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Biomedical



Overview of, **Radiation Management Services**

May 1, 2007

Fluke Biomedical, Radiation Management services is a leading provider of products, services and technology for the nuclear industry. Fluke Biomedical is owned by the FLUKE Corporation, a world leader in the manufacture, distribution and service of electronic test instrumentation and software, with operations on five continents.

Our History

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- 1998 **Victoreen, Nuclear Associates** and Keithley Radiation Measurements consolidated into **Inovision**
- 2001 Inovision Acquired by **Syncor International**
- **2004 Fluke Biomedical** Acquires **Radiation Management Services Group** from **Cardinal Health**
- 2002 Syncor International Acquired by **Cardinal Health**



Fluke Biomedical adds long-term stability, resources, and dedication to customers

Our Value Propositions

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- Engineering Designs
- Custom Engineered Solutions
- Instrument Manufacturing
- Software Development
- Calibration Services
- Technical Support
- Service

Leadership Size

- **> 60,000 customers**
- **> 100 Power Plant Installations**
- **200 instruments**
- **5,000 QA Phantom & accessories/mo**
- **1,800 calibrations & repairs/mo**

- **Cleveland**
 - 40,000 sq. ft. climate controlled
 - Licensed to handle all radiation levels
 - Self-contained Cal Lab with 3'-4' high density concrete wall construction
 - CNSC, NIST Traceable Calibrations
 - ISO 9001:2000, ISO 13485, EN46001, FDA, NRC, NUPIC,

- 108 Employees
 - 41 Manufacturing
 - 15 Engineering
 - 24 Sales/Marketing
 - 17 Administration
 - 11 Customer Service
- Process Systems
 - AS400 MIS workflow
 - Barcode workflow tracking
 - Electronic Documentation
 - Automated Engineering Tools

- We specialize in Radiation Testing, Measurement, Data Management.
- Our customers demand safe solutions in working with ionizing radiation.
- We function as a technical resource to our Medical, Health Physics and Power Plant customers.

The **Victoreen**[®] brand is known for trust world-wide

We specialize in ionizing radiation:

- Detecting
- Measuring
- Monitoring
- Verifying
- Analyzing
- Reporting



Nuclear Power Systems

Serving over 100 plants in 15 countries

Victoreen® Legacy

Victoreen Brand Quality/Reliability

- Survey Meters
 - **Victoreen 990** Series Advanced Survey Meter
 - **Victoreen 451P** Pressurized μ R Ion Chamber Survey Meter
 - **Victoreen** Low Energy RF Shielded Ion Chamber Survey Meters
- Area Monitors
 - **Victoreen** 942 Series Universal Ratemeters
 - **Victoreen** 1060 Digital Smart Detector Area Monitor
- Process Monitors
 - **Victoreen** Liquid Effluent Monitor
 - **Victoreen** Gaseous Effluent Monitor

Recent Projects

- Digital Condenser Air Ejector Monitor upgrades for **Calvert Cliffs, Surry and Ginna**
- Software V&V audit by NRC I&C Digital Upgrade Specialists
- Multiple channel analog-to-digital upgrades for **IP3, VC Summer, TMI** and **Davis-Besse**
- HALT for a surface mount electronics microprocessor controller circuit board
- Primary Isotopic calibration for accident range noble gas monitor
- Successfully passed a NUPIC audit of our Quality Assurance program, October 17 – 20, 2005.

