

May 22, 2009

Dear Nuclear Medicine Professional:

As you know, the NRU reactor in Chalk River, Canada, one of the world's major molybdenum 99 (Mo 99) sources for technetium 99m (Tc 99m) production, closed suddenly for immediate repair. This shutdown and shortage cycle reflects an ongoing, industry-wide problem – leaving the nuclear medicine community scrambling for Tc 99m while juggling patient procedures. As we face this challenge yet again, we are writing to share our plans to address immediate and long-term needs.

Covidien uses more than one Mo 99 supplier for Tc 99m generator production. We have arrangements giving us access to supply from the four other reactors based in The Netherlands, Belgium, France and South Africa to help maintain a steady, diverse supply. We also have access to supply from the NRU reactor.

Covidien does not own these reactors – we purchase their raw material and process Mo 99 for generator production. However, these reactors are between 40 and 50 years old, and essential maintenance impacts the supply chain, your schedules and, ultimately, everyone's budgets.

Due to the short half-life of only 67 hours, it is impossible to stockpile quantities of Mo 99 as a precautionary measure when reactors shut down unexpectedly. Reactor access combined with radioactive decay affects the supply chain from irradiation of targets to Mo 99 production to generator manufacturing and vital administration of those doses to patients undergoing medical procedures. Making sure Mo 99 is available – navigating the supply/demand market impact – is part of the new environment and an additional burden to all.

What we are doing

Covidien is working to minimize patient-care disruption and is taking steps to increase Tc 99m availability. These include:

1. Anticipating an increase of Mo 99 output from the HFR reactor in Petten, The Netherlands, by processing more targets and requesting more frequent productions
2. Boosting output by increasing our target irradiation positions and maximizing our Mo 99 processing plant production
3. Placed additional orders with the other Mo 99 suppliers
4. Invested more than \$100 million in production upgrades during recent years, including \$60 million directed toward our Maryland Heights, MO manufacturing facility

How you can help

There is a brief, unavoidable maintenance cycle scheduled at the HFR reactor with market impact reduction of approximately 50 percent beginning Monday, June 8 that will last a few days. Also, a previously scheduled four-week maintenance shut-down of the HFR reactor will begin in mid-July. Even with numerous global efforts and collaborations now underway, there will be challenges meeting full market need. Your assistance is necessary to help conserve Tc 99m:

1. Communicate patient scheduling changes to your local radiopharmacies where applicable.
2. Be aware that standing orders for bulk Tc 99m may be cancelled or reduced in order to maximize activity available for patient-specific unit doses, where applicable.
3. Be prepared for unit dose Tc 99m activity limits, calibration times and delivery schedules that may be adjusted to effectively manage Tc 99m activity available for patient use, where applicable.
4. Consider using other isotopes such as Thallous Chloride TI 201 Injection when clinically appropriate.

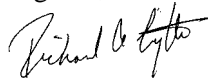
Why we need to plan for tomorrow

Now the reality of the challenge: The NRU reactor shutdown is another reminder of the industry's critical need to improve the global interdependent Mo 99 supply chain. Investing now is part of the long-term effort to transition from using high enriched uranium (HEU) to low enriched uranium (LEU). That effort is underway and Covidien is investing in current production and processing, pursuing new LEU technology through our agreement with The Babcock & Wilcox Company and working on additional conversion alternatives.

Triaging Tc 99m supply is not a long-term solution – only a short-term fix. We are all part of the interdependent global supply chain; however, each patient sees their health needs as urgent, personal and local.

This situation places critical focus on the need to further diversify supply sources. This is not the first – and we anticipate this will not be the last – time we face this collective problem, and we remain committed to developing long-term solutions. In the weeks ahead, look for updates from our global team – and your local representatives – related to the current supply issues as well as ongoing efforts to tackle the bigger challenges we face together.

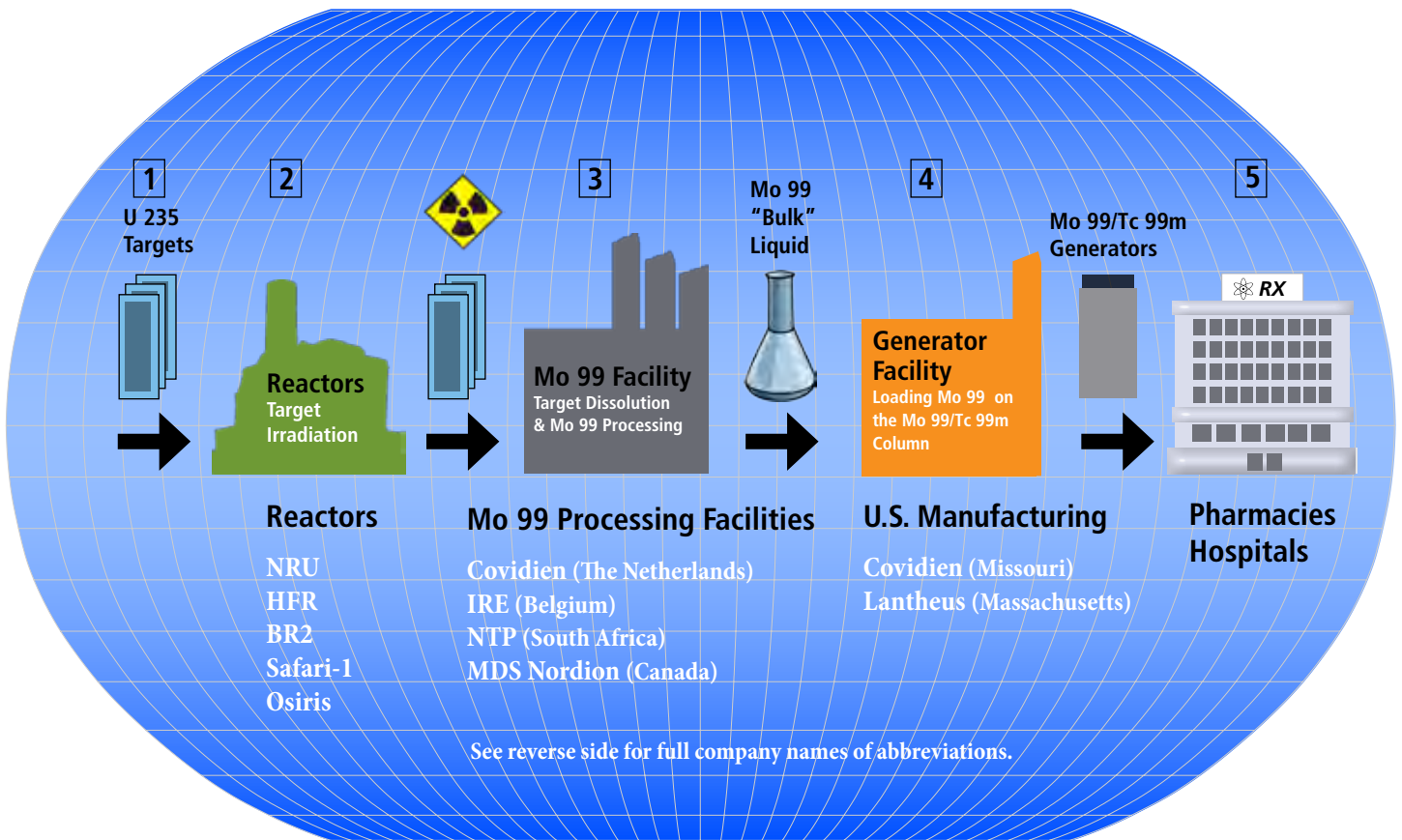
Regards,



Richard A. Lytle
Vice President & General Manager, U.S.
Imaging Solutions

[Please see attached for more information on the global Mo 99 supply and generator production process.]

Global Mo 99 Supply and Generator Production



Reactor to Patient:

- 1 Molybdenum 99 (Mo 99) is produced in nuclear reactors utilizing Highly Enriched Uranium 235 (HEU) targets. These targets, either tubular or flat and of varying size, are fabricated as small assemblies (i.e. 20.3 cm (L) x 4.02 cm (W) x 0.14 cm (D)) from HEU and aluminum designed specific for each reactor.
- 2 HEU targets are placed in or near the core of the reactor. The location within the reactor allows high neutron fluxes to surround the HEU. Fission reactions occur resulting in production of Mo 99 and a number of other isotopes.
- 3 After approximately six days in the reactor, fission produced Mo 99 has reached an optimal level. The targets are then removed and transferred to a Mo 99 processing facility where the targets are dissolved and chemically separated. Mo 99 processing facilities can only accept HEU targets from specific reactors for various reasons, including geographic location (proximity to the reactor), required technical specifications and regulatory authority approval. The finished product raw material Mo 99 is then isolated as radiochemical and shipped to the next stage in the process.
- 4 The radiochemical Mo 99 is transferred to a manufacturing facility in specialized transport containers via various overnight or same day shipping arrangements so it can be used to make Mo 99/Tc 99m generators. Generator manufacturing is an FDA-approved, complex multi-step process. Finished product generators must meet all approved specifications as spelled out by the manufacturer's New Drug Application (NDA) filed with the FDA.
- 5 Generators that meet the appropriate Quality release criteria will move on to the distribution channel. They are then shipped via ground or air for same or next day delivery to hospitals and pharmacies for elution and use to make diagnostic radiopharmaceuticals.



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Global Locations



Reactor

- Belgian Nuclear Radiopharmacy Centre (BR2), Belgium
- French Atomic Energy Commission (CEA), Centre at Saclay (Osiris), France
- National Research Universal Reactor (NRU), Canada
- Nuclear Research & Consultancy Group (NRG) (HFR), The Netherlands
- South African Nuclear Energy Corporation (NESCA) (Safari-1), South Africa

Generator Manufacturing

- Covidien, Missouri, U.S.A.
- Covidien, Petten, The Netherlands
- GE Healthcare & Biosciences, United Kingdom
- Ion Beam Application (IBA SA) / CIS Bio International, France
- Lantheus Medical Imaging, Massachusetts, U.S.A.

Mo 99 Processing

- Covidien, The Netherlands
- MDS Nordion, Canada
- Nuclear Technology Products (NTP), South Africa
- The Institute for Radio Elements (IRE), Belgium

For More Information, Contact:

- Local Covidien Imaging Solutions Representative, 800-634-1515
- Local Covidien Radiopharmacy
- <http://imaging.covidien.com>



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Control # NM14409 2009/03

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