**Section 240.770 Establishment of External Mechanical Integrity for Class II UIC Wells**

a) In conjunction with the establishment of internal mechanical integrity for Class II UIC wells, the external mechanical integrity shall be evaluated by the Department to establish that the fresh water is protected from upward migration of injection fluids.

b) To establish external mechanical integrity, all Class II UIC wells shall be constructed in accordance with Sections 240.710(b), 240.720(b), or 240.730(b), whichever is applicable.

c) If external mechanical integrity under Sections 240.710(b) or 240.720(b) cannot be demonstrated by cement records or Illinois State Geological Survey records, the permittee may utilize one or more of the following methods to demonstrate external mechanical integrity:

1) Temperature log indicating top of cement;

2) Cement bond log showing gamma ray, transit time, collar locator and VDL (Variable Density Log);

3) Advanced cement evaluation logs;

4) Radioactive tracer survey indicating lack of fluid migration behind the casing;

5) Oxygen-activation log indicating lack of fluid migration behind the casing.

d) If the Department has reason to believe, based upon well records or field observation, that any Class II UIC well is causing fluid migration into the fresh water zone resulting from a failure of external mechanical integrity, the permittee shall shut in the well until any necessary corrective work is commenced and completed and external mechanical integrity is established in accordance with subsection (c) above, or until the well is plugged.

(Source: Amended at 18 Ill. Reg. 8061, effective May 13, 1994)