- **Electronics**

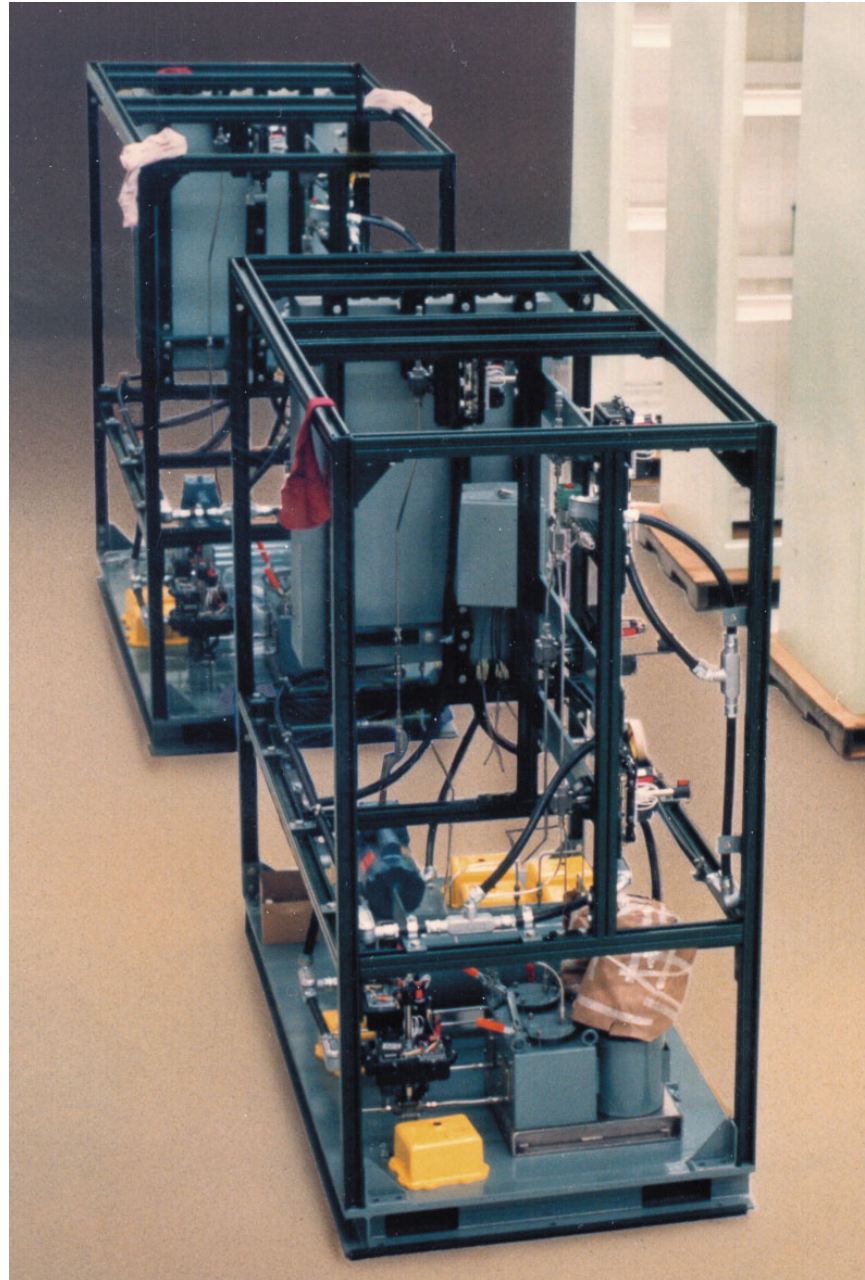
- **Universal Digital Ratemeter (UDR)** – Used for new single channel installations and for analog-to-digital upgrades.
 - Model 942A – Alpha/Beta/Gamma Scintillation Detectors
 - Model 945A – Ion Chamber Area Detectors
 - Model 956A – GM Area Detectors
- **Model 960 Digital Radiation Monitoring System (DRMS)**
 - Drives all process and area detector types listed
 - Plug-in modules simplify custom applications
 - Seismic and Environmental qualifications available
- **Model 1060 Smart Detector**
 - Stand alone or network operation via RS-485
 - Multiple Ranges
 - Optional Windows® application available

- **Sampling Types**
 - OFFLINE – Particulate (both fixed and moving filter types), Iodine, Noble Gas and Liquid
 - ONLINE (Snowplow) – Have provided monitors for pipes from ½” diameter up to 34” diameter.
 - INLINE – Several sizes available for both beta and gamma applications
 - ACCIDENT – All welded Containment Ion Chamber, Current Mode Beta Scintillation Detector and Accident Filter Transport
- **Auxiliary Equipment** – A full range of remote alarm/meters, simulators and field calibrators are available for all monitoring devices.

Airborne Effluent Monitor

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- **AMUG Comments**

- Periodically clean the isokinetic nozzle tips
- Reverse flow air purge may not eliminate “stalactites”
- Periodically replace the nozzle to duct gaskets