oil		
	Natural Gas		
Sub-Total			
	Hydro		

<sup>1</sup> Primary energy is the energy that exists in nature without processing for or converting to secondary energy. Primary energy can be divided into three categories, fossil energy, natural energy and nuclear energy. Primary energy supply is the total amount of energy supplied to a nation.

Natural Energy	Biomass		
	Solar		
	Wind		
	Geothermal		
Sub-Total			
Nuclear			
Total			100 %

5. Final Energy Consumption<sup>2</sup> by Sectors in Year 20?? (Specify the year of data)

Unit: Joule or specify unit

Sectors	Final Energy Consumption	Percentage
Industry Sector		
Social and Household Sector		
Transportation Sector		
Total		100 %

6. Installed Capacity of Power Generation Facilities (National Grid Connected) in a year of 20?? (Specify the year)

<sup>2</sup> Final energy consumption is a total amount of energy actually consumed by the industry sector, the social and household sector, and the transportation sector in a nation as the form of primary energy, or the form of secondary energy that was converted or processed from primary energy. Secondary energy includes petroleum products such as petrol and kerosene, and electricity generated by thermal power.



Generation Facilities	Installed Capacity (MW or kW)	Share (%)
<b>Hydropower<sup>3</sup> in Total</b>		
Conventional Hydropower over 10 MW		
Small Hydropower between 10 MW and 1 MW		
Mini Hydropower between 999 kW and 100 kW		
Micro Hydropower less than 99kW		
<b>Thermal Power in Total</b>		
Diesel Power		
Coal fired Steam Turbine		
Oil fired Steam Turbine		
Gas fired Steam Turbine		
Gas Turbine (Single Cycle)		
Gas Turbine (Combined Cycle)		
<b>Renewable Energy except for hydropower in Total</b>		
Grid connected Photovoltaic Systems		
Grid connected Wind Power		
Grid connected Biomass Generation		
Other forms of grid connected renewable energy (Please specify)		
<b>Overall Total</b>		

Generating Capacity per Capita (kW/Capita)	
--	--

7. Electricity Generated by Grid Connected Generation Facilities in Year 20??  
( Specify the year of data)

Generation Facilities	Electricity Generated (MWh)	Share (%)
Hydropower		
Thermal Power		
Renewable Energy except for Hydropower		
Total		100 %

8. Electricity Consumed by Sectors in Year 20?? (Specify the year of data)

<sup>3</sup> Different countries use different definition to categorize hydropower. If your county has its own definition, you can use it and specify the definition in the table.

Sectors	Electricity Consumed (MWh)	Percentage (%)
General Household		
Commercial		
Industry		
Agriculture		
Government		
Total		100 %

Sales per Capita (kWh/Capita)	
-------------------------------	--

9. Structure of Power System Supervision and Control

(a) Frequency Control

Centralized Operation at CLDC (Central Load Dispatching Center) or Not?

(b) Power System Control

Supervised voltage level and Control center supervising

(c) Manufacturer of SCADA System

10. Combined Power System Losses in Year 20?? (Specify the year of data)

(A) Annual Total Electricity generated at generation end by all Power Stations on National Grid	MWh
(B) Annual Total Electricity sent out to National Grid	MWh
(C) Annual Total Electricity consumed by all Power Stations 【Power Station Own Use】 (A) - (B) = (C)	MWh
Power Station own use Rate (C) / (A) X 100	%
(D) Annual Total Electricity sold	MWh
(E) Annual Total of Transmission and Distribution Loss 【Transmission & Distribution Loss】 (B) - (D) = (E)	MWh
Transmission and Distribution Loss Rate (E) / (B) X 100	%

11. Conceptual diagram of power flow from generating facilities to the customers

(a) Classification of Voltage for Interconnection (Transmission and Distribution)

(b) Transmission Line Route Length (km)

200kV or over	
Under	
total	

(c) Distribution Line Route Length (km)

High Voltage	
Low Voltage	
total	

12. Household Electrification Rate

National Average of Household Electrification Rate (=Connected Households / Total Number of Households)	%
Rural Electrification Rate (=Connected Households in Rural Area / Total Number of Households in Rural Area)	%
Urban Electrification Rate (=Connected Households in Urban Area / Total Number of Households in Urban Area)	%

# VI. ANNEX:

## Inception Report

**Accepted participants** are requested to prepare an Inception Report, referring to the following format (Microsoft Power Point) as an example.

