

INDUSTRY TRENDS & OUTLOOK

The Case for Closed-Loop Sealed Source Management

For decades, operators have managed sealed sources through a patchwork of separate vendors — one to manufacture, another to ship, a third to test, a fourth to take back end-of-life material. For operators today, that fragmentation creates more cost, compliance burden, and risk than it solves.

By **Nazia Khan** · Marketing & Technology Director, Gammatron, Inc.

01

The Fragmentation Problem

Every vendor handoff is a point of cost and risk.

02

One Lifecycle Partner

Every stage under one license and one owner.

03

The Economic Case

Recycling and consolidation lower total cost.

PUBLISHED BY **GAMMATRON, INC.** · HOUSTON · TEXAS · [GAMMATRON.COM](https://www.gammatron.com)

GAMMATRON — BY THE NUMBERS

50+

YEARS SPECIALTY OPERATIONS

0

FAILED SOURCES SINCE 1973

8

INTEGRATED SERVICE LINES

Am-241

THE ISOTOPE AT OUR CORE

| The Fragmentation Problem

When sealed source services are spread across multiple vendors, every transition creates a handoff — a point where chain of custody must be re-documented, license verifications repeated, shipping re-arranged, and the buyer left to stitch the parts together.

Buyers often discover this only when a problem appears — a leak-test result comes back late, a disused-source pickup stalls because a vendor's license doesn't cover the isotope on file, a regulator asks for documentation scattered across three systems. Each transaction works, but the whole carries hidden friction: administrative time, compliance risk, and gaps in accountability.

"When sealed source services are spread across multiple vendors, every transition between them creates a handoff."

| The Economic Case

The financial argument is often the most compelling, and recycling is the clearest example. Sent for disposal through a third party, a source costs the buyer twice — disposal, then a new replacement. Recycled by a lifecycle partner, the activity is recovered to make the buyer's next source at about one-third the cost — closer to one-fifth once avoided disposal is counted. The disused source is no longer a liability; it's feedstock for the next one. Consolidation also removes duplicate billing, paperwork, and shipping coordination.

| The Operational Case

Operationally, the model gives buyers a predictable, scheduled cadence: leak testing on time because the partner knows where every source is, exchanges planned against manufacturing capacity, and disused-source pickup as a routine call rather than an emergency. RSO and compliance teams benefit most — one relationship replaces the burden of multi-vendor coordination.

| What Changes With a Single Lifecycle Partner

A closed-loop model puts every stage of the lifecycle — design, manufacture, storage, transport, testing, encapsulation, recycling, and disused-source processing — under one license and one accountable partner. Chain of custody is preserved end to end: the source moves within a single license for life, so documentation comes from one system, in one format, with one point of contact.

License verification happens once. Scheduling becomes predictable — leak tests, source exchanges, and recycling cycles are coordinated together rather than chased separately, so buyers can plan inventories years out instead of reacting per shipment.

| What to Look For in a Lifecycle Partner

- **Licensed authority** to manufacture, store, transport, and dispose of your isotopes and activity levels.
- **A track record** across multiple service stages — not just one specialty.
- **Recycling capability** for your material, with recovered value credited back.
- **In-house transport** and on-site service for when a source can't ship.
- **Audit-ready documentation** maintaining chain of custody end to end.

| Closing

Closed-loop management is not a marketing concept — it's an operational and economic reality that reshapes how regulated industries approach their source inventories. The vendors who can credibly deliver it are few, but operators who adopt it report lower total cost of ownership, lighter administrative burden, and reduced compliance exposure. Gammatron has operated as a closed-loop partner since 1973.

**Nazia Khan****MARKETING & TECHNOLOGY DIRECTOR, GAMMATRON, INC.**

Nazia leads brand, marketing, and the company's IT and internal systems work — bridging the commercial and the technical for a 50-year specialty company.