

Exercise 16 (Cumulative): Radioactive Waste

NAME: _____

Revise the following paragraphs, fragments, run-ons, agreement, punctuation (hyphens, commas), pronoun reference, verb mood, parallelism, and spelling.

Radioactive (or nuclear) waste is the unusable byproduct, or obsolete, or discarded product, or nuclear activities. There are several types of waste. High level waste (HLW) is the highly radioactive waste resulting from reprocessing spent fuel. (That is, fuel irradiated in a nuclear reactor). Currently in the United States, reprocessing involves removing the plutonium and uranium from spent fuel generated by the U.S. Department of Energy nuclear reactors. The plutonium and uranium is recycled for use in the Nation's defense programs, what remains after reprocessing is highly radioactive waste that must be remotely handled behind heavy protective shielding. It requires long term isolation (desposal in an underground repository) while it decays (stabilizes). The spent fuel resulting from the generation of electricity from U.S. commercial nuclear powerplants is currently not being reprocessed. Under provisions of Nuclear Waste Policy Act, it will be placed in an underground repository for long term isolation as will HLW. Both are shipped as a solid and is packaged in heavily shielded casks for storage and to be transported. Transuranic (TRU) waste contains synthetic elements heavier than uranium. Thus the name trans (or beyond) uranic. Although most TRU waste is no more radioactive than low level waste. It decays so slowly that it is radioactive for a long time, even though it does not require as much shielding, it requires the same sort of long term isolation as high level waste. In the United States, TRU waste is generated as a byproduct of the reprocessing of spent fuel from government reactors as part of the Nation's defense activities. Reprocessing removes usable plutonium and uranium. For use in defense programs as well as other isotopes useful in a variety of commercial applications. TRU waste is usually contaminated protective clothing, tools, glassware, and equipment. TRU waste is usually contaminated protective clothing, tools, glassware, and equipment. Low level waste (LLW) is radioactive material results from nuclear related research, medical, and industrial processes. The radiation level of these materials range from natural background levels to very radioactive. LLW are usually rags, papers, filters, tools, equipment, and discarded protective clothing contaminated with radio nuclides. These wastes are generated from research, operations, housekeeping, and maintenance at medical research, commercial, industrial, or other nuclear facilities. Typically, LLW contains small amounts of radioactive material dispersed in large volumes of other material. Generally poses little potential hazard. However, small volumes of very radioactive LLW material does require protective shielding during handling and transportation activities. All LLW is safely disposed at government inspected facilities. Uranium tailings are radioactive rock, and soil. The byproducts of uranium mining, and milling. Tailings contain small amounts of radium that decay, and emit a radioactive gas, radon. When radon gas is released into the atmosphere it disperses harmlessly but this gas might be harmful if a person was exposed to it in high concentrations for long periods of time.