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ENERGY POLICY PROGRAM VISIT REPORT SATPARA DAM PROJECT

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Satpara Dam Field Visit Report

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1. PURPOSE of VISIT

A field visit to monitor progress of works at Satpara Multipurpose Dam and Hydropower Project was conducted from May 23 to May 25, 2013 by the DCOP and Senior Energy Expert of Energy Policy Project. In particular, a field inspection was carried out to verify the completion status of power houses 3 & 4 and the construction progress on the remaining portion of DR-1 of the irrigation system.

2. STATUS of WORKS COMPLETED

For the purpose of verifying completed works at the Satpara multipurpose dam project, Talha Javed and Saleem Paracha inspected the project on site for physical verification of completed works.

Due to heavy rains from May 25 to May 27 landslides occurred on various locations and damaged the irrigation canal on multiple locations. Main Dam and all the power houses are safe; however, the main damage is on the left and right bank canals. We visited the left bank canal on May 28 and took photographs of the damaged and buried areas of the canals. The testing and commissioning of powerhouse # 4 was deferred due to blockage in the powerhouse discharge. WAPDA was requested to submit a detailed report assessing the damages to the canal system and specify timeframe and cost estimate to restore the irrigation system to its original condition and commence the commissioning of powerhouse # 4.

Following is the brief summary of project works completed up to end May, 2013;

1. Civil Works for Dam and Powerhouse 1 & 2: Complete
2. Irrigation System: DR-I and repairs due to recent rains outstanding
3. Civil, Electrical and Mechanical Works for 3 & 4: Powerhouse # 3 completed and testing of powerhouse # 4 deferred due to damage of canals caused by heavy rains.
4. Consulting Services for Satpara Project: Will complete with the completion of project.

The construction of the remaining portion of DR-1 is in progress and the completion is expected by end July 2013.

The overall completion status of Powerhouse Nos. 3 & 4 is 98 % as of May 25, 2013. The testing and commissioning of Power house 3 was witnessed during the visit and 2.4 MW was dispatched to Skardu Grid. The contractor has started the pre-commissioning tests on Powerhouse no. 4 and mechanical test was scheduled during our visit; however, heavy rains and landslides damaged the irrigation canals and further testing of Powerhouse # 4 is deferred.

All four units of powerhouse # 1 & 2 were operating and generating 7 MW due to low reservoir level. At full reservoir level expected in early August all four powerhouses will operate at full generation capacity of 17.6 MW.

To ensure the sustainability of the project as mentioned in the Activity Agreement of Satpara dam Project, WAPDA will enter into a Power Purchase Agreement (PPA) with Gilgit-Baltistan PWD that would recover WAPDA's costs including O&M for a continued sustainable Project operation; however, WAPDA has not yet signed a PPA with Gilgit-Baltistan PWD and was requested to address this issue immediately.

3. SEEPAGE CONDITION at the DAM

It was observed during the visit that the reservoir level was increasing due to increase in the inflow of water in the Satpara reservoir. On May 25, 2013 the reservoir level was 8,657 ft. and total seepage recorded downstream of the dam was 50 cusecs.

4. SITE VISIT PHOTOGRAPHS

Site visit photographs are appended below;



Figure 1: Power House 4

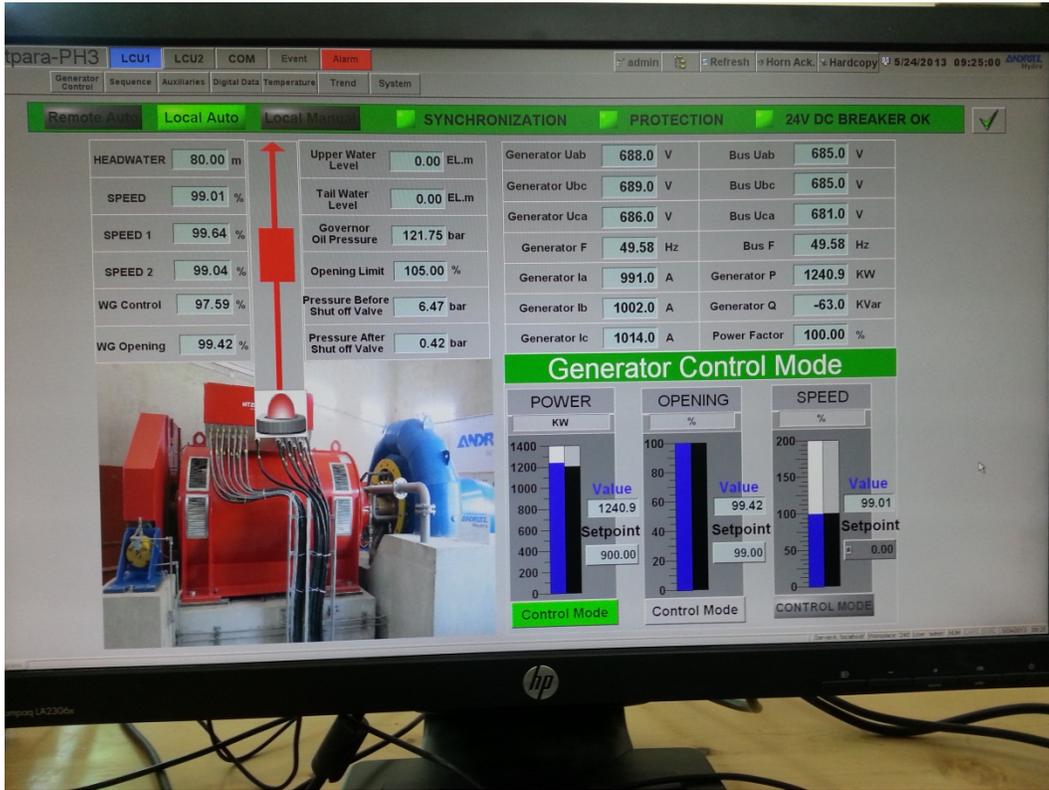


Figure 2: Unit-1 of Power House 3



Figure 3: Main damage on the left bank canal about 200-300 ft long



Figure 4: Irrigation Canal Damage due to Land Sliding



Figure 5: Left Bank Canal damage due to Land Sliding



Figure 6: Blockage in Canal channel due to land sliding

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