

Additional Preparedness Information – Wolf Creek

Family Readiness

Prepare a list of the items your family will need if you are asked to evacuate. The list will help you quickly gather:

- * **Important papers** * **bedding** * **dentures** * **portable radio** * **medications** * **checkbook**
- * **extra clothing** * **tool kit** * **eyeglasses** * **flashlight** * **baby supplies**
- * **credit/debit cards** * **identification**

For more information on preparing a list, check out:

<https://www.ready.gov/kit>

What is Radiation?

Radiation and radioactive materials are a natural part of our environment. They are in the air we breathe, the food we eat, the soil, our homes and even our bodies. The level of radiation naturally existing in our environment is called “background radiation.” We are also exposed to sources of man-made radiation such as X-ray machines, and color televisions.

The kind of radiation nuclear power plants are concerned with is called ionizing radiation because it can produce charged particles in matter. Ionizing radiation is produced by unstable atoms. Atoms with unstable nuclei are said to be radioactive. To reach stability, these atoms give off, or emit, the excess energy or mass.

Radiation Safety

Wolf Creek personnel take radiation seriously. Many layers of redundant safety systems are used to keep radiation safely contained where it should be—inside the steel, concrete and advanced technology of the nuclear facility. The nuclear industry has a responsibility to protect the public from radiation.

Radiation is naturally present in our environment. It can have either beneficial or harmful effects, depending on its use and control. Congress charged the NRC with protecting people and the environment from unnecessary radiation exposure as a result of civilian uses of nuclear materials. The NRC requires nuclear power plants; research reactors; and other medical, industrial, and academic licensees to use and store radioactive materials in a way that eliminates unnecessary exposure and protects radiation workers and the public.

Commercial nuclear power plants emit small amounts of radiation during routine operation. To promote safety, agencies such as the NRC, Environmental Protection Agency and Departments of Energy and Transportation, establish radiation protection regulations based on internationally recognized scientific studies at U.S. nuclear plants. The NRC sets limits in the amount of radiation that workers can be exposed to annually.

For more information on the industry’s radiation guidelines and safety standards, see the NRC’s Radiation Protection Web page or the EPA’s Radiation Protection Web page.

(<http://www.nrc.gov/about-nrc/radiation.html> and <http://www.epa.gov/radiation/federal/>)

The Health Physics Society is a nonprofit organization of professionals in various fields of science who aim to promote radiation safety. It provides information to organizations that deal with radioactive materials, from academia to medicine to government to the nuclear industry. The society’s Radiation Answers website provides detailed information on where radiation comes from and how it is used and debunks common myths. For more information check out their Web page: <http://www.hps.org/>

How is radiation measured?

The dose people receive from radiation exposure is measured in millirem. The average background radiation dose received by a person living in the United States is about 620 millirem per year. This includes dose received from medical, consumer products, occupational, and environmental sources. Persons living near a commercial nuclear power station receive less than one additional millirem per year from normal plant operation.

Annual U.S. Estimated Radiation Dose per Person

Average annual effective dose (mrem)

Radon and other radionuclides we eat, drink or breath	257
Radiation from soils, rocks, building materials	21
Cosmic radiation	33
Human-made Sources	311
TOTAL	622

Most of the radiation dose we receive is from naturally occurring sources—most of this is from radon. The next largest dose is from medical radiation. The smallest dose we receive (less than one percent) is from nuclear power plant emissions and fallout from past atomic bomb detonations.

Effects of radioactive deposits on food and water

Radiological effects on people, animals, crops, land and water depend on the amount of radioactive material released into the atmosphere, time of year and weather conditions.

Of initial concern is the condition of fresh milk from dairy animals grazing on pasture and drinking from open water sources. A later concern is the possible contamination of vegetables, grains, fruits and nuts.

Contamination of drinking water supplies is not likely. If it occurs, it will probably affect only surface water supplies and not ground wells or underground water sources.

If you have questions about radiological emergency preparedness in Kansas, contact:

**Adjutant General's Department Kansas Division of
Emergency Management Technological Hazards Section Chief
State Defense Building
2800 SW Topeka Blvd.
Topeka, KS 66611-1287 (785) 646-2541**

Effects of radioactive deposits on livestock

During an emergency, livestock may require shelter and protected food. Leave a supply of food and water available for animals. Place food and water in covered areas to minimize potential radioactive contamination. The Coffey County Agricultural Extension Office will answer questions and can help with your livestock and agricultural protection planning. Contact them at:

**Coffey County Extension
225 Cross St
Burlington, KS 66839
(620) 364-5313
<http://www.coffeycountyks.org/county-service/emergency-management>**

Potassium iodide (KI)

KI is used in certain situations to protect the thyroid gland from taking in radioactive iodine. If taken before or within an hour of exposure to radioactive iodine, KI can block about 90 percent of the radioactive iodine from being absorbed by the thyroid gland.

After careful consideration of all factors involved in the distribution of a thyroid-blocking agent such as KI, the State of Kansas determined that potassium iodide provides no significant enhancement to public protection beyond that which can be effectively achieved through the implementation of the existing and modified protective actions defined within the emergency plan.

The State does not stockpile and administer KI to the public. The State's strategy is that the public can be adequately safeguarded by timely implementation of other protective actions such as evacuation and/or in-house sheltering. While the State does not intend to recommend the use of KI by the public, it acknowledges that individual members of the public may elect to obtain and use the drug voluntarily if they so desire.

For more information about KI, visit the Federal Drug Administration Web page:
<https://www.fda.gov/Drugs/EmergencyPreparedness/BioterrorismandDrugPreparedness/ucm06380.htm> or call 888-463-6332.