Indian Institute of Technolgy, Madras
Department of Ocean Engineering

OE 5020 - Design Project – Zeroth Review

Roll No: OE20M012

Project Guide: Prof. Dr. Abdus Samad

Title of Project : Design of Fluidic Diode for an Oscillating Water Column.

Problem Statement:

The fluidic diode to be designed to maximise the efficiency of the turbine and the fluidic diode as a coupled system. In the forward direction, fluid passes through a fluidic diode easily, encountering very small hydraulic resistance. In the other, reverse direction the resistance is high. So, it avoids the back flow of the fluid and Hence, the efficiency maximisation is possible.

Objective:

Design a Fluidic Diode to produce a renewable power output in Ennore port.

Methodology:

1. Obtain the performance characteristics of the twin turbine.
2. Calculate operating range of pressure drop of twin turbine through curve fitting techqniue
3. Match the working pressure of diode and flow rate with the pressure drop and flow rate of twin turbine.
4. Choose the optimum dimensions of the diode so that maximum efficiency is obtained from system.

Expected Outcome:

1. Designing a fluidic diode for targeted output of 150W power output of the twin turbine.
2. Determine the dimensions of potential fluidic diode shape.

Time Schedule:

	February	March	April	May	June	July
Literature Review						
Data Acquisition						
Analytical Calculations						
CAD Modelling						
Report						

Submitted By
Prasad S Deshpande
OE20M012