



## **Economic Impact Analysis Virginia Department of Planning and Budget**

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**9 VAC 25-610 – Groundwater Withdrawal Regulations**  
**State Water Control Board, Department of Environmental Quality**  
August 3, 2010

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### **Summary of the Proposed Amendments to Regulation**

The State Water Control Board proposes to 1) require that the need for groundwater withdrawal is documented, 2) require preapplication meetings prior to permit application for groundwater withdrawals, 3) allow the Department of Environmental Quality the ability to not require information if the agency already has the same information, 4) to allow for the Department of Environmental Quality to estimate an area of impact of a small withdrawal, and 5) clarify and format numerous requirements in the regulations or in the Code of Virginia that already exist.

### **Result of Analysis**

The benefits likely exceed the costs for all proposed changes.

### **Estimated Economic Impact**

The State Water Control Board is proposing to include details in the regulations concerning how the need for a groundwater withdrawal is documented and that alternatives to using groundwater have been investigated and considered. This requirement is currently included in statute and is described in agency guidance. According to the Department of Environmental Quality (DEQ), the need for groundwater may be documented by using certain publicly available demographic information such as population growth projections and comprehensive plans for localities. DEQ estimates that the cost of the need documentation may add \$2,000 to \$4,000 to the permit costs, and that information developed as part of regional water supply plans may be used as part of this documentation. Since the regulations provide more details concerning the need for the groundwater withdrawal and the alternative water supplies considered, this information will provide more certainty to the review process. This requirement will increase the

amount of information that will have to be reviewed and considered, however providing these requirements in regulation should reduce the number of revisions required to the permit application concerning the needs determination.

The compliance costs associated with this requirement would be more significant where the need for groundwater cannot be justified and documented. In those cases, applicants may be denied a permit and may have to abandon their plans or revert to an alternate source for their water demand. For example, a locality may be interested in obtaining a permit to withdraw more groundwater than can be used by the locality and then marketing the groundwater not needed by the locality to other users. Since the need for groundwater would not be supported by the demographic information for the locality, a permit may be denied. In those cases, applicants may have to give up their plans to sell groundwater or revert to alternate sources. The main benefit of this requirement is to make sure that groundwater is conserved, is sustainable and that aquifers are protected from degradation. Statute prohibits the issuance of permits for more water than can be applied to a proposed beneficial use.

Also, since the entire coastal plain aquifer system is interconnected, withdrawals from one well may affect others. According to DEQ, the mechanics of Virginia's coastal plain aquifer system is such that groundwater levels start declining along the fall line first (approximately Interstate 95 line) and propagate toward the Atlantic Ocean. For example, a major user's withdrawal in the Tidewater area may reduce the level of groundwater first in the Richmond area and then in Tidewater. When actions of an individual impose involuntary costs on somebody else, a negative externality is said to exist. In the example given, a groundwater user in Tidewater may force the user in Richmond to develop alternate water sources and impose involuntary costs. The over pumping of groundwater by a groundwater user has the potential to exacerbate the size of negative externalities associated with groundwater consumption. Thus, the proposed need documentation is expected to help justify the amount of groundwater needed by a groundwater user and help mitigate the negative externalities on other users wanting to use groundwater.

The board also proposes to require preapplication meetings prior to permit application for groundwater withdrawals. According to DEQ, preapplication meetings will be informative for the applicants and help them achieve a complete application package with a reduced number of

revisions and re-reviews required to be conducted by DEQ staff. The main benefit of this proposed change is a more streamlined permit process with a reduced number of meetings, visits, reduced application processing time, and consequently reduced administrative costs for the permit applicant and DEQ.

Another change will allow DEQ to not require certain information from the permit applicants if DEQ already has the information. This change is expected to reduce permit application costs that would be associated with reproduction of already existing information and its submittal to DEQ.

One of the proposed changes will allow DEQ to estimate an area of impact of a small withdrawal from the information already available instead of requiring an aquifer test. The applicants will have a right to conduct their own geotechnical investigations instead of accepting the default area of impact estimated by DEQ. The cost of the aquifer test typically ranges from \$10,000 to \$25,000. Thus, the proposed change is expected to reduce the permit application costs by \$10,000 to \$25,000 if the default area of impact is accepted. DEQ does not expect a significant increase in staff time to develop a default estimate as most of this work is currently done.

