

Note on completed work of Replacement of pumping machinery under RUIDP

Background

The replacement of the pumping machinery in World Bank Pump house has been taken care of under RUIDP 1st phase work. The World Bank Pump House was constructed in 1982-84 to accommodate raw water pumps up to requirement of year 1999-2000 and three nos. of pumps were installed for the requirement of year 1993-94. Later on, one additional pump was installed in 1997-98 to meet the demand up to year 1999-2000, which was again replaced in the year 2000.

There were four horizontal centrifugal pumps in World Bank Pump House which was running round the clock. This World Bank Pump House is connected to 2 x 64 MLD treatment units through 1100 mm ϕ PSCC rising main. The combined discharge of the four pumps through 1100 mm ϕ rising main is about 90 mld. The treatment capacity connected to the pump house is 128 mld. Also, the combined efficiency of the group of four pumps was worked out and found around 56% which was too less.

In view of the above, it is proposed to increase raw water production to feed the 2 x 64 mld treatment plant to its full capacity by replacing the existing pumps. Accordingly, the work of replacement of the above pumps has been taken under package no KOT/WS/03

Scope of work

The scope of the work under this package was as below:

- i) Four nos. horizontal split casing centrifugal pumps to synchronise with the existing motors, control gear and accessories. Total discharge of 1696 lps with four nos. working in parallel at river water level of 259.10m (850ft).
- ii) Three nos. 400 mm ϕ & one no. 500mm. Dual Plate Check Valves at four nos. individual pump delivery
- iii) Tools and tackles for operation and maintenance of various equipment
- iv) Spare parts list for operation and maintenance

The package for replacement has been awarded on 23 July 2002 and completed on 22 March 2003. The total project cost in completion was Rs. 11.89 Lacs.

Benefits achieved

After completion of the project the following benefits achieved,

- The discharge increased to 90 mld to 128 mld.
- The combined efficiency of pumps increases from 56% to 72%
- Power saving achieved about 2 lacs Kwh per month

So, after completion of this project population of Kota town have been benefitted directly or indirectly.