

Department : **Mechanical**

Year : **2013-2014**

Group No: **14**

Guided By

PROF. J. B. PATEL

SMT. S. R. PATEL ENGINEERING COLLEGE, UNJHA

Project Title

FLOW ANALYSIS OF FRANCIS TURBINE

Abstract:

Now Today's world hydro-electric power has become the most promising source in power sector to sustain the growth of any nation. In any hydro-electric power plant, hydraulic turbine plays a vital role which affects the overall performance of the plant and if utilized at suboptimal level, may lead to the loss of useful head. Also if any fault or quick damage of any portion of turbine during working condition may leads to unsafe and made serious effects on other arrangement of turbine implementation .So, it becomes vital to predict the behavior of hydro-turbine under actual working conditions. Experimental approach of predicting the performance of hydro turbine is costly and time consuming compared to CFD approach. CFD has emerged out as a powerful tool for predicting the performance of mechanical bodies subjected to dynamic flow conditions. There are ample of evidences where analysis at various levels have taken the advantage of this tool to solve so many problems related to performance analysis. Along with it, simulation technique is key feature. The aim of this project is to analyze the turbine for mechanical failure along with predicting its performance under actual operating condition by using CFD which is generally constrained by using a prototype. With the technique of simulation we can not only get the values of performance parameters but also the visualization of concentration and distribution of various parameters like pressure, velocity, stress at various locations where we may get versed with critical zones where the failure is supposed to occur.

Prepared By:

Sr. No.	Student Name	Enrollment No
1	CHANDRESH A. NAYI	100780119033
2	HARDIK R. PATEL	100780119015
3	HARSH P. PATEL	100780119002
4	DIGVIJAY M. SISODIYA	100780119043

