

**EASTERN VIRGINIA GROUNDWATER MANAGEMENT
ADVISORY COMMITTEE**

WORK GROUP #3 – ALTERNATIVE PERMITTING CRITERIA

MEETING NOTES – MEETING #1 - FINAL

THURSDAY, AUGUST 25, 2016

DEQ PIEDMONT REGIONAL OFFICE – TRAINING ROOM

Meeting Attendees

EVGMAC – WORKGROUP #3	
Nina Butler – WestRock	Mike Kearns – Sussex Service Authority
Curtis Consolvo – GeoResources, Inc.	Mike Lawless – Draper Aden Associates
Jeff Corbin – Restoration Systems	Britt McMillian – ARCADIS
Larry Dame – New Kent County	Jamie Mitchell – Hampton Roads Sanitation District
Katie Frazier – Virginia Agribusiness Council	Doug Powell – James City County Service Authority
Bill Gill – Smithfield Foods, Inc.	Wilmer Stoneman – Virginia Farm Bureau
Chris Harbin – City of Norfolk – Department of Utilities	Mike Toalson – Home Builders Association of Virginia
Whitney Katchmark – Hampton Roads PDC	

EVGMAC – WORKGROUP #3 – STATE AGENCIES	
Lance Gregory - VDH	Rob McClintock – Virginia EDP
Scott Kudlas - DEQ	

NOTE: Advisory Committee Members NOT in attendance: David DePippo – Hunton & Williams; Kyle Duffy – International Paper; Judy Dunscomb – The Nature Conservancy

INTERESTED PARTIES ATTENDING MEETING	
Phil Abraham - VECTOR	Jason Early - CARDNO
Robb Bohannon – Fairfax Water	Rhea Hale - WestRock
Preston Bryant – McGuire Woods Consulting	David Jurgens – City of Chesapeake
Bryce Cole – Walla Walla University	Mike Polychrones - VML
Richard Costello - HBAV	Shannon Varner – Troutman Sanders/Mission H2O
Robert Crockett - Advantus	Brett Vassey - VMA
Chuck Duvall - WestRock	Matt Wells - WestRock

SUPPORT STAFF ATTENDING MEETING	
Brandon Bull - DEQ	Bill Norris - DEQ
Craig Nicol - DEQ	Jutta Schneider - DEQ

MEETING HANDOUTS:

- A. Draft Meeting Agenda;**
- B. List of EVGMAC Members and Work Groups #1; #2A; #2B; #3 & #4 Members;**
- C. Copy of Ground Rules Document;**
- D. Summary of Issues;**

E. List of Proposed Issues for Discussion – Mission H2O

1. Welcome & Introductions (Mark Rubin – Meeting Facilitator)

Mark Rubin, Executive Director of the Virginia Center for Consensus Building at VCU, opened the meeting and welcomed everyone to the meeting.

He asked for introductions of those in attendance and asked for the organizations that they represented.

2. Review of Agenda; Discussion of Ground Rules and Explanation of Consensus Problem Solving Process and Timeline and Introductory Comments (Mark Rubin):

Mark Rubin reviewed the agenda for the meeting and the plan for conducting the meeting and then went through some general meeting and location logistics.

He informed the group that there had been a State Water Commission meeting yesterday where he presented a brief overview of the Eastern Virginia Groundwater Management Advisory Committee and its associated Workgroups progress to date. In addition representatives from JLARC provided an overview of their current efforts related to groundwater. He noted that the Water Commission members seemed to be pleased with the level of cooperation between the Advisory Committee and DEQ staff and JLARC staff on these concurrent efforts.

Mark briefly reviewed the “Ground Rules” for the Advisory Committee and its associated Workgroups. He stressed that all of the meetings of the Advisory Committees and the Workgroups are public meetings and are subject to the Freedom of Information Act (FOIA) requirements. All communications for the group need to be routed through Bill Norris.

Mark stressed that as members of this Workgroup and as representatives of specific stakeholder organizations that it was very important for members to make their associated organizations aware of the process and informed of the discussions and decisions made during the meetings of the workgroup.

He noted that folks who are not members of the workgroup who are in attendance may participate in the discussions of the group through the “Open Chair” concept. Individuals may choose to move to the “Open Chair” to offer additional information or clarifications to the ongoing discussions of the group.

Mark noted that in addition to the meetings of the Advisory Committee that there have been numerous meetings of 3 other workgroups. The discussions of the Alternative Sources of Supply (WG1); Alternative Management Structures (WG2A); and Trading (WG2B) have been very productive and have looked at some very complex issues. In addition to this workgroup looking at Alternative Permitting Criteria (WG3), there will be a meeting of another workgroup this afternoon (WG4) that will be looking at Funding.

