

**EASTERN VIRGINIA GROUNDWATER MANAGEMENT  
ADVISORY COMMITTEE**

**WORK GROUP #2B – TRADING**

**MEETING NOTES – MEETING #6 - DRAFT**

**THURSDAY, DECEMBER, 2016**

**1:00 A.M. – 4:00 P.M.**

**TROUTMAN SANDERS**

**Meeting Attendees**

<b>EVGMAC – WORKGROUP #2B</b>	
Eric Gregory – King George County	Kurt Stephenson – Virginia Tech
Whitney Katchmark - HRPDC	Shannon Varner – Troutman Sanders/Mission H2O
Britt McMillan – ARCADIS – Eastern Shore Groundwater Committee	Matt Wells - WestRock
Chris Pomeroy – Western Tidewater Water Authority/AquaLaw	

<b>EVGMAC – WORKGROUP #2B – STATE AGENCIES</b>	
Scott Kudlas – DEQ – Central Office	

NOTE: Workgroup Members NOT in attendance: Terry Blankenship – Aqua Virginia; Jeff Gregson – VA Well Drillers Association; Lewie Lawrence – Middle Peninsula PDC; Sandi McNinch – VA Economic Development Partnership; Jamie Mitchell – Hampton Roads Sanitation District; Don Rice – City of Newport News; Wilmer Stoneman – Virginia Farm Bureau

<b>INTERESTED PARTIES ATTENDING MEETING</b>	

<b>SUPPORT STAFF ATTENDING MEETING</b>	
Bill Norris - DEQ	Jutta Schneider - DEQ
Mark Rubin – VA Center for Consensus Building	

**HANDOUTS:**

- **Agenda – DRAFT – Included in Distribution prior to meeting;**
- **Workgroup Meeting Notes – May 20, 2016 – Included in Distribution prior to meeting;**
- **Groundwater Banking (ASR) Strawman – Included in Distribution prior to meeting;**
- **Australian Model – Australia Water Sharing Policy Model: Illustrative Application for Virginia – Distributed at the Meeting**

## **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 and asked for introductions.

## **2. Discussion: What does the Group want to get out of trading? What should trading accomplish?**

Mark Rubin introduced the topic of trading and asked what does the group want to get out of trading and what should trading accomplish?

### **Discussions by the Workgroup Included the Following:**

- One of the main purposes of trading is a means for permittees to be in compliance with their withdrawal limits and still be able to meet their needs.
- Economic efficiency – cost effective. - Not just for individual users but economic efficiency throughout the region – the ability to efficiently allocate capital throughout the region.
- The system that is set up should encourage beneficial projects or activities – projects or activities that are beneficial to the aquifer – creating a value by your action.
- There should be an element of flexibility – meeting your performance standards but having more flexibility.
- Trading programs incentivize good behavior and investments – whether it is a mechanism to reduce a withdrawal or to create a new source or to improve infrastructure.
- From a regulatory perspective, staff noted that DEQ is kind of neutral on trading as long as it doesn't interfere with DEQ achieving its environmental agenda.
- One of the advantages of a trading program is that it gives you a mechanism to deal with the growth of new sources and it makes explicit for everyone involved what aquifer goals you are trying to achieve and a mechanism to achieve them.
- If the Commonwealth does something like this, when you get down to really doing it, we need to bring as much clarity to the interface between the regulatory program and the trading program. It is not as easy as it sounds because this is being bolted onto an existing regulatory program.
- It was noted that is touching on some of the things that are included in the draft ASR banking program strawman that had been developed during previous meetings and that was distributed for today's meeting.
- There needs to be stability and predictability.

## **3. Description and Discussion: The Australian Model:**

Kurt Stephenson introduced the concept of “The Australian Model” and presented the following information:

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## Australia Water Sharing Policy Model: Illustrative Application for Virginia

Kurt Stephenson<sup>1</sup> and Gwendolen DeBoe<sup>2</sup>

Australia has developed a national water sharing policy framework that has applicability for Virginia. This policy brief summarizes in conceptual terms the Australian approach to managing scarce water resources. We illustrate how the key conceptual elements of the Australian model could be used within the existing Virginia law and could incorporate ideas being explored by the Eastern Virginia Groundwater Advisory Committee (EVGWAC).

