

- NUCLEAR FUEL PRODUCTION PLANTS
- NUCLEAR WASTE REPOSITORIES
- NEW-FUEL STORAGE FACILITIES
- SPENT FUEL STOREHOUSES

Upper level



UMKPI-01D
Workstation and Software

Essential equipment



Control unit



BR-04D
detection unit



BSS-01D
visual alarm unit



BZS-01D
audible alarm unit



SIT-01D
illuminated
warning sign



PBZ
audible alarm
muting panel

Auxiliary equipment



Network cabinet



CPI
indication panel



DBG-S11D
wide range gamma
area monitor



BR-T
testing station
for detection unit

PURPOSE

Detection of a self-sustaining chain reaction (SSCR) initiation and warning the facility personnel by providing light and sound alarm signals. Data exchange with upper level systems, Control rooms, Situation rooms.



OPERATION PRINCIPLE

- stationary system for continuous online monitoring in 24/7 mode;
- comparison of the measured value with the alarm threshold;
- detection unit with four independent measuring channels to measure absorbed dose rate (ADR) of gamma radiation;
- immediate generation of warning signal in case the alarm threshold is exceeded (3 out of 4 relay voting logic);
- the system reaction time for an abrupt jump of radiation is about 100 ms;
- redundant detection units to ensure the system reliability and sustainability;
- additional gamma detector to avoid false activation of alarm protocol.



SYSTEM CAPACITY

- Up to 8 BR-04D detection units and 8 BSS-01D, BZS-01D and SIT-01D signal units per Control unit.
- Several Control units can be combined in a single network using Network cabinet.
- Network cabinet also provides data integration with upper level systems.
- The final system design and capacity is always a subject of discussion with end user.

TECHNICAL CHARACTERISTICS

- Measurement range of absorbed dose rate (ADR): $0.03 \mu\text{Gy/s} \div 0.3 \text{ mGy/s}$.
- Energy range: $0.05 \div 3 \text{ MeV}$.
- Limits of basic relative measurement error: $\pm 15 \%$.
- Minimum duration of detectable gamma radiation pulse: 1 ms.
- Alarm threshold setting range: $0.15 \mu\text{Gy/s} \div 0.45 \mu\text{Gy/s}$ (with $0.01 \mu\text{Gy/s}$ increment).
- The factory default setting of alarm threshold is $0.30 \mu\text{Gy/s}$.

SRKS-01MD MOBILE ALARM UNIT

- Mobile, fast deployed unit for temporal use in the areas where it is required.
- Operation principle similar to SRKS-01D system.
- Consists of one BR-04D detection unit and one BZS-03D audible alarm unit.
- Allows additional audible alarm unit connection (up to 6 by wire, up to 20 by radio channel).
- Requires power supply of 220V AC, 50Hz.



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All pictures are for illustrative purpose only.

Technical characteristics are subject to change without prior notice.