

WATER M

The dams for water accumulation are intended to provide raw water to downstream consumers for plants for preparation of drinking water, agricultural irrigation and biological minimum.

Following hydro-mechanical equipment is installed for regulation of water level in reservoirs:

- Gates on spillways
- Water intake gates
- Base discharge gates
- Measuring-regulation equipment

Electro-hydraulic systems are used for gate drive in accordance with strict environmental requirements. Designing and manufacturing of electro-hydraulic systems in the area of water management - on dams for reservoirs, as well as on ship locks being the accompanying facilities, is the important segment of PPT Inženjering activities.

Hydro-system Ibar-Lepenac, Gazivode and Pridvorice dams; Al Ibitisam, Beni Amrane and Hammam Miskhoutine dams in Algeria; the Agios Dimitrios dam and the Evinos-Mornos tunnel in Greece are specific projects connected with water supply. Due to presence of methane, the Agios Dimitris tunnel required adequately protected hydraulic systems, the dams in Algeria had a double purpose - accumulation for irrigation purposes and accumulation for hydroelectric power plant. The dam Bashkiriya in Russia and the ship lock Krasnogorsk are just some of the latest references of *PPT Engineering* in this field.

The cooperation with the SSM company from Volgograd unified designing of hydraulic systems for gates on reservoirs and locks, which resulted in special requirements for integral control of electro-hydraulic systems. This particularly refers to ship locks on the Volga-Don canal - Lock number 7, four locks on the Volga, Gorodec (Nizhny Novgorod) and within the scope of reconstruction of hydro-mechanical equipment for five double hooked spillway gates drive together with the fish path on the Krasnodarsk reservoir in Russia for irrigation of wheat fields in Kubansk district.



MANAGEMENT





Miter gate cylinder with caradan bearing for sectoral gate drive

of Saint Petersburg - Facility S1, Russia

Buyer: *SGEM*, Russia
Commissioning: 2006
Complex of flood control structures (CFCS) of Saint Petersburg, electro-hydraulic systems for travel control of sectoral double leaf doors in dock chambers and two flat gates



Complex of flood control structures of Saint Petersburg – sectoral gate – bataport

Sectoral gate



Hydraulic aggregate for sectoral gate drive



Control block for synchronization of cylinders operation on the left and right side of the gate

Hydraulic set – factory testing

of Saint Petersburg - Facility S2, Russia

Buyer: *SGEM*, Russia

Commissioning: 2006

Electro-hydraulic systems for travel control of the largest flat gate in the world, width 116 meters, weight 2,700 tons, raising and lowering stroke 11,500 millimeters



Flat gate hydraulic cylinders - manufacturer Hunger, Germany

Flat gate in overhaul position





One group of segment gates

Control manifolds in the gallery for control of operation of 12 (10) segment gates

Saint Petersburg - Facility V1-V6, Russia

Buyer: *Trust Hydromontazh, Russia*

Commissioning: 2009

Electro-hydraulic systems for travel control of 6 groups of segment gates consisting of 10 or 12 gates each. This system is specific for the requirement for group lowering of all 64 gates.



Water discharge facilities V1-V6



Hydraulic aggregate



Reservoir, Krasnodar, Russia

Buyer: SSM, Russia

Commissioning: 2016

Electro-hydraulic systems for handling 5 double hooked basic gates, screen operation control on fish path and for excitation system drive

Double hooked gates control block



First and second passage of dam spillway field



Fish path – screen cylinders

Ship lock on Gorodec waterway node, the Volga river, Russia



Buyer: SSM, Russia
Commissioning: 2007
Electro-hydraulic system for handling gallery flat gates on ship lock downstream head

Electro-hydraulic system for handling gates

Ship lock in Gorodec



Ship lock

Volga - Don canal, Ship lock No.7, Russia



Ship lock No. 7

Buyer: SSM, Russia
Commissioning: 2017

Electro-hydraulic system for door lifting and lowering control, aimed to provide cylinder travel synchronization on the ship lock left and right side with maximum error of 10 mm

Factory testing of cylinders



Hydraulic aggregate

Krasnogorsk ship lock, on the Irtysh river, Russia



*Electro-hydraulic system
factory testing*

Buyer: *PromGidroRus*, Russia
Delivery: 2012
Electro-hydraulic systems for control of lock and

service double leaf doors and gallery gates on ship
lock bottom, central and upper head

Floodgate Pančevo, Serbia



Buyer: *Djerdap Priobalje*, Kladovo, Serbia
Delivery: 2013

Refurbishment of electro-hydraulic system for 3
segment gates and pneumatic equipment

Floodgate Pančevo – segment gates cylinders