- Detailed explanation for each slide should be written on the NOTE of PPT.
- The Report should be uploaded to dedicated GIGAPOD of JICA Kansai Center by **October 1, 2021**. The URL of the GIGAPOD will be notified with acceptance notice.
- Online discussion (Zoom) will be organized on October 11, 2021, in order to discuss the issues of each country.



*Please use this presentation format for Inception report*

### Part 1 Country Report

*[Format] Presentation time :20min (including Q&A)*  
*◇Country Report*  
*P1-5 ; General Information (Power condition)*  
*P6-9 ; Transmission condition*  
*◇Issue Analysis Report*  
*P10-14; Facing issues and analysis of the causes*  
*P15 ;Expectation for this training course*

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#### The General Information

(As of 200X)

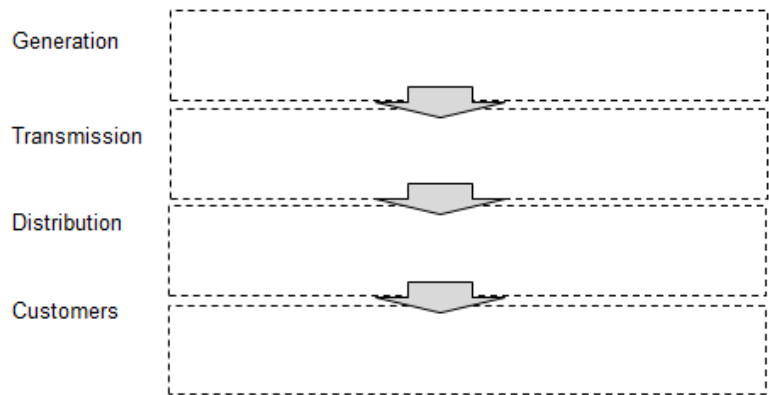
Population	
Land Area(km <sup>2</sup> )	
Power Consumption(GWh)	
Installed Capacity(MW)	
Electrification Rate(%)	

Country Map

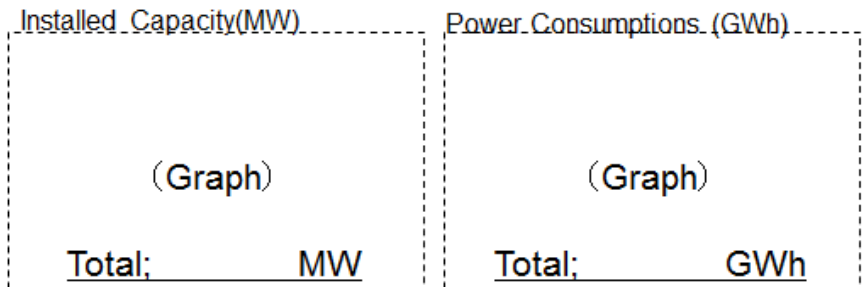
Source: Google Map

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**3** Power Supply System (Company name, Organization)



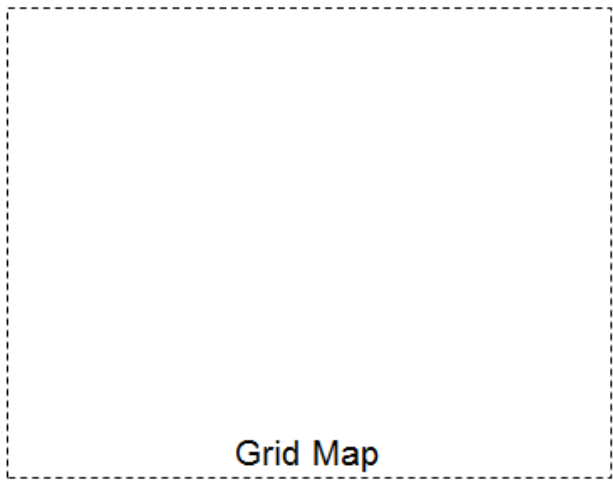
**4** Installed Capacity, Power Consumption (As of 200X)