3. Brief Update on the Current Permitting Process and Criteria (Craig Nicol - DEQ):

Craig Nicol, the Water Withdrawal Permitting Program Manager with DEQ's Office of Water provided a brief overview of the current permitting process and associated criteria for Groundwater Withdrawal Permitting in Virginia's Coastal Plain. His presentation included the following:

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- Groundwater Withdrawal Permitting: Previous Groundwater Withdrawal Permitting activities in the Coastal Plain have been managed through the Groundwater Management Act of 1973 and the 1986 Amendments to Act of 1973. Current Groundwater Permitting activities are managed through the:
 - Ground Water Management Act of 1992 (Code of Virginia, Title 62.1, Chapter 25), and
 - Groundwater Withdrawal Regulations (9VAC25-610-10 et seq.)
 - Groundwater Management Areas (GWMA): Designated Groundwater Management Areas authorized by 9VAC25-600-10 et seq.
 - Designated as a result of the Groundwater Management Act of 1973 and permitting applied to industrial and commercial users withdrawing more than 50,000 gallons per day (1.5 Million /month).
 - There are currently two designated Groundwater Management Areas in Virginia:
 - § The Eastern Virginia Groundwater Management Area comprises all areas east of Interstate 95. And,
 - § The Eastern Shore Groundwater Management Area which includes Accomack and Northampton Counties.
 - In 1986 the GWM Act of 1973 was amended to include municipalities and also reduce the limit for permitting to 300,000 gallons or more in any one month.
 - The GWMA Expansion of 2014 resulted in 15 new counties being added to the Eastern Virginia GWMA. Through ongoing permitting and monitoring activities, DEQ established that groundwater levels are declining, wells of groundwater users are interfering with one another; groundwater supply is being overdrawn; and groundwater is becoming polluted (salt water). All of which were happening in the non-designated areas of the Coastal Plain system. As a result, in 2009 the DEQ filed a NOIRA (Notice of Intended Regulatory Action) to expand the Eastern VA GWMA to the whole Coastal Plain. This would allow for GW Management activities to have a comprehensive approach when related to management and permitting.
 - JANUARY 1, 2014 the new regulations became effective and as a result the counties of Caroline, Essex, Gloucester, King George, King and Queen, Lancaster, Mathews, Middlesex, Northumberland, Richmond, Westmoreland, Partial Counties (east of I-95), Fairfax, Prince William, Spotsylvania, Stafford County were added to the Eastern Virginia GWMA.
 - Who needs a permit?
 - All groundwater withdrawals at or above 300,000 gallons in any month located in a GWMA will need a permit.
 - This includes a variety of beneficial uses such as,
 - § Public water supply (municipal, sub-subdivisions)

- § Industrial and Commercial
 - § Irrigation (agricultural, golf courses, home & business landscaping)
- A key aspect to this program is that a permit is needed prior to the actual withdrawal of 300,000 gallons (not just a submittal of an application).
- Process: This is an overview and not ever single facet of groundwater permitting activities associated with a Groundwater Withdrawal Permit. The following are some of the highlights to provide a broad understanding of how the permitting process works, from application to permit issuance.
 - Application: Preapplication Meeting
 - § To obtain a Permit one must first attend a Pre-application Meeting with DEQ staff.
 - § Pre-application Meeting = **Mutual exchange of information** for proposed application and the applicable regulatory requirements. Sets the tone for discussions. Sets the stage so that the applicant submits the right information in a timely manner.
 - Submit Application and Permit Fee:
 - § **A Complete Application is required that includes:**
 - General Administrative Information;
 - Water Conservation and Management Plan;
 - Evaluation of Need;
 - Alternatives Analysis;
 - Conjunctive Use;
 - Supplemental Drought Relief Wells
 - Once a complete application package has been received the DEQ via the State Water Control Board Authority (Board) is required to conduct an Administrative and Technical Evaluation and verify that the applicant demonstrated the following items:
 - § Water conservation and management plan is sufficient
 - § Water-saving equipment (Water-saving fixtures, plumbing, Building Code)
 - § Water Loss Reduction Program (LDAR)
 - § Water Use Education (Conservation Principles)
 - § Evaluation of Water Reuse (Practicable reuse)
 - Evaluation/Demonstration:
 - § No other sources of water supply are practicable;
 - § Groundwater will originate from lowest quality for beneficial use;
 - § No pumps or intakes lower than top of the uppermost confined aquifer or bottom of unconfined aquifer;
 - § Withdrawal requested is the smallest amount necessary;
 - § Water Conservation and Management Plan;
 - § Certification from Local Governing Body;
 - § Technical Evaluation (Modeling) is used to determine the:

