**Modeling And Simulation Of Temperature Variation Of Bearings In A Hydropower Generation Unit**

**Abstract:**

Hydroelectric power contributes around 20% to the world electricity supply and is considered as the most important, clean, emission free and an economical renewable energy source. Hydro electric power plants operating all over the world has been built in the 20th century in many countries and running at a higher plant-factor. This is achieved by minimizing the failures and operating the plants continuously for a longer period at a higher load. However, continuous operation of old plants have constrained with the failures due to bearing overheating. The aim of this research is to model and simulate the dynamic variation of temperatures of bearing temperature of a hydro electric generating unit. Multi-input, multi-output (MIMO) system with complex nonlinear characteristics of this nature is difficult to model using conventional modeling methods. Hence, in this research neural network (NN) technique has been used for modeling the system