



Durali System Design & Automation Co.

Governors for Hydro Power Plants



Darian HEPP (3×70MW), West of Iran



Governor is one of the important components of a Hydro Power Plant that has the key role in regulating speed and controlling the functions of Turbine.

“Durali System Design & Automation Company (DSDA)” as a “Knowledge base Enterprise” developed her own know how for design and Manufacturing of the latest generation of Governors for Hydro Power Plants. Several of these Governors produced by DSDA have been successfully under operation in Hydro Power Plants in Iran. Our products are offered in two categories: “Electro Hydraulic” for small and large power plants and “Thermal” for micro and mini power plants.

General Characteristics:

- Designed based on IEC and IEEE Standards;
- Suitable for use with all types of Turbines (Francis, Pelton, Banki, axial and ...);
- Deferent operational Control modes (Power, Speed, opening, Island, Water level and flow control Modes);
- Can be delivered in two type:
 - Electrohydraulic Governor (for conventional hydro power plants),
 - Thermal Governor (for small power plants under 100KW suitable for black starting and operating in island networks);
- Using high quality components;
- Factory tested with high accuracy power plant simulator.

Main Features:

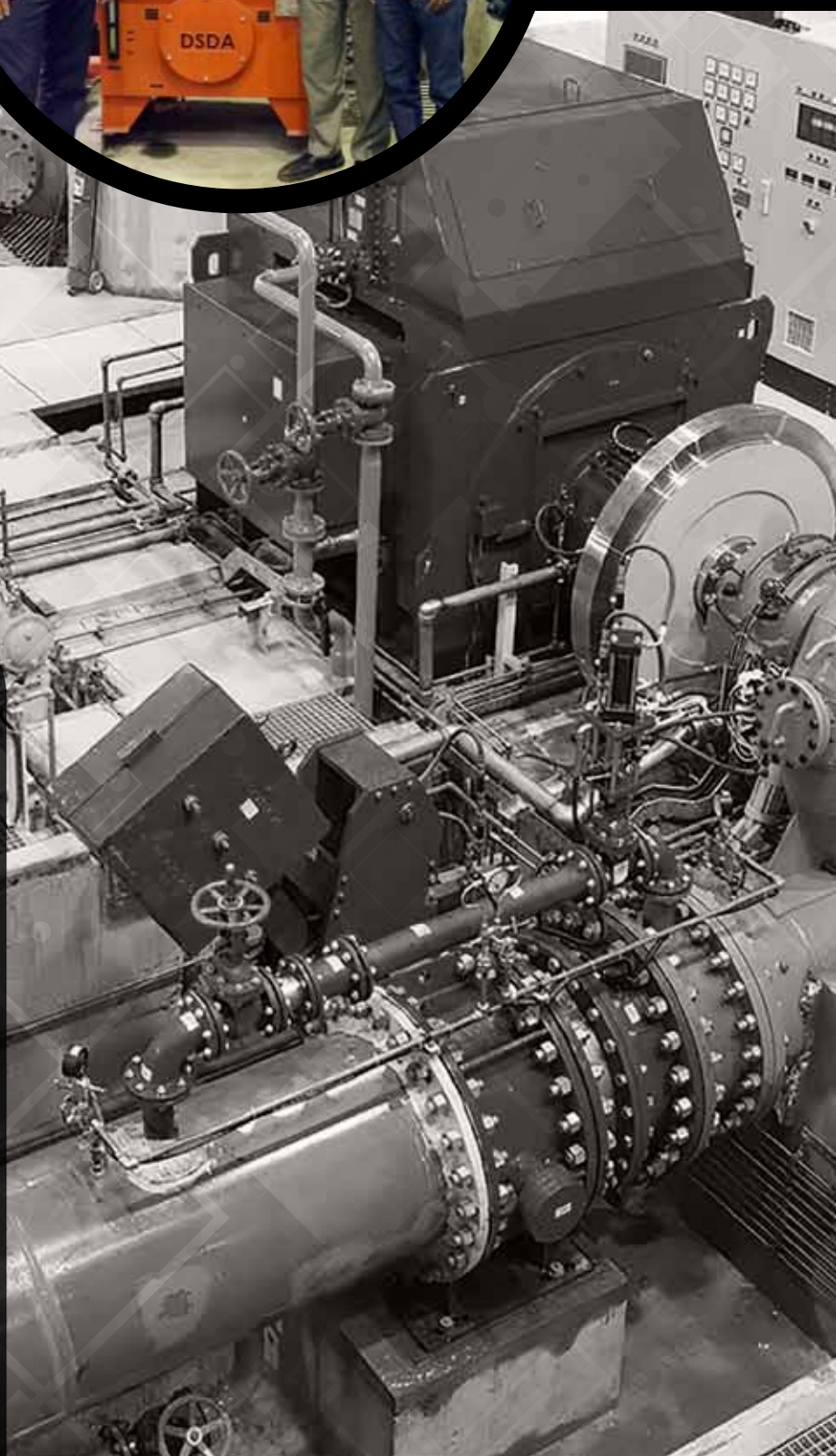
- Electronic Unit with PLC S7-300, S7-400 (SIEMENS) with hot or warm redundancy for more reliability;
- Separate speed card producing 8 speed thresholds;
- Capability of mechanical adjustment & locking of servomotors' speed;
- Hydraulic system with redundancy;
- Using mechanical and electrical overspeed;
- Using air/oil pressure vessel;
- Installation, commissioning and training services;
- Spare Parts;
- Delivered in 6 to 12 months based on the size of power plant;
- 1 year guarantee and 10 years after sale service.



