HB 1036 – Water Trading Work Group
DRAFT Minutes of
July 22, 2019, Meeting
Troutman Sanders Building, Richmond Virginia

Work Group members present:

HRSD, Jamie Mitchell
King George County, Eric Gregory, Hefty, Wiley & Gore
Western Tidewater Water Authority, Chris Pomeroy, AquaLaw
Eastern Shore Groundwater Committee, Britt McMillan, Arcadis
Mission H2O/Troutman Sanders, Shannon Varner
DEQ, Scott Kudlas
VDH, Office of Drinking Water, Aaron Moses
Virginia Farm Bureau, Ben Rowe
WestRock, Matt Wells
VDH, Scott Vogel
Virginia Tech, Kurt Stephenson

Work Group members absent:

Aqua Virginia
Newport News Waterworks
Middle Peninsula PDC
Virginia Well Drillers Association
Virginia Economic Development Partnership,

Interested parties attending:

David Jurgens, City of Chesapeake
Whitney Katchmark, HRPDC
Brandon Bull, DEQ
Richard Grossman, VECTRE
Kyle Shreve, Virginia Agribusiness Council
Callie Guy, Christian & Barton
Ed Snyder, City of Portsmouth
Dan Holloway, Jacobs
John Mayhut, RK&K
Sarah Vogelsong, Virginia Mercury

- The meeting began at approximately 2:00 with Workgroup members and others in attendance introducing themselves. Following discussion of the May 7, 2019, meeting minutes, DEQ requested an opportunity to add language on agency concerns. It was

agreed that the minutes would be recirculated after DEQ provides additional language, otherwise there was no objection to the minutes.

- Shannon Varner provided an overview of the agenda topics including review of the revised draft statutory language based on the "Groundwater Banking (ASR) Strawman" developed by the Eastern Virginia Groundwater Management Advisory Committee and previous Workgroup discussions including incorporation of changes suggested at the last meeting.
- DEQ noted that the agency is taking no position on any legislative proposal and cannot do so until the Governor takes a position. DEQ's role in this Workgroup process is advisory only.
- The Workgroup proceeded to discuss each section of the revised draft. Each section is reproduced below in bold with changes based on the May 7, meeting discussions appearing as underlined (new language) or stricken (deleted language), followed by summaries of the discussion.

Discussion of Draft Statute:

§ 62.1-001. Findings and purpose.

The General Assembly hereby determines and finds that actions adding groundwater to the aquifers in the Eastern Virginia and Eastern Shore Groundwater Management Areas ~~groundwater management areas~~ designated by the Board should be encouraged and that governmental and private entities need regulatory certainty and benefits in order to expend financial resources for these actions. Providing regulatory certainty and benefits will assist in improving the availability of groundwater for all beneficial uses and create opportunities for the regulated community to more cost effectively meet groundwater withdrawal needs.

Discussion:

The Workgroup had previously agreed with the findings and purpose; however, clarity was requested that the program being created is limited to the Eastern Virginia Groundwater Management and Eastern Shore Groundwater Management areas. This change reflects the decision made at the May 7, 2019, meeting.

§ 62.1-002. Definitions

As used in this article, unless the context requires otherwise:

"Annual water loss rate" means the rate at which injected water is not available as a groundwater storage credit due to water loss through the aquifer boundary related to the injection.

Discussion:

Workgroup members revisited this definition since it was not clear whether it adequately captured the concept of loss. DEQ noted that they would prefer the ability to develop a

procedure than having a hard number placed in the statute that might later need to be walked back if it is found to be too generous. Workgroup members were agreeable to allowing DEQ some latitude in determining annual water loss through the development of procedures as has been done in other sections of the proposal. DEQ noted that the speed at which they can develop the procedures will be dependent on available resources.

Workgroup members then discussed whether the provision of a default recovery rate for short term storage (which in effect includes a 20% annual water loss factor) was a sufficient interim step to foster investments to inject water, noting the desire to encourage actions that add water to aquifers. Members agreed that the ability to withdraw 100% of short-term storage during the 36 months following injection, coupled with a defined short-term recovery zone is helpful.

