

**INVESTMENT PROPOSAL**  
**“INSTALLATION OF AN INDUSTRIAL CHILLER IN DPMC**  
**PROCESS PLANT”**

**SUMMARY**

The investment proposal is for installing an industrial chiller, model AST 2 065 in land plot #80323.16.17 in the village of Chelopech, Sofia district.

The installation of the industrial chiller shall ensure enhanced cooling of lubricants (hydraulic oil) used for SAG Mill operations.

The investment proposal covers the following stages:

- Set up a concrete pad;
- Install the new equipment;
- Set up new pipelines;

The installation of the chiller system shall take place onsite DPMC Process Plant.

This type of system is characterized by a closed operational cycle. Hence, the current coolant (water) shall be replaced by another one, e.g. ethylene glycol solution and freon.

The new industrial chiller shall cool the ethylene glycol solution fluid, which shall report to the current heat exchangers that also host heated lubricants from the process cycle.

Inside the heat exchangers, both fluids shall exchange heat. As a result, the temperature of the lubricants shall decrease and that of the fluid (ethylene glycol) shall respectively increase. Cooled lubricants shall return to the SAG Mill operational cycle, while the heated fluid (ethylene glycol) shall return to the chiller for re-cooling.

The process shall be repeated as many times as needed for SAG Mill operational purposes.

The commissioning of the cooling system is expected to reduce Kachulka Dam fresh water consumption, up to a certain extent.