Bulb Turbine

The bulb turbine is a reaction turbine of Kaplan type which is used for extremely low heads. The characteristic feature of this turbine is that the turbine components as well as the generator are housed inside a bulb, from which the name is developed. The main difference from the Kaplan turbine is that the water flows in a mixed axial-radial direction into the guide vane cascade and not through a scroll casing. The giude vane spindles are normally inclined to 60^0 in relation to the turbine shaft and thus results in a conical guide vane cascade contrary to other types of turbines. The runner of a bulb turbine may have different numbers of blades depending on the head and water flow. The bulb turbines have higher full-load efficiency and higher flow capacity as compared to Kaplan turbine. It has a relatively lower construction cost. The bulb turbines can be utilized to tap electrical power from the fast flowing rivers on the hills. Figure 32.3 shows the schematic of a Bulb Turbine Power Plant.

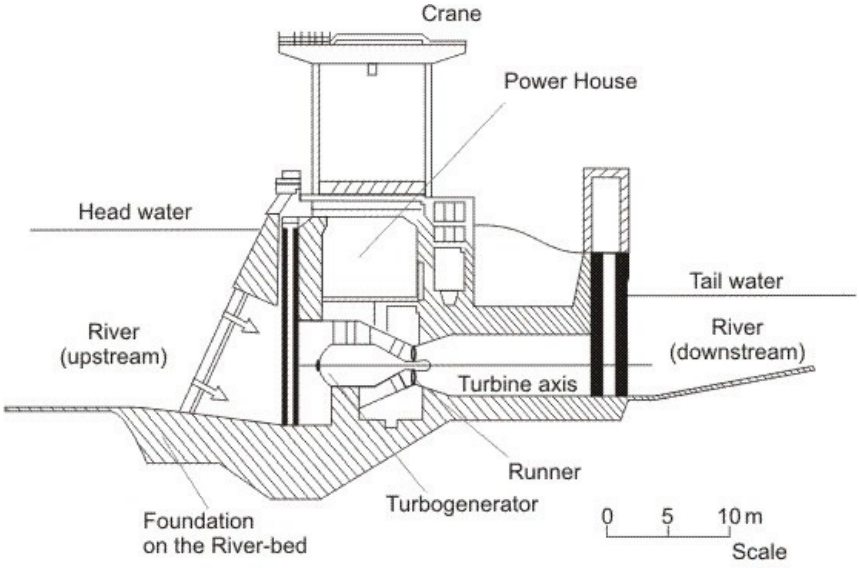

Figure 32.3 Schematic of Bulb Turbine Power Generating Station