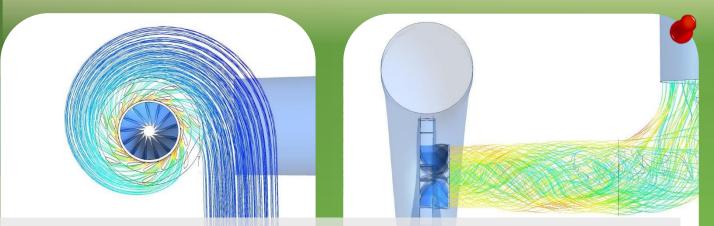
MONTHLY BULLETIN TURBINE TESTING LAB FEBRUARY, 2025

Consulting services provided to:

- i) Nakayama Iron Works, Japan for Performance evaluation of Francis turbine and pipes using CFD simulations of a Micro Hydropower Plant in Japan.
- ii) Nilgiri Hydropower plants for investigation of structural integrity of the turbines of Nilgiri hydropower at overload conditions.



Simulations for evaluating the performance of Francis turbines developed by Nakayama Iron Works, Japan (Conducted by Mr. Pawan Bijukchhe)

Structural analysis of the shaft of Nilgiri
Hydropower Plant(Conducted by Mr. Arun
Pandey)

Pandey

Torque vs Power
Shaft Safe Limit (14.1 MW)
Bolt Safe Limit (114.0 MW)
Rated Power (35.5 MW)
Unsafe Region

Power (MW)

Turbine N2 (FOS=5)

MS by Research defense of Ms. Aasma Bhattarai on February 25 on the topic, "Fault analysis of Francis turbine with broken blades"



MS by Research defense of Ms. Aasma Bhattarai



PhD defense of Mr. Aatmaram Kayastha

PhD Defense of Mr. Aatmaram Kayastha on February 26 on the topic, "Study of vortex generators on Francis turbine runner for variable speed operation"



Installation works in the Low Pressure Tank of TTL