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SAFE OPERATION AGENDA FOR KYIV HYDROELECTRIC POWER STATION

Kyiv hydroelectric power station is the first highest part of the cascade of hydroelectric power stations on the Dnipro River. It forms Kyiv reservoir. Located in the city of Vyshhorod, Kyiv hydroelectric power station is a composite and unique construction. Submerged hydroelectric units and precast concrete products were used there for the first time. One more power station is also a part of the hydroelectric complex – pumped storage station. The dam has 20 spillways and a shipping lock. Hydroelectric power station width is 51 meters; its length is 285 meters. There are 20 hydroelectric sets installed. Hydroelectric complex structure includes: right-bank and left-bank dam, breakwater dam, channel dam, non-ramming dam.

The total length of the protective structures is 70 kilometres. After the construction of Kyiv dam over the city, an artificial reservoir with a capacity of 3.7 million cubic meters was formed.

According to some scientists' conclusions, the hydroelectric power station is in bad repair by 93%. There are several reasons why a dam can break through, and thousands of cubic meters of water from the reservoir will destroy the settlements of our country. The main ones are the lack of proper reconstruction and protection of the building, as well as the load from water flow and transport. The consequences of such disaster will be severe, as a large number of citizens are going to die, cities and villages will be destroyed. But even after thewater decline one can hardly live in this area for a long time, because of water being contaminated by radioactive ooze, accumulated at the bottom of the reservoir in 1986, when an explosion at Chernobyl nuclear power station happened.

Hydroelectric power station destruction can occur due to a number of reasons: the gradual aging of structures, sabotage attack, artillery fire, a powerful explosion near the dam (for example, ammunition storage facility in the village of Kotsiubynske near Kyiv), airplane crash, satellite fall, iron fall, other artificial or natural object, melt-water breaking-up during rampant flood, earthquake, landslide.

Measures to be taken to prevent the accident: constant monitoring of the dam and reservoir safety, reconstruction and inspection of the dam body, the introduction of modern automated systems for detecting micro-cracks, reducing the load on the construction, prohibiting private construction around the reservoir.

The permanent monitoring ofreservoir dam safety is carried out by the Ministry of Energy and Coal Mining of Ukraine, the State Water Resources Agency of Ukraine, The State Emergency Service of Ukraine, and Ukrainian Hydrometeorological Center.

Every year, and at urgent need, they inform the Cabinet of Ministers of Ukraine, the National Security and Defense Council of Ukraine, the special-purpose committees of the Verkhovna Rada of Ukraine about the state of the hydroelectric power station main facilities and the reservoir.

Permanent public monitoring of the hydroelectric power stations constructions and reservoirs is carried out by the International Public Group of Independent Experts on the Forecasting of the Consequences of Disasters and Emergencies. It periodically sends practical safety recommendations that are taken into account by the relevant government departments.

So, we can conclude that the dam of Kyiv hydroelectric power station needs constant inspection. early recognition of problems will help avoid a global disaster. Consequently, all experts need to pay serious attention on the construction condition, because there is nothing more valuable than human life.