The remaining changes are generally related to formatting of the regulations and clarification of existing requirements and are not expected to create significant economic effects other than possibly reducing the likelihood of costly mistakes that could arise from unclear regulatory language.

## **Businesses and Entities Affected**

There are 394 known users of groundwater withdrawing 300,000 gallons or more in the Eastern Virginia and Eastern Shore Groundwater Management Areas. Of these entities, 111 are located in the expanded part of the Eastern Virginia Groundwater Management Area which is at the proposed stage of the rulemaking process at this time.

## **Localities Particularly Affected**

Eastern Shore Groundwater Management Area includes the counties of Accomack and Northampton.

Current Eastern Virginia Groundwater Management Area includes the counties of Charles City, Isle of Wight, James City, King William, New Kent, Prince George, Southampton, Surry, Sussex, and York; the areas of Chesterfield, Hanover, and Henrico east of Interstate 95; and the cities of Chesapeake, Franklin, Hampton, Hopewell, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.

The proposed expansion of the Eastern Virginia Groundwater Management Area includes the counties of Essex, Gloucester, King George, King and Queen, Lancaster, Mathews, Middlesex, Northumberland, Richmond, and Westmoreland, and the areas of Arlington, Caroline, Fairfax, Prince William, Spotsylvania, and Stafford counties east of Interstate 95.

### **Projected Impact on Employment**

The proposed preapplication meetings, no longer requiring submission of existing information, and allowing DEQ to estimate a default area of impact are expected to reduce the demand for labor by the applicants and the agency. However, the proposed need documentation is expected to increase the demand for labor by the agency and the applicants.

It is also conceivable that where the need cannot be justified and documented and therefore no permit can be issued, the proposed need documentation may reduce or slow down economic activity and cause a reduction in demand for labor. On the other hand, a permit denial may help preserve groundwater resources of other localities and help them maintain a sustainable future supply of groundwater which may lead to a sustainable economic activity and have a positive impact on demand for labor in the long term.

### **Effects on the Use and Value of Private Property**

Similarly, the proposed preapplication meetings, no longer requiring submission of existing information, and allowing DEQ to estimate a default area of impact are expected to reduce compliance costs of the private entities and could add to their asset values. However, the proposed need documentation is expected to increase compliance costs and could reduce their asset values.

It is also conceivable that where the need cannot be justified and documented and therefore no permit can be issued, the proposed need documentation may reduce the use and value of private property. On the other hand, a permit denial may help preserve groundwater

resources of other localities and help them maintain a sustainable future supply of groundwater which may lead to a sustainable economic activity and have a positive impact on the use and value of private property in the long term.

### **Small Businesses: Costs and Other Effects**

Of the 394 known entities using more than 300,000 gallons of groundwater, 111 are estimated to be small businesses. The costs and other effects on the small businesses are the same as the ones discussed above which include the costs of the proposed need documentation.

### **Small Businesses: Alternative Method that Minimizes Adverse Impact**

There is no known alternative that accomplishes the same goals.

### **Real Estate Development Costs**

If a real estate development project relies on groundwater as a resource, the costs of the need documentation as discussed above may contribute to the development costs of the real estate project. Otherwise, no significant effect on real estate development costs is expected.

### **Legal Mandate**

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 2.2-4007.H of the Administrative Process Act and Executive Order Number 107 (09). Section 2.2-4007.H requires that such economic impact analyses include, but need not be limited to, the projected number of businesses or other entities to whom the regulation would apply, the identity of any localities and types of businesses or other entities particularly affected, the projected number of persons and employment positions to be affected, the projected costs to affected businesses or entities to implement or comply with the regulation, and the impact on the use and value of private property. Further, if the proposed regulation has adverse effect on small businesses, Section 2.2-4007.H requires that such economic impact analyses include (i) an identification and estimate of the number of small businesses subject to the regulation; (ii) the projected reporting, recordkeeping, and other administrative costs required for small businesses to comply with the regulation, including the type of professional skills necessary for preparing required reports and other documents; (iii) a statement of the probable effect of the regulation on affected small businesses; and (iv) a description of any less intrusive or less costly alternative methods of achieving the purpose of the

regulation. The analysis presented above represents DPB's best estimate of these economic impacts.