### *The Australian Approach: A Brief Synopsis*

Australia's water allocation system is a comprehensive system that specifies broad goals and well-defined implementation rules that govern both surface and groundwater. Like Virginia, Australia considers a public resource:

“In Australia water is vested in governments that allow other parties to access and use water for a variety of purposes – whether irrigation, industrial use, mining, servicing rural and urban communities, or for amenity values. Decisions about water management involve balancing sets of economic, environmental and other interests. The framework within which water is allocated attaches both rights and responsibilities to water users – a right to a share of the water made available for extraction at any particular time, and a responsibility to use this water in accordance with usage conditions set by government. Likewise, governments have a responsibility to ensure that water is allocated and used to achieve socially and economically beneficial outcomes in a manner that is environmentally sustainable.”<sup>3</sup>

To implement these overall goals, the national water plan includes explicit objectives such as:

- Clear and secure access to water
- Transparent planning process
- Provision for the achievement of environmental objectives
- Clear assignment of risk from changes in future water access and use
- Support for expanding the use of water markets
- Policy settings to facilitate water use efficiency
- Comprehensive water accounting system.

Implementation centers on both a planning process and market-based allocation system. While the details of both are quite complex and specific to the legal and environmental setting in Australia, the overall system can be summarized conceptually. A government-led planning process identifies the water sources being managed, water for environmental objectives, and rules governing access and use of water supplies for consumptive use.<sup>4</sup> A key element of the water sharing plan is the identification of

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<sup>1</sup> Professor, Department of Agricultural and Applied Economics, Virginia Tech

<sup>2</sup> Acting Director of Water Markets at the Australian Competition and Consumer Commission (ACCC). DeBoe is acting in a personal capacity and the views expressed here do not reflect those of the ACCC.

<sup>3</sup> An overview of Australia's "National Water Initiative" can be found in *Intergovernmental Agreement on a National Water Initiative*, available at <http://www.agriculture.gov.au/water/policy/nwi>.

<sup>4</sup> The New South Wales is a good example of the Australian water sharing planning process applied to groundwater. In general see: Department of Primary Industries, New South Wales Government, "Macro Water Sharing Plans – the

the total amount of water available for withdrawal (consumptive use). Setting the overall water available for consumptive uses requires a balancing with non-consumptive (environmental) uses. Government agencies are responsible for devising the overall water plan with consultation from major stakeholder organizations and the public.

The government issues “shares” to the total available water, called “water access entitlements”.<sup>5</sup> Users must possess water access entitlements in order to use water. The entitlement is an open-ended (perpetual) share of the total allowable water for withdrawal.<sup>6</sup> A share could be expressed as a percentage of the total available water.<sup>7</sup> To manage overall groundwater levels, the government can change the total available water for withdrawal, but does not change the users’ total shares. Thus water access entitlements (shares) are not altered without consent of the holder. Water access entitlements are recognized as a secure asset that can be subdivided, amalgamated, traded, or used as collateral.

The total available water allowed to be withdrawn by the user in a specific time period, called a water allocation, is determined by the available water for withdrawal and the water access entitlement.<sup>8</sup> Water allocations are defined as the authorization to use a specific quantity of water and can also be traded. This share based system allocates the risk of future reductions in overall withdrawal levels across all users and provides certainty in how future withdrawal limits would be distributed but provides the government flexibility to adjust total water withdrawals.

Water access entitlements and water allocations can be transferred voluntarily between users. While specifics vary depending on the type of water system, users can also bank or carry forward unused allocation. The government establishes rules for all trading processes that protect the environment and third-parties from adverse impacts that could arise from trading across time and geographical area.

#### *Illustration of Applying the Australian Conceptual Model to Virginia*

One illustration of how the Australian framework could be adopted in Virginia is shown in Figure 1. Responsibility for implementing state groundwater management goals in designated groundwater management areas is assigned to the Department of Environmental Quality (DEQ). Virginia, however, could establish a Groundwater Management Area Advisory Committee to advise DEQ on establishing overall goals and implementation strategies for the aquifers within the state’s groundwater management areas (GWMA). The Groundwater Management Act (GWA), which authorized the creation of groundwater management areas,<sup>9</sup> establishes a permitting system to manage withdrawals, but does not include a process or requirement to establish explicit long-term management goals for total groundwater withdrawals. Amendments to the GWA

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Approach for Groundwater” November 2015 at:

[http://www.water.nsw.gov.au/\\_data/assets/pdf\\_file/0019/547300/macro-water-sharing-plans-the-approach-for-groundwater.pdf](http://www.water.nsw.gov.au/_data/assets/pdf_file/0019/547300/macro-water-sharing-plans-the-approach-for-groundwater.pdf)

<sup>5</sup> Water access entitlements are sometimes called water access “licenses” or “shares”.

<sup>6</sup> An analogy to a water access entitlement or water share might be stock share in a corporation. The stock represents an ownership share in a company. A water access entitlement represents a share of the total available water (Mike Young, The University of Adelaide, May 2016 talk to the Interstate Commission on the Potomac River Basin).

<sup>7</sup> Shares add to 100% but the government may elect not to allocate a small percentage of shares. These shares may be held in reserve to address critical future water needs.

<sup>8</sup> Continuing the company stock analogy, if a water share is similar to a stock, then the water allocation is analogous to a dividend paid to the stock owner. The dividend represents the share of the available profits going to the company owners. While a holder’s stock may not change, dividends may vary with the level of profits earned by the company.

<sup>9</sup> §62.1-254 through 270.

could establish such aquifer goal setting and the advisory committee would provide input into the setting overall withdrawal levels and long range planning objectives for the GWMA.<sup>10</sup> With committee input, the DEQ would establish groundwater withdrawal zones and the total amount of water available for withdrawal in each zone. The DEQ would decide and announce the total water available for withdrawal (“total allowable withdrawal”) within groundwater management zones for specific durations (example: an average annual 10,000 million gallon withdrawal in the SE zone of the Eastern Groundwater Management Area over 10 years).

Groundwater access shares would be issued to users.<sup>11</sup> Groundwater access shares could be expressed as a percent (%) of the total available water for withdrawal. Guidance or determination of the initial allocation of shares would be authorized by statute and assigned either through statute or a regulatory process (See Figure 1).<sup>12</sup> Groundwater access shares would be an ongoing authorization, extending across groundwater withdrawal periods. Groundwater access shares would be transferable between users, subject to predefined trading rules.

Upon announcement of the total allowable withdrawals, groundwater allowances would be issued to all holders of groundwater access shares. Groundwater allowances are expressed as the authorization to use a specific quantity of water.<sup>13</sup> For instance, suppose an allowance is defined as 1 million gallons. If total allowable groundwater withdrawals for a particular area is established by the Committee to be 10,000 million gallons per year and a municipality has a 10% share, then the municipality would be allocated 1,000 allowances each year (over the given allocation period). Allowances are retired as groundwater is withdrawn. Groundwater allowances may be banked (saved) for future years. Groundwater allowances may also be created by users themselves if new water is injected and stored in the aquifer (similar to the draft rules already discussed). Allowances are also transferable between users (see Figure 1).

Holders of groundwater allowances would still be required to obtain a permit from DEQ as a condition to withdrawal water. During the permitting process, DEQ would evaluate the effect of groundwater use granted by allowance holdings on third party users within and across management zones. For instance, the groundwater permit may establish maximum limits on the *rate* at which water may be withdrawn from individual wells (example gallons per month) to protect against well interference. DEQ would also approve all groundwater allowance transfers.

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<sup>10</sup> Statutory authorization would likely be needed to establish a share based system.

<sup>11</sup> “Users” could be existing users or existing and potential users. For instance groundwater access shares could be allocated to local governments that have not yet accessed groundwater supplies. The aquifer would be closed to any permitted user without an access share or groundwater allowance.

<sup>12</sup> This is similar process for how nitrogen and phosphorus wasteload allocation is assigned to municipal and industrial point sources in the Chesapeake Bay watershed under the Nutrient Credit Exchange Act.

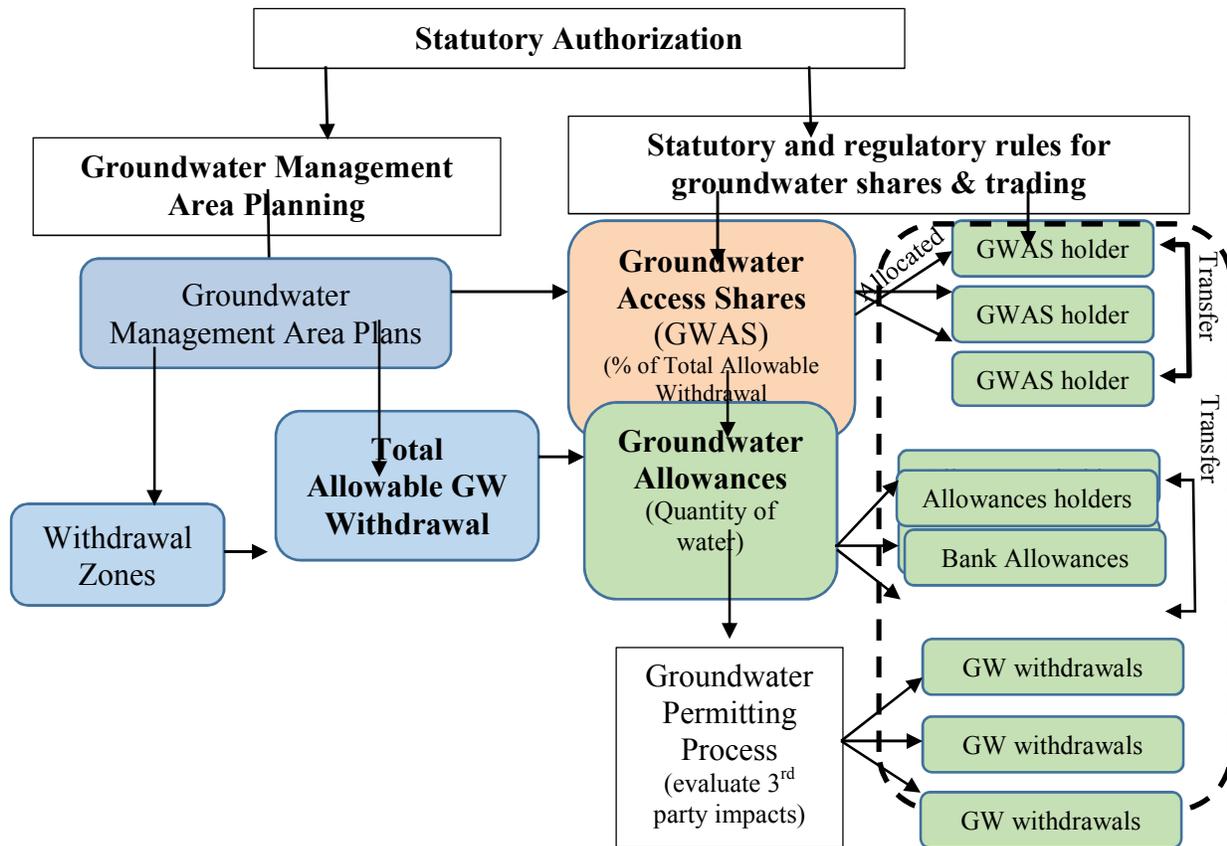
<sup>13</sup> In Australia called water allocations.

## Discussions included the following:

- The Australian system allocates both groundwater and surface water for the entire country.
- About 15 years ago Australian was trying to rationalize all of the various allocation programs across the provinces and they came up with a national framework. On the user side they wanted stability and predictability – on the state side there was an interest to use the water for not just consumptive uses but also for environmental uses and to ensure future availability of water for future generations.
- This national program was established to rationalize the system of allocations. The system is designed to both achieve the objectives of everyone at the table as well as to provide some investment stability and to share the risks in time of shortage.
- The system is probably at least worth talking about because of the mechanisms that they provide for investment stability in the face of changing conditions.
- They have basically a “share-based” program. It meshes the planning side structure with the trading program. So there is a management side where the state identifies the total amount of water that they have available and this is what we want to set aside as consumptive uses and this is what we want to set aside for environmental uses. They announce what is available for the large consumptive use pool on an aggregate level – they announce that consumptive pool and then the way that they allocate that water for consumptive use on a share-based system – they have something called access entitlement rights.
- What is the process that they use to get to the point where they announce the consumptive pool of water? They go through a regulatory process similar to what is used in Virginia and have a stakeholder involvement process and public review process to determine the consumptive pool. When they allocate that consumptive pool it is on a share-based system so people own a share of the water (of that consumptive pool) – similar to the concept of owning stock – it is owned on a permanent basis and the state cannot take anyone’s share without compensation. Once that share is set the users are protected. They can buy and sell those shares just like you can buy and sell stock.
- How much water you get then is based on how many shares you own multiplied by the consumptive allocation which is given for that time period. So if the consumptive allocation is 10 million gallons and someone owns 1% then they would get that 1% of 10 million gallons which is their allocation for that period – that is how much they can use.
- The state can’t arbitrarily change the shares but they can determine and announce what is available for a given period, the consumptive allocation – based on new information and the availability of water. The allocations are also transferable.
- How long are the allocation periods? For surface water they could be in terms of weeks or months - with groundwater it is in terms of years.

An example of how a share-based system might work in Virginia is provided in the Figure below:

Figure 1: A Hypothetical Illustration of a Virginia Share-based Groundwater Allocation System



**Continued Discussions Included the Following:**

- We have a Groundwater Management Act which creates the Groundwater Management Areas. That is sort of the planning process. The Groundwater Management Act sets broad goals about what the state wants to achieve and it gives the state authority to regulate/permit water withdrawals but there is a middle area missing – the state is never required by statute to say “this is our long term goal for the aquifer and this is how much water is available given that we are trying to achieve these goals”. We never say that a given aquifer can sustain a given use for a specified period of time. There is no requirement to specify a goal for the aquifer or to identify the consumptive use that is available.
- So if someone was coming in with a new development under this concept/scenario you would need to purchase shares from an existing shareholder. Yes, shares or allocations.
- How would a system like this work with “injection”? An injection system is basically a flow resource that could start and stop at any time. You would just get additional allocations for adding back into the system – which you have control over. So if someone put 10 mgd into the

ground, they would get access to all 10 of those mgds versus I am growing the pool by 10 mgd and accordingly I am increasing everybody's – increasing the total amount available