EASTERN VIRGINIA GROUNDWATER MANAGEMENT ADVISORY COMMITTEE

WORK GROUP #3 – ALTERNATIVE PERMITTING CRITERIA

MEETING NOTES – MEETING #4 - FINAL

FRIDAY, NOVEMBER 18, 2016

VIRGINIA HOUSING CENTER

Meeting Attendees

EVGMAC – WORKGROUP #3	
Curtis Consolvo – GeoResources, Inc.	Mike Kearns – Sussex Service Authority
Jeff Corbin – Restoration Systems	Mike Lawless – Draper Aden Associates
Rich Costello – AES Consulting Engineers/Builders Association of Virginia	Britt McMillian – ARCADIS
Larry Dame – New Kent County	Doug Powell – James City County Service Authority
Bill Gill – Smithfield Foods, Inc.	Wilmer Stoneman – Virginia Farm Bureau
Jonathan Harding – VA Agribusiness Council	Mike Toalson – Home Builders Association of Virginia
Dan Holloway – CH2M/HRSD	Brett Vassey – VMA
Whitney Katchmark – Hampton Roads PDC	Matt Wells - WestRock

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

NOTE: Advisory Committee Members NOT in attendance: Nina Butler – WestRock; David DePippo – Hunton & Williams; Kyle Duffy – International Paper; Judy Dunscomb – The Nature Conservancy; Katie Frazier – Virginia Agribusiness Council; Lance Gregory – VDH; Chris Harbin – City of Norfolk – Department of Utilities; David Jurgens – City of Chesapeake; Craig Maples – City of Chesapeake; Jamie Mitchell – Hampton Roads Sanitation District; Michael Vergakis – James City Service Authority

INTERESTED PARTIES ATTENDING MEETING	
Arielle Brown – Virginia Farm Bureau	Andy Flavin – Troutman Sanders

SUPPORT STAFF ATTENDING MEETING	
Brandon Bull - DEQ	Bill Norris - DEQ
Craig Nicol - DEQ	Mark Rubin – VA Center for Consensus Building

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. He thanked everyone for attending the meeting.

2. **Review of Agenda (Mark Rubin):**

Mark Rubin reviewed the agenda for the meeting and noted the plan for today's meeting are to continue our discussions about "unpermitted users"; the Homework Assignment will be part of the discussion as we go along so we probably won't talk about that specifically.

The goal today is where the group can come to recommendations where there is consensus, great, if we don't then we are still going to have things that are options for the Advisory Committee to consider – they will have the context of the discussions even if we don't reach a consensus.

3. **Continued Discussions: Unpermitted Users (Mark Rubin):**

Mark Rubin noted that we need to finish up our discussions on "unpermitted users" and consider some assumptions that we might make regarding those discussions.

He noted that based on our discussions that we have generally agreed on the following:

- That unpermitted users have a proportionate responsibility to the aquifer.
- The individual impacts of the unpermitted users is really not the issue, it is the cumulative impacts that they have on the aquifer.

And maybe not so much agreement on the following:

- That water is a state resource subject to management, but landowners have an expectation that they can drill and use the water that is under their property – it is a very conflicted sort of notion – the law is that water is a state resource – the expectation and the perception is that it is a private right to be able to pull water out of the ground if you want to – it is the reality of the situation.

Mark noted that it seems that the question that we are dealing with is not really whether to manage unpermitted users or not since there seems to be a general consensus that they need to be managed but the question is how to manage them.

He asked the group whether those are fair assumptions to be working off of.

CONSENSUS: There was a general consensus that the assumptions outlined above were fair assumptions for the group to move forward with.

The question was raised as to "who are those unpermitted users"? It is everyone who is withdrawing water in amounts under the 300,000 gallon threshold amount. If this is the base for unpermitted users then the question then becomes how do you manage those users? The discussions from our previous meetings is that amount of water that is coming out through unpermitted users is of equal concern to the amount of water that is coming out through permitted users.

4. **Data Gap Discussions (Mark Rubin and Workgroup):**

If we are talking about how to manage the unpermitted users, one of the first questions that needs to be addressed is the need for data. One of the things that we have talked about is trying to better understand the usage by unpermitted users and there was a suggestion that we require reporting of withdrawals by all users, permitted and unpermitted.

