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ENERGY POLICY PROGRAM VISIT REPORT GOMAL ZAM MULTIPURPOSE DAM PROJECT JULY 11, 2013



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Gomal Zam Multipurpose Dam (Field Visit Report)

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1. PURPOSE of VISIT

A field visit to Gomal Zam Multipurpose Dam Project was conducted on July 10 - 12, 2013 to monitor the progress at site, and witness the completion of the commissioning tests at Gomal Zam power house. The project is designed to generate 17.4 MW at rated head of 100 meters (reservoir level 735 masl). The field visit was important to witness the commissioning tests and completion of Gomal Zam Dam Project, as USAID already provided additional funding of \$5 million in April 2013 to expedite project completion.

2. STATUS of WORKS COMPLETED

During the visit meetings were held with WAPDA, Management Consultants, FWO, EPC contractor and Sino Hydro (sub-contractor for Main dam, Power House, Switchyard), and PESCO (the transmission line contractor) and witnessed the powerhouse operation at full load.

Following is the brief summary of project progress:

1. **Power house, switchyard and 132 KV Transmission line is complete.** Transmission Line inter-connections with the Tank grid and Gomal Zam switchyard were complete and the transmission line was in operation. The energy generated from power house was dispatched to the Tank grid. During visit the reservoir level was 732 masl (three meters below the rated head), therefore both units were generating 8 MW each, total 16 MW and dispatching to the National Grid via Tank Grid. At rated head both turbines are capable of generating 8.7 MW, total 17.4 MW and have best efficiency point at 110 meter head generating 9 MW each turbine, total 18 MW. Gomal Zam Power house has dispatched 6 million KWh of electrical energy to the national grid during testing and trial operations, thus saving \$ 1.2 million of oil import in the country.
2. **WAPDA has already deployed operations and maintenance staff at Gomal Zam power house to supervise the commissioning tests with Sino-Hydro engineers. WAPDA has taken over the power house and have started commercial operation.** Sino- Hydro engineers will be at site during one year defect liability period and will conduct capacity and efficiency tests on both units as soon as rated head of 735 masl is available in the reservoir.
3. **Through USAID additional support of \$5 million in April 2013 to settle WAPDA's outstanding payments, the project progress has been accelerated** and project completion and hydro power generation has been achieved on fast track basis.
4. The reservoir level is 732 meters above sea level, which is adequate to carryout sustained commercial operation of the power plant and dispatch 16-18 MW to the National Grid, depending on the reservoir head.
5. With the completion of the project and FWO security contract, the safety of the project structures and O&M staff will be major challenge for WAPDA. This issue was discussed with the project staff at site and in their opinion, only WAPDA security is not enough. Additional security arrangements will be essential for the sustained operation and safety of the Gomal Zam Multipurpose Dam, Power house and WAPDA staff. The matter is under consideration.

6. Site photographs showing operation of both turbines are attached for reference.

3. SITE VISIT PHOTOGRAPHS

Site visit photographs are appended below;



Figure 1: Power house transformers and Main dam downstream view



Figure 2: Main Power House Generator Floor



Figure 3: Power House Units Start Up Sequence



Figure 4: MW Meters - Unit No. 1

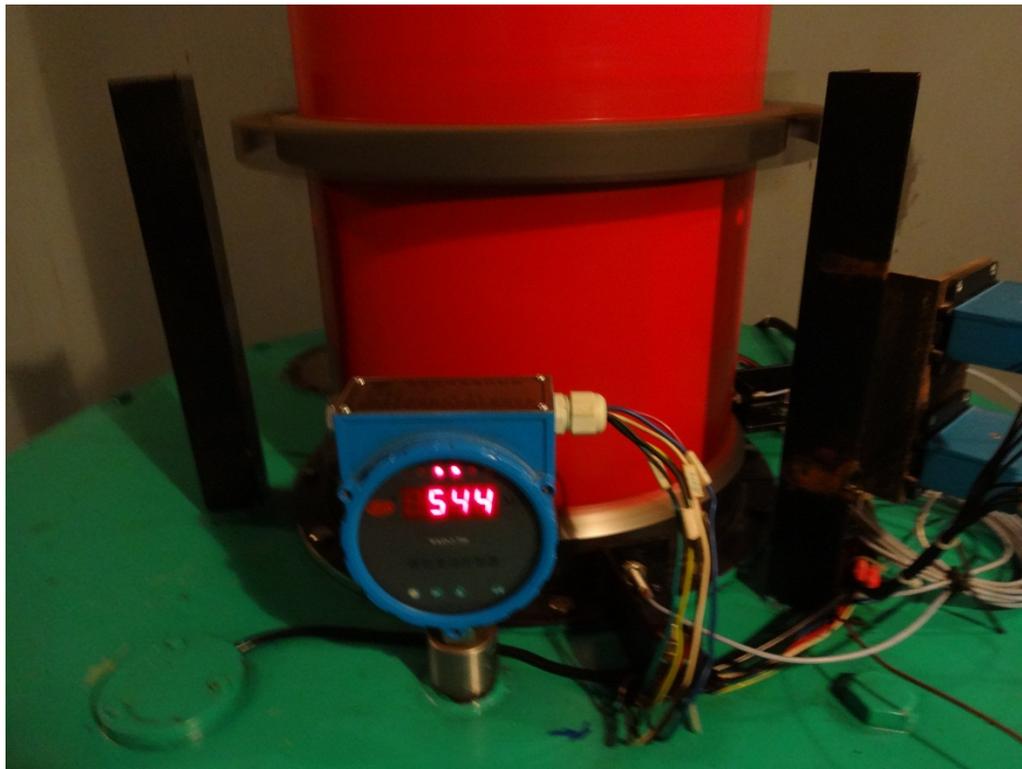


Figure 5: Turbine Pit



Figure 6: Control Room - Gomal Zam Power house

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