



MONTHLY BULLETIN *SEPTEMBER 2013*

DANIDA project

Finalized project proposal Phase 1 application on 'Developing Wind Energy Engineering Competences in Nepal' in collaboration with DTU, Wind Energy Department in Denmark. Result of this application will be announced in December, 2013

Bachelor's project

14 projects have been finalized with 4 different themes. More updates at the Google spreadsheet.

Continuation of Previous works (3)

- Flow simulation and strength analysis of a complete model of Francis turbine designed for Tarakhola
- Robust mathematical modeling and design of Francis turbine in Matlab
- Transient simulation of a 100 KW Cross Flow Turbine at various opening angles

Current Project works in TTL (5)

- Model design, fabrication and testing of Pump Turbine for Chilime
- CFD Analysis of Pelton Runner
- Experimental Study of Shrinkage Effect due to Welding Repair of Pelton Runner on Torque Generation
- Development of micro-hydro Pelton turbine test rig at TTL
- Heat Treatment Optimization of 13/4-Cr/Ni Stainless Steel

Future potential projects (4)

- Aerodynamic design of a 4-6 KW Horizontal Axis Wind Turbine for Captive generation in Nepal
- Feasibility study of small scale wind turbines in Nepal
- Design and Modelling of small scale wind turbines at arbitrary conditions using QBlade
- Feasibility study of micro-hydropower in Nepal

Utilization of TTL equipment (2)

- Use of Rapid Prototyping machine for manufacturing Francis turbine components
- Use of Particle Image Velocimetry (PIV) for flow visualization



TURBINE
TESTING LAB

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REN-1095

- Completion of Literature review part
- Currently in the Designing phase

RENTECH Symposium program on 22nd

Training program by **WIPO** on 16th

TTL Farewell

KP Shrestha, PhD Fellow (till December)

Visits

- Prof. Anup Kumar (IIT, Roorkey) on 4th
- Mette Eltvik (NTNU) on 29th
Researcher
- Anant Kumar Rai (IIT, Roorkey,
PhD student) on 29th

TTL New member

Niroj Maharjan, RENP-1095

KK-III

- Modified drawings from Chinese contractors were reviewed
- Suggestions sent

MSc progress presentation by Mr. Amod Panthee on 20th

Internship completion

Final presentation in TTL on 23rd

Reference runner arrived at TTL from NHE on 29th

October Kickoff:

- Follow up AEPC and KK-III projects
- Procurement formalities for new equipments and generator.
- RENP-1095, Designing and Field Visit.