

Amendment to the prefeasibility study to rehabilitate hydrological monitoring network in the Chorokhi-Adjaristkali pilot basin

Based on the contract FM-1/325, dated 06.06.2014 between the National Environmental Agency (NEA) of Georgia and the Human Dynamics, KG prefeasibility hydrological study was conducted to identify potential locations for rehabilitate hydrological monitoring network that should include design and construction of hydrological monitoring stations on the Chorokhi, Adjaritskali, Machakhela and Kintrishi Rivers. As a result the following four major locations were selected by the Agency: 1) Chorokhi River at village Kirnati, 2) Adjaristskali River at village Adjaristskali, 3) Machakhela River at village Adjarisaghamarti and 4) Kintrishi River at village Kokhi.

However, due to the resent amendments in the construction schemes of the Kirnati and Khelvachauri Hydro-Power Plants (close to the location 1 and 2 under the NEA prefeasibility study), intending significant increase of inundated area, we propose to make the following changes in the identified locations for design and construction of monitoring stations:

1. Move proposed monitoring location on the Chorokhi River, for combined hydrological and water quality monitoring at village Kirnati, to the downstream of below headrace of the Khlevachauri Hydro-Power Plant at village Erge, preferably close or on the motorway bridge connecting to village Makho; Change proposed type of the station from the sensor type water level and water quality measuring – to automated radar-type level measuring station (similar to the other proposed stations);
2. Move proposed monitoring location on the Adjaristkali River at village Adjaristskali further upstream, close to village Maglakoni, preferably on the Batumi-Khulo motorway bridge.

Amended location on the Chorokhi River at village Erge is situated in the below headrace of the Khelvachauri Hydro-Power Plant. Width of the riverbed at this section is 90-100 meters and the floodplain - 420 meters. A motorway bridge is situated close to this location, height of which above the water level is 10.55 m. There exist historical data records on hydrological regime of the river in this section, in about 3.4 km upstream of the Makho Bridge. During the natural flow, the water level at this section fluctuates by 2-2.5 m. The mean annual discharge is 278m³/sec. Multiyear maximum discharge - 3840 m³/sec. Geographical coordinates of the amended location are the following: **X=41°34'05.38"**; **Y= 41°40'06.79"**.

Amended location on the Adjaristkali River at village Maglakoni is situated at 3.7 km from the junction of the Adjaristkali and the Chorokhi Rivers on the Batumi-Khulo motorway bridge. The height of the bridge is 6.5-7m from the water level. Width of the river at this section is 25-27 m; floodplain width – 70-75 m. From the hydrological aspect, riverbed is linear and facing as natural flow. Hydrological regime of the location is close to the one observed at the Keda station, where the mean annual discharge is 46.6 m³/sec. Detected multiyear maximum discharge is about 770

m³/sec., while the minimum discharge - 4.0 m³/sec. Water level fluctuation is 2.3-2.8 m. Geographical coordinates of the amended location are the following: **X=41⁰32'50.79"**; **Y=41⁰45'23.44"**.