	Hydro	Thermal	Nuclear	Others	Total
Installed Capacity (MW)					
	Residential	Commercial	Industrial	Others	Total
Power Consumption (GWh)					

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**5** Power Stations, Power Grid



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## Outline of Distribution System (Overhead)



① HV Line	Voltage: 66kV, 157kV, 275kV, 500kV
1 Transformer	(Urban) 30MVA x 3 (Rural) 10MVA-20MVA x 3
② MV Line	Voltage: 6.6kV, 22kV Isolated Neutral System
2 Relay	OCR (Over Current Relay) DGR (Directional Ground Fault Relay)
3 Pole	Concrete, Steel, Wooden
Wire	Al, Cu (Insulated)
Switches	Type: AS(Air ), VS(Vacuum) Operation: Automatic, Manual
③ LV Line	Voltage: 100V, 100/200V
4 Transformer	10, 30, 50, 75, 100 (kVA)
5 Meter	Mechanical Electrical (Smart meter)

## Transmission Facilities (Pictures)

Equipment	Number	
Tower		units
Circuit Length	○○○kV	circuit-km
	○○○kV	circuit-km
	○○○kV	circuit-km
Transformer	○○○kV	MVA
	○○○kV	MVA
	○○○kV	MVA

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## Transmission Loss

### (1) Historical Data

Year	FY2007	FY2008	FY2009	FY2010	FY2011
Distribution Loss (%)					

### (2) Detail of Loss

Technical \*\* approx. %  
Non Technical\*\*\* approx. %

### (3) Measure for Loss Reduction

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## Reliability (SAIDI SAIFI), Cause of Power Failure

		FY2010	FY2011	FY2012
SAIDI <sup>※1</sup>				
SAIFI <sup>※2</sup>				
Total number of failures				
Cause	Lightning			
	Tree contact			
	Bird and Beast			
	Wind/ Rainstorm			
	Old facilities			
	Human Caused			
	Unknown			
	Others			

※ 1 System Average Interruption Duration Index (hours/year・customer)

※ 2 System Average Interruption Frequency Index (times/year・customer)

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## Part 2 Issue Analysis Report

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### Facing Issues (1)

<b>Organization</b>	△△ Engineer. ○○ Dept. XXX Electric Power Company
<b>Current Duties</b>	1. . . . 2. . . . 3. . . .

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<b><u>Issue</u></b>	
<b><u>Causes</u></b>	1. 2. 3.
<b><u>Countermeasure</u></b>	1. 2.

### **Facing Issue (2)**

<b><u>Issue</u></b>	
<b><u>Causes</u></b>	1. 2. 3.
<b><u>Countermeasure</u></b>	1. 2.



### Expectation for this Training Course

No.	Topic	Detail
1		
2		
3		



## **For Your Reference**

### **JICA and Capacity Development**

Technical cooperation is people-to-people cooperation that supports partner countries in enhancing their comprehensive capacities to address development challenges by their own efforts. Instead of applying Japanese technology per se to partner countries, JICA's technical cooperation provides solutions that best fit their needs by working with people living there. In the process, consideration is given to factors such as their regional characteristics, historical background, and languages. JICA does not limit its technical cooperation to human resources development; it offers multi-tiered assistance that also involves organizational strengthening, policy formulation, and institution building.

Implementation methods of JICA's technical cooperation can be divided into two approaches. One is overseas cooperation by dispatching experts and volunteers in various development sectors to developing countries; the other is domestic cooperation by inviting participants from partner countries to Japan. The latter method is the Knowledge Co-Creation Program, formerly called a Training Program, and it is one of the core programs carried out in Japan. By inviting officials from partner countries and with cooperation from domestic partners, the Knowledge Co-Creation Program provides technical knowledge and practical solutions for development issues in participating countries.

The Knowledge Co-Creation Program (Group & Region Focus) has long occupied an important place in JICA operations. About 400 pre-organized courses 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 is being customized by the different target organizations to address the specific needs, 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, as the first non-Western nation to become a developed country, built itself into a country that is free, peaceful, prosperous and democratic while preserving the tradition. Japan will serve as one of the best examples for our partner countries to follow in their own development.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated, of course, has been accompanied by countless failures and errors behind the success stories.

Through Japan's progressive adaptation and application of systems, methods and technologies from the West in a way that is suited to its own circumstances, Japan has

developed a storehouse of knowledge not found elsewhere from unique systems of organization, administration and personnel management to such social systems as the livelihood improvement approach and governmental organization. It is not easy to apply such experiences to other countries where the circumstances differ, but the experiences can provide ideas and clues useful when devising measures to solve problems.

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.



**Contact Information for Inquiries**

For enquiries and further information, please contact the JICA overseas office or the Embassy of Japan. Further, address correspondence to:

**JICA Kansai Center (JICA Kansai)**

Address: 1-5-2, Wakinohama-kaigandori, Chuo-ku, Kobe, Hyogo 651-0073, Japan

TEL: +81-78-261-0388/0341 FAX: +81-78-261-0465

## Guidelines of Application Form for the JICA Training and Dialogue Program

The attached form is to be used to apply for the training and dialogue programs of the Japan International Cooperation Agency (JICA), which are implemented as part of the Official Development Assistance Program of the Government of Japan. Please complete the application form while referring to the following and consult with the respective country's JICA Office - or the Embassy of Japan if the former is not available - in your country for further information.

### 1. Parts of Application Form to be completed

#### 1) Which part of the form should be submitted?

It depends on the type of training and dialogue program you are applying for.

##### >Application for Group and Region Focused Training Program

Official application and Parts A and B including Medical History and Examination must be submitted.

##### >>Application for Country Focused Training Program including Counterpart Training Program

Part B including Medical History and Examination will be submitted. Official application and Part A need not to be submitted

#### 2) How many parts does the Application Form consist of?

The Application Form consists of three parts as follows;

##### Official Application

This part is to be confirmed and signed by the head of the relevant department/division of the organization which is applying.

##### Part A. Information on the Applying Organization

This part is to be confirmed by the head of the relevant department/division of the organization which is applying.

##### Part B. Information About the Nominee including Medical History and Examination

This part is to be completed by the person who is nominated by the organization applying. The applicants for Group and Region Focused Training Program are required to fill in **every item**. As for the applications for Country Focused Training Program including Counterpart Training Program and some specified International Dialogue Programs, it is required to fill in the designated "**required**" items as is shown on the Form.

Please refer to the General Information to find out which type the training and dialogue program that your organization applies for belongs to.

### 2. How to complete the Application Form

In completing the application form, please be advised to:

- (a) carefully read the General Information (GI) for which you intend to apply, and confirm if the objectives and contents are relevant to yours,
- (b) be sure to write in the title name of the course/seminar/workshop/project accurately

- according to the GI, which you intend to apply,
- (c) use a typewriter/personal computer in completing the form or write in **block letters**,
  - (d) fill in the form in **English**,
  - (e) use  or  to fill in the ( ) check boxes,
  - (f) attach a picture of the Nominee,
  - (g) attach additional page(s) if there is insufficient space on the form,
  - (h) prepare the necessary document(s) described in the General Information (GI), and attach it (them) to the form,
  - (i) confirm the application procedure stipulated by your government, and
  - (j) submit the original application form with the necessary document(s) to the responsible organization of your government according to the application procedure.

Any information that is acquired through the activities of the Japan International Cooperation Agency (JICA), such as the nominee's name, educational record, and medical history, shall be properly handled in view of the importance of safeguarding personal information.

### **3. Privacy Policy**

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#### **1) Scope of Use**

Any information used for identifying individuals that is acquired by JICA will be stored, used, or analyzed only within the scope of JICA activities. JICA reserves the right to use such identifying information and other materials in accordance with the provisions of this privacy policy.

#### **2) Limitations on Use and Provision**

JICA shall never intentionally provide information that can be used to identify individuals to any third party, with the following three exceptions:

- (a) In cases of legally mandated disclosure requests;
- (b) In cases in which the provider of information grants permission for its disclosure to a third party;
- (c) In cases in which JICA commissions a party to process the information collected; the information provided will be within the scope of the commissioned tasks.

