



Turbine Testing Lab

Monthly Bulletin April, 2016

KETEP 2015- 2017 Project

- Minor maintenance on the RDA setup performed by the technical personnel from Ruby Iron Workshop, Lagankhel.
- Experiments being conducted by PhD candidate at TTL and final year undergraduate students on the RDA setup.
- Acquiring of 5 kW cross- flow turbine and related accessories from the Custom Office, TIA, Nepal in progress in which currently the documents are being studied at Ministry of Finance, Singha Durbar, Kathmandu.

Lab activities

- Completion of refilling of water in the lower reservoir at TTL.
- Refurbishment of the lab's front shed.
- Repair of the electrical components in the existing test rigs for the performance tests of the turbines.

Research Activities

- Mr. Ravi Koirala, MS by research student at TTL, KU completed the design and analysis work at Tsinghua University, Beijing, China. Test rig has been designed which will be manufactured and installed at TTL from May onwards for experimentation as a part of his thesis works.
- Isabell Borgkvist, visiting student from Lund University to TTL, currently in her field studies for her master thesis research related to building efficiency in the Nepalese scenario.

Sediment Workshop 2016

- Mr. Nirmal Acharya, Research Fellow participated in a International workshop on "Sediment Sensitive Operations in Hydropower Systems" organized jointly by International Centre for hydropower (ICH), Norway and Hydro Lab Pvt. Ltd., Lalitpur, Nepal in co- operation with NTNU, Trondheim, Norway in Kathmandu from 5-11 April, 2016.
- The workshop offered the participants with better insight in the sediment sensitive operation and mitigation of sediment problems in the hydropower systems, within the framework of lectures, laboratory demonstrations and field excursions.
- Prof. Dr. Bholu Thapa, Chairman, TTL delivered the lecture on "Research and Development on Sediment Sensitive Design of Turbines" during the workshop.



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Further Studies

- Mr. Binay Baidar, Research Fellow from TTL started his Ph.D studies at Lulea University of Technology, Division of Fluid & Experimental Mechanics, Lulea, Sweden.

Publications

- Ravi Koirala, Baoshan Zhu, Hari Prasad Neopane, 2016, Effect of Guide Vane Clearance Gap on Performance of Francis Turbine, *Energies*, Vol. 9, No. 4, p. 275. doi:10.3390/eng9040275

Academic Projects

- TTL hosted the first batch of Hydropower group students from Department of Mechanical Engineering from this semester.
- 6 new projects currently undertaken by TTL.