Azad Hydro Power Plant Governors

(3×3.3MW), near Sanandaj City
West of Iran

- Type of Turbine: Francis;
- Main working modes:
 - Start-up
 - Speed control
 - Synchronization
 - power mode
 - opening mode
 - Island mode
 - Shutdown
- Mechanical and electrical over speed;
- Successfully under operation since 2015.



Darian Hydro Power Plant Governors

**(3×70MW), near Paveh City,
West of Iran**

- Type of Turbine: Francis;
- Main working modes:
 - Start-up
 - Speed control
 - Synchronization
 - power mode
 - opening mode
 - Island mode
 - Shutdown
- Mechanical and electrical over speed;
- Successfully under operation since 2017.





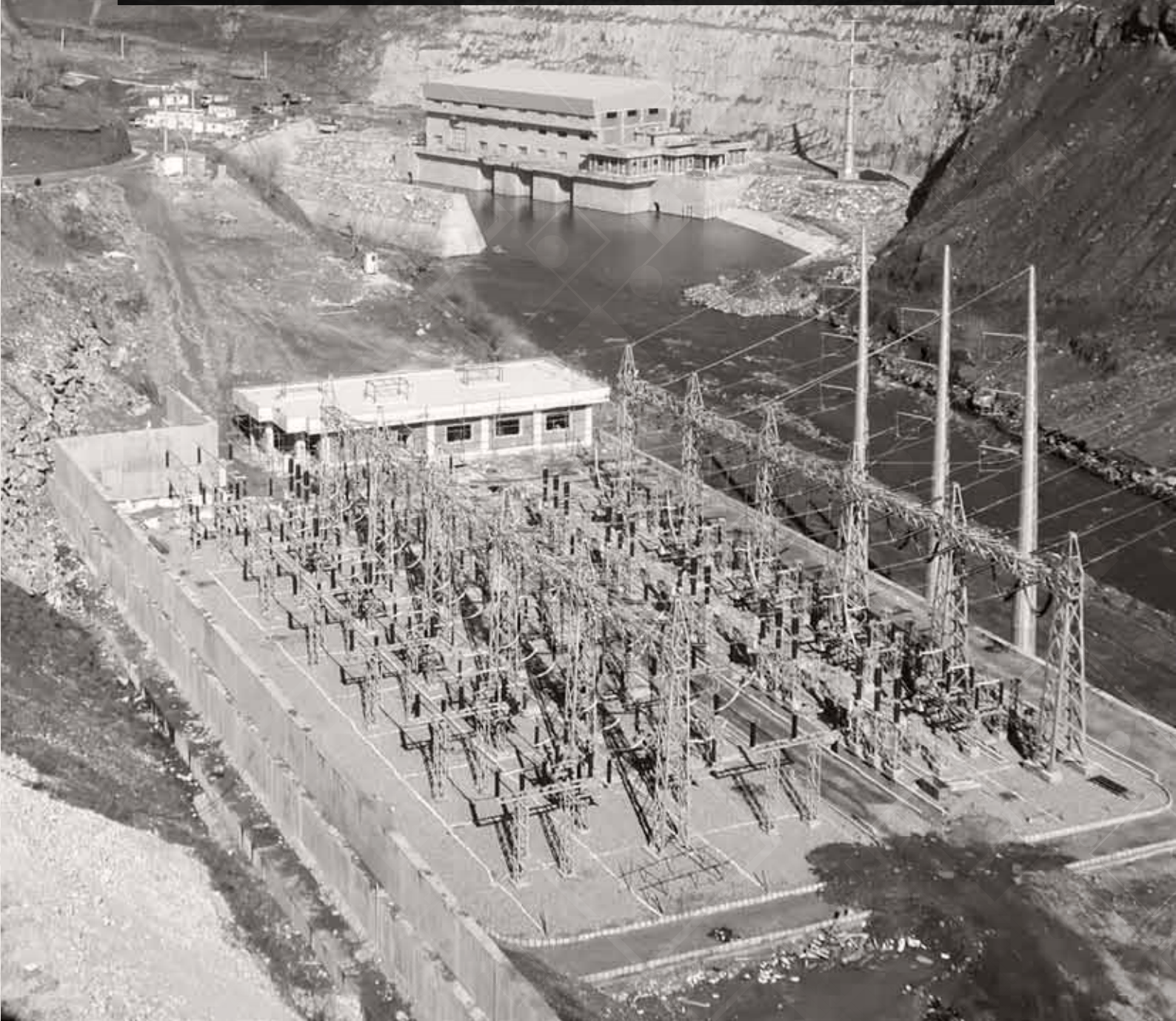
Factory Acceptance
Test of Governor of
Unit No 2



Sardasht Hydro Power Plant Governors

(3×50MW), near Sardasht City, North East of Iran

- Type of Turbine: Francis;
- Main working mode:
 - Start-up
 - Speed control
 - Synchronization
 - power mode
 - opening mode
 - Island mode
 - Shutdown
- Mechanical and electrical over speed;
- Successfully under operation since 2019.





Thermal Governors for Micro Hydro Power Plants

- Type of Turbines: Pelton, Axial and Banki;
- Main working modes:
 - Start-up
 - Speed control
 - Synchronization
 - Island mode (Black Start)
 - Shutdown
- Mechanical and electrical overspeed;
- Capable to manage sudden load fluctuation up to 70% of nominal turbine capacity in Island Mode;
- Ability to synchronize with electrical grid.





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