

DOE names PNNL scientist as director of isotope program

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By Annette Cary, Herald staff writer

A new national role for Richland scientist Darrell Fisher could lead to more access to potentially life-saving treatments using medical isotopes.

The Department of Energy's Office of Nuclear Energy has named Fisher, of Pacific Northwest National Laboratory, the scientific director of the nation's isotope program.

Under a new plan, DOE's Isotope Program would be managed by a contractor organization rather than federal officials in Washington, D.C. PNNL and at least one other national laboratory would manage the program with Fisher providing scientific leadership.

An audit by the DOE Office of Inspector General in late 2005 found DOE was not providing research isotopes that could lead to breakthroughs for the diagnosis and treatment of cancers and other diseases.

DOE had not produced isotopes as scheduled, had impaired research by its pricing policy and had spent scarce dollars to maintain facilities that were unused or underused rather than for production, the audit found.

The main objective of reconstructing the National Isotope Program was to improve the match between the federal role in producing isotopes and the requests for isotopes for use, Fisher said.

He leads the radioisotopes program at PNNL, and his work as a medical physicist and radioisotope scientist has led to advances in the use of radioisotopes for cancer treatment.

"The most critical need is to develop a reliable supply of alpha-emitters," he said.

Certain isotopes emit alpha radiation that is more powerful for treatment of some diseases than isotopes that emit beta radiation. The high energy released by the alpha particles, with their short range and short half-life, can destroy tumor cells with minimal damage to healthy tissues.

They have shown promise for treating usually fatal diseases, including a lethal form of skin cancer, metastatic melanoma and bone cancers caused by the spread of breast or prostate cancer.

Radioactive isotopes also recently have shown potential for killing the HIV cells that lead to AIDS.

But researchers have complained that getting the isotopes needed for medical studies is difficult. In some cases research projects have been canceled because isotopes were unavailable or prohibitively expensive.

At PNNL, researchers have been able to make a generator for an alpha-emitting isotope, bismuth 212, that is sent to researchers who produce the isotopes for their projects on site. Bismuth 212 has a half-life of about an hour, meaning half of it decays every hour.

Not only does the DOE Isotope Program need to be responsive to requests for isotopes, but needs to support small businesses more than it has in the past, Fisher said.

As the scientific director for the program, Fisher also will work to serve the needs of government agencies, such as the Department of Homeland Security, and industries in addition to medical that depend on radioactive isotopes.

"I'm confident that a revitalized isotope program -- in collaboration with private industry and other federal agencies -- will improve DOE's ability to provide users with the variety and quality of isotopes they need," Fisher said in a statement.

He will be responsible for developing a strategy for integrating isotope development and applications at five national laboratories. He will split his time between Richland and Washington, D.C.

He received his doctorate in nuclear engineering sciences in 1978 from the University of Florida, Gainesville. He is a member of the American Nuclear Society, the Society of Nuclear Medicine and the Health Physics Society.