

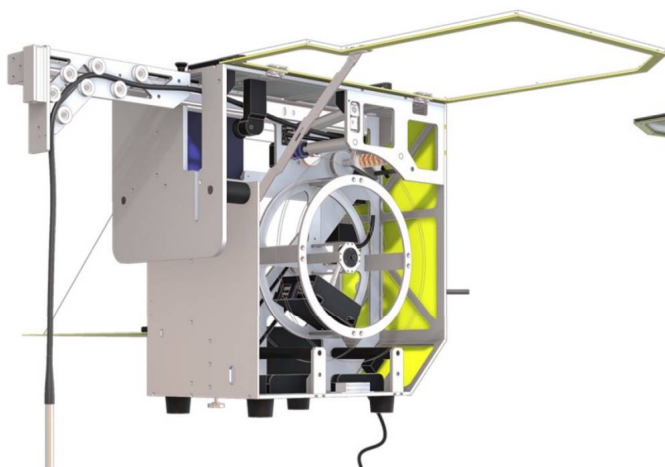
NucFuelTrace™

Portable Gamma Profiling System for Spent Nuclear Fuel Inspection

“Precision Verification Tool for Heavy Water Reactor Spent Fuel Storage Pools”

NucFuelTrace™ is a compact, portable gamma profiling system developed to support non-intrusive inspection of spent nuclear fuel bundles stored in the Spent Fuel Storage Pools of heavy water reactors.

Specifically designed to meet the operational needs of international nuclear oversight bodies such as the IAEA, the system provides high-resolution radiation profiling to confirm the presence and integrity of stored fuel during safeguards inspections and verification campaigns.



Applications

- Inspection and verification of spent fuel bundles
- Confirmation of fuel presence, absence, or removal
- Field operations under IAEA safeguards missions
- Support for routine and ad hoc inspections

Why NucFuelTrace™ ?

- Designed for international nuclear inspection agencies
- Portable, efficient, and quick to deploy
- Delivers conclusive radiation profiles without disturbing storage
- Operationally aligned with IAEA safeguards methodology

System Highlights

- **Scintillator-Optical Fiber based detector**
Connected via up to 15 m of optical fiber, enabling to submerged inspection zones.
- **Motorized Vertical Scanning**
A precision motor control unit raises and lowers the detector with programmable movement for detailed vertical profiling.
- **Adjustable Scan Speed**
Operator-selectable speed from 1 mm/sec to 150 mm/sec, optimized for varying fuel activity levels.
- **Laser-Based Positioning Aid**
Integrated laser pointer enables accurate alignment and reproducible detector positioning.
- **Field-Deployable Rigging System**
Securely mounts on pool fencing without permanent installation; enables rapid deployment during on-site inspections.

Dedicated Inspection Software

The **NucFuelTrace™** system includes a purpose-built software platform designed to support every phase of the inspection process—from deployment to post-scan analysis. Developed with direct feedback from field users, the software ensures operational consistency, traceable data handling, and clear profiling outcomes.



System Specifications

Detector, Physical and Environmental

Detector	P-Terphenyl + optical cable	Operation Range	Up to 15 m
Operation Temp	-20 °C (-4 °F) ~ 50 °C (122 °F)	Scan speed	1 – 400 mm/sec
Dimension	475(L)x463(W)x247(D) mm	Weight	25 kg (55 lb)



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