**Section 725.378 Unsaturated Zone (Zone of Aeration) Monitoring**

a) The owner or operator must have in writing, and must implement, an unsaturated zone monitoring plan that is designed to accomplish the following:

1) It must detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility, and

2) It must provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soil nearby. This background monitoring must be conducted before or in conjunction with the monitoring required under subsection (a)(1).

b) The unsaturated zone monitoring plan must include, at a minimum, both of the following:

1) Soil monitoring using soil cores, and

2) Soil-pore water monitoring using devices, such as lysimeters.

c) To comply with subsection (a)(1), the owner or operator must demonstrate in his unsaturated zone monitoring plan that ensures the following:

1) The depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

2) The number of soil and soil-pore water samples to be taken is based on the variability of the following:

A) The hazardous waste constituents (as identified in Section 725.373(a) and(b)) in the waste and in the soil, and

B) The soil types; and

3) The frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to ground water, and soil permeability.

d) The owner or operator must keep at the facility its unsaturated zone monitoring plan and the rationale used in developing this plan.

e) The owner or operator must analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under Section 725.373(a) and (b).

BOARD NOTE: As required by Section 725.173, the owner or operator must place all data and information developed under this Section in the operating record of the facility.

(Source: Amended at 42 Ill. Reg. 23725, effective November 19, 2018)