



SANDIP FOUNDATION'S
SANDIP POLYTECHNIC, NASHIK
DEPARTMENT OF CIVIL ENGINEERING

Name of Project: ACPS SILT EXCLUDER

Description:

Silt is granular material of a size between sand and clay, whose mineral origin is quartz and feldspar. Silt may occur as a soil (often mixed with sand or clay) or as sediment mixed in suspension with water (also known as a suspended load) and soil in a body of water such as a river. In the dam below DSL there is silt content. The increase in quantity of silt decreases the storage capacity of the dam. Thus, it became very necessary to remove the silt. In the dam below (Dead Storage Level) DSL there is silt content. The increase in quantity of silt decreases the storage capacity of the dam. Thus, it became very necessary to remove the silt. This silt is removed by using cranes and pumps. But this method proves uneconomical and risky.

Hence we have invented a new technique to remove the silt named as ACPS silt excluder –in dam. The ACPS silt excluder is a device which uses the mechanism of automata and odor to remove the silt from the dam. The automata is the mechanism in which the movement of the responding parts takes place due to the rotary movement given to the handle. In this instrument the automata do the same work i.e. to disturb the silt and carry it forward towards the odor.

At the downstream side we can either install a motor to give rotary motion to the handle or during rainy season we can use the jet of water falling from spillway on the handle to give it circular movement, this will also generate the electricity. This electricity can be stored and used in other season for operation of motor. Thus, it will not consume the energy.

Some quantity of water which comes out in downstream side with the silt will also be separated by using sieve and collected there.

The silt excluder will installed through the dam body by constructing galleries.

Thus the ACPS silt excluder will not only remove the silt from dam but it also generates the electricity.

Group Members :

1. Dhokane Apurva
2. Lokhande Pooja
3. Lomte Chitralekha
4. Darade Shweta

Awards/Recognition: 1ST Price in IEI project competition 2018.

Photographs:

