

MISSION H2O DRAFT OF 10/17/2018

12 VAC5-590-10. Definitions

“Safe yield” means, with respect to any waterworks that has applied for or been issued an operation permit or any amendment or modification to an existing operation permit prior to [INSERT THE EFFECTIVE DATE OF THE REGULATIONS], the following:

a. Simple intake (free-flowing stream). The safe yield is defined as the minimum withdrawal rate available during a day and recurring every 30 years (30 year - one day low flow). To generate the report for this, data is to be used to illustrate the worst drought of record in Virginia since 1930. If actual gauge records are not available for this, gauges are to be correlated from similar watersheds and numbers are to be synthesized; and

b. Complex intake (impoundments in conjunction with streams). The safe yield is defined as the minimum withdrawal rate available to withstand the worst drought of record in Virginia since 1930. If actual gauge records are not available, correlation is to be made with a similar watershed and numbers synthesized in order to develop the report.

“Source water capacity” means the quantity of water from the surface water source plus all other sources available to the waterworks.

12VAC5-590-830. Surface Water Sources; Quantity; Quality; Development Structures.

A. A surface water source includes all ~~tributary streams, rivers, and drainage basins, natural lakes, and other bodies of natural or impounded waters, and the tributaries thereto, artificial reservoirs or impoundments above the point of water supply intake.~~

~~B1.~~ The quantity of water at the source water capacity shall:

~~1a.~~ Be adequate to supply the water demand of the service area;

~~2b.~~ Provide a reasonable surplus for anticipated growth; and

~~3e.~~ Be adequate to compensate for all losses, including evaporation, seepage, flow-by requirements, etc.

~~2C.~~ A waterworks shall demonstrate its source water capacity, and may do so by submitting any of the following information, as may be applicable to such waterworks:

1. For withdrawals subject to a Virginia Water Protection permit issued by the Virginia Department of Environmental Quality, the withdrawal limit expressed in that permit;

2. The safe yield calculated by a licensed professional engineer in connection with a waterworks operation permit issued or applied for prior to [INSERT THE EFFECTIVE DATE OF THE REGULATIONS]:

3. The safe yield from a water supply plan submitted and approved in accordance with 9 VAC 25-780-10, et seq.:

4. The intake capacity of an intake structure in place before July 1, 1989:

5. For withdrawals first established after July 1, 1989, water withdrawal amounts excluded from the Virginia Water Protection permit requirements pursuant to 9 VAC 25-210-310; and/or

6. A hydrologic evaluation of source water capacity prepared by a licensed professional engineer. The evaluation must demonstrate the minimum withdrawal rate available to withstand the worst drought of record based on historical gauge data. If actual gauge records are not available, gauges shall be correlated from similar watersheds and synthesized.

The safe yield of the source shall be determined as follows:

a. Simple intake (free flowing stream). The safe yield is defined as the minimum withdrawal rate available during a day and recurring every 30 years (30 year one day low flow). To generate the report for this, data is to be used to illustrate the worst drought of record in Virginia since 1930. If actual gauge records are not available for this, gauges are to be correlated from similar watersheds and numbers are to be synthesized; and

b. Complex intake (impoundments in conjunction with streams). The safe yield is defined as the minimum withdrawal rate available to withstand the worst drought of record in Virginia since 1930. If actual gauge records are not available, correlation is to be made with a similar watershed and numbers synthesized in order to develop the report.

Note: Local governments may request this aid from the State Water Control Board (SWCB) by contacting either the Health Department's Office of Water Programs or the SWCB's headquarters office in Richmond.

BD. The owner shall conduct, or have conducted, a sanitary survey and a studyan assessment of the factors, both natural and man-made, whichthat will affect the quality of the water at the sourceand quantity of the surface water source. The results of the sanitary surveyassessment shall be submitted to the department with the designdivision. Such survey and studyThe assessment shall include, but shall not be limited to:

1. Obtaining samples over a sufficient period of time acceptable to the department to assess the bacteriological, physical, chemical, and radiological characteristics of the surface water source;

2. Determining future uses and effects of impoundments or reservoirs;

3. Determining the degree of control over the watershed that may be exercised by the owner; and

4. Locating potential sources of pollution within 5 miles upstream from the surface water intake; and

45. Assessing the degree of hazard to the surface water source resulting from a potential release by possible spillage of materials that may be toxic, harmful, or detrimental to treatment processes.

CE. Surface water intake structures shall provide for:

1. Withdrawal of water from at least three levels in impoundments or reservoirs. Withdrawal of water from more than one level may be required in run-of-the stream intakes if the quality varies with depth;

2. Separate facilities for release of less desirable water held in storage at impoundments or reservoirs;

3. Screens on intake ports with provisions for adequate cleaning;

4. Prevention of flooding of access walkways and control valves of intakes on multiple purpose reservoirs; and

5. Flow velocity through the Velocity of flow through inlet structure such so that frazil ice will be held to a minimum.

~~D. A detention reservoir is a structure into which water is stored for pretreatment to improve water quality prior to other treatment. Where a detention reservoir is required, the development shall assure that:~~

~~1. Water quality is protected by controlling runoff into reservoir;~~

~~2. Dikes are structurally sound and protected against wind action and erosion;~~

~~3. Point of influent flow is separated from the point of withdrawal; and~~

~~4. Sufficient detention time is provided in the reservoir as recommended by the designer and approved by the division.~~

~~E. In order to protect the public health and guarantee a supply of pure water, terminal reservoirs shall not be utilized for body contact recreation and boats powered by gasoline engines. Large terminal reservoirs may be used for body contact recreation and boats powered by gasoline engines provided a buffer zone acceptable to the division and water purveyor is furnished. Site preparation shall include but not be limited to the removal of brush and trees to the high water elevation, and protection from floods during construction.~~

F. Nothing herein alters the Department of Health's responsibility to ensure adequate water is available for Virginia's citizens and to protect public health. Nothing herein, including the calculation of safe yield or source water capacity, shall alter existing water rights, the grandfathered status of a surface water withdrawal, or the waterworks' responsibility to obtain authorizations from other state or federal agencies associated with surface water withdrawals.