

# Shortage of Molybdenum-99 Due to Strike at NRU Reactor

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—Bill Ehmgig,  
Amersham Healthcare

**R**adiopharmaceutical suppliers were scrambling to find alternate suppliers of molybdenum-99 ( $^{99}\text{Mo}$ ) after a strike commenced on June 19 at the NRU reactor in Chalk River, Canada. The reactor owned by the Atomic Energy of Canada Limited (AECL) is used by Nordion International in Kanata, Canada, which supplies 60% of  $^{99}\text{Mo}$  in North America for use in the production of technetium-labeled radiopharmaceuticals. The strike was resolved on June 24 and the reactor was back on line that evening.

As of presstime, manufacturers had not determined the actual effect of the six-day strike in terms of shipment delays. “During the strike, we were able to get access to some product from the IRE reactor in Belgium and some from the reactor in South Africa,” said Ian Mumford, a spokesperson for Nordion, “but overall we provided less than 25% of what our customers needed.” He said some hospitals may not have experienced an interruption in their supply of technetium generators, whereas others had to delay certain nuclear medicine studies or use other radiopharmaceuticals instead.

The cause of the strike was a contract dispute between the AECL and the Allied Council Union, which represents 350 technicians, electricians and machinists who operate the NRU reactor. Before the strike, the terms of the new worker contract, which expires every three years, had been approved by a majority of the union representatives. When the workers, themselves, voted on the contract, however, they rejected the terms and opted to go on strike when the contract expired. Nordion was given only about five days notice of the strike, according to Mumford.

The reactor in South Africa, owned by the South African government, was able to provide Amersham Healthcare in Arlington Heights, IL with about 60% of the  $^{99}\text{Mo}$  supply usually shipped to Amersham by Nordion, according to Bill Ehmgig, vice president for professional affairs at Amersham Healthcare. Dupont received  $^{99}\text{Mo}$  shipments from the IRE reactor and was at 90% capacity for technetium shipments a few days after the strike ended. Mallinckrodt Inc. in St. Louis, MO, has no contracts with Nordion and was able to meet its own customer order from its reactor in Petten, The Netherlands and contracts with other suppliers. (On June 26, Mallinckrodt received clearance from the FDA to supply U.S. customers with  $^{99}\text{Mo}$  manufactured from its reactor in Petten.)

During the strike, radiopharmaceutical manufacturers and pharmacies sent out letters to their

customers notifying them of the strike and requesting that they restrict their orders of technetium. One notification from Syncor International Pharmacy Services in Woodland Hills, CA read: “We will not be able to fill any orders for bulk technetium; only unit dose orders will be filled. In addition we are asking that you order only doses for patients who are scheduled for scans. Other manufacturers advised their customers to wait out the strike by replacing technetium-labeled agents with other radiopharmaceuticals such as  $^{201}\text{Tl}$  for cardiac studies.

Representatives of several radiopharmaceutical companies told *Newsline* that the strike, for the most part, did not have a catastrophic effect on their shipment of technetium generators to hospitals. “We were extremely lucky,” said Ehmgig. “We dogged a bullet as did most of our customers and patients. We had business as usual just as the strike was ending.” Several factors minimized the strike’s impact: Besides the relatively short length of the strike, the Food and Drug Administration was quick to grant an emergency approval for the use of  $^{99}\text{Mo}$  from both the South African and IRE reactors. Moreover, industry banded together to coordinate the supply and shipments of  $^{99}\text{Mo}$ . Representatives from about a dozen radiopharmaceutical manufacturers and  $^{99}\text{Mo}$  suppliers gathered on Sunday, June 22, in Brussels during the height of the strike to discuss ways to address the shortage in supply and to meet the demands of Nordion’s customers. H. William Strauss, MD, president of the Society of Nuclear Medicine, said he was encouraged by the cooperation shown during the meeting. “Here was a group of competing companies willing to work together for the good of the nuclear medicine field.”

The meeting also served as a wakeup call for the nuclear medicine industry for the need for a reliable back-up system for  $^{99}\text{Mo}$  production in case there is another disruption in supply. Nordion’s two Maple reactors, which will be completed in the next few years, should minimize disruptions due to mechanical problems. A strike, however, could still occur in the future as union contracts expire from time to time. Those who attended the meeting in Brussels have agreed to meet again over the next few months to discuss setting up a coordinated back-up plan in case of a future reactor shutdown at Nordion. “We will take the lessons that we learned from this and go forward with initiatives to avoid problems in the future,” said Ehmgig. “We don’t want to rely on luck next time.”