#### **3) Security Notice**

JICA takes measures required to prevent leakage, loss, or destruction of acquired information, and to otherwise properly manage such information.

### **4. Copyright policy**

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Participants of the JICA Training and Dialogue program are requested to comply with the following copyright policy;

Article 1. Compliance matters with participants' drafting of documents (various reports, action plans, etc.) and presentations (report meetings, lectures, speeches, etc.)

1. Any contents of the documents and presentations shall be created by themselves in principle.



2. Comply with the following matters, if you, over the limit of quotation, have to use a third person's work (reproduction, photograph, illustration, map, figure, etc.) that is protected under laws or regulations in your country or copyright-related multinational agreements or the like:

- (1) Obtain license to use the work on your own responsibility. In this case, the scope of the license shall meet the provisions of Article 2.
- (2) Secure evidential material that proves the grants of the license and specifies the scope of the license.
- (3) Consult with the third party and perform the payment procedure on your own responsibility regarding negotiations with a third person about the consideration for granting the license and the procedure for paying the consideration,.

Article 2. Details of use of works used for training

- (1) The copyright on a work that a participant prepares for a training course shall belong to the trainee. The copyright on the parts where a third party's work is used shall belong to the third party.
- (2) When using texts, supplementary educational materials and other materials distributed for the JICA training courses, participants shall comply with the purposes and scopes approved by each copyright holder.



Training Programs under Technical Cooperation with the Government of Japan

## Application Form for the JICA Training and Dialogue Program

### OFFICIAL APPLICATION

(to be confirmed and signed by the head of the relevant department / division of the applying organization)

**1. Title:** (Please write down as shown in the General Information)

**2. Number:** (Please write down as shown in the General Information)

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**3. Country Name:**

**4. Name of Applying Organization:**

**5. Name of the Nominee(s):**

1)	3)
2)	4)

Our organization hereby applies for the training and dialogue program of the Japan International Cooperation Agency and proposes to dispatch qualified nominees to participate in the programs.

Date:		Signature:	
Name:			
Designation / Position			Official Stamp
Department / Division			
Office Address and Contact Information	Address:		
	Telephone:	Fax:	E-mail:

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**Confirmation by the organization in charge (if necessary)**

I have examined the documents in this form and found them true. Accordingly I agree to nominate this person(s) on behalf of our government.

Date:		Signature:	
Name:			
Designation / Position			Official Stamp
Department / Division			



**Part A: Information on the Applying Organization**

(to be confirmed by the head of the department / division)

**1. Profile of Organization**

1) Name of Organization:

2) The mission of the Organization and the Department / Division:

**2. Purpose of Application**

1) Current Issues: Describe the reasons for your organization claiming the need to participate in the training and dialogue program, with reference to issues or problems to be addressed.

2) Objective: Describe what your organization intends to achieve by participating in the training and dialogue program.





**3) Future Plan of Actions: Describe how your organization shall make use of the expected achievements, in addressing the said issues or problems.**

**4) Selection of the Nominee: Describe the reason(s) the nominee has been selected for the said purpose, referring to the following view points; 1) Course requirement, 2) Capacity /Position, 3) Plans for the candidate after the training and dialogue program, 4) Plan of organization and 5) Others.**



## Part B: Information about the Nominee

(to be completed by the Nominee)

NOTE>>>The applicants for Group and Region Focused Training Program are required to fill in every item. As for the applications for Country Focused Training Program including Counterpart Training Program and some specified International Dialogue Programs, it is required to fill in the designated “required” items as is shown below.

**1. Title:** (Please write down as shown in the General Information) **(required)**

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**2. Number:** (Please write down as shown in the General Information) **(required)**

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**Attach the nominee’s photograph (taken within the last three months) here**  
Size: 4x6  
(Attach to the documents to be submitted.)

