



Turbine Testing Lab

Monthly Bulletin May, 2016

KETEP 2015- 2017 Project

- 5 kW cross- flow turbine and related accessories sent from Donggu Infra Co. Ltd., Republic of Korea worth USD 29090.46 acquired by TTL from the Custom Office, TIA.
- Experimental test rig under fabrication.
- Particle size distribution (PSD) analysis and Mineral analysis of the Chauri Khola V MHP sediments completed.
- Commencement of manufacturing of 45 kW cross-flow turbine at Donggu Infra Co. Ltd.

EnergizeNepal Project

- Participation by Mr. Bidhan Rajkarnikar in the meeting held at Royal Norwegian Embassy on 20th May.
- Discussions on the comments and revisions needed in the last submitted Project Document (in March 2016).

Erasmus + Project

- Participation by Dr. Hari Prasad Neopane as the follow up meeting held at Institute of Engineering (IOE), Pulchowok on 9-11 May, 2016.
- Visit by delegates from the Erasmus+ project at TTL on 12th May, 2016.

Official Visit by SoE, Dean

- Visit by Dr. Bhupendra Bimal Chhetri, Dean, SoE on 16th May as the first official visit in the capacity of Dean.
- Briefing about the current status, associated personnel, operation & management committee, ongoing funded and academic projects, available amenities and equipments of the lab.
- Discussion about the annual plans and budget for this fiscal year.

Lab activities

- Repair and maintenance of the electrical components in the existing test rigs for the performance tests of the turbines completed.
- Wiring of the VFD and main pump being studied for maintenance.
- TTL bid farewell to Lars Froyd on 25th May, PhD graduate from NTNU, Norway who was working on developing in- house code "Khoj" to incorporate low head Francis turbine design at TTL from December 2015.



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Publications

- Ravi Koirala, Bhola Thapa, Hari Prasad Neopane, Baoshan Zhu, Balendra Chhetri, May 2016, Sediment erosion in guide vanes of Francis turbine: A case study of Kaligandaki Hydropower Plant, Nepal, *Wear*, 2016.05.013, doi:10.1016/j

Academic Projects/ Works

- Sediments from Chilime HEP, Rasuwagadhi HEP, Chameliya HEP and Chauri Khola MHP brought to TTL.
- Sieve Analysis, PSD and Mineral Analysis conducted on the sediment sample.
- Fabrication of the setup for the study of sediment erosion in guide vanes of Francis turbine in progress.
- Lecture on the basics of hydropower, hydraulic turbines and the existing facilities of TTL to UNG students (Applied Physics group) as a part of their coursework at TTL.
- Discussion with the UNG students (Mechanical group) of Institute of Engineering (IOE), Thapathali about the propeller turbine and probable co- ordination with TTL.