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RESPONSE TO CITIZEN COMMENT

05/11/1989

DOE-FMPC
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LETTER

CITIZEN



Department of Energy

1523

FMPC Site Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6319

May 11, 1989

Ms. Carol Morrow
[REDACTED]

Dear Ms. Morrow:

Thank you for your interest in the environmental study underway at the Feed Materials Production Center. We appreciate your participation in the January 1989 community meeting. At that time, you expressed an interest in the topic of radon.

As you may know, radon occurs naturally in the environment. At the FMPC, we are working diligently to ensure that we do not add to these background levels of radon. I've enclosed a radon fact sheet for your information.

We hope you will be able to attend the next meeting, scheduled for May 15 in the Ross Middle School.

Sincerely,

James A. Reafsnyder
James A. Reafsnyder
Site Manager

DP-84:

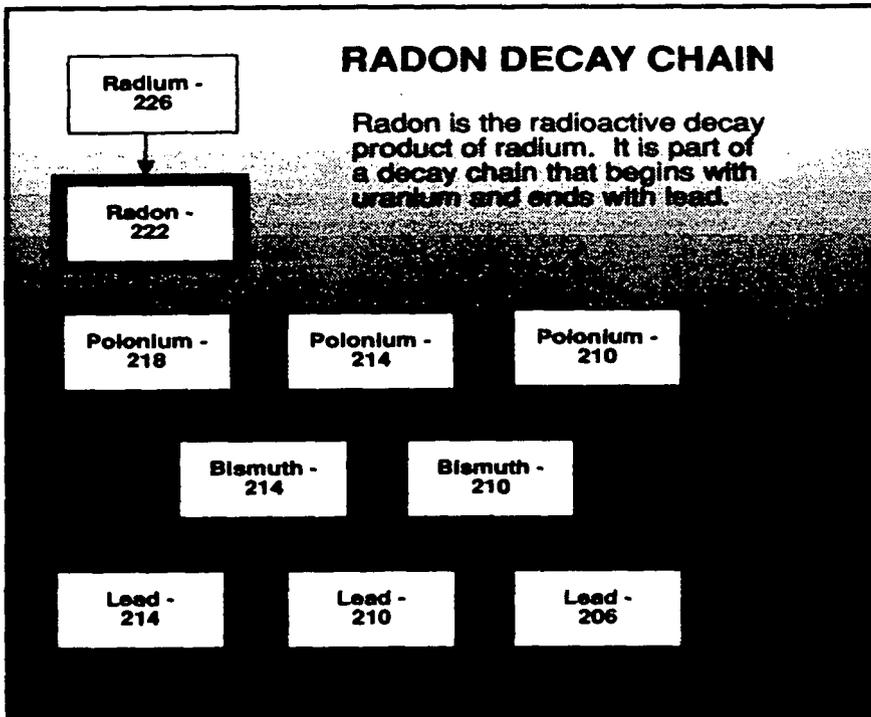
FACTSHEET

Radon

The scientific community has recently focused on radon, a naturally occurring gas that results from the radioactive decay of the element uranium. Uranium is present in small amounts in rocks, soil, water, and many common building materials. Everyone is exposed to radon because it is part of natural radioactivity that exists all around us.

The Feed Materials Production Center (FMPC) began uranium metal production in 1953 at Fernald, Ohio. Today, two tanks at FMPC contain residues that resulted principally from processing uranium pitchblende ore. These residues produce radon gases that exceed natural background levels at the tank storage site. FMPC also stores thorium, a thoron-emitting element. Thoron is chemically identical to radon. (For more information about thorium, please see the FMPC factsheet, *Thorium*.) However, the radon and thoron given off from storage facilities at FMPC rapidly disperse and decay to a natural background level.

An 18-month study by the Ohio Environmental Protection Agency has indicated that the radon present in homes surrounding the FMPC facility is not related to FMPC activities. In addition, independent studies by the Ohio Department of Health and the FMPC Environmental and Health Advisory Committee have confirmed that radon from the site is not a health hazard. Even though FMPC was not identified as the source of radon in area homes, FMPC recognizes the importance of minimizing the release of radon and thoron and of providing information on radon to the public.



What is Radon?

Radon is a radioactive gas that is invisible, odorless, and tasteless. Like many radioactive substances, radon transforms into another element by a process called radioactive decay. During radioactive decay, an invisible energy called radiation is released.

Radon is a gaseous radioactive decay product of radium. Radon is part of a decay chain that begins with uranium and ends in lead. Unlike many hazardous chemicals that can linger in the environment for years, radon diffuses into the atmosphere and disperses quickly. Radon has a half-life of only 3.8 days. This means that in 3.8 days, radon loses half of its radioactivity. In another

3.8 days, the remaining radon loses half of its radioactivity, and so on. In the radioactive decay process, radon transforms into a group of radionuclides called daughter products. Inhalation of these daughter products (polonium, bismuth, lead) contributes to our exposure from radon. Microscopic particles of these daughter products can attach themselves to lung tissue, emitting strong alpha radiation, and possibly causing lung cancers. (For more information about radiation, please see the FMPC factsheet, *Radiation*.)