

添付資料 4 : 討議議事録 (M/D)

MINUTES OF DISCUSSIONS  
PREPARATORY SURVEY II (BASIC DESIGN)  
ON THE PROJECT FOR URGENT REHABILITATION OF WATER SUPPLY SYSTEM  
IN THE CAPITAL CITY OF PODGORICA  
IN MONTENEGRO

Based on the result of the Preparatory Survey, the Government of Japan decided to conduct a Preparatory Survey 2 on the Project for Urgent Rehabilitation of Water Supply System in Podgorica City (hereinafter referred to as "the Project") and entrusted the survey to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Montenegro the Preparatory Survey 2 Team ( hereinafter referred to as "the Team" ), which is headed by Mr. Fumihiko Okiura, Director, Water Resources Management 1, Water Resources and Disaster Management Group, Global Environment Department, JICA, and is scheduled to stay in the country from May 18 to June 18, 2009.

The Team held discussions with the officials concerned of the Government of Montenegro and conducted a field survey at the survey area.

In the course of discussions and field survey, both parties confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Done in duplicate in English and Montenegrin, each text is equally authentic. In case any divergence of Interpretation, English text shall prevail.

Podgorica, May 21, 2009

Fumihiko Okiura  
Leader  
Preparatory Survey 2 Team  
Japan International Cooperation Agency  
Japan

Mladen Brajevic  
Director  
Podgorica Water and Sewerage Corporation  
Montenegro

Pavle Radulovic  
City Manager  
Capital City of Podgorica  
Montenegro

## ATTACHMENT

### **1. Objective of the Project**

The objective of the Project is to ensure stable potable water supply in the Capital City of Podgorica by improving water supply facilities.

### **2. Project site**

The site of the Project is the Capital City of Podgorica as shown in **Annex-1**.

### **3. Responsible and Implementing Agency**

3-1. The Responsible Agency is the Capital City of Podgorica.

3-2. The Implementing Agency is the Podgorica Water and Sewerage Corporation (hereinafter referred to as "the Corporation"). The organization chart of the Corporation is shown in **Annex-2**.

### **4. Items requested by the Government of Montenegro**

After discussions with the Montenegrin side and the Team (hereinafter referred to as "the both sides"), the items described in **Annex-3** were finally requested by the Montenegrin side.

The both sides confirmed that the appropriateness of the request would be examined in accordance with the further studies and analysis in Japan and the final components of the Project would be decided by the Japanese side.

### **5. Japan's Grant Aid Scheme**

5-1 The Montenegrin side understands the Japan's Grant Aid Scheme explained by the Team, as described in **Annex-4**.

5-2 The Montenegrin side will take the necessary measures, as described in **Annex-5**, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

### **6. Schedule of the Survey**

6-1 The consultant members of the Team will proceed to further studies in Montenegro until June 18, 2009.

6-2 JICA will prepare the draft basic design report in English and dispatch a mission in order to explain its contents to the Montenegrin side around September 2009.

6-3 In case that the contents of the report are accepted in principle by the Montenegrin side, JICA will finalize the report and send it to the Montenegrin side around December 2009.

6-4 The Montenegrin side understands that execution of the Preparatory Survey 2 (hereinafter referred to as "the Survey") does not necessarily imply the Japanese Government's commitment of the project implementation.



## 7. Other relevant issues

The following issues were discussed and confirmed by both sides.

### 7-1. Capacity, Specification, and Installation of Pumps to be Procured

- 1) The capacity of the pumps to be procured shall be equivalent to the existing pump. However, the capacity of motors shall be 400 kW or less, taking into account utilization of the existing power incoming feeder and high tension voltage (6000 V) switchgears for the motors of pumps. They shall be further studied through the Survey.
- 2) The type of pumps shall be of vertical shaft centrifugal pumps as well as the existing pumps, taking into account the installation space and the depth of water in the water reservoir.
- 3) The installation of pumps and connection on main pipeline shall be executed by the firm which will be selected in the Project. They shall be further studied through the Survey.

### 7-2 Monitoring System (1): Objectives, Priority, and Future Expansion Plan

- 1) The system aims at monitoring the following items;
  - At the pump stations such as two Mareza pumping stations and four well pumping stations  
Electrical power consumption of motors, voltage, water level of reservoirs and wells, residual chlorine contents, operation status of pumps, motor coil temperature, pump discharge pressure, pump discharge flow rate, and etc.
  - At the piping network areas  
Flow rate, pressure, residual chlorine contents
- 2) The first priority to be monitored under the Project is the pumping stations, and the second is the piping network areas.
- 3) The pump remote control and operation system shall be developed by the Corporation in the future.
- 4) The piping network areas where the monitoring system shall be installed in the Project, shall be limited to the areas able to distinguish inflow and outflow rate. The monitoring system for any other piping network areas shall be developed by the Corporation in the future.

### 7-3 Monitoring System (2): Installation of Equipment and Devices

- 1) The installation of equipment and devices at pumping stations and piping network areas shall be executed by the Montenegrin side. They shall be further studied through the Survey.
- 2) The installation of equipment and devices at the main monitoring center shall be executed in the Project. They shall be further studied through the Survey.

### 7-4 Monitoring System (3): Communication System

- 1) The communication system shall be selected from the wireless system (GPRS, UHF/VHF, etc.) or wired system (Public Telephone Line, CATV, the Corporation's Dedicated Line, etc.) taking into account the following criteria;



- Necessity, Easiness, and Cost for Communication License Acquisition
- Communication Speed and Reliability of System
- Security of System (Necessity of Installing Fire Wall, Priority of Emergency, and etc.)
- Cost for Initial and Expansion Investment, Running, and Maintenance of System

2) In case that the application and acquisition of communication license is necessary, they shall be conducted by the Corporation.

3) Antennas and towers shall be built by the Corporation, if UHF/VHF is selected.

#### 7-5 Monitoring System (4): Operation and Maintenance

The Corporation shall allocate necessary budget and staffs for operation and maintenance to utilize the monitoring system successfully and stably.

#### 7-6 Technical Assistance

1) On-the-Job-Training program for operation and maintenance of the pumps to be procured in the Project, would be prepared for the Corporation staffs before commencement of start-up operation.

2) The consultant services for the optimum water distribution control by use of data collected by the monitoring system shall be considered through the Survey.

#### 7-7 Eligible Country for Procurement

1) The eligible country for procurement shall be Japan, Montenegro, Serbia, and countries belonging to Organization for Economic Cooperation and Development (OECD).

2) The products of Japanese manufacturers made in overseas factories shall be acceptable.

#### 7-8 Tax exemption

The tax exemption including Value Added Tax (VAT), custom duty, and any other taxes and fiscal levies in Montenegro which is to be arisen from the Project activities will be ensured by the Capital City of Podgorica. The Capital City of Podgorica will take any procedures necessary for tax exemption with the Ministry of Finance at its responsibility.

#### 7-9 Overlapping with other projects

The Project would not be overlapped with any other project supported by other donor agencies, NGO, and Montenegrin official organization(s).

#### 7-10 Visibility of the Project

The Montenegrin side affirmed the following measures to be taken in order to enhance publicity of the Project:

- (1) Mass media sources.
- (2) Brochures
- (3) Commemoration panels