"Extended recovery zone" means a recovery zone located outside of the short-term recovery zone and defined through a technical analysis conducted by the department.

Discussion:

This definition was added based on the previous meeting's discussion to capture the difference between a short-term recovery zone and one that may be farther from the point of injection (the "extended recovery zone"). This definition should be read in combination with the short-term recovery zone definition and the requirement for the extended recovery zone to be based on procedures developed by the department. Workgroup members agreed that opportunities for trading should be encouraged to foster adding water to the aquifer. It was also recognized that each situation will be different making a static definition for the extended zone inappropriate. Workgroup members agreed with this definition.

~~**"Groundwater storage account" means a ledger maintained by the Department indicting groundwater storage credits and published annually for any permittee holding groundwater storage credits.**~~

Discussion:

This definition was deleted since the term is not used in the statute and due to additional changes now appearing as § 62.1-003 H.

"Groundwater storage credit" means the quantity of injected water that is authorized to be recovered from an aquifer.

Discussion:

Members agreed with this definition.

"Injected water" means water that is injected into an aquifer in the Eastern Virginia or Eastern Shore Groundwater Management Areas.

Discussion:

Members agreed with this definition.

"Long term storage" means injected water that may be withdrawn more than 36 months after injection.

Discussion:

Members agreed with this definition.

"Recovery factor" means the annual fraction of the remaining injected water that is available for recovery by a permittee. The recovery factor is calculated as one minus the annual water loss rate.

Discussion:

Members agreed with this definition.

"Recovered water" means water represented by groundwater storage credits and withdrawn from the aquifer into which the water creating the credits was originally injected.

Discussion:

The wording "***into which the water creating the credits was originally injected"*** was added based on the May 7 discussions. A question was raised at the July meeting as to whether a restriction allowing credits to only be used in the same aquifer as the injection is desirable. Members noted that there may be situations where the head pressure in another aquifer is benefited; however, members noted that in a "leaky" system (where injected water may benefit head in another aquifer), the withdrawal would typically need to be in the same aquifer as the injection for practical reasons. Apportioning the head pressure benefits between the aquifers would also be site specific and may overly complicate the program.

Members discussed whether a definition for "aquifer" was needed and concluded that any definition is not needed as it would only be general in nature and would not add anything.

"Recovery zone" means the area within a spatial boundary from which injected water is authorized to be recovered.

Discussion:

Workgroup members agreed with this definition, particularly given the clarifications that have been provided by adding definitions for an "extended recovery zone" and a "short term recovery zone."

Definition in July 22, 2019, draft based on May 7, 2019 meeting: **"Short term recovery zone" means a recovery zone equal to no less than four square miles within a radius extending from the point of injection.**

Definition agreed to during July 22, 2019, meeting: **"Short term recovery zone" means a recovery zone no less than a one (1) mile radius from the point of injection.**

Discussion:

The July 22, 2019, draft definition was based on the previous meeting's discussion of the appropriate area for recovery associated with short term injection and recovery. During the July 22 meeting other options discussed included using the groundwater model grids and allowing the recovery zone to be within the same or adjacent model cell (a nine-cell area) or, alternatively, defining it as the area within a one-mile radius, or greater, of the injection point. A concern with referring to grids was that the model may change grid/cell size and that would negatively impact program implementation. Members questioned whether a larger area should be used in order to provide additional flexibility and to promote investment in injection and recovery. If additional information can be generated to show that there is a positive response at a distance greater than one mile, then the default (i.e. one mile radius) should be increased. A one (1) mile radius from point of injection was agreed upon, but members also agreed that flexibility is needed. "No less than" was added so that the short-term recovery zone could be expanded if appropriate in a specific situation.

"Short term storage" means injected water that may be recovered within 36 months of the date of injection.

Discussion:

Workgroup members again agreed that this was a sufficiently conservative and scientifically justified timeframe.

§ 62.1-003. Groundwater credits, availability of injected water for withdrawal.