- The Area of Impact (AOI): Areal extent where predicted that more than one foot of drawdown will occur – The aquifer will experience at least one foot of water level decline as result of the proposed withdrawal. The AOI for an aquifer is the areal extent of each aquifer where more than one foot of drawdown is predicted to occur due as a result of the proposed withdrawal. If an AOI demonstrates that other users will be impacted then a Mitigation Plan is required.
 - Mitigation Plan: Rebuttable presumption that adverse impacts are due to the proposed withdrawal. Commitment to mitigate: Speedy, nonexclusive, low-cost process to fairly resolve disputed claims; Claimant documentation (owner, construction, historic use etc.)
 - The Eighty Percent Drawdown (80% Drawdown): The proposed withdrawal in combination with all existing lawful withdrawals will not lower water levels, in any confined aquifer that the withdrawal impacts, below a point that represents 80% of the distance between the land surface and the top of the aquifer at the points where the predicted one-foot drawdown contour is predicted for the proposed withdrawal as per 9VAC25-610-110(D) (3) (h). Stabilized effect of withdrawal and all lawful users will not lower water levels below a point that represents 80% between land surface and top of the aquifer. The 20% buffer is there to protect the aquifer.
 - Water Quality - The potential for the proposed withdrawal to cause salt water intrusion into any portions of any aquifers or the movement of waters of lower quality to areas where such movement would result in adverse impacts on existing groundwater users or the groundwater resource.
- Draft Permit: After the Evaluation and Demonstration reviews have been conducted the permit writer drafts the applicants' withdrawal permit.
- § In General the following type of Conditions are applicable to all groundwater permits and include:
- Duty to Comply (with the permit, regulations and laws) (State and Federal),
 - Inspection and Entry (Reasonable times and circumstances)
 - Provide Information (upon request) used to determine cause for modification, revocation, reissuance, or termination
 - Monitoring and record Keeping (Parameters, date , time, as tool to demonstrate compliance)
 - VDH Consistent (Public Water Supply)
- § The Draft Permit must contain:
- Well Construction Data

- Depth;
 - Screen Intervals;
 - Designation of Aquifer
 - Withdrawal Limits;
 - Pump Settings;
 - Prohibitions (Non-permitted withdrawals);
 - Expiration Date (10 years);
 - Reopening Clause;
 - Well Tags
- Final Steps: Draft Permit Review & Public Comment:
 - § Provide applicant with draft permit
 - Address applicant's comments
 - § Provide public comment period
 - Address public comment
 - § Issue Permit
- Special Conditions are used on a case-by-case process to help address concerns and trends identified in the evaluation or seen coastal plain wide. Special conditions may include requirements for:
 - § Apportionment of withdrawal;
 - § Intervals for monitoring;
 - § Pumping arrangements;
 - § Well location;
 - § Selective curtailment, reduction or cessation;
 - § Well construction;
 - § Installation of Observation Wells
- Collaboration: The key to all of this occurring successfully is Collaboration.
 - § Permitting is a joint effort (DEQ/Applicant)
 - § Reach goals and ensure permits effectively promote and can accomplish:
 - Reducing use;
 - Raising pumps;
 - Gaining access to alternate sources;
 - Implementing more stringent water conservation measures;
 - Replacing wells (Construction); &
 - Installing observation wells or conducting studies
- Once the permit is drafted staff facilitates discussions with the applicant that often revolve around the need for the special conditions. During these discussions it is important to be reminded of questions similar to this:
 - § We (DEQ, the regulated community and the citizens of Virginia) can make a difference in reducing declining groundwater levels, slowing or stopping land

subsidence, improving sustainability and ensuring water quality while considering each user's needs.

- § To accomplish this we must make the most effective use of the available tools through motivation, knowledge and flexibility.
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Discussions by the Workgroup included the following:

- Is the Pre-Application meeting an option or a requirement? It is a requirement in the regulations.
- If a proposal is made for an application that affects someone else's well what would be an example of a type of mitigation or mitigation plan that would be needed/what is an example of a mitigated activity? The Mitigation Plan has several criteria that you basically create an expedient non-biased and equal mechanism for someone to come to the applicant and say the applicant has impacted another users well and that impact can be demonstrated as a result, within a reasonable time frame the applicant will either get them water or rebuilt their well or get them on the public supply – whatever is needed to help to mitigate that impact. The mitigation plan really sets out the framework for how you do that not necessarily what the compensation or mitigation is. The mitigation plan is there to say that you have a process in place that provides for the mitigation of impacts and to protect other users who might be impacted. A good example of that is what they do in the Hampton Roads area. They have a regional mitigation process through the Planning District Commission. There have been a number of examples where someone well has been impacted or has gone dry and they use the model to determine the proportional share for replacing that well to those users impacted that well.
- Is the mitigation plan for impacts to only permitted wells or does it also apply to unpermitted wells? It is any well within the area of impact. It has to be a legal withdrawal. It does not mean that the well has to be approved or permitted by DEQ, but it has to be a VDH approved well.
- Regarding the VDH Consistence requirements related to public water supplies and withdrawal limits: The limits and requirements mirror previous VDH permits related to public water supply and there are daily limits that have been identified. There is a caveat to that which is “unless DEQ determines there will be damage to the aquifer or environmental impact.”
- What is the logic for a 10 year permit term? The folks that designated/designed the 10-year permit term are no longer with DEQ. According to what we have been told, the logic for a 10-year permit term was that at the time that 10 years represented what was estimated to be the time to equilibrium for the aquifer system. The impact seen from a permitted withdrawal would be realized and taken by the aquifer within 10 years, so the system would then return to equilibrium at that time. The system would stabilize within that 10 year time period. That seemed to be a reasonable period of time for a permit to be in place. There were a number of 5 year permits in place at the time due to federal mandates. Ten years seemed like a reasonable