Group discussions included the following:

- Based on the statistics that VDH shared with the Workgroup there is a significant lack of data surrounding unpermitted users. There was agreement that there were gaps but there was uncertainty on how significant those gaps were.
- There is more data needed – the question is "how do you get it?" How onerous would it be on people to get this additional data? You can't make it so hard that nobody is going to comply with the reporting requirement. If you are going to require reporting of this data then there is going to have to be some kind of performance check built into it – so that we would actually get the data. We can't be back here 5 years from now struggling over the same data gaps. It also has to be practicable.
- You might be able to incentivize reporting by adjusting a fee somehow so that those that report pay a lesser fee or incentivize somehow those that don't report pay more.
- How do you determine the accuracy of that reporting? You could require that there be a meter that could be offset by the reduction in the fee.
- Do we have a good understanding on how much the unpermitted users is "domestic home use" relative to the unpermitted "other"? Basically there are two classes of unpermitted use – those commercial and small industrial users that fall under the 300,000 gallon a month target (it would be easier for those folks to report) and then there is the individual homeowners – it may be tough to get every individual homeowner to report their use. So we have these two classes but if the small commercial and small industrial users in this category are only a small percent we really are gaining much by requiring them to report. Is this data available? No – we have some VDH data related to homes – what they think the monthly average home use is but not what the estimate for average monthly small commercial/industrial use is. The VDH data does tell whether the usage is industrial irrigation and what type of use the well is being used for. You can classify the number and types of wells but you can't necessarily quality or classify the volume of use associated with those wells.
- VDH and almost every public service utility uses 325 gallons per day per household and that has a safety factor built into it so that is a good number. Of the total yearly use how much is the lawn irrigation for James City County? It is probable close to 20% of the total usage on an annual basis, so say for the month of August it would be higher that 20%. Regardless of how you look at it "irrigation use" is a large percentage of the total use.
- It was suggested that you really don't want to collect data on an individual household basis – that would be too much data – too much information.

- It was suggested that a significant portion of the unpermitted use that we are trying to get a handle on and address is the water used for lawn irrigation.
- It was suggested that instead of having to meter everybody could you just collect data from a wide variety of homes and "use types" to get better numbers for each and then use VDH well numbers (or DEQ well numbers) to multiply out the volumes used... Do we have a good handle on how many unpermitted uses there are that are using the water for lawn irrigation? You know how many houses there are and you know how many houses are on public water so you could figure out how many are on private wells.
- It was noted that the USGS data which was compiled about 10 years ago is the information that DEQ currently uses in their model – the data is coastal plain wide including the Eastern Shore.
- The VDH information going forward regarding wells is pretty good – it is the information on existing wells/historic data where there are significant gaps in the data – there is a historical gap in the data - but is it really necessary to try and go back in regard to estimating use if we are just going to try and update the USGS values?
- Going forward the VDH data misses geothermal wells (open-loop) and it misses irrigation wells in places where there is public water. It was noted that the open-loop geothermal wells are being phased out/prohibited.

FLIP-CHART NOTES:

Data – Report all Withdrawals:

1. **Incentivize reporting**
2. **Industrial/Commercial versus Residential (estimate)**

Going Forward:

1. **Cure historical gaps regarding volume**
2. **Address other gaps in the data – open-loop geothermal; irrigation wells in public utility service areas**

Look at Lowering the Permitting Threshold (for Reporting – A General Permit Concept)

Continued Discussions:

- There is a separate "Reporting Regulation" so it could be as simple as lowering the reporting threshold.
- A suggestion was made to have a requirement for users in a public utility service area to connect to the public system instead of using a private well – a mandatory hook-up. It was noted that this is a hard sell. It may be a little easier for a homeowner to accept than a business but there is a lot of resistance to having a mandatory hook-up requirement. The issue usually is that they already have their well and their pumps in and they have already made an investment

and having to pay an additional fee to hook into the public system is too much. The way that the state Code is currently written that if they have an existing well and an existing septic system and as long as it is not failing the locality can do nothing other than make them pay the fee and collect a minimum charge. The State Code would need to be changed to make someone in a public utility service area to connect to the public system and to discontinue the use of their individual private well.

