November 25, 2003
J-POWER

Consulting Services for the Planning of the Upper Kotmale Hydroelectric Power Station in Sri Lanka.

The Electric Power Development Company (J-POWER) received an order from the Sri Lankan government (Ceylon Electricity Board) for the rendering of consulting services related to the supervision and management of the construction work for the Upper Kotmale Hydroelectric Power Station in Sri Lanka.

In accordance with the request by the Sri Lankan government (Ceylon Electricity Board), the services provided by J-POWER include the offering of support in the bidding procedures for the project and the execution of supervision and management services for the construction work.

Starting in November of this year, J-POWER's services on this project will span over a roughly six-year period until the end of October 2009.

The service contract is worth approximately 2,700 million yen, the biggest contract sum ever awarded in the past.

1. Project Background

(1) Power Supply Shortage is straining Sri Lanka's electricity market.

The Republic of Sri Lanka has no fuel resources such as coal, oil or natural gas of its own and must therefore rely on imports to meet its energy needs. Sri Lanka does, however, have many locations with a rich potential for economic and effective hydroelectric power development. This has encouraged the Sri Lankan government to promote hydropower development with great determination. As a result, low-price energy is available to support the life of the people and keep industry going.

In recent years, however, Sri Lanka has recorded a sharp increase in electricity demand at an average rate of 10% for the last five years in the wake of economic expansion and development. The electricity supply and demand balance continues to be very tight on the supply side. Power supply restrictions were imposed for two consecutive years in 2001 and 2002 and estimates are out foreseeing an escalation in power demand at a rate of 7% for the years to come. The situation thus calls for urgent moves to secure new power supply sources. Under the Long-term Generation Expansion Plan (2003 - 2017) that was announced in 2003, new power development on a scale of 3,228,000kW is due to take place over the next 15 years. Major hydropower development projects include the Kukule Hydroelectric Power Project

that was completed in 2003 (70,000kW output capacity; commissioned in September 2003) and the Upper Kotmale Hydroelectric Power States (150,000kW output capacity) scheduled for completion in 2009.

To meet the current tight power supply situation, emergency power supply sources such as high-cost diesel and gas turbine generation has to be resorted to. It is little wonder, therefore, that considerable expectations are pinned on this hydropower development project that make use of the island's indigenous resources.

(2) Call for Japanese ODA

Sri Lanka is one of the most preferential nations in Japan's ODA policy, partly because of the unique historical background of Sri Lanka's opposition to the motion for the division of Japan and its role in the withdrawal of this proposal at the San Francisco Peace Conference in 1951. Sri Lanka has been granted annual yen loans and solid bilateral relations have been established between the two countries. In recent years, in particular, the Japanese government has taken a firm initiative in the peace negotiations with the separatists in the northern part of Sri Lanka as that nation's most important supporter country. Evidence of Japan's commitment toward Sri Lanka can be seen in the holding of the Tokyo Conference on the recovery of Sri Lanka in June 2003 and the positive support measures that are now in place.

The present project is another example of Japan's deep involvement in the project activity from the incipient stage. Its history goes back to 1985 when the Japan International Cooperation Organization (now the Japan International Cooperation Agency (JICA)) went to Sri Lanka to conduct a feasibility study that took until 1987 to complete. Following this, an implementation plan and environmental impact assessment were established from 1993 until 1995 with a loan (E/S Loan) provided by the then Overseas Economic Cooperation Fund, Japan (now the Japan Bank for International Cooperation). In March 2000, the Japanese government gave its approval of the construction project and the Japan Bank for International Cooperation then gave its support for the project with the grant of a Special Assistance for Project Formation (SAPROF) package in March 2001 to review the design, development plans, and the socio-environmental impact assessment. (J-POWER was commissioned with the execution of these activities.) After re-affirming the validity of the Project the Japanese government signed a financing agreement with the Sri Lankan government on March 2002 for the grant of a Special Yen Loan up to a ceiling amount of roughly 33,200 million yen.

(3) Bidding Process

In July 2002, the Sri Lankan government (Ceylon Electricity Board) launched a bid for the appointment of a project consultant. Three companies, including J-POWER, were invited to place a bid. J-POWER had already been deeply involved in this project for ten years with its participation in the implementation design on an E/S loan and the execution of an additional survey in 2001. These activities had earned J-POWER a high reputation and trust for its extensive knowledge regarding this

project and for the quality of service in the execution of these tasks. The CEB also recognized J-POWER's outstanding know-how in the hydroelectric power area. J-POWER was nominated first among the bidders and the ensuing contract negotiations produced a successful outcome, with J-POWER wining the award of the contract.