number. A lot of it apparently was driven by the tools available and the understanding at that time of how the withdrawals impacted the aquifer.

- Is the 10-year permit term a statutory requirement/provision? Yes, it is spelled out in the statute and the regulations.
- Is the 10-year permit term consistent with the new science and the tools that are available now? Yes, relatively – depending on the size and scale of the withdrawal.
- Would a shorter term permit be better suited for a bigger withdrawal? Depends on how you define stabilized in terms of the aquifer. What we have learned is that shorter term higher impact withdrawals come back to equilibrium quicker than consistent long term withdrawals. That is one of the concepts that you see in the drought permit and some of the drought triggers that relate to that. If someone needs a lot of water for a brief period of time to get them through a short drought they could really spike up their use for that short period. Modeling that use and the aquifer water level shows that it returns within a 10 year period. Of course that recovery window flexes somewhat depending on when within the 10-year permit cycle that the spike in use is needed, but it is 90 some percent recoverable within a 10 year period. Twenty-five years ago the best available information we had told us that the system came back to a steady state very quickly and remained there. The best understanding that we have today is that as long as we continue to withdraw water from the aquifer there continues to be some level of decline in water levels within the aquifer. The rate and slope at which that decline occurs changes based on the amount of that withdrawal.
- There is more knowledge about the aquifer system now than when the regulatory limits were first adopted. Now we know that the system functions differently than we first thought. Unfortunately, the additional knowledge that we now have makes it more complicated. But there still seems to a 10-year impact recovery window that we are dealing with.
- Well tags are required in the permit and are a means for DEQ to be able to identify and find those wells in the future to make sure we are talking about the same point. If you want to have a dialogue about whether the model works or not or is it the right tool you need to be able to identify and understand the framework that we are working in. To have a comprehensive understanding you need to be able to specify where the withdrawals and the impacts are occurring within the system. We need to be able to identify how deep is a particular well and how is it constructed, etc. to be able to understand the system.
- The key is having an open dialogue and being flexible within the regulatory framework and having transparency.
- What is considered a “timely permit”? There have been staffing and resource issues that have delayed and continue to delay the issuance of permits. There are still cases where “garbage in – garbage out” creates a delay in the process. There are about 300 permits now and we have about 80 in the que with about 4 or 5 permitting staff working full time on both groundwater and surface water permits, so they can only process those permits so fast. For new permits that are coming in that the applications are “complete” that there have been no issues with have been issued within 1 year to 18 months. That doesn’t mean that there isn’t a significant backlog from

when DEQ have less staff. There are still permit applications that are 10 years old – some of these older longer term permits required VDH or grant funding so that they could replace a well so that they could then meet the requirements to get a permit. These applications/permits are functioning under administrative continuances that the regulatory process allows for under their old permits as they continue to do what is needed to get a new permit. There is a fairly large que, it is a first come/first served. When your permit comes in, it goes to the bottom of the stack, we try to not always do that but we have to recognize that there are other applications in line. The average time period for a new permit as they come in is a year to 18 months. DEQ has almost 50% less staff now than they had in 2006/2007. DEQ has taken steps to address the bottlenecks that have been identified. The modeling part of the permit review process used to take a year or more, today it averages 60 to 75 days. We have made a lot of strides in an effort to speed up the permitting process over the last few years. We are receiving better applications because of the education and open dialogue process that is in place. Can we improve the current process? Yes and we will continue to work to improve the process and the interactions between DEQ and the applicants. This program is the largest portion of the General Fund in the State Budget at DEQ, so when there are state budget cuts, we see the biggest impact. We are continuing to look for ways to improve and streamline the process.

- Regarding the observation wells that are installed, is there a way for the permittee to see the data that the department is gathering from those wells? Is there a way for the applicant to get the results of the department's review of that data? A lot of that data actually comes in from the permittee to the department on a quarterly basis. Some of the water quality and water level data is entered into the USGS system. All of the monitoring wells become wells that are listed on the USGS site. One of the mistakes that people make is that when they go to the USGS site is that they assume that all of the wells are USGS wells. The reality is that the vast majority of the wells are DEQ wells. DEQ and USGS have an integrated joint program that is unique in that way that the two agencies function across the nation. DEQ staff is certified to be able to put information from the DEQ observation wells on the USGS system for Virginia. DEQ can provide the link to that information. The data provides useful real time monitoring for those DEQ Observation wells. There are variability because of some time span controls in the data that need to be considered when reviewing the available data – need to make sure that you consider the time/interval units when viewing the data.