- Regarding "curing/closing the historical data gap" concept – that is not necessarily determining the location of wells but more about determining the volume of usage.
- It was noted that for smaller unpermitted systems that for a public system whether is publically owned or privately owned the usage still has to be reported. Even if those system fall below the 300,000 gallon a month threshold that usage is still being reported for those systems.
- It was noted that the 325 gallons per day is a reasonable number as an estimate of use across the coastal plain even though it is probably high. It is more likely that the current usage s around 180 – 200 gallons per day. It was suggested that you could do some sampling to get a more accurate volume number if necessary.
- It was noted that for folks that come off of a private system and go to a metered public system that they have "sticker shock" because they don't have any concept of the volume of water that they are using on a regular basis. When you are paying for the water you become more conscious of what you are using.
- There are a number of low-flow devices available but how do you get a homeowner on a private well to utilize them when they have no incentive to conserve?
- How do we get even a ball park figure on the lawn irrigation usage?
- Staff noted that the discussion has been related to curing a historical data gap versus what we have to do going forward. If we already have data provided by USGS and other sources that provide a historic basis is it significant at this point and time to try to cure that gap or do we use the number that we have in the model now and find a way to not have that gap moving forward.
- So the question is do we really want to try to cure the historical gap or are we just going to move forward and try to use some modeling to figure it out? It was suggested that if we were to attempt to cure the historical gap that the numbers might be different but it is likely that the conclusions would be the same.
- It would be very beneficial/valuable to have more accurate data moving forward.

FLIP-CHART NOTES – RECOMMENDATIONS:

1. **Update the 10-Year Old USGS Study Data**
2. **Get a Better Estimate of the Water Usage by Non-Permitted Users – Volume of Irrigation – Could be done through some sampling - a subset of samples across the Coastal Plain**
3. **Determine the threshold for reporting and the period it is set for (5 years?) – Lowering the threshold – setting an appropriate threshold for reporting going forward – annual reporting for all users – modifying the reporting regulation**

Continued Discussions Included the Following:

- It was noted that the likely reaction to requiring reporting is that "if you are going to require someone to report then eventually you will require them to get a permit and make them pay for it". It was also noted that this might result in an additional number of users who will be non-compliant, i.e., not reporting.
- It was suggested that the workgroup's recommendations to the Advisory Committee should be recommendations that are relatively achievable and not just "feel-good.
- It was noted that the original 300,000 gallons a month number that is being used as the threshold is a number that came out of Maryland. Generically it came down to 10,000 gallons per day and 10,000 gallons per day separates the domestic user and agricultural users from other users.
- Regarding the permitting process itself: The harder we make this process – the more onerous that we make the permitting process – the more paper driven – the more compliance oriented – the more cost that is associated with it – the more opposition there will be to it. DEQ has said that they don't have the resources to automate this process. It was suggested that if a little community bank can automate all of a customer's bill paying and it works every year until the numbers change then there should be no reason why as a State that we can't set up a simple compliance system that will work. The easier that you make the process the more acceptance and the less opposition there will be.
- It was recommended that the recommendation should be to "**examine the appropriate threshold for reporting"**.
- It was also recommended that a period of time for the specific reporting threshold should also be designated. Is it a 5 year period that the threshold is set and then it is reevaluated? An annual reporting period would probably be acceptable. It was noted that **monthly** reporting of use would be a lot more onerous than "yearly" reporting.

5. Require/Encourage Connection to the Public System Discussions (Mark Rubin/Workgroup):

Mark introduced the next topic for discussion which was encouraging connection to the public system.

Discussions by the Workgroup included the following:

- It was noted that in areas where they are trying to encourage the connection to the public system that it does not work 100% of the time – approximately 75% to 80% of those within the public system service area ending up connecting to the system – the caveat to the current process is that "you can't take their existing well away from them". That private well is used for lawn irrigation and for washing cars, etc. Some users have actually interconnected the systems but

when the foot valve on some of these shallow wells that are interconnected fail the public water goes right into the well and they get a $100,000 water bill – the approach has been in that case that if the user will shut down the private well and take it out of service that a credit is given for the amount of water that was routed back into the well from the public system.