**3. Information about the Nominee(nos. 1-9 are all required)**

**1) Name of Nominee (as in the passport)**

**Family Name**

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**First Name**

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**Middle Name**

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<b>2) Nationality</b> (as shown in the passport)			<b>5) Date of Birth (please write out the month in English as in “April”)</b>			
<b>3) Sex</b>	( ) Male	( ) Female	<b>Date</b>	<b>Month</b>	<b>Year</b>	<b>Age</b>
<b>4) Religion</b>						

**6) Present Position and Current Duties**

Organization							
Department / Division							
Present Position							
Date of employment by the present organization	Date	Month	Year	Date of assignment to the present position	Date	Month	Year

**7) Type of Organization**

( ) National Governmental	( ) Local Governmental	( ) Public Enterprise
( ) Private (profit)	( ) NGO/Private (Non-profit)	( ) University
( ) Other ( )		

**8) Outline of duties: Describe your current duties**

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**9) Contact Information**

Office	Address:	
	TEL:	Mobile (Cell Phone):
	FAX:	E-mail:
Home	Address:	
	TEL:	Mobile (Cell Phone):
	FAX:	E-mail:
Contact person in emergency	Name:	
	Relationship to you:	
	Address:	
	TEL:	Mobile (Cell Phone):
	FAX:	E-mail:

**10) Others (if necessary)**

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**4. Career Record**

**1) Job Record (After graduation)**

Organization	City/ Country	Period		Position or Title	Brief Job Description
		From Month/Year	To Month/Year		

**2) Educational Record (Higher Education)(required)**

Institution	City/ Country	Period		Degree obtained	Major
		From Month/Year	To Month/Year		

**3) Training or Study in Foreign Countries; please write your past visits to Japan specifically as much as possible, if any.**

Institution	City/ Country	Period		Field of Study / Program Title
		From Month/Year	To Month/Year	

**5. Language Proficiency (required)**

1) Language to be used in the program (as in GI)					
Listening	( ) Excellent	( ) Good	( ) Fair	( ) Poor	
Speaking	( ) Excellent	( ) Good	( ) Fair	( ) Poor	
Reading	( ) Excellent	( ) Good	( ) Fair	( ) Poor	
Writing	( ) Excellent	( ) Good	( ) Fair	( ) Poor	
Certificate (Examples: TOEFL, TOEIC)					
2) Mother Tongue					
3) Other languages ( )		( ) Excellent	( ) Good	( ) Fair	( ) Poor

<sup>1</sup> Excellent: Refined fluency skills and topic-controlled discussions, debates & presentations. Formulates strategies to deal with various essay types, including narrative, comparison, cause-effect & argumentative essays.

<sup>1</sup> Good: Conversational accuracy & fluency in a wide range of situations: discussions, short presentations & interviews. Compound complex sentences. Extended essay formation.

<sup>1</sup> Fair: Broader range of language related to expressing opinions, giving advice, making suggestions. Limited compound and complex sentences & expanded paragraph formation.

<sup>1</sup> Poor: Simple conversation level, such as self-introduction, brief question & answer using the present and past tenses.



**6. Expectation on the applied training and dialogue program**

**1) Personal Goal: Describe what you intend to achieve in the applied training and dialogue program in relation to the organizational purpose described in Part A-2.**

**2) Relevant Experience: Describe your previous vocational experiences which are highly relevant in the themes of the applied training and dialogue program. (required)**

**3) Area of Interest: Describe your subject of particular interest with reference to the contents of the applied training and dialogue program. (required)**

**\*7. Declaration (to be signed by the Nominee) (required)**

I certify that the statements I made in this form are true and correct to the best of my knowledge.

If accepted for the program, I agree:

- (a) not to bring or invite any member of my family (except for the program whose period is one year or more),
- (b) to carry out such instructions and abide by such conditions as may be stipulated by both the nominating government and the Japanese Government regarding the program,
- (c) to follow the program, and abide by the rules of the institution or establishment that implements the program,
- (d) to refrain from engaging in political activity or any form of employment for profit or gain,
- (e) to return to my home country at the end of the activities in Japan on the designated flight schedule arranged by JICA,
- (f) to discontinue the program if JICA and the applying organization agree on any reason for such discontinuation and not to claim any cost or damage due to the said discontinuation.
- (g) to consent to waive exercise of my copyright holder's rights for documents or products that are produced during the course of the project, against duplication and/or translation by JICA, as long as they are used for the purposes of the program.
- (h) to approve the privacy policy and the copyright policy mentioned in the Guidelines of Application.

JICA's Information Security Policy in relation to Personal Information Protection

JICA will properly and safely manage personal information collected through this application form in accordance with JICA's privacy policy and the relevant laws of Japan concerning protection of personal information and take protection measures to prevent divulgence, loss or damages of such personal information.

Unless otherwise obtained approval from an applicant itself or there are valid reasons such as disclosure under laws and ordinances, etc., and except for the following 1.-3., JICA will neither



provide nor disclose personal information to any third party. JICA will use personal information provided only for the purposes in the following 1.-3 and will not use for any purpose other than the following 1.-3 without prior approval of an applicant itself.

1. To provide technical training to technical training participants from developing countries.
2. To provide technical training to technical training trainees from developing countries under the CitizensCooperation Activities..
3. In addition to 1. and 2. above, if the government of Japan or JICA determines necessary in the course of technical cooperation.

Date:	Signature:
	Print Name:

**MEDICAL HISTORY AND EXAMINATION****1. Present Status**

(a) Do you currently use any drugs for the treatment of a medical condition? (Give name &amp; dosage.)

<input type="checkbox"/> No	<input type="checkbox"/> Yes >> Name of Medication ( _____ ), Quantity ( _____ )
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(b) Are you pregnant?

<input type="checkbox"/> No	<input type="checkbox"/> Yes ( _____ months )
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(c) Are you allergic to any medication or food?

<input type="checkbox"/> No	<input type="checkbox"/> Yes >>> <input type="checkbox"/> Medication <input type="checkbox"/> Food <input type="checkbox"/> Other:
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(d) Please indicate any needs arising from disabilities that might necessitate additional support or facilities.

( _____ )
<i>Note: Disability does not lead to exclusion of persons with disability from the program. However, upon the situation, you may be directly inquired by the JICA official in charge for a more detailed account of your condition.</i>

**2. Medical History**

(a) Have you had any significant or serious illness? (If hospitalized, give place &amp; dates.)

Past:	<input type="checkbox"/> No	<input type="checkbox"/> Yes>>Name of illness ( _____ ), Place & dates ( _____ )
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Present:	<input type="checkbox"/> No	<input type="checkbox"/> Yes>>Present Condition ( _____ )
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(b) Have you ever been a patient in a mental hospital or been treated by a psychiatrist?

Past:	<input type="checkbox"/> No	<input type="checkbox"/> Yes>>Name of illness ( _____ ), Place & dates ( _____ )
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Present:	<input type="checkbox"/> No	<input type="checkbox"/> Yes>>Present Condition ( _____ )
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(c) High blood pressure

Past:	<input type="checkbox"/> No	<input type="checkbox"/> Yes
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Present:	<input type="checkbox"/> No	<input type="checkbox"/> Yes>>Present Condition ( _____ ) mm/Hg to ( _____ ) mm/Hg
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(d) Diabetes (sugar in the urine)

Past:	<input type="checkbox"/> No	<input type="checkbox"/> Yes
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Present:	<input type="checkbox"/> No	<input type="checkbox"/> Yes>>Present Condition ( _____ )
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Are you taking any medicine or insulin?	<input type="checkbox"/> No	<input type="checkbox"/> Yes
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(e) Past History: What illness(es) have you had previously?

<input type="checkbox"/> Stomach and Intestinal Disorder	<input type="checkbox"/> Liver Disease	<input type="checkbox"/> Heart Disease	<input type="checkbox"/> Kidney Disease
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<input type="checkbox"/> Tuberculosis	<input type="checkbox"/> Asthma	<input type="checkbox"/> Thyroid Problem	
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<input type="checkbox"/> Infectious Disease >>> Specify name of illness ( _____ )
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<input type="checkbox"/> Other >>> Specify ( _____ )
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(e) Has this disease been cured?

<input type="checkbox"/> Yes	<input type="checkbox"/> No (Specify name of illness)
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Present Condition: ( _____ )
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**3. Other: Any restrictions on food and behavior due to health or religious reasons?**

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I certify that I have read the above instructions and answered all questions truthfully and completely to the best of my knowledge.

I understand and accept that medical conditions resulting from an undisclosed pre-existing condition may not be financially compensated by JICA and may result in termination of the program.

Date:	Signature:
	Print Name: