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VISIT REPORT

VERIFICATION OF PROJECT WORKS COMPLETED
UP TO MARCH 02, 2013 AT TARBELA HYDRO POWER
PLANT



March 2013

This program is made possible by the support of the American people through the United States Agency for International Development (USAID)

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1. PURPOSE of VISIT

A visit to Tarbela Hydro Power Plant was conducted on March 02, 2013 by EPP engineers to monitor progress of the Repair and Rehabilitation of Tarbela Power Plant. The purpose of the visit was to expedite the completion of rehabilitation works under the USAID funding and to examine the baseline conditions of the old equipment to be rehabilitated under new \$25 million funding request by WAPDA Tarbela.

2. STATUS of WORKS in PROGRESS

On March 02, 2013 Tarbela Power Station's total maximum generation was 1890 MW at a reservoir level of 1412 ft. After the installation of new Class F windings under the FARA, Units #1, 3 and 4 are capable of generating 195 MW at full reservoir level; however, at the time of visit these were generating 122 MW each. As of today, 128 MW has been added under the FARA rehabilitation program.

Following is the brief summary of the progress:

1. Unit # 4 winding was replaced with new class F winding in May 2011. At the time of visit the unit was generating 122 MW and winding temperature was within acceptable limits.
2. Unit # 1 winding was replaced with new Class F winding in Feb 2012. At the time of visit the unit was generating 122 MW and winding temperature was within acceptable limits.
3. Unit # 3 winding was replaced with new Class F winding in May 2012. At the time of visit the unit was generating 122 MW and winding temperature was within acceptable limits. Furthermore, WAPDA is finalizing the purchase order for the procurement of one third winding spares from Marubeni Corporation, Japan. WAPDA was requested to expedite the process and complete all outstanding works up to Dec 31, 2013 which is a completion date of the existing FARA.
4. New Station Drainage Pumps and Unwatering Pumps are installed in the Drainage and Unwatering Sump. WAPDA has placed purchase order for the Tank dewatering pump of smaller size with a delivery period of 12 weeks.
5. The new Digital Governors for Units 1 - 10 arrived at Tarbela on November 30, 2012. EPP engineers inspected the new equipment arrived at site, however detailed inspection will be carried out after the arrival of GE engineers waiting permission to visit Tarbela. WAPDA has requested shutdown on unit # 5 to install new Governor under the supervision of GE engineers. Depending on the arrival of GE engineers and unit shut down approval, the installation of new Governors to commence during the low flow season in March 2013 and is scheduled to complete by Dec 2013 on all ten units. WAPDA has received \$ 2.7 million for the 90% payment for Governors.
6. The procurement of the SCADA system has been delayed due to technical negotiations with ABB. The case is with WAPDA Authority for approval. WAPDA was requested to expedite the procurement and installation of SCADA system up to Dec 31, 2013 to meet FARA completion date.
7. The Tarbela FARA was extended to December 31, 2013 and WAPDA was requested to complete all outstanding works within the FARA completion date.

8. WAPDA Tarbela request for additional \$ 25 million for replacement of old equipment was discussed with CE Tarbela, to assess the baseline conditions of old equipment and the expected gains with the replacement of new equipment. It is expected that the new equipment will add to the reliability and sustainability and enhance the life of Tarbela Power Plant by 15-20 years. An additional 20 MW about 60 GWh of energy will be added in the system with the additional funding of \$25 million.

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3. Visit Photographs



Figure 1: Plaque at Tarbela Power Plant



Figure 2: Discussion in Control Room about Performance of Replaced Windings at Unit 1, 3 & 4



Figure 3: Computer in Control Room Displaying the MW Generation from All Units



Figure 4: Checking the MW Generation of All Units and the Windings Temperature

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