A. Within ~~existing groundwater management areas~~ the Eastern Virginia and Eastern Shore Groundwater Management Areas, DEQ shall annually ~~grant~~ certify a groundwater storage credit to any ~~party~~ person ~~permitted to inject~~ lawfully injecting water into ~~[~~an~~]~~ aquifer ~~for purposes of using the aquifer for water storage and recovery~~ and requesting groundwater storage credit. Groundwater storage credits shall be available to groundwater permit holders and permit applicants under the terms and conditions of this Article and incorporated into permits issued under the Ground Water Management Act (Va Code § 62.1-254 et seq).

Discussion:

Members agreed with this subsection; however, members suggested that the second sentence be in a separate subsection to better re-enforce that the withdrawal of injected water is subject to permitting under the Ground Water Management Act.

B. Permitted recovery of the groundwater storage credits may occur within the short-term recovery zone or the extended recovery zone.

C. Any person requesting certification of groundwater storage credits shall report to the department, on a schedule defined by the department, the location and amount of water injected and such other information as the department may require.

D. Any person utilizing groundwater storage credits shall report to the department, on a schedule defined by the department, the amount and location of the withdrawal and such other information as the department may require.

E. Groundwater permit holders and groundwater permit applicants proposing to utilize groundwater storage credits held by another person shall provide the department with documentation, satisfactory to the department, that the person has sufficient contractual rights to utilize the groundwater storage credits.

Discussion:

Subsections B through E were added based on the May 7 meeting to provide additional clarity and reporting requirements. With regard to subsection B, DEQ noted that they do not have an existing example of an increased head pressure from an injection to transfer to another user and that there will need to be some "proof of concept," particularly for recovery from an extended recovery zone. DEQ noted that just because language appears in statute, it does not mean that it is protective of the aquifer and will support a protective trading program. DEQ noted that its concern lies with the trading or use of groundwater outside of the short-term storage and short-term recovery zone context. It was pointed out that DEQ's concern may be addressed since the agency would need to develop procedures for defining an extended recovery zone and associated annual loss rate before an extended recovery zone would be available. Subsection E is based on similar language in other trading programs. Members noted that just because one has a contract right to injected water, it does not mean that the water may be withdrawn without a permit from DEQ. DEQ asked that language be added to reinforce that point.

No other changes were proposed to these subsections.

F. The groundwater storage credit shall be increased annually based on the amount of water injected and reduced by the amount of recovered water and by the applicable recovery factor, if any, depending on whether the recovered water is from short- or long-term storage as described in § 62.1-004 and § 62.1-005.

Discussion:

Members agreed with this subsection.

G. A groundwater storage credit shall be considered an addition to the permittee's withdrawal limits under a groundwater withdrawal permit and groundwater storage credits shall not be used to reduce the permittee's otherwise allowable withdrawal.

Discussion:

Members agreed with this subsection.

H. ~~Credit is deposited into the permittee's groundwater storage account maintained by the Department and retired when recovered~~. The Department shall maintain a publicly available tracking system based on information it may require from those who request or generate groundwater storage credits and those who are authorized through a groundwater withdrawal permit to utilize groundwater storage credits. The tracking system shall at a minimum document, by permitted withdrawal and permitted injection, the amount of water injected, the number of groundwater storage credits generated, the number of groundwater credits used, the number of short term and long-term groundwater storage credits available, and the volume of injected groundwater no longer qualifying as a groundwater storage credit.

Discussion:

Members agreed with this subsection. The changes clarify the manner availability and content of a credit tracking system. Members agreed that as re-written desired information would be included, and the Department would have flexibility in content. DEQ made clear that one should not anticipate a real time tracking system but rather one that would be updated periodically, potentially on a quarterly basis. Members noted that an added benefit of the tracking system would be to assess the amount of injected water that is not used to see the size of the added benefit that injection provides to the groundwater system as a whole.

I. Unless authorized by the ~~party~~ person injecting water, the Department shall not consider the impact of the injected water on the aquifer in making groundwater withdrawal permitting decisions for other permittees or ~~potential~~ permittees ~~applicants~~.

Discussion:

The Workgroup continued previous discussion on this provision which is included as a potential option to protect investments made to inject water and/or use credits generated by others. Concerns were raised regarding the need for two models, the effect on model calibration, and expense. Members discussed that calibration may not be much of an issue, since data would be available to support to calibration. The greater issue for DEQ would be the need to maintain two models. While these issues may not be insurmountable from a programmatic standpoint, having and managing two models and re-bidding contracts would likely have a fiscal impact. DEQ also expressed a concern that it would be hard to explain to the public (i.e. a potential groundwater user may look at one model and see that there is water available under that model and argue that that they should be given a withdrawal permit based on that model).

DEQ also raised a concern that it could undermine SWIFT and the expectations of access to the water by a large portion of the coastal zone. This concern would be raised if SWIFT were to request certification of groundwater credits. In addition, DEQ noted that they cannot control unpermitted withdrawals.

Members noted that this provision would be limited to an extended recovery zone and that could alleviate some of the concern. Members also discussed adding language to this section so that a groundwater permit applicant would be on notice as to which model would be applicable.

J. To the extent not covered by the groundwater withdrawal permit fee in § 62.1-44.15:6, the Department is authorized to charge a fee not to exceed the lesser of $7,500 or the department's actual out of pocket expenses for outside consulting assistance to perform the technical evaluation needed to determine the ~~special~~ extended recovery zone, the water loss rate and / or the recovery factor. No fee, other than that authorized by § 62.1-44.15:6 shall be charged when a groundwater permittee or permit applicant will use groundwater storage credits from short term storage and the withdrawal is located in the short-term recovery zone unless the department identifies a specific concern regarding potential unmitigated impacts requiring additional technical analysis.

Discussion:

The changes were made to address Workgroup agreement that permittees should pay reasonable fees for the technical modeling and evaluations. The $7,500 figure was suggested based on the price of DEQ's existing contract with its outside consultants with some additional flexibility since the contract is renegotiated every 5 years. DEQ agreed to talk to its budget department about whether the $7,500 figure is appropriate or not.

§ 62.1-004. Short term storage recovery factor.

~~A.~~ The recovery factor for short term storage shall be 1.

Discussion:

The Workgroup agreed with this section.

~~B. Recovery of the injected groundwater may occur at the same facility as the injection or within [the "bubble"].~~

~~C. DEQ may establish maximum annual limits on the rate of withdrawal from recovery wells.~~

Discussion:

Subsection B and C were deleted based on discussions at the May 7 meeting and addition definition of short-term recovery zone. Members agreed to these deletions.

§ 62.1-005. Long term storage recovery factor.

A. The recovery factor for long term storage shall be based on an estimated annual water loss rate ~~using the "groundwater model." Guidelines~~ through a technical evaluation conducted by the department. The department shall develop a procedure for estimating aquifer losses for purposes of determining recovery factors. ~~will be published and updated by the Department.~~ The long-term storage recovery factor shall be ~~"to be determined"~~ 0.8 ~~0.2~~ until superseded by ~~guidelines~~ procedures developed by the Department.

Discussion:

The Workgroup agreed to the suggested changes to this section reflecting the previous meeting's discussions. The 0.2 long-term storage factor was a typo and was previously agreed to be set at 0.8.

B. A long-term storage recovery factor schedule covering ~~10 [~~15?~~]~~ years shall be established by the Department for a permittee desiring to withdraw water injected more than 36 months prior to the withdrawal. Once established, the ~~10 [~~15?~~]~~ year schedule shall not be modified. Prior to the end of the 10 [15?] year period the schedule ~~will~~ shall be re-evaluated, and the recovery factor may be revised for the permittee's next long-term storage recovery factor schedule based on then current Department ~~Guidelines~~ procedures. A long-term storage recovery factor schedule shall remain effective after ~~10 [~~15~~]~~ years unless modified by the Department.

Discussion:

The Workgroup discussed whether a term that coincides with a permit term would be more appropriate than a 15-year term. DEQ also questioned whether the recovery factor schedule would be subject to its standard groundwater permit reopener provisions. Members requested that the term be changed to match a permit term and that the schedule would be subject to DEQ's standard permit provisions.

C. Annual recovery factors contained in a long-term storage recovery factor schedule may vary across time if annual loss rates are not constant over time.

Discussion:

The Workgroup agreed with this subsection.

~~D. The Department may establish maximum annual limits on the rate of withdrawal from recovery wells~~.

Discussion:

The Workgroup agreed that this section is not needed as it is already covered by the required groundwater permit.

§ 62.1-006. ~~Spatial~~ Extended recovery zone.

The Department shall develop ~~guidelines~~ procedures for defining ~~a spatial~~ an extended recovery zone to the maximum practical extent and subject to reasonable expectations that no adverse impacts will be imposed on the groundwater resource. Recovery can occur off-site of the injection location with an extended ~~spatial~~ recovery zone delineated during the permitting process. The ~~spatial~~ recovery zone shall be re-evaluated every ~~10 [~~15~~]~~ years.

Discussion:

The Workgroup agreed with this subsection.

§ 62.1-007. Credit transfer between permittees.

All or a portion of a groundwater storage credit may be transferred to another ~~party~~ person ~~within the spatial recovery zone~~.

Discussion:

The Workgroup agreed with this subsection. It was noted that it would allow for speculators to buy groundwater storage credits.

2. That the State Water Control Board (the Board) may adopt regulations to implement the requirements of this act. The adoption of such regulations shall be exempt from the requirements of Article 2 (§ 2.2-4006 et seq.) of the Administrative Process Act (§ 2.2-4000 et seq.) of the Code of Virginia. However, the Department shall (i) provide a Notice of Intended Regulatory Action, (ii) form a stakeholders advisory group, (iii) provide for a 60-day public comment period prior to the Board's adoption of the regulations, and (iv) provide the Board with a written summary of comments received and responses to comments prior to the Board's adoption of the regulations.

Discussion:

The Workgroup agreed with this subsection.

Discussion of other potential means to generate a groundwater credit:

Part of the Workgroup's charge is to further study and examine components of a groundwater trading program. The Eastern Virginia Groundwater Management Area Advisory Committee discussions included the potential to generate tradable groundwater credits though efforts other than injection. The Workgroup began discussions on this topic. Examples include one generating credits by reducing withdrawals below permitted level through conservation or other process changes. Another example would be reducing groundwater use through development of an alternative surface water source. In these situations, a credit could be generated that could then be transferred to an existing permittee needing to withdraw more than its permitted level or to a permit applicant seeking a new withdrawal. Several benefits can be derived from such a system, including reducing groundwater withdrawals, development of alternative sources, increasing availability of groundwater for existing and new permittees, reduced cost, and an additional means for permit compliance. It was also noted that surface water alternatives to groundwater withdrawals often fall out of a permit applicant's alternatives analysis because of cost. As with other trading programs, trading could serve to help finance conservation upgrades or alternative surface water sources to reduce groundwater withdrawals. Workgroup members agreed that additional incentives for these positive actions should be examined and promoted.

Members noted that the current groundwater permit system does not promote conservation and may do the opposite. This is because DEQ has the authority to reduce a groundwater permittee's allowable withdrawal during a permit term if the permittee is not using a percentage of its allotment. Members also noted that issues may arise at the end of a permit term when DEQ is evaluating past permittee water use in determine the next allowable level of withdrawal. For example, if a permittee's current allowable withdrawal is 10 mgd, but through conservation or an alternate source, it only used 5 mgd, its permit level could be cut by that amount. This could create a long term disincentive to conserve.

DEQ noted that it supports conservation but that a broader discussion on what is the best way to create an incentive may be needed. Currently we are just looking at quantity reductions. Incentives based just be a quantity trading system may not be the only or best method or fit all situations. The example of a per gallon fee that then was pooled for use in conservation or alternative sources was floated.

DEQ noted that conservation of groundwater by a permittee, which then provided the permittee with control over that unused groundwater could be seen as a water grab. In what is an essentially a capped system, this could result in the concentration of more and more groundwater into fewer hands. For example, if only 20% of the 300 permittees can afford to do conservation, then they hold water that could otherwise be available to other users. On the other hand, members noted that the effect could be to make more groundwater available and provide a financing mechanism to do so. Members noted that there may be a need to be spatial and/or temporal restrictions on the use of these alternative credits.

Members agreed that this topic would continue to be discussed at its next meeting.

Future Meetings:

Meeting set for September 16, 2019, at 2:00 at the Troutman Sanders building.

Public Comment:

No one spoke during the meeting's public comment period.