

## **Glossary of Hydropower Terms**

The glossary of terms defines the components that make up hydro turbines and hydropower plants.

### **Alternating current (AC)**

Electric current that reverses direction many times per second.

### **Ancillary services**

Operations provided by hydroelectric plants that ensure stable electricity delivery and optimize transmission system efficiency.

### **Cavitation**

Noise or vibration causing damage to the turbine blades as a result of bubbles that form in the water as it goes through the turbine which causes a loss in capacity, head loss, efficiency loss, and the cavity or bubble collapses when they pass into higher regions of pressure.

### **Direct current (DC)**

Electric current which flows in one direction.

### **Draft tube**

A water conduit, which can be straight or curved depending upon the turbine installation, that maintains a column of water from the turbine outlet and the downstream water level.

### **Efficiency**

A percentage obtained by dividing the actual power or energy by the theoretical power or energy. It represents how well the hydropower plant converts the energy of the water into electrical energy.

### **Head**

Vertical change in elevation, expressed in either feet or meters, between the head water level and the tailwater level.

### **Flow**

Volume of water, expressed as cubic feet or cubic meters per second, passing a point in a given amount of time.

### **Headwater**

The water level above the powerhouse.

### **Low Head**

Head of 66 feet or less.

### **Penstock**

A closed conduit or pipe for conducting water to the powerhouse.

### **Runner**

The rotating part of the turbine that converts the energy of falling water into mechanical energy.

### **Scroll case**

A spiral-shaped steel intake guiding the flow into the wicket gates located just prior to the turbine.

### **Small hydro**

Projects that produce 30 MW or less.

### **Tailrace**

The channel that carries water away from a dam.

**Tailwater**

The water downstream of the powerhouse.

**Ultra low head**

Head of 10 feet or less.

**Wicket gates**

Adjustable elements that control the flow of water to the turbine passage.