2. Outline of the Project

The project site is located in the Nuwara Ellya region some 100km east of the capital Colombo. This area is Sri Lanka's heartland of tea cultivation. It is also one of the country's prime tourist regions because of its outstanding scenic beauty. The Project envisions the construction of a roughly 35m high concrete gravity dam on the upper Kotmale river and the building of the Talawakalle adjustment pond with a daily adjustment capacity. This Dam-Headrace Type Power Development project with a maximum output capacity of 150,000kW also entails the construction of a 12km long headrace tunnel taking in water from six tributaries of the Kotmale and a penstock to conduct the water to the underground power plant. The power facility is to provide 528 million kWh of electric energy a year and play an important role in easing Sri Lanka's precarious electricity supply and demand situation. Using Sri Lanka's precious natural hydropower resources, it also holds great promise of having a significant economic impact as a replacement for the relatively costly use of diesel and gas turbine generation to meet peak electricity demand.

Project Specifications

Item		Unit	Upper Kotmale Project
Basin area		km^2	310.6
Reservoir	FULL level	EL m	1,194
	Available water depth	m	4
	Effective volume	m^3	800,000
Dam	Type	-	Concrete gravity dam
	Height	m	35.5
	Volume	m^3	76,000
Headrace	Inner dia. x length	m	3.4 x 12,532 x 1 system
Steel penstock pipe	Length	m	793
Discharge tunnel	Inner dia. x length	m	4.3 x 459
Maximum water consumption		m^3/s	36.9
Effective head		m	473.1
Plant output		kW	150,000 (75,000 kW x 2)
Annual electric power output		kWh	528 million

3. Highlights of Contractual Conditions

(1) J-POWER's contractual partner

Republic of Sri Lanka, Ceylon Electricity Board (CEB)

(2) Details of Contractual Services and Periods of Service (Scheduled)

1) Review of detailed design -3 months (from November 2002 through February 2004)

2) Support in bidding procedures - 11 months (from March 2004 through February 2005)

3) Supervision and management of construction work - 56 months (from March 2005 through October 2009)

(3) Date of Signing of Contract and Implementation Period

Contract signed on November 5, 2003

Implementation period from November 2003 through October 2009 (roughly six years)

(4) Contract sum: Approx. 2,700 million yen.

(5) Required man-months

557 man-months (excluding the requirement for local consultants)

In peak periods, up to around 10 engineers may be stationed at the site.

(6) Particular Features of the Services

Urgent development based on an extremely tight schedule, given the shortage of power supply.

Retaining superior cost efficiency against other power sources such as independent power producers (IPPS), given the current moves towards reform in the power sector, a process that also includes the splitting up of the CEB

To achieve these objectives, we have introduced new project management methods to ensure the highest quality of schedule, cost and quality management and to permit the transfer of technology, including project management know-how.

The greatest possible consideration will be given to the environment and to environmental protection, given the superior scenic beauty of this region with its many waterfalls.

4. Significance of the Project for J-POWER and Future Deployment of Consulting Business

(1) With the award of the present contract, the total number of overseas consulting

projects undertaken by J-POWER has reached 220 in 59 countries.

(2) The contract amount is the largest ever awarded (So far, the largest contract had been the Altinkaya Hydroelectric Power Project in Turkey at 2,460 million yen and the second largest the Yuncan Hydroelectric Power Project in Peru at 2,420 million yen.

(3) This is the fifth project undertaken by EPDC in Sri Lanka. The other four are 1. The Medium-Voltage Distribution System Development Project awarded by the CEB, 2. The Special Assistance for Project Formation (SAPROF) deal regarding the Upper Kotmale Hydroelectric Project commissioned by the JBIC, 3. A survey on Sri Lank'a electricity situation, and 4. a project

study for the optimization of hydropower generation commissioned by JICA.

(4) J-POWER has a rich experience and extensive network established through its active involvement overseas in the consulting business over four decades. With the solid backing of these know-how resources, J-POWER focuses its attention on the power generating business (IPPs) especially in Asia, a region with a potential for substantial growth in power demand. While making use of the unique nature of its consulting/IPP service activities overseas, J-POWER is resolved to strengthen and advance its overseas business commitment centering on “energy and the environment” through a linkage with other overseas activities, including eco-business.