



North Carolina Department of Environment and Natural Resources

Division of Water Quality

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August 10, 2012

MEMORANDUM

**TO: Aquifer Protection Section Central Office Supervisors and Staff
Aquifer Protection Section Regional Office Supervisors and Staff**

**FROM: Ted L. Bush, Jr., Deputy Director
Division of Water Quality**

SUBJECT: Procedures for the Approval of Specialty Grout, Well Disinfection Methods and Materials, and Well Rehabilitation Methods and Materials

Purpose

Under 15A NCAC 02C .0100, specialty grouts and alternate materials and methods for well disinfection and rehabilitation require approval from the Department of Environment and Natural Resources (DENR). The rules, however, do not adequately explain the approval procedure. Therefore, the purpose of this memorandum is to establish procedures for approving specialty grout, other well disinfection methods and materials, and well rehabilitation methods and materials.

Request Submittal Procedures and Requirements

Requests should be submitted to the DENR Aquifer Protection Section (APS) Central Office. If indicated by the requestor, it may be necessary to treat the information as trade secrets (defined under G.S. 66-152) or as confidential information (defined under G.S. 132-1.2). A complete request must contain the following documentation:

- 1) For a specialty grout under 15A NCAC 02C .0107(e)(1)(F):
 - a) Demonstration of non-toxicity such as American National Standards Institute (ANSI)/National Sanitation Foundation, Inc. (NSF) Standard 60 certification.
 - b) Independent laboratory test results that demonstrate the finished product:
 - (i) has a permeability of less than 1×10^{-6} centimeters per second; and
 - (ii) if used in areas of brackish or saline groundwater, the grout will not be degraded by saline water over the lifetime of the well.
 - c) Demonstration that the product does not contain any fly ash, coal combustion byproducts, or wastes as required by 15A NCAC 02C .0107(e)(3) (e.g. Material Safety Data Sheets).
 - d) General procedure for mixing and emplacing the grout.
 - e) Types of wells the request would apply to (e.g. geothermal only, water supply only, all wells, etc.).
 - f) Any other information deemed necessary to satisfy the rule requirements.

- 2) For alternate well disinfection methods and materials under 15A NCAC 02C .0111(b)(2):
 - a) Demonstration that the method of disinfection will be at least as effective as chlorination described under 15A NCAC 02C .0111(b)(1).
 - b) Demonstration of non-toxicity such as ANSI/NSF Standard 60 certification.
 - c) General procedures for the disinfection and emplacement including the amount of product to be used per unit volume of the well (e.g. ounces of product per gallon of water).
 - d) Demonstration that, after disinfection is completed, the water within the well will meet 15A NCAC 02L Standards.
 - e) Any other information deemed necessary to satisfy the rule requirements.

- 3) For well rehabilitation methods and materials under 15A NCAC 02C .0112(g):
 - a) Demonstration of non-toxicity such as ANSI/NSF Standard 60 certification.
 - b) General procedures for the rehabilitation including the amount of product to be used per unit volume of the well (e.g. ounces of product per gallon of water).
 - c) Demonstration that, after the rehabilitation is complete, the water within the well will meet 15A NCAC 02L Standards.
 - d) Description of the dosing method and frequency.
 - e) Any other information deemed necessary to satisfy the rule requirements.

The request will be processed and reviewed by APS Central Office Staff. Input from other agencies or entities can be sought depending on the nature of the request; however, ultimate approval or denial will come from the APS Section Chief per delegated authority. The following are potential agencies that can be contacted as sources of input:

- APS Regional Offices
- Certified Well Drillers
- Well Contractor Certification Commission
- Division of Health and Human Services, On-Site Water Protection Branch
- Local Health Departments

After review of the request and input (if solicited), the APS Central Office will make a recommendation to the APS Section Chief. The APS Section Chief will send a letter to the requestor that conveys either approval or denial of the request. If the letter conveys denial, sufficient justification for the decision will be included. If the letter conveys approval, the approval will be under the following conditions:

- (1) The product, method, or material is used in accordance with the manufacturer's recommendations;
- (2) the physical and chemical makeup of the product remains constant (if not, a new request will need to be submitted); and, if necessary,
- (3) the product is used only for the specific types of wells requested.

The approved product, method, or material will be posted on the APS website.