ACTION ITEM: DEQ staff will provide a link to the observation well data that is housed on the USGS site.

- Regarding the 300,000 gals per month trigger: There are zero exceptions to this limit. Once you hit this limit you are required to have a permit – no exceptions. If on the same piece of property there are 4 or 5 different wells and the cumulative result is 300,000 gals per month then a permit is required. The 300,000 gals per month is a regulatory requirement. DEQ looks at water systems, so if there are multiple wells on contiguous properties/adjoining properties then they would be considered one cumulative withdrawal. This is also spelled out in the regulations. So

if you have 3 farms and all of those properties touch one another – if they are all one property owner or system then that would be considered as a cumulative withdrawal for the purposes of the regulation.

- With so much dependence on modeling, what do you do if there is a discrepancy between the model used in the permitting and another model that the permittee might use in their application process? How is that resolved? How are differences in modeling results resolved? DEQ has not had that issue at this stage, but we would have to evaluate the applicant’s model runs to see where there was agreement or disagreement between the models and we would need to address those differences/those concerns. The model is the conservative way to move forward in a permitting process but it doesn’t limit the applicant from submitting additional information/data, such as the results of an aquifer test to be evaluated. The model is not the “end all and be all”. We realize that there are limitations and uncertainties associated with the model. However, the challenge with that is that someone then has to pay for the additional data/the better data to give people the benefit of the doubt. That is often where the monitoring well special conditions come in. Collecting additional data can be fairly expensive.
- Does the state have confidence that the model is accurate? Yes, as accurate as it can be. There are some things that we and other stakeholders have identified that are on a que for regular updates to the model, to try to make sure that it represents the most accurate and best information available. We would like to do these model updates on a more regular basis, but right now it is done on a 5-year basis. But that is driven by resources.
- In other states there is a regular review process around such a model with stakeholder involvement and public comment periods related to regular updates to such a model, so that the types of discrepancies that we have been discussed are fully understood by the regulated community. Would that type of process work with this model? The state is open to that type of process. Given the conversations with the folks with JLARC and their current study efforts, that may even be something that they are interested in proposing. We have never had any opposition to taking that approach but the real limiting factor is there has only been about 3 or 4 people in the state who have ever used the model outside of the DEQ staff and so there was always this close knit group that had the conversations going on all the time about the model because of the people that they represented – so that is how we have dealt with situations regarding differences in the model. Now that there are some broader implications and it affects more people, certainly it makes sense to open that conversation to a wider audience.
- Are there any reporting requirements related to unpermitted users? There are some water withdrawal reporting requirements for “unpermitted users” with withdrawals below the threshold, but that is a voluntary program. When we talk about withdrawals and you meet the threshold it is not voluntary, it is mandatory that you get a permit. The Water Withdrawal Reporting Regulation just says that if you meet these thresholds please report to us. The reporting is mandatory but there is no enforcement. There is no enforcement provision in the statute related to water withdrawal reporting. It is perceived as voluntary because of the lack of any enforcement requirements.

- What percentage of the water withdrawals are “unpermitted”? We don’t know for certain. On the surface water side it appears that there is that on a statewide average approximately 20% of the water budget that is unaccounted for.
- The Mission H2O letter includes a statement that “Currently, the volume of unpermitted withdrawals is estimated to equal actual permitted withdrawals.” Does DEQ agree with that statement? It is probably pretty close to be equal. It was noted that this is based on the USGS report done in 2008. An updated report based on statewide average water withdrawals/use is due out in the next 6 months or so.
- Does the state have information gathering authority to collect this kind of additional data? The Well Construction Information requirement/amendment that were recently passed are a means to allow for the collection of this kind of additional data. The problem is that there are a number of wells that are unpermitted that are not metered or monitored.
- Looking at some of the notes from other workgroups it appears that 40 to 50 mgd permitted withdrawals from the aquifer and about 30 to 40 mgd unpermitted. That is current actual use. The USGS 2008 report estimated the unpermitted withdrawals to be 30 mgd, then if you add a growth factor to it you it puts in the neighborhood of 39 mgd.

4. Identification of Issues to be Worked On (Mark Rubin):

Mark Rubin noted that as we have done with the other workgroups we now need to take some time to identify “what are the problems that we are trying to solve” and “what are the issues that this workgroup needs to be working on”. Two handouts were provided in advance and at the meeting related to the “Permit/Permitting Issues/Concerns raised by the Workgroups during discussions and included in the Meeting Notes” and a Mission H2O Memorandum dated August 18, 2016 on “Topics to be addressed by the Work Group”. What are the problems/issues that we as a workgroup need to be looking at?

