

CASE

STUDY Sodium Pumps in 500MW Power plant Bhavini (India)



Applications:

Metals: Mill stands, winders, pumps, fans.

Marine: Main propulsions, thrusters, pumps and compressors, dredgers.

Oil & Gas: Drillings, pumps, compressors, blowers.

Water, Wastewater and Power Generation: Fans and pumps.

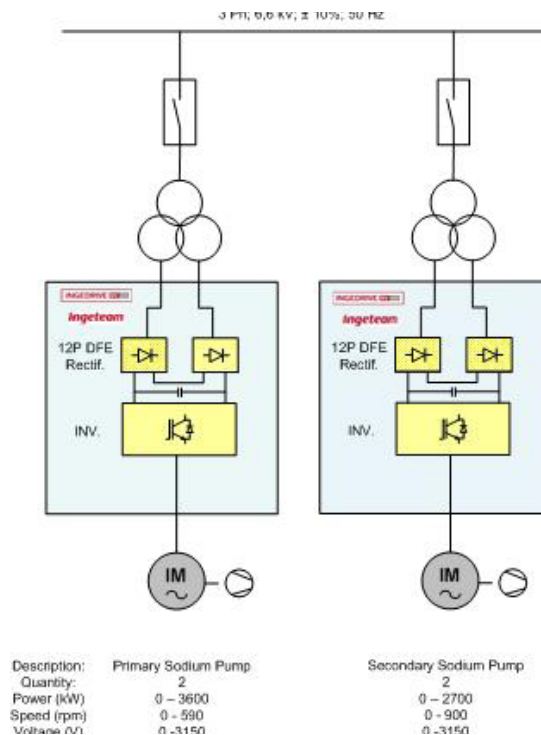
Cement, Mining and Minerals: Mine hoists, grinding mills (SAG mills, ball mills), conveyors, crushers, fans

In the first semester of 2010 the company Bharat Heavy Electricals Limited (BHEL), owned by the Government of India, located in Bangalore, awarded Ingeteam a contract of design and supply of medium voltage frequency converter for Bhavini 500 MWe nuclear power plant. The order comprises the four medium voltage frequency converters as well as related engineering and on-site services for the sodium pumps.

The use of medium voltage frequency converters in this application will allow the control of the water flow in the cooling system for the nuclear power plant and will lead to energy saving in the complete plant.

3-phase asynchronous motors, squirrel cage rotor type, made by BHEL Bhopal, were selected for this application given their robustness and simple maintenance.

Ingedrive pumping up the efficiency



Converter type
Rectifier
Inverter

DC-Bus system
Cooling method

Scope of Supply

Project management
 Basic and detailed engineering
 Equipment supply: Ingedrive MV100 converter
 Commissioning
 After sales services (360°CRS)

Technical Features

Ingedrive MV100

12 Pulse Diode Front End (12P DFE), non-regenerative
 Totally controlled HV IGBT bridge, 3-level voltage source, using PWM modulation techniques based on voltage vectors
 Consisting of high-capacity long-life polypropylene capacitors
 Water cooled with redundant set of pumps with water heat exchanger

