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State Source Water Assessment and Protection Programs Final Guidance

Appendix F

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Factors to Consider When Doing An Adequate Contamination Source Inventory and Adequate Susceptibility Analysis

Under section 1453, states, or their entities delegated to do assessments or portions of assessments, will be accomplishing contamination source inventories and susceptibility analyses for each delineated source water protection area. States will have to consider many factors when considering a class of land uses or a site. Below is a list of factors that states might consider. The factors utilized in each analysis should be selected on a site-specific basis and may include the following factors.

Factors For Ground Water and Surface Water Sources of Drinking Water

- Land-use zoning
- Existing best management practices or controls
- Surface water/ground water interaction
- Has any on-site landfilling, land treating, or surface impounding of waste, other than landscape waste or construction and demolition debris taken place, and will such circumstances continue?
- Are there any sand and gravel excavations which expose the water table and are used for illicit dumping?
- Are there major transportation corridors

(roads, railroads, airports) where potential spills of hazardous substances or petroleum products might contaminate the drinking water source?

- Sludge disposal areas
- Are there utilities right-of-ways using pesticides?
- Are there permitted wastewater discharges (NPDES) which are of concern?
- Are there any industrial wastewater discharges into on-site drainage systems (e.g., septic systems, dry wells, etc.)?
- Are there agricultural, landscaping, or golf course activities which might lead to releases of nutrients (fertilizers,

manure) or pesticides to ground water or stormwater runoff?

- Are there concentrated releases of nitrogen to ground water from agricultural practices, landscaping practices, or dense developments relying on cesspools or septic systems?
- Are there portions of the source water protection area with high percentages of impervious sources which can themselves contribute heavy metals or organics, or which might lead to increased stormwater runoff and decreased ground water recharge?
- Location of stormwater discharges?
Are there any discharges directly into a surface water supply or near a well?
- Are there road salt storage areas?
- Are there activities which involve the use, handling, or disposal of hazardous substances or petroleum products?
- Are there any on-site piles of special or hazardous waste present, will such circumstance continue, and is there piling of other wastes which could cause contamination of ground water?
- Are there any USTs present at the site, and will such circumstances continue?
- Is the use and management of above ground tanks consistent with best management practices?
- Has any on-site release of any hazardous substance or petroleum taken place which was of sufficient magnitude to contaminate ground waters (known Federal or state

hazardous waste sites)?

- Has any situation(s) occurred at this site which resulted in a “release” of any hazardous substances or petroleum?
- Have any hazardous substances or petroleum, which were released, come into direct contact with the ground surface at this site? (Note—do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground).
- Have any of the following actions/events been associated with the release(s) referred to above?
 - Hiring of a cleanup contractor to remove obviously contaminated materials including subsoils
 - Replacement or major repair of damaged facilities
 - Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils
 - Designation of the release as “significant”
 - Reordering or other replenishment of inventory due to the amount of substance lost
 - Temporary or more long-term monitoring of ground water at or near the site
 - Stopped the use on an on-site or nearby water well because of offensive characteristics of the water

- Coping with fumes from subsurface storm drains or inside basements, etc.
 - Signs of substances leaching out of the ground along the base of slopes at other low points on or adjacent to the site
 - On-site release(s) that may have been of sufficient magnitude to contaminate ground waters.
- Water quality monitoring and use assessments (305(b) Report)
 - Depth to the water table
 - Confinedness of the aquifer
 - Nature and thickness of the soil sequence
 - Hydrogeologic parameter values
 - Physical and chemical characteristics of potential contaminants
 - Other hydrogeologic/soil/chemical/physical factors that determine the likelihood of ground-water contamination and the fate and transport of contaminants to and through the aquifer
 - Probable sources and causes of use impairments (305(b) Report)
 - Well integrity
 - Natural sources of contamination

Additional Factors For Surface Water Sources of Drinking Water

- Steep slopes
- Clay content of soils or soils that are highly erodible (critical areas)
- Recreational areas (campgrounds/trailer parks or greenway trails nearby a reservoir or tributaries)
- Tributaries or areas of a reservoir with high bacterial readings
- Land uses (that may not have zoning)
- Biological stream or lake assessments (305(b) Report)
- Modeling
- Upstream NPDES discharges
- Has any on-site landfilling, land treating, or surface impounding of waste, other than landscape waste or construction and demolition debris taken place, and will such circumstances continue?
- Is the use and management of containers and above ground tanks consistent with best management practices?
- Residential, commercial, or industrial construction activities.