**National Institute of Technology Hamirpur**

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**Project proposal**

**Research Project Title**

Effect of Trailing edge ramp on silt removal in Small Hydel Power Projects.

**Project description**

The idea of this comes from the problem lid driven cavity. In lid driven cavity problem we see that the cavity flow structures are produced. And when we tilt the ramp edge there occurs some changes in the flow structure and pressure drag. So this principle can be used to produce a shear force on the upper boundary.

The silt removal technique can be used in small hydro power plants in which silt always creates a problem. Due to the rotation of shaft there occurs the generation of rotation of fluid along with silt and which will be collected at the upper surface.

**Future Aspects**

In future it can be used as a technique to remove the silt from the dam in which water is stored for power generation. As silt is a main problem because it may enter in the turbine and can damage the blades.

**Project Completion time :**

Short Term ( Upto six months )

**Mid Term ( Upto one year)**

Long Term ( More than one year )

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**Student skills Required, Pre requisite (if any )**

M.Tech Students with design, simulation, fabrication and experimental capabilities.

**Number of Students Required (PG) for the project:**

Ankesh Singh, Roll No – 16M302

Abhishek Singh Kashyap , Roll No - 16M303

**Name of Faculty member:** Dr. Varun**,** Dr. Santosh B. Bopche

**Department :** Mechanical Engineering , NIT Hamirpur.

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**Any Other Details:** The list of equipments and the estimates of the project proposals are given as follows :

|  |  |  |
| --- | --- | --- |
| **S.no.** | **Name of Equipments** | **Approximate cost in Rupeees** |
| **1.** | Electric motor | Rs. 10000 |
| **2.** | Miscellaneous expenses | Rs. 10000 |
| **3.** | Water storage | Rs. 8000 |
| **4.** | Mud receiver casting and supporting structure | Rs. 12000 |
|  |  |  |
|  | **Total Estimate** | **Rs. 40000** |