

Glossary of Technical Terms

Sl. No.	Technical term	Meaning
1	Adit	It is an underground opening from hill face either for facilitating underground construction (construction adit) or for exploration/ instrumentation (exploratory adit).
2	Afflux bund	An embankment or dyke designed to ensure that the structure is not outflanked during flood flows. In some cases, it also acts as an embankment to prevent flooding to the country side due to an afflux.
3	Bus coupler	A device which is used to switch from one bus to the other without any interruption in power supply and without creating hazardous arcs. It is achieved with the help of circuit breaker and isolators.
4	Capacity Utilisation Factor (CUF)	It is the ratio of actual energy generated by a power station to the equivalent energy output at the rated capacity over a period.
5	Circuit Breaker (CB)	Circuit Breaker is high speed isolating device even in fault condition.
6	Dam/Barrage	A barrier constructed across a river or natural watercourse for the purpose of: (a) impounding water or creating reservoir; (b) diverting water there from into a conduit or channel for power generation and or irrigation purpose; (c) creating a head which can be used for generation of power; (d) improving river navigability; (e) retention of debris; (f) flood control, etc.
7	Design capacity	Capacity at which a Hydro power plant is designed to generate electricity.
8	Design Energy	The quantum of energy which can be generated in a 90 <i>per cent</i> dependable year with 95 <i>per cent</i> installed capacity of the hydro generating station.
9	Design Inflow	Water inflow envisaged for generating designed energy.
10	Draft Tube (DT)	Draft tube is located between lower ring of turbine and tail race. It conveys water after discharge from runner to tail race tunnel.
11	Draft Tube (DT) gates	DT gates are provided for isolating the power house and tail pool before taking maintenance of the turbine. The DT gates are provided with hoisting mechanism.
12	Elevation (EL)	The elevation of a geographic location is its height above or below a fixed reference point.
13	Excitation	The process of generating a magnetic field by means of a DC electric current is called excitation.
14	Flood plain map	A flood plain map delineates the area that can be expected for different return period floods.
15	Gabion	Walls constructed by filling large galvanized mesh wire with rocks. Flexibility of a Gabion structure allows it to withstand pressure without deforming cracking or braking as in case of concrete or other material.
16	Gas Insulated Switchgear (GIS)	Gas-insulated switchgear is the insulating medium gas - SF ₆ - (Sulphur Hexafluoride).

17	Gross storage capacity	Gross storage capacity is capacity below full reservoir level. It would correspond to the sum of Dead storage capacity and Live Capacity.
18	Guide Vanes/Wicket gates	These are meant to regulate the flow of water as per load variation.
19	Inclinometer	Inclinometer is an instrument used to measure lateral movement and deformation of earthworks or structures. It provides magnitude of inclination or tilt and variation with time.
20	Inundation maps	A map delineating the area that would be flooded by a particular flood event. It includes the ground surfaces downstream of a dam showing the probable encroachment by water released because of failure of a dam or from abnormal flood flows released through a dam's spillway and/or other appurtenant works.
21	Launching Apron	A launching apron is a flexible stone cover placed on the bed of the river which settles into the scouring area as scouring takes place and covers the base and side of the scour hole, preventing it from developing further.
22	Live storage capacity	Live Storage Capacity between the lowest outlet level of reservoir or minimum drawdown level (MDDL) to the highest controlled water level or full reservoir level (FRL).
23	Main Inlet Valve	Main Inlet Valve is a hydraulically operated mechanical device to isolate turbine from HRT.
24	Normative Annual Plant Availability Factor (NAPAF)	Plant Availability Factor (PAF) fixed on normative basis by CERC in its Notification applicable to the tariff period 2009-2014 in respect of each of the hydro power stations considering plant type, silt problem, other operating conditions and known plant limitations.
25	Penstock	A closed conduit for supplying water under pressure to a water turbine.
26	Plant Availability Factor (PAF)	Plant availability factor or (PAF) in relation to a generating station for any period means the average of the daily declared capabilities (DCs) for all the days during the period expressed as a percentage of the installed capacity in MW less the normative auxiliary energy consumption.
27	Pressure Shaft (PS)	A vertical or inclined shaft designed to take up high pressures. Pressure shafts are the closed conduits entirely confined between Surge Shaft and main inlet valve (MIV) and guides the movement of water under pressure.
28	Radial gates	A gate with a curved upstream plate and radial arms hinged to piers and other supporting structure used in Dams to control water flow.
29	Referral Distance (RD)	Referral Distance from a specific point.
30	Rotor	The part of electric generator which rotates. The rotor stays inside the stator and is covered with copper wire. The rotor has a powerful magnet in it. Electricity is created when the rotor moves around the stator, and the magnetic field from the rotor creates an electrical charge inside the copper wire. This charge is collected and sent out as electricity.
31	Runner	Water strikes the edge of the runner pushes the blades and then flows toward the axis of the turbine. It escapes through the draft tube located under the turbine.
32	Secondary Energy	Energy generated beyond Design Energy.

33	Spur	A wall, crib, row of piles, stone jetty or other barrier projecting outward from the bank into a stream, for the purpose of protecting the bank from erosion or for arresting sand movement along the bank, concentrating the flow of a stream into a smaller channel, etc. is called Spur.
34	Standpipe Piezometer	A device used or monitoring pore-water pressure to determine the stability of slopes, embankment and landfill dykes, monitoring the effectiveness of dewatering scheme, monitoring seepage and ground water movements in embankments and dams.
35	Static excitation	The term “static excitation” refers to the stationary nature of the excitation system. The process of generating a magnetic field by means of an electric current is called excitation. The static exciter converts AC into DC for application to the machine field.
36	Surge Shaft (SS)	Surge shaft is located at the end of Head Race tunnel. It is a well type structure of suitable height and diameter to absorb the upcoming and lowering surges in case of tripping and starting of the machine in the power house.
37	Tail Race Tunnel (TRT)	A Tunnel carrying water downstream of the power house to the connecting stream.
38	Toe Wall	It is a shallow wall constructed at the junction of the toe of embankment or guide bund and the bed or floor to provide a footing for pitching.
39	Trunion	A pin or pivot on which something can be rotated or tilted.