

Radiation Monitoring Systems

Innovation

NUKEM Technologies has developed several monitoring systems, based on its experience in the field of nuclear fuel assembly inspection, radioactive waste management and decommissioning of nuclear facilities. This covers the full range of application and nearly each monitoring task in the nuclear fuel cycle from radiation protection to radioactive waste characterization.

Our solutions for ...



> ... Waste Packages

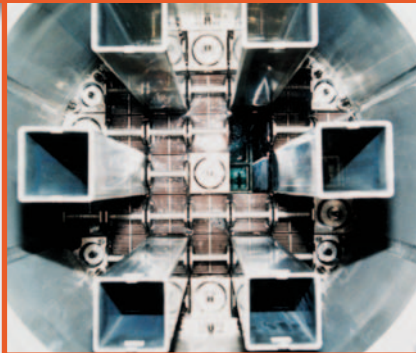


Accounting
Tracking

Free Release

Monitoring

> ... Fissile Material



> ... Bulk Material



Characterization

Our solutions for ...

... Waste Packages

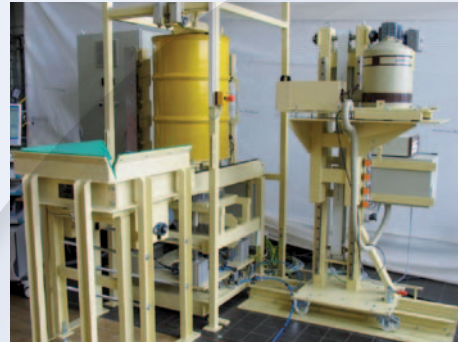


Drum Monitoring System (DMS)

A customisable monitor that measures drums for potentially contaminated waste.

The contamination level is determined by

- Dose rate measurement
- Gamma spectroscopy
- Neutron measurement



*DMS,
Leningrad
NPP (RUS)*

Container Monitoring Station (CMS)

A monitoring station that performs measurements on ISO containers, verifying dose rates according to transport regulations, etc.

Measurements include:

- Dose rate measurement
- Wipe tests (determination of alpha/beta contamination of container surface)



*CMS, Chernobyl
NPP (UKR)*

Release Management Systems for Packed Waste (MCS)

A measurement system for very low active waste using HPGe-Detectors for Gamma spectroscopy measured in batches (e.g. container)



*Release Measure-
ment System for
Packed Waste,
Research Center
Ispra (ITA)*

Tracking

Complete data recording and storage system with several server applications and hardware. Waste management, generating export papers according to regularities.

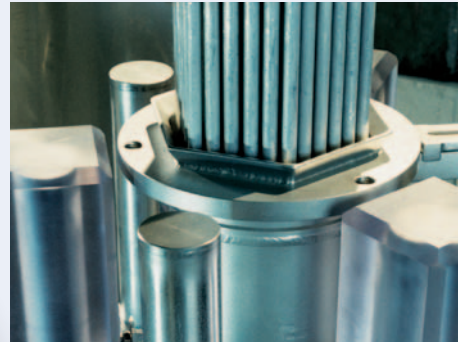
Our solutions for ...

... Fissile Material



Fuel Assembly Monitoring System (FAMOS)

Fuel Assembly Monitoring System to determine burn-up and remaining inventory of nuclear material in irradiated fuel elements with neutron and gamma detectors.



FAMOS, Kola NPP (RUS)

Fissile Element Monitoring System (FEMOS)

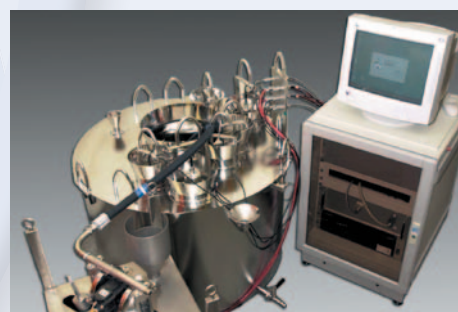
Fissile Element Monitoring System for secure detection and measurement of fissile material (e.g. Plutonium) with passive neutron and dose rate measurement.



FEMOS, Research Center Karlsruhe (GER)

Canning Monitoring System (CAMOS)

Canning Monitoring System for active measurement of Plutonium traces at leached hulls of a reprocessing installation (using an external Cf-252 neutron source).



CAMOS, Reprocessing Plant (CHN)

Our solutions for ...

... Bulk Material



γ-Ray Monitoring System (RAYMOS)

Easy to handle, high sensitive gamma ray imager.

It can be applied for:

- Visualizing dose rate distribution in rooms and buildings (health physics, security checks, etc.)
- Preliminary investigation before decontamination or decommissioning of nuclear facility
- Waste sorting and treatment before conditioning



γ-Ray Monitoring System RAYMOS

Release Measurement Systems for Loose Waste

An automated soil measurement and segregation system for separation and classification of radioactive waste, land fill material and material for free release, depending on the mass specific activity.

Advantages of this system are:

- Detailed information by measuring the gamma spectrum
- High throughput
- Hotspot identification with automated control
- Also suitable for isotopes with gamma emission of low energies



Release Measurement System for Loose Waste, NUKEM Hanau (GER)

Excellence in...

- Tailored turn-key solutions
- Delivery, installation and commissioning of the instrumentation
- Maintenance services
- Retrofitting of your existing monitoring system

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