- The workgroup discussed the concept of encouraging the connection to the public system.
- It was suggested that no one should object to researching incentives for connections to the public water system. Requiring mandatory connections is probably not achievable currently but you are eventually going to get there one day.
- All people benefit from people using less water.
- Could a tariff approach be used?
- The question becomes how do you fund the incentives? And then who would get the money and what would they do with it?
- Could something like a "Meals Tax" be passed and used to support funding of incentives? The fund would have to be dedicated to preservation of the water resource – preservation of the aquifer. Dedicated to water conservation. Would this be a disincentive to reporting? The tax would be applied to public systems where there would be a meter that records the water usage not on the private unpermitted users.
- It could be a "Connection Fee" or an "Availability Fee" – this would need to be done on a local level.
- The need to be consistency across the region – across the basin was discussed – no consensus was reached. We need to cognizant of consistency where available and where appropriate.

FLIP-CHART NOTES/RECOMMENDATIONS:

1. **New construction – mandatory?**
   a. **Residential and Commercial – Readily available at the site (within 300 feet?) – In the service area you must connect.**
   b. **Connection fee must be reasonable.**
2. **Create incentives for existing wells owners to connect to public water system**
   a. **Reduction in fees**
   b. **Low cost financing**
   c. **How to fund incentives?**
   d. **Need for consistency of programs across the jurisdictions.**
   e. **Incentives to expand public supply**
   f. **Incentive/Disincentive for conservation – existing well users**

---

6. **BREAK: 10:20 – 10:30**

7. **Compilation of Homework Assignment Responses (Mark Rubin)**

Mark asked that the workgroup members and interested parties look at the compilation document and the list of names included on the last page of the document. The folks that submitted responses are noted in that list on the last page. If you had submitted a response to the Homework Assignment and your name is not included please resubmit your comments to Bill Norris so that your comments can be included.

ACTION ITEM: The Compilation of the Homework Assignment Responses will be revised with any resubmitted responses and will be distributed to the Workgroup.

8. **Continuation of Discussion on Unpermitted Users – Irrigation (Mark Rubin):**

Mark Rubin noted that in continuing our discussions about unpermitted users that we are now looking at the concept of prohibiting the installation of private wells for lawn irrigation. Our discussions before have included a strict prohibition and the concept of only allowing it if they weren't withdrawing from the Potomac Aquifer.

Discussions by the Workgroup Included the Following:

- It was suggested that there was very little impact from irrigation if it is from an unconfined aquifer.
- It was suggested that another source of irrigation water could be reclaimed water (treated wastewater to a certain level).
- Stormwater could also be a source of irrigation water – typically used of common area irrigation – it is not a good source during droughts.
- There have been discussions about limiting the use for each aquifer through the permitting process in our past meetings.
- It was noted that this whole exercise is talking about unpermitted users – there are limited areas and aquifers where those uses have an impact. This process could be focused down to where we get the most "bang for the buck". For designating aquifers for specific uses – we have these precious confined aquifers where the withdrawal impacts are far reaching and where the recharge is little to none – the most focus we can put on those aquifers and those areas the better and as many restrictions that we can put on uses that are not absolutely necessary the better.
- There should be a blanket prohibition on any new open-loop geothermal systems. Closed-Loop system work much better anyway. Open-Loop system only work for a year before they stop working – the have a fundamental flaw.
- The group discussed the concept of designating specific uses for specific aquifers in specific regions. Is this too difficult an undertaking? There is a lot of merit to this approach especially if you add the phrase "in certain regions". It is not an equal issue in terms of the groundwater resource.

- This concept of designating uses should apply to all aquifers and to all users not just unpermitted users. Could also be used to encourage certain uses in certain areas and aquifers.
- This concept should be applied only moving forward, not retroactive unless they are replacing a well – that is managing the aquifer moving forward.

FLIP-CHART NOTES/RECOMMENDATIONS

---

1. **Irrigation**
    a. **Only allow irrigation wells from unconfined aquifers**
    b. **Use reclaimed water for irrigation**
    c. **Use stormwater for irrigation**
2. **Open-Loop Geothermal – Prohibit**
3. **Designate uses from all aquifers in particular regions based on impact – going forward.**

---

9. **Fees for Use of Groundwater for Unpermitted Users (Mark Rubin):**

Mark introduced the concept of having fees for use of groundwater for unpermitted users.

Discussions by the Workgroup included the following:

- What would be the purpose of the fee? Is it to provide the information that we need? Is it to support the collection of needed data? The way that this concept has previously been discussed is that it could serve as an "aquifer replenishment fee". The money would be used for projects and for incentives.
- If you are going to inject water into the aquifer – it is going to cost money to inject that water – so there has to be some payment for it – maybe it would allow the trading of credits as a means of recovering some of the cost.
- It was noted that the JLARC report contained some discussions of fees in it.
- It was suggested that most of the discussions related to fees should be deferred to the Funding Workgroup that is meeting immediately after this meeting.
- The fees could be used to support recharge and also reuse or it could be used to help determine how much the unpermitted users are actually using.
- It was noted that any fee needs to be reasonable and would need to apply to a broad base.
- The fee could also go to the pool for building needed infrastructure.
- It was suggested that the Funding Workgroup should look at the Hampton Roads Transportation Tax as a model for a funding structure that could be used.
- It was suggested that the fee could/should apply to all water users.
- It was noted that Agriculture is not going to agree to a fee.
- It was noted that this approach does not have consensus of the group and will be presented as an option to the Advisory Committee.

- It was suggested that you might be able to tier the fees depending on the source.
- What is a reasonable fee? Someone needs to calculate the amount of money that is needed and whether the resulting fee amount is reasonable or worth the effort to enact and to try collect.
- Is this a state; a local; or a regional issue? It is likely to be a state issue. Maybe it should only apply to designated "Water Management Areas".

FLIP-CHART NOTES – FEES – OPTION:

1. **Fees Supporting:**

    a. **Aquifer replenishment**
    b. **Incentives**
    c. **Reclamation**
    d. **Capacity**

[Look at the Hampton Roads Transportation Tax as a Fee Model]

2. **Possible Tiers for Fees based on Aquifer**
3. **What will a reasonable fee bring in? Will it be enough to help?**
4. **Look at whether this is a State; Local or Regional issue – should it be applied only to designated "Water Management Areas"?**

---

10. **Lower the Threshold that would Require a Permit (Mark Rubin)**

Mark noted that another option that had been discussed as a way of addressing "unpermitted users" was to lower the threshold that it takes to require a permit. We have already discussed the idea of lowering the threshold for the purposes of reporting. What about the notion of lower the threshold with regard to a permit?

Discussions by the Workgroup included the following:

- It was suggested that DEQ is overtaxed as it is and lowering the threshold would just result in more permits to be worked on and issued.
- It was suggested that there might not be much value in taking this approach.
- It was suggested that the only way that you could lower the permit threshold would be if you made the process requiring the permit substantially more efficient and at a lower cost.
- Even going to the use of a General Permit might not give us the needed efforts at conservation of the resource that have been discussed.

CONSENSUS: The workgroup agreed that lowering the threshold for requiring a permit would not be of much value and should not be a recommendation.

11. Limiting the Size of Wells (Mark Rubin):

Mark noted that the last concept that had been raised was that of "limiting the size of wells" as a way to conserve the resource and to address unpermitted users.

Discussions by the Workgroup included the following:

- It was suggested that this would essentially be putting a design capacity on well construction, which would limit the ability to pump above a certain volume.
- It was noted that this could be effective in specific areas and not so much in others. It was suggested that this concept would not be a productive or useful thing to try to implement.

CONSENSUS: Should not pursue this option of limiting the size of the well.

12. Integration of Planning and Permitting (Mark Rubin):

Mark introduced the topic of the "integration of planning and permitting". He noted that we had a discussion about this topic at the Joint Meeting of Workgroups #1 and #2A on Tuesday, November 15th and it didn't go well. It is fair to say that there was a general sense that there ought to be more communication with stakeholders in the planning process. The question of what mechanism that would take might be some type of voluntary, independent group (a 501(c) (3)?) – Some type of forum that would allow for those discussions to take place. The question for this workgroup is to whether to include planning as a permitting criterion or not? The general sense of the Joint Workgroups was that if you are adding the concept of "planning" into the permitting process that it is going to increase the complexity of the permitting process. It was suggested that the permitting process is already complex enough and it takes a long time in its current structure and if you were going to create another "approval" body you would be increasing that approval time and making it more complex. The issue that we are talking about is permitting is "first come/first served" and is an individual look and review and the question is how do you get that broader perspective for the region into the permitting process?

