**Section 601.230 Disposal Unit Design and Construction**

a) Disposal units shall be designed and constructed, based on accepted engineering principles and practices, to:

1) Minimize, to the extent practicable, the contact of standing water with waste during disposal and the contact of percolating or standing water with wastes after disposal.

2) Be compatible with the expected waste characteristics, methods of operation, and proposed methods of closure and stabilization.

3) Withstand all natural phenomena, such as precipitation, earthquakes and tornadoes, that are expected to occur for 500 years.

4) Incorporate multiple engineered safety features, such as, but not limited to, placing a cover over disposal units, using backfill that adds structural strength and reinforcing units with manufactured materials that provide structural support, prevent the release of waste and waste constituents and prevent inadvertent intrusion.

5) Incorporate design elements that will allow operation of the units in such a manner that the amount of waste on site that is not yet permanently disposed of, as well as the time that waste is held on site prior to disposal, will be minimized.

6) Accommodate waste that cannot be packaged in standard containers, e.g., reactor components, contaminated steel.

7) Maintain their structural integrity regardless of the physical form of the waste.

8) Allow characterization, modeling, analysis and evaluation of the unit's ability to contain waste.

b) Disposal unit covers shall be designed to minimize water infiltration to the extent practicable, to direct percolating or surface water away from the disposed waste, and to resist degradation by surface geologic processes and biotic activity.

c) Disposal unit design shall not incorporate the use of shallow land burial or underground injection wells and shall provide for the use of above-ground units or other designs to provide greater and safer confinement of low-level radioactive waste.

d) Disposal units made of manufactured materials shall be designed and constructed, using accepted engineering principles and practices, to ensure that the tensile stress in the manufactured materials never exceeds the level that will cause the materials to fail.

e) Disposal units shall be constructed of materials that will not interact with each other, any surrounding earth, backfill, cover material or base grade material in such a manner as to compromise the ability of the materials to perform their intended function.

f) If intruder barriers are required by Section 601.250(b), disposal units shall be designed and constructed with intruder barriers designed to last at least 500 years.