

Problem Statement

In Hydro-electric Project (HEPs), monitoring and upkeep of HRT (Head Race Tunnels) is a critical task for proper operation and safety of the plant especially in Himalayan Rivers carrying huge silts. For inspection of the HRTs, the HRT needs to be emptied & inspected which is a cumbersome process. In order to avoid interruption in operation of the plant, services of a Remotely Operated Vehicle (ROV) for inspection of the HRT in submerged condition could be considered for deployment.

Apart from problems of excessive silt in HEPs especially in Himalayan Region during the monsoon season, cases of high acidity in the water has also been reported in some projects, due to which problem of abrasion/erosion of submerged E&M equipment/components occurs resulting into safety hazards and higher O&M cost. As such, there is need to explore abrasion/erosion resistant materials which could be utilized for manufacturing of underwater/ submerged E&M equipment for Hydro Power Plant for improved & sustainable performance and O&M cost minimization.