Discussions by the Workgroup Members and Interested Parties included the following:

- Who is Mission H2O? “Mission H₂O is a stakeholder group focused on water supply issues in Virginia. Our members are water users (both industrial and agricultural), water providers, and water service professionals. The goal of Mission H₂O is to ensure that sound policy and regulatory decisions are made on issues impacting water supply and water resource management in Virginia.” Andrea Wortzel at Troutman Sanders is the local point of contact and coordinator for the Mission H2O Virginia activities. They have a subgroup that focuses on Groundwater which has provided the “Topics to be Addressed by the Work Group” that was included as a handout for today’s meeting. It was suggested that it is very similar to VAMWA that provides a mechanism and a forum for Waste Water Authorities and Organizations.
- When the next round of permits is issued, which is still on track for the end of the year, there will be significant cuts in the permitted withdrawal amounts for a number of permits. So when those permits come out, what is going to be the urgency to make the reductions that are included in the new permits? It is going to be slightly different for each of the permits. The

desire is for there to be a “glide path” for each situation that is implementable and achievable over that permit term. We are trying to issue permits that ensure that we will realize those reductions to the greatest extent possible over the next 10 years. Depending on the situation that individual permittees are in they will be able to implement the needed reductions from a financial and practicable perspective, they will have different levels of urgency that they will have to deal with regarding timing of those reductions over the next 10 years. For some of the current permit holders that are facing reductions to current use, the needed reductions may take slightly longer than 10 years to achieve.

- Are there any incentives for accomplishing the reductions faster than 10 years? Not that we have defined in advance. Incentives for accomplishing the needed reductions faster than the 10 year schedule would be considered on a case-by-case basis.
- How are unpermitted users being addressed in the reduction scenario and as they relate to alternative sources? As alternative sources are developed how withdrawals that are currently “unpermitted” going to be addressed? How will unpermitted users share in the cost of the development of these new alternative sources and share in the benefits of those alternatives? So as alternative sources come on line, should the unpermitted users somehow be involved in the cost of development of those sources? For example, you are going to benefit from aquifer recharge if you are in the recharge area, but if you are “unpermitted” how do you participate in terms of the costs and the benefits?
- In the current structure, there is nothing in place to encourage alternative sources. There needs to be a “carrot” for the development of alternative sources.
- There needs to be some form of credit for early action within a permitting structure. There needs to be some way to recognize that while absolute reductions in groundwater usage is good that sustainability of the groundwater resource also is going to require that people look at water efficiency, for example, how much water are you using per ton? There are very few mechanism to account for and to encourage water efficiency. It would be useful to hear more this concept. It would be helpful from the perspective of a regulator to know what that incentive or “carrot” might be. It would be useful to know what types of things might be considered as incentives for the various water users? Some kind of credit system based on water efficiency might be effective as an incentive. That pulls in consideration of a “trading system”. Just the ability to create offsets or credits for water efficiency that could count towards your permit obligations would be useful. Or maybe a longer term permit because of “water efficiency credits”. Banking of credits might also be a workable incentive/option so that if the permittee reduces more than required can those “credits” be banked against future use/future reduction requirements?
- A system similar to that used for “LEED Certification” for architectural structures might be useful.
- Right now the regulations are relying heavily on the “model”; “the area of impact”; “critical area”; etc. – given that there is recognized uncertainty in the model, it would be useful to have other criteria and other options embedded in the process in addition to the model. The model right now is the best overall tool for management of the resource. The model has uncertainties

so we need to have other criteria to rely on in addition to the model. The model may over predict in one area while under predicting in another which might lead to a recommendation for denial. The program has never had a recommendation for denial based on the model. It ultimately all depends on the specificity of the alternative method – as long as the alternative method is equivalent to or better than the model then it would be acceptable. It depends on what the method is.

- There needs to be a transparent dialogue and discussion about the model. There needs to be a better understanding among the permittee community on how the model works. There needs to be a robust stakeholder process so that there is clarity on how the model works so that there can be continual improvement of the model.
- The model may over predict in one area but it may under predict in another. We have to be able to accept both areas of uncertainty.
- In terms of improving the model, there needs to be more frequent updates to the model. The data gained from the individual aquifer tests that are being run by the applicant should be included as part of the periodic updates to the model. Incorporation of those data points is included in the comprehensive update schedule for the model. DEQ does not believe in people collecting data that won't be used. Those data gains from the individual aquifer tests are imported into the model – that work is factored into the update schedule. A data management system has been developed in the past year so that this data will be incorporated. What we need to ensure is that the current model, which is the best model available, continues to be the best model available through these continual updates and the incorporation of site specific data from these individual aquifer tests. The issue that will need to be addressed is how do we get “funding” to continually update the model. The issue is the “funding” to update the model on a continual basis. There also needs to be more transparency in updating the model. You need the observation wells, the data points, to be able to update the model.
- It was suggested that a lot of this discussion seems to be a rehash of what other workgroups have been or will be doing. It was suggested that this workgroup's purpose is dealing with the question of how are we going to address unpermitted users in the aquifer in this scenario? It is more than just “how are they going to share the costs” of what others might be doing for alternatives? The overarching issue that this workgroup needs to address is how do we address unpermitted users? Are they in or are they out? What is their responsibility for the condition of the aquifer? We need to deal with the issue of unpermitted users and their relationship to permitted users. That is the overarching issue. It is clear that the other workgroups have punted the issue of unpermitted users to this work group.
- The lack of complete data regarding the withdrawals of unpermitted users (including agricultural and individual homes) was noted as a concern. The lack of data is a huge issue.
- Is the 300,000 gallons per month the right threshold? Is it too restrictive is it not restrictive enough? Is it an appropriate threshold?

- As people may need to get permits – as agricultural users may need to get permits – as this keeps getting notoriety and keeps expanding are we then going to overwhelm the permitting system that already has a backlog of permits to review and issue? Who then comes first?
- The original thought behind the 300,000 gallons was that anyone using more than that has the potential to have an impact on the resource and have an impact beyond your property line and if you are less than that amount then you are less likely to have an impact on the resource and any impacts would only occur within your property boundaries. It was originally a “resource oriented” limitation.
- Generally a withdrawal of 300,000 gallons per month has an impact on the resource and impacts the resource beyond the property line, so there is potential an impact on other users.
- The question is can we look at the issue of unpermitted users individually or do we have to look at them collectively?
- It was suggested that it appears that this work group will need to look at the current permitting structure and current regulatory requirements as well as the issue of unpermitted users. It was noted that DEQ had just recently completed a review of the existing regulation which resulted in a new published regulation a year and a half or two years ago.
- How is the issue of data going to be addressed? There was supposed to be another workgroup to look specifically at the data question but that group has not been formed. Yes, more data is needed but additional data would not be a game changer. It may give a permittee here or there another mgd but nothing major. It might provide some benefit for groundwater alternatives but there is no major bullet that is going to solve the problem. The question is if additional data needs are identified in this process will we have the authority to ask for the information or to fund collecting that additional data?
- Unpermitted withdrawals are already included in the model – they are part of the overall impacts, so if we are seeing these increases and the model is updated to include this increase in unpermitted use then eats away at any gains achieved by the permitted users. The question of unpermitted users will need to be addressed.

5. BREAK

6. Continued Discussions – Data (Mark Rubin):

The following additional item related to the earlier discussions regarding data was raised during the break:

- Lance Gregory with VDH offered to provide a copy of a presentation that he had made to the Virginia Housing Commission regarding data on on-site sewage systems and private wells. The presentation lays out where some of those data gaps are. This may provide some background information to the group as to where those data gaps exist.

ACTION ITEM: Lance Gregory with VDH will provide a copy of the VDH Presentation to the Virginia Housing Commission to Bill Norris for distribution to the Workgroup.

7. Prioritization of Issues (Mark Rubin):

Mark Rubin asked for the group to keep up their efforts to determine and prioritize the issues that this workgroup needs to address in future meetings.

Discussions by the Workgroup included the following:

- From an industrial perspective, the “use it or lose it” scenario needs to be examined. There is a need to see determine how your permitted use and your actual usage coincide. How this is addressed needs to be spelled out and needs to be handled in a consistent manner. On the shorter term, it is likely that we will have to ration. If we get to that point then DEQ is likely to want to go back into the permits and take a closer look at a permittees actual use compared to their permitted use figures. We have talked about the concerns regarding unpermitted users, but the permitted users should not take the hit for their usage.
- We need to look at the notion of a “cushion” that is built into a permit – the difference between a user’s actual usages versus their permitted usage especially at a time when there is a reduced resource.
- Need to look at incentives and credits for actions already taken by a permittee to reduce their usage, so that someone who has been real progressive in terms of water conservation gets some benefit of the doubt. “If everyone is going to get a haircut then what about the bald guy?”
- From an economic development perspectives we need to look at how much opportunity do you have for growth when the dialogue has been around the absolute volume of water that you have. There is a necessity from an economic development standpoint to have to have a “cushion” between your permitted value and your actual use values to accommodate growth and changes in the market or process. The question is how much is enough?
- There is a provision in the regulation that provides that within 5 years if you have not used 60% of your permitted usage, you cut back so that you have that amount of cushion. The idea is that if you have not used that amount in the first 5 years that you probably won’t use it by the end of the next 5 years. This concept probably should be revisited to see if it is actually working and is actually providing the anticipated flexibility.
- The “use it or lose it” concept is an original concept in the regulations and in the statute. In addition to the reference to the 60% after 5 years where the state can pull it back, there also is an unimplemented section of the regulation that appears to suggest that growth in the future would be tied to “how much water you conserve”. Because in the past we have always had available supply, this concept really never got figured out in terms of what it meant. These concepts need to be revised and their needs to be transparency about how they are addressed and implemented in the future, now that an adequate supply is not a given.
- Need to determine how the “reopener clause” can be used the most effectively and what would trigger or provide for the permit being reopened.

- For a lot of the municipal withdrawals there is an “emergency allocation” or a “drought allocation” built into it. The thought is that you would use it for a short period of time, and then you won’t use it. Has this concept been used for industry? It could be used if there was a need for a short term ramp up in water usage to accommodate some unexpected increase in demand. There have been some conversations with the current “14 permittees” about whether or not that could be applied to industry and how it might be operationalized. That is a good concept to take a closer look at. Previously this concept has not been applied to industrial withdrawals.
- The concept of “use it or lose it” probably needs to be clarified.
- The current permitting system is not a “planning system”.
- The group needs to address how economic development outliers are addressed.
- One of the major questions that need to be addressed is the management of expectations. There are going to always be limitations. There are always going to be things that come up expectantly. Planning and permitting need to be linked.
- The length of the permit term needs to be looked at.
- The injection by HRSD and others may have an impact on the resource that needs to be taken into consideration. There is a potential benefit to these activities that needs to be recognized. No one is going to go to the expense of injecting unless there is some benefit.
- In terms of economic planning, it is all a matter of balance. There needs to be some notion of flexibility.
- There is an interest on DEQ’s part to have a discussion about permit terms and providing a resource for economic development.
- How do we protect capital investments that have already been made?
- How do we look at the resource on a holistic basis?
- What kinds of incentives do we need to consider?
- We need to look at the system/the resource from both a regional and a holistic basis.
- We need to look at the use of alternative sources. The use of reclaimed water needs to be part of the evaluation.
- The regulatory requirements for injection needs to be examined. Is there a need for a statutory change to allow DEQ to permit injection wells instead of EPA through their UIC program? Does Virginia need to consider asking for delegation of UIC authority?
- Can the permitting process be streamlined?
- It was suggested that DEQ look at the use of a General Permit concept as a way to streamline and accelerate the permitting process.

8. Flip Chart Notes:

1. Unpermitted users
 - a. Sharing costs and benefits of alternative sources
2. Incentives to use alternative sources

3. Credit for early action to conserve and be efficient
4. Credit to allow banking
5. Something similar to LEED certification of buildings
6. Other options in addition to modeling to eliminate uncertainty
7. Stakeholder process regarding the model
8. More frequent updates of model –
9. Funding for models
10. Unpermitted users
 - a. In/ Out
 - b. Responsibility for condition of aquifer
 - c. Relationship with permitted users
 - d. Data needed
 - e. Is 300,000 the right threshold – criteria is there an impact on the aquifer
 - f. Other criteria
 - g. Look at both individually and cumulatively
11. Actual/Permitted Use
 - a. “Cushion” for economic development
 - b. Credits for conservation and efficiency
 - c. Use it or lose it
 - d. Reopeners
 - e. Short term spikes in demand – industry
12. Length of permit term – financing purpose/ planning purpose
13. Economic outliers how to accommodate
14. Planning/Permit connection
15. Injection – need for certainty that there will be a benefit/credit for investment (EPA permits on quality)
16. Cushion in whole system – not just individual permit
17. Looking at resource holistically
18. Reclaimed water – credit for, certainty benefit at end
19. Incentives for municipality to get folks off of wells and onto public system
20. Time for issuance of permit – can you streamline
21. General permit –transition
22. Fast track permitting – extra fee
 - a. Privatize process – use P.E. certification/ state oversight and training

9. Scheduling and Next Steps:

Mark Rubin informed the workgroup that they had raised a lot of interesting issues that need to be considered and fleshed out in a very short period of time since the work product was due by the end of December.

For the next meeting of the workgroup, the issues raised will be reviewed and aggregated for discussion by the group. For the next meeting the main topic for discussion of the group will be the concept and issue of “unpermitted users”. Mark will contact a number of the workgroup members

individually to identify some specific concerns and issues related to “unpermitted users” for the workgroup to consider. (Whitney Katchmark; Wilmer Stoneman; and Jason Early, and others expressed an interest in assisting in the identification of issues regarding “unpermitted users”.)

Possible dates for the next meeting of the workgroup will be determined and a notice and or Doodle Poll to select the date will be distributed to the Workgroup.

10. Public Comment: No public comment was offered.

11. Meeting Adjournment:

Mark Rubin thanked everyone for their attendance and participation in today's meeting.

The meeting was adjourned at approximately 11:45 A.M.