Discussions by the Workgroup included the following:

- It was noted that with the current Water Supply Planning Program and the Permitting Program what little planning is done is done at the state level. The permits are approved if they meet the guidelines and they are reviewed and approved on an individual basis not on a region or basin wide basis – it is a "first come/first served" process.
- The question that was discussed at Tuesday's meeting was whether there should be regional or some kind of other planning organization that sort of prioritizes these Water Supply Plans. The objective was that this would be just another process that would be added to the existing process that you would have to go through.
- It was noted that there is likely to be objections to a process where if a locality goes through the planning process and has done its "due diligence" to identify the "best source" and then there is

another level of review besides the state that that decision is going to be routed through for approval before it goes to the state. Why would you want to add another layer to the process?

- It might work if there was an informal group that discusses the options and the state of the resource and that meets on a regular basis but their approval is not sought or required. The benefit is the ability and the mechanism to get the people talking.
- The idea of having more communication was discussed.
- It was suggested that if there was a way to encourage and to have more discussions on the front end of the process that it might make it a more efficient process. Planning is needed on the front end.
- The concept of having a regional organization that allows for greater stakeholder involvement was discussed.
- It was noted that the recent requirement to develop a Water Supply Plan has resulted in there being more data on the resource and the planned use of that resource than there ever has been before – what sources are out there – who has water – who needs water, etc. It was noted that it might be tough to make the process better and still have it as a voluntary effort. Maybe a better plan might be able to identify what is the next couple of projects that could help fill in the gaps in demand in the future if we keep growing.
- Staff noted: Do the State Water Resources Plan and the planning component that exists in the Office of Water Supply need to be enhanced in a way so that it can better inform the permitting processes? Or do you create some sort of additional step that suddenly creates another hurdle that goes into the permitting process? There are already regulations that say (in the VWP and the Groundwater Regulations) that we have to evaluate water supply plans. So DEQ reaches out to the planners that developed the local and regional water supply plans and ask them to look – they evaluate if they see any large outliers or discrepancies in the permit based on the plan and give recommendations back to the permit writer as part of an internal process.
- It was noted that one of the recommendations and comments made in the JLARC report was that the Water Supply Plans are done on a very localized level and don't look at the region as a whole – so those processes are not tied together. A larger group of stakeholders that could get together and work through the water supply plans on a more regional level would be useful and would provide for a more effective and applicable water supply planning effort.
- There needs to be a link between planning and permitting but the link is not "submit your permit and review the permit against the plan". The link should be much earlier in the process. The planning should identify what you are going to seek a permit for? What are you going to build? And, what is the best option for the region? The question is how you facilitate those kinds of conversations early in the process so that it actually makes the permitting process easier because everyone buys in to what that alternative is before the permit is even submitted.
- It needs to be a 3rd party group – you only have the right to exclude yourself.
- The question was raised as to how do different groups even know about the meeting and that they even want to come to the meeting of such a 3rd Party group? There are users (the general public) who are not included in these ongoing discussions.

- It was noted that there are plenty of vetting to do in this process.

FLIP-CHART NOTES:

1. **Planning – Permitting**
    a. **No to adding as a permit criteria**
    b. **Yes to having a Regional body for communication – PDCs, regulators, stakeholders**
2. **Enhanced Planning Process to "inform" the permitting process**
    a. **Incentivize regional plans**
    b. **Use information early in the process to help guide the process.**

---

13. Permitted Users (Mark Rubin/Craig Nicol):

Mark noted that there were a couple of issues related to "permitted users" that we need to walk through in our discussions today. One of the questions was raised was how often should the model be validated against new information that is picked up through metering so that there is more confidence in the model?

Craig Nicol noted the following:

- The industry standard recalibrating models is typically around 10-years.
- Right now the RFP that DEQ utilize with modeling contractor that DEQ has established a 5-year update to the framework itself (how the model is built and constructed). The total permitted scenario which DEQ used was updated every 3 to 5 years but now if updated annually based on annual and updated pumpage data.
- The current RFP runs for another 2 years.
- This is a pretty aggressive approach compared to other models that are used elsewhere.
- These actions were taken after hearing discussions up to 2014 and knowing that in 2014 DEQ had just rebuild the framework for the model that we needed to be better at what we do and that the model needs to have a little more certainty to it and that it also needed to be a little more "real-time".

Discussions by the Workgroup included the following:

- So DEQ looks at the model every 5 years and new data is reloaded every year. Staff noted that fresh data for pumpage and volume and who has permitted limits is updated once a year. That is not validation that is just uploading new information. Every 5 years based on all of the geophysical data (bore holes, cores, etc.) the model is fine-tuned based on that data to make it more and more realistic.

- It was suggested that there needs to be more transparency in the model. It was suggested that it might be a better process if there was stakeholder involvement during the validation process instead of the updated and new validated model just being released as completed. It would be nice for stakeholders to be involved in the "why was it changed" discussions before it is actually changed – during the validation process – the changes to the framework.
- How long does it take to do the framework update? Staff noted that it depends on how busy the modeler is – but it probably takes 6 to 8 months – but likely about a year or two.
- Does a validated model lead to a more accurate allocation in the permit? Staff noted that is the intent. The model is more accurately predicting the true impacts.
- The model is validated every 5 years – no reason to do it more frequently than that. The industry standard is 10 years, but DEQ is doing it on a 5-year basis.
- It was suggested that stakeholder involvement is needed while it is being developed.
- Staff noted that it was a 10-year cycle up until 2014 when it was shifted to a 5-year period so in 2019 the validation process will be done again. The change was done as part of the expansion of the Management Area that was done in 2014. The first and the next recalibration will probably result in the most changes to the model as a result of getting all of the data that comes in from the expanded area and from all of those 123 permittees that are coming on line as a result of that expansion. In the Middle Peninsula and the Northern Neck you will see the most changes.
- How many years have you been doing modeling? DEQ has been using models in some form since the 1970's. The enhanced modeling effort has probably been going on for 15 years.
- It was noted that there is a lot of "truthing" in the Virginia model.
- Staff noted that they do model runs using both the total permitted and the actual use figures and will continue to run both reports. It was noted that it would be important to continue this process.

FLIP-CHART NOTES – RECOMMENDATIONS:

Model Validation:

1. **Make process of changing the model (framework) more transparent – involve stakeholders**
2. **5-Year Process**
3. **Continue Tracking Actual Use**

---

14. Permit Terms/Reopeners Discussions (Mark Rubin):

Mark noted that the next topic/issue was "permit terms" and the idea of including "reopeners" in the permits. Currently the permit term is for a period of 10 years and the permit currently include a "reopener" mechanism. The discussions have been that the 10-year permit term does not fit with the financing terms for a large project. On the other side the question has been how long can you permit

something – what is the right term limit - and still be able to take care of the aquifer while providing reliability to the permit holder? So the question is what you want to do if anything about lengthening, shortening, reopening permit terms?

Discussions by the Workgroup included the following:

- It was noted that it might be useful to hear from those who suggested lengthening the permit term if the permittee agreed to less permitted use – that was legislation that was proposed by Chris Pomeroy last session.
- Is there any reason why we wouldn't look at linking this to the surface water permit term? The surface water withdrawal permit term is for 15-years. At a minimum we should make the permit term consistent with that for surface water. That would be an easy part to start. That would be a start to trying to integrate water resource management to a degree. That seems to be reasonable.
- The information on permit terms in other states contained in Appendix F of the JLARC report was referenced and briefly discussed.
- It was suggested that we might want to consider a 20-year permit term similar to that found in the Executive Order 52 (EO52) recommendations related to Wastewater Treatment.
- DEQ has always has reopeners in their permits but has not used them.
- How does the concept of a 20-year permit term address the responsibility to protect the aquifer?
- Staff noted that even though there are reopeners that really is not a precedent or a practice to use a reopener. The political will to actually reopen a permit is an unknown in this process.
- There is need for certainty.
- There would need to be some political will behind allowing DEQ to use a reopener.
- The workgroup discussed the concept of the use of a "reopener".
- There needs to be consistency for surface water and groundwater.
- Let DEQ work on the reopener conditions/criteria.

FLIP-CHART NOTES – PERMIT TERMS:

1. **Make term same as surface water (15 Years) or same as wastewater (20 Years)**
2. **Reopeners have not been used (could be needed if term is lengthened)**
3. **Risk – 20 years means a bigger change**
4. **Make surface water and groundwater permit terms consistent.**
5. **New to revisit reopener criteria.**

---

15. "Use it or Lose it" Concept Discussions (Mark Rubin):

Mark introduced the concept of "Use it or lose it". He noted that there were two questions. The first being: In permitting should there still be this notion of a "cushion" in the permit? You are not actually asking for what you are using but you are leaving run for future growth. In a system where you are

over-allocated do you still want to have that notion in permitting?

Discussions by the Workgroup included the following:

- If you end up with a 20-year permit term you want to have a 20-year growth factor built into the permit.
- The age old question is how do you accurately predict that 20-year growth factor? What is a realistic estimate?
- This might be an area where a reopener could be used. You could go back into the permits and looked at the use projections, i.e., the 5-year 60% reopener.
- Staff noted that there can be automated permit conditions to ratchet volumes down. If you don't use a certain percentage by a certain time then it goes down by a certain amount (i.e., 1 MGD), depending on what your permitting thresholds were. Or at a minimum the permittee would have to revise their projections and you would need to revise the permit based on those revised projections.
- You could link the permit to the regional water supply plan related the projections of water needs/water demands.
- Staff noted that in the current permits that there is a tiered concept currently being used based on projections of use – which is also a component of the Water Supply Plan.
- It was also noted that the projections could also be tied to an efficiency factor based on productions (unit of production).
- Addressing the cushion issue and what to do with it – if we don't use it – it is just sitting there – what do we do with it? Has DEQ made a decision or do they have a thought on whether it is more efficient for permittees to come and get revisions to their permits if they need more or is trading a more efficient method? Where the market just handles it? The group discussed the trading concept briefly.
- The concept of the use of low flow devices was raised. These devices are available for home; industrial; commercial; as well as agricultural use.

CONSENSUS: The workgroup noted that the idea of allowing for a "cushion" as to the volume requested in a permit should be continued. There is a need to include a realistic growth factor in the permit.

FLIP-CHART NOTES – USE IT OR LOSE IT:

1. **Leave "cushion" in as to volume requested.**
2. **Stronger enforcement of statutory "qualified" re-opener.**
3. **Link "cushion" to water supply/resource plan.**
4. **Tie increase in number (volume) to completion of infrastructure necessary to use increase**

5. **Use of a tiered annual amount – accommodation of portions of cushion hinged to specific actions – infrastructure development**
6. **Industrial – permit criteria – tied to number of gallons per unit of production (gives benefit for conservation)**
7. **Is trading a more efficient form of allocation?**
8. **Need to have qualified reopeners based on conservation – create certainty.**

---

16. Wrap-Up/Next Steps:

It was noted that there is another meeting of this workgroup (Workgroup #3 – Alternative Permitting Criteria) currently scheduled for Thursday, December 15th from 1:00 – 4:00. The workgroup discussed whether there was a need for another meeting and decided to cancel the meeting. The workgroup noted that they would rather receive information related to today's meeting and any recommendations to the Advisory Committee via email distribution than having another meeting this year.

ACTION ITEM: The Workgroup recommended canceling the meeting scheduled for December 15th. The meeting of the workgroup will be cancelled based on the wishes of the Workgroup.

It was noted that the next workgroup meeting is Workgroup #4 – Funding is this afternoon from 1:00 – 4:00 here at DEQ PRO followed by a meeting on Tuesday, December 13th at Troutman Sanders from 1:00 – 4:00.

Mark noted that he would be preparing the recommendations and options that will be presented to the Advisory Committee from all of the workgroups at their next meeting (which won't be until March due to the General Assembly Session) and will send those out to the Workgroups for their review and comment prior to distribution to the Advisory Committee.

17. Public Comment: No public comment was offered.

18. Meeting Adjournment:

Mark Rubin thanked everyone for their attendance and participation in today's meeting and noted that it had been a very successful meeting.

The meeting was adjourned at approximately 11:50 A.M.