**Terms of References for Setting Up the Chlorination Station near Kveseti Pumping Station, using Ready-Made Sodium Hypochlorite Chlorinator**

Kojori is the site where Georgian Water and Power LLC has 1000 m3 and 600 m3 reservoirs. From these reservoirs water is supplied to the population of three nearby regions Kojori, Kiketi and Kveseti-Betania.

The chlorine content of the water in the reservoirs is 0.4 mg/L, which is within the normal limits for the nearby populated area, but for distant points such as Bethania and Kveseti, it is comes down to zero on hot summer days.

**Based on the above mentioned, GWP plans to set up the building in the surrounding territories of Kveseti Pumping Station, in which, a chlorination station dosing the ready-made Sodium Hypochlorite should be installed in accordance with the present technical assignment. This secondary chlorination station should ensure the addition of chlorine in the range of 0 to 0.5 mg/l, in the pipelines running to Bethania and Kveseti directions.**

The average consumption of the water to be chlorinated in the direction of Bethany will be 70 m3/h. and 80 m3/h in the direction of Kveseti. The pressure at the point where the hypochlorite is discharged into the pipe is 6 bars. Analysis of the amount of chlorine in both lines should be carried out a few meters from the hypochlorite discharge point. As for the amount of residual chlorine in the population of Bethany and Kveseti, it should be at least 0.3 mg/l.

**Dosing pumps should be controlled by a 4-20mA analog signal from a flowmeter mounted on a D-250mm diameter pipe running into the reservoirs, and residual chlorine in the water should be monitored by a Hach or Krone brand analyzer, which will react and adjust the required dose in the pump dispenser.**

Dosing pumps should be controlled separately via 4-20mA analog signal received from the flowmeters installed on D-250 mm pipes running through Bethany and Kveseti; But control of the residual chlorine in the water should be carried out by **a Hach or Krone** brand analyzers, **which when necessary should react and adjust the required dose in the pump dosing system.**

**It should also be taken into account that the Chlorination Station should have the ability to remotely control the technological cycle and work in automatic mode.**

**When considering the submitted proposals, priority will be given to the project where the devices used in the technological cycle will have accreditation for use in the EU countries.**

**The installed system must be considered accepted after 72 hours of successful testing cycle.**

**A situational plan of the territory of the pumping station is attached to the terms of reference, on which the existing pipelines and the existing building of the pumping station are marked.**

Appendix N2 – Situational Scheme

Appendix N3 – Situational Plan

Description of the remote control system:

The central part of the remote control system (SCADA) is the control cabinet, in which the production PLC and GSM-GPRS transmission modems are installed. The programs written in it should ensure the management of the system in automatic mode, transfer of information to the central dispatch, for correct dispatch and further management of the system. A color touch screen should be installed on the cabinet for on-site management.