Study of Radioactivity in the reservoirs that supply water to Great Bilbao

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Water has always been essential for life and plays a fundamental role in all areas of society. Today, water is of greater importance due to the challenges that must be faced, such as climate change, population growth, possible contamination, etc. herefore, in the event of radioactive contamination, it would have repercussions from immediate to long-term consequences, with human health facing considerable risks.

To achieve this purpose, a study has been carried out of the parameters to control indicated by Royal Decree 3/2023, in addition to analyzing the different parameters controlled by various surveillance networks in Spain, as well as the laboratories that make up the ALMERA network (Analytical Laboratories for the Measurement of Environmental Radioactivity) for better control of water. Likewise, companies in the sector that have equipment to be able to carry out continuous measurements have been sought.

The optimal locations for the installation of this type of devices at strategic points on the main water supply line for the population of Bizkaia and the equipment that should be installed there have been obtained, calculating the cost per station.

In this work, the cost of hypothetical situations has been analyzed: partial or total contamination of the water of Greater Bilbao and the recovery period thereof, with or without the need for supply.

Despite the high cost that the implementation of continuous surveillance equipment would entail, only at strategic points on the main water supply line for the population of Bizkaia, the population would be protected in the event of contamination due to an episode. nuclear contamination, etc.