



## **General Information**

On

### **The Country Specific Training**

O&M on energy sector

May 18 – June 1, 2023

For

**The Project for Enhancing Grid System Operation and Maintenance Capacities through Strengthening National Transmission and Despatch Company TSG Training Center**

**March 2023**

This information pertains to one of the training course of the Japan International Cooperation Agency (JICA), which shall be implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

## 1. Introduction

" The Project for Enhancing Grid System Operation and Maintenance Capacities through Strengthening National Transmission and Despatch Company TSG Training Center " has been started since March 2021. The project is summarized as follows:

- 1. Project Title : The Project for Enhancing Grid System Operation and Maintenance Capacities through Strengthening National Transmission and Despatch Company TSG Training Center
- 2. Overall Goal : To improve system reliability by proper implementation of Standard Operational Procedure (SOP) prepared by TSG by the end of the Project
- 3. Project Purpose : To improve the capacity of grid system operation and maintenance to improve quality of power supply.
- 4. Outputs :
  - i) Training Capacities of TSG on advanced and appropriate technical knowledge and skills in O&M of GSO and Protection relay by utilizing the simulators will be improved.
  - ii) Human resource development plan (in NTDC), training plan, evaluation system (in TSG) will be reviewed and revised to promote more systematic human resource development.
  - iii) Operational practices of GSO will be improved through preparation of manuals and strengthening interactions with TSG
- 5. Project Site : Lahore, Islamabad, Pakistan
- 6. Implementing Agency : National Transmission and Despatch Company (NTDC), TSG Training Center
- 7. Period of Project : March 2021 – December 2023

In this project, the training in Japan is included in order to enhance the project output efficiently and effectively. The detail of the training in Japan is described from the next section. The background of the project is presented in Appendix 1.

## 2. Summary of Training in Japan

The following table presents the summary of the training in Japan.

COURSE TITLE	O&M on energy sector
EXPECTED OUTCOMES	<ul style="list-style-type: none"> <li>➤ To obtain knowledge on the organizational structure and practices of protection relays and grid station operations, training curriculum and teaching methods using simulators.</li> <li>➤ To obtain knowledge on the role of training conducted by electric power companies in Japan, how to operate training facilities and human resource development systems, how to exchange personnel, and how to operate mechanisms for improving the</li> </ul>

	<p>skill level of instructors and evaluation systems.</p> <ul style="list-style-type: none"> <li>➤ To observe how DC conversion facilities, which are also included in the NTDC's power system, are operated and maintained in Japan.</li> <li>➤ To improve NTDC's awareness and capability in system analysis skills and technologies to prevent recurrence of power system accidents and blackouts in Pakistan.</li> <li>➤ To learn the procedures and specific considerations for planned outages of power facilities that are implemented in the Japanese control center and reflect them in practice.</li> </ul>
DURATION OF THE COURSE	May 18 – June 1, 2023
DEADLINE FOR APPLICATION	<b>April 10, 2023</b>
NUMBER OF PARTICIPANTS	NTDC/TSG: 2, NTDC PSP: 1, NTDC P%C: 1, NPCC: 1 Total: 5
LANGUAGE	English
SCHEDULE	Tentative schedule of the training course is shown in Appendix 2

### 3. Qualification of Applicants

All applicants must:

(1) be nominated from persons involved in the Project as follows:

No.	Name	Sex	Organization	Position
1	Fayaz	M	TSG (North) NTDC Lahore	Principal TSG Training Center, Tarbela
2	Raziq Hussain	M	Transmission Planning, PSP NTDC Lahore	Deputy Manager
3	Muhammad Mubashir Khan	M	NPCC Islamabad	Deputy Manager (Technical)
4	Muhammad Adnan	M	TSG (North) NTDC Lahore	Assistant Manager
5	Abdul Moiz Waris	M	P&C NTDC Lahore	Assistant Manager

- (2) be in good health, both physically and mentally, for participation in the whole training course.

Note:

- i) Applicants are requested to submit the Medical History Questionnaire included in the Application Form mentioned in 4.1 below.
- ii) Pregnancy: Pregnant participants are urgently requested to complete the required procedures before departure in order to minimize any risk to their health. These procedures include (A) a letter of the participant's consent to bear economic and physical risks, (B) a letter of permission from the participant's supervisor, (C) a letter of consent from your Embassy in Japan, and (D) a medical certificate.

## **4. Procedures for Application**

### **4.1 Application**

The applicants must fill in Application Form and submit it with his/her passport copy to JICA Pakistan Office by **April 10, 2023** through proper channel.

### **4.2 Acceptance**

JICA will inform the applicants in consideration of necessary time required for the preparation of participating the training.

## **5. Rules and Regulations**

- (1) Participants should strictly adhere to the schedule of the training.
- (2) Participants may not be accompanied by any member of their family during the training.
- (3) Participants are requested to follow the return trip as scheduled.
- (4) Participants are requested to observe the laws and ordinances of Japan. If there is any violation of said laws and ordinances, participants may be required to return part or all of the training expenditure depending on the severity of said violation.

## **6. Allowances and Expenses**

JICA will provide the following allowances and cover the following expenses in accordance with relevant laws and regulations.

### **6.1 Round-trip air ticket between Lahore/Islamabad international airport<sup>1</sup> in Pakistan and specified international airport(s)<sup>2</sup> in Japan**

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<sup>1</sup> Airport will be designated by JICA.

<sup>2</sup> Airport(s) will be specified once the training program is finalized.

Note:

JICA is not responsible for the following expenses:

- Excess baggage charge
- Compensation for lost and/or damaged luggage
- Lost ticket fee

## **6.2 Other allowances**

- (1) Living allowance
- (2) Accommodation allowance (Accommodation will be arranged by JICA)

## **6.3 Medical care**

Free medical care for participants who become ill after arrival in Japan

Note: Costs related to pre-existing illness, pregnancy and dental treatment are NOT included as free care.

## **7. Certificate**

Certificates of participation in the training course will be issued to participants who complete all the subjects of the course. The certificate will be authorized by JICA.

## **8. Other Matters**

- (1) Participants should bring clothes, which is warm enough at a temperature of 5 °C.
- (2) For inquiries and further information concerning the training course, please contact the following offices.

### Organization [Asia Engineering Consultant Co., Ltd.]

Mr. Masato Kobayashi

Title: Head of Overseas Division, Asia Engineering Consultant Co., Ltd.

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### JICA Expert Team

Mr. Kazuyoshi Yoshida

Title: Project Manager

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## Appendix 1 Background of Project

Pakistan had suffered from a serious electricity supply-demand gap during the past decade. The gap, however, has recently eliminated through activities based on the “National Power Policy 2013” to achieve stable power supply. The supply capacity was 27,715 MW against the demand of 26,700 MW in 2018. Additionally, it is expected that sufficient output can be secured with further reserved capacity from 2019 onward.

On the other hand, as the rapid increase of demand in near future, the backbone grid systems need to be strengthened including long-distance and large-capacity transmission which effectively connecting between main demand areas and the potential sites of power plants. In addition to strengthening transmission and substation facilities, enhancing operation and maintenance capacity of engineers on transmission and substation systems are urgent issues for stable power supply.

As for the transmission and substation operation and maintenance, JICA implemented two projects based on the request of the Government of Pakistan: the Technical Cooperation “The Project for Improvement of Training Capacity on Grid Operation and Maintenance” (2011-2014) and the Grant Aid Cooperation “The Project for Strengthening Training Center on Grid System Operation and Maintenance” (2016-2018) in order to strengthen the capacities of the training department of National Transmission and Despatch Company Ltd. (hereinafter referred to as “NTDC”). The training equipment such as training simulators were installed in the NTDC Technical Service Group (hereinafter referred to as “TSG”) through the above grant aid. In TSG, since the trainings by using the simulators are limited to basic training, training functions related to substation operation, such as operation capacity of substation monitoring and control, system accident training and analysis, and appropriate protection relay trainings need to be strengthened so that they can respond to various faults and accidents that may occur in the power system.

Considering the situations mentioned above, “The Project for Strengthening Grid System Operation and Maintenance Capacities through Enhancing National Transmission and Despatch Company TSG Training Center” (hereinafter referred to as “this Project”) focuses on <Improvement of training capacities of TSG in grid system operation (hereinafter referred to as “GSO”) and protection relay simulator training>, <Revision of human resource development plan and training evaluation system in NTDC>, and <Preparation of Standard Operation Procedure (hereinafter referred to as “SOP”) in GSO> to strength actual operational capacities of GSO staff for future system reliability.

Appendix 2 Tentative schedule of the Training Course

Course Title: O&M on energy sector

	<b>Day</b>	<b>Contents</b>	<b>Venue</b>	<b>Place</b>
1	May. 17 <sup>th</sup>	Departure for Japan	—	—
2	May. 18 <sup>th</sup>	Arriving in Japan	Tokyo	Tokyo
3	May. 19 <sup>th</sup>	AM: JICA Orientation PM: Outline of TEPCO Visit to the Central Load-Dispatching Center	JICA TEPCO TEPCO	Tokyo
4	May. 20 <sup>th</sup>	(Holidays)	Tokyo	Tokyo
5	May. 21 <sup>st</sup>	(Holidays)	Tokyo	Tokyo
6	May. 22 <sup>nd</sup>	AM: Tokyo Load-Dispatching Center PM: Simulator Training	TEPCO	Tokyo
7	May. 23 <sup>rd</sup>	Visit HVDC facility	TEPCO	Shin-Shinano
8	May. 24 <sup>th</sup>	Training on IED protection relay test using new relay test devices	TDS	Tama
9	May. 25 <sup>th</sup>	AM: Power system analysis PM: Fault Analysis	AEC	Tokyo
10	May. 26 <sup>th</sup>	Simulator for dispatching center	TEPCO	Tabata
11	May. 27 <sup>th</sup>	(Holidays)	Tokyo	Tokyo
12	May. 28 <sup>th</sup>	(Holidays)	Tokyo	Tokyo

13	May. 29 <sup>th</sup>	Training on protection and control system by manufacturer	TOSHIBA	Fuchu
14	May. 30 <sup>th</sup>	Training on substation control operation training simulator and protection relay simulator	TOSHIBA	Fuchu
15	May. 31 <sup>st</sup>	Question-and-Answer session / Wrap up meeting	AEC/JICA	Tokyo
16	June. 1 <sup>st</sup>	Leaving for Pakistan / Arrive in Pakistan	—	—