

Automated System for Water Activity Measurement



Automatic monitoring of gamma-ray radionuclide specific activity directly in water reservoirs in the regions of nuclear weapons testing, near nuclear storage, nuclear power plants and other objects of nuclear energetics.

FEATURES:

- High sensitivity of radionuclide activity detection;
- Full autonomy of measurement station data transfer via radio channel or cable channel into the point of information receiving, processing and archiving;
- Operation simplicity and system high reliability

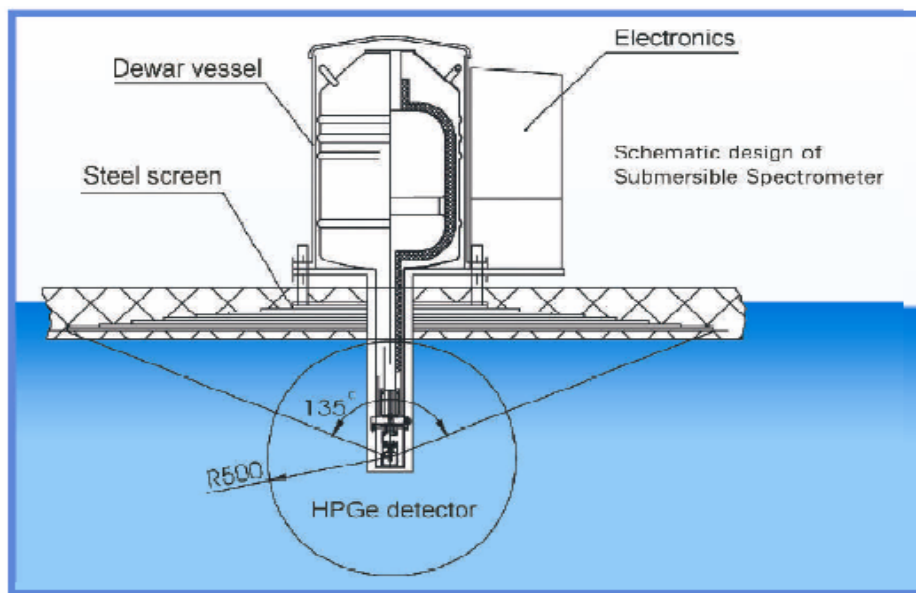
Floating monitoring station that is situated on the platform on pontoon and contains:

- Gamma-ray spectrometer based on submerged high purity germanium or scintillator detector;
- Transmitter receiver;
- Microprocessor device for interfaces necessary for automatic operation, self-diagnostic, calibration;
- Backup accumulators;
- Accessories for station control, calibration.

Station for receiving, processing and archiving information including:

- Radio station;
- Decoding modem connection device with personal computer;
- Software for spectra description, nuclides identification, calculation of their specific activity;
- Device for information CD ROM recording.
- Metrological assurance, set of accessories and necessary instruments

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Parameter	Value
Energy range, keV	50 - 3500
HP(Ge) detector efficiency, %	38 *
Energy resolution for 30% efficiency detector, keV at energy 122 keV 1.33 MeV	1.0 1.9
Detection limit for Cs ¹³⁷ radionuclide specific activity, measurement time 1 hour, Bq/m ³	200
Cs ¹³⁷ radionuclide specific activity measurement error for measurement time 1 hour, %	< 30
Integral nonlinearity, %	< 0.05
Instability of specific activity measurement from calibration source, %	10
Time of operation mode setting, h	< 0.5
Time of continuous operation without prevention, days	30