



SYSTEM 551 AT OLKILUOTO 2

The detection of an event at Olkiluoto 2

On December 10th 2020, at 12:22, the Nuclear Safety Authority (STUK) reported an event at unit 2 of the Olkiluoto Nuclear Power Plant. This BWR reactor developed by ABB and operated by TVO since 1980 is located on Olkiluoto Island about 220 km northwest of Helsinki, Finland.

Elevated radiation levels were measured inside the plant, in the primary loop. Therefore, the reactor was shut down for investigation. There was no leak of radiation outside the nuclear power plant. The radiation levels were within the normal ranges in this part of the plant (where there is no worker access except during an outage). The situation was under control and the reactor restarted a few days after the event.

"We had a severe incident at OL2 yesterday. System 551 brought OL2 to a scram, containment isolation, and safe state. Mirion RMS worked flawlessly and helped to protect the plant, its staff, and environment. Thanks for producing excellent equipment that simply works!"

TVO, the operator of the Olkiluoto site

System 551

Olkiluoto Nuclear Power Plant operates the System 551 among various safety systems. This system brought the second reactor to a scram, containment isolation, and safe state immediately when the incident was detected.

The System 551 is a qualified safety radiation monitoring system provided by Mirion Technologies. The binary outputs of the system automatically triggers the safe shutdown of the reactor whenever the alarm threshold is exceeded.

High Range Gamma Area Monitor

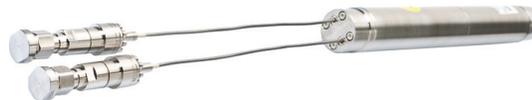


The GIM 214K™ gamma monitor forms part of the RAMSYS™ product line. It has been developed and qualified to monitor gamma dose rate under harsh environmental conditions. It is particularly useful for monitoring the dose rate inside containment and in the reactor building under accident and post-accident conditions.

Mirion Technologies

The RMS Division of Mirion Technologies is specialized in the field of nuclear radiation measurement for more than 70 years. The division incorporates the internationally recognized brands: MGP Instruments™, Canberra™, MGPI-H&B™ and Premium Analyse™ and develops, produces, qualifies and markets the most comprehensive range of electronic instruments and equipment for nuclear radiation monitoring and neutron flux surveillance from single channels to complete systems, fixed or portable, up to class 1E with full seismic qualification, standard or custom-design.

This system includes four GIM 214K high range gamma area monitors per main steam line with a three out of four alarm logic. Each monitor combines a detector developed in Munich, Germany and a processing unit from Lamanon, France, both part of Mirion Technologies Radiation Monitoring Systems Division.



The design of the KG 51 SEC ionization chamber of this monitor allows a great reliability for safety applications. The detector and mineral cable are LOCA (Loss Of Coolant Accident) proof amongst other stringent requirements. The radiation monitored are processed and displayed through the similarly qualified LPDU electronic unit.

Our reliable solutions have been developed to provide the Nuclear Industry with the Highest Quality Instrumentation & Control Solutions to Protect People, Property & the Environment.



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