



NorthStar Radioactivity and Your Health


Information for Wastewater Treatment Plant Workers


What is NorthStar?

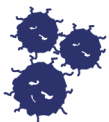
NorthStar Medical Radioisotopes is a nuclear medicine company that develops and produces diagnostic and therapeutic radiopharmaceuticals to address patient health care needs. NorthStar operates in Wisconsin and Missouri, with its corporate headquarters and several processing and production facilities located in Beloit, Wisconsin. As part of its normal operations, NorthStar may release radioactivity to City of Beloit wastewater.

What is radioactivity and how is it used in human medicine?

Radioactivity is the spontaneous emission of radiation in the form of particles or energy. When the nucleus of an atom is unstable, it can give up some of its particles and energy to shift toward a more stable status. When an atom gives up energy, it can emit radiation. There are both natural and human-made sources of radioactivity.

 **Natural radioactivity** is in water, soil, air, building materials, and even in the food we eat. This natural radioactivity is called *background radiation* because it is always present no matter where we are.

 **Human-made radioactivity** is used in many medical and industrial applications. Nuclear medicine uses radioactivity to help detect and treat diseases by using small amounts of radioactive material, called *radiopharmaceuticals*.



One example of an important use of radiopharmaceuticals is to kill cancer cells.

Is NorthStar's wastewater being monitored for radioactivity?

Yes, it is important to limit public exposure to human-made radioactivity to safe levels. For this reason, the State of Wisconsin sets radiation dose limits and routinely inspects companies using radioactive material to ensure that radiation doses to members of the public remain very low. NorthStar may release radioactivity to City of Beloit wastewater following state regulatory guidelines which limit both the concentration of radioactivity and the total amount released. NorthStar samples all of their wastewater for radioactivity to ensure they are in compliance with state guidelines before releasing the water to Beloit's wastewater system.



The amount of radioactivity NorthStar is adding to the environment is very small and below state regulatory guidelines.



I work at the wastewater treatment plant. Should I be worried about harmful exposures to radioactivity?

No, the radioactivity released from NorthStar will not impact the health of wastewater treatment employees or anyone else. NorthStar's wastewater is mixed with wastewater from other large industrial water users at the Turtle Creek lift station. Any radioactivity from NorthStar will be significantly diluted before getting to the wastewater treatment plant. The levels of radiation present at the wastewater treatment plant will be indistinguishable from background radiation.

I have questions about radioactivity and my health. Who can I contact?

Please send questions to the Wisconsin Department of Health Services' Radiation Protection Section by emailing DHSPRadioactiveMaterials@dhs.wisconsin.gov or calling 608-266-1120.

