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DEQ discovers radioactive scale in pipes at commission's shops

Old oilfield pipe contaminated with radioactive scale has been found at Baton Rouge Recreation and Park Commission's two shops.

The radiation levels found were high enough to be of concern for those who would be cutting and otherwise working with the pipe, if they were not properly protected, said Mike McDaniel, assistant secretary of DEQ in charge of air and nuclear matters.

Ingestion or inhalation of radium increases the chances of cancer.

Several tests at BREC parks have not indicated any danger to the general public, DEQ officials said.

"We will follow their (DEQ's) recommendations and not use the pipe," said Claude McGee, BREC's Safety and Training Director. "We marked it and will follow their guidelines."

Tests on the external radiation produced by pipe at the parks, indicated the presence of radioactive material in some pipe, but there were no levels of concern, said Ronnie Wascomb of DEQ's nuclear division. Since the pipe is capped on the ends, any radium-contaminated scale inside poses no danger.

Radium is an alpha emitter, which means its radiation has little penetrating power, but is dangerous if inhaled or ingested, according to experts.

Several pieces of pipe containing radioactive scale were found at each BREC shop, DEQ officials said.

BREC asked environmental officials to check the pipe as a result of a series of stories in the Morning Advocate showing that oilfield brine can contain notable levels of radium 226 and 228, and the radium can concentrate in the scale that often builds up in drilling pipe.

In that series, officials expressed concern for workers who cut contaminated pipe or ream the scale out of it without wearing proper protective equipment.

The radium comes from decaying uranium and thorium in deep geological formations.

It is deposited in the bones and increases the chance of cancer if it fir

a pathway into the body, according to Dr. Victor Archer, a radiation expert with the University of Utah Medical Center.

The principal danger would be to people working with it, particularly if they don't wear masks and gloves, he said.

BREC workers do regularly wear masks when cutting pipe — though they have been previously unaware there may be a radiation hazard, McGee said.

BREC is writing more stringent requirements that "will make it mandatory for guys to use masks and gloves," he said. Pipe suppliers will also be notified that pipe containing radioactive scale will be unacceptable.

BREC gets its pipe from scrap metal companies, he said. Some of that pipe has been used in the oilfield and some has not.

BREC intends to return the contaminated pipe to the supplier, DEQ officials said.

Scale from the BREC pipe contained 4,520 pico curies per gram of radium, DEQ officials said. The exterior of the pipe in the shop had levels of up to 1.5 millirems an hour, while the scale at the end of the pipe read 5 millirems an hour.

Radiation regulations require restricted access to areas in which exposure levels to workers are 2 millirems or higher. DEQ officials said the dose rate falls rapidly with distance from the pipe, leaving inhalation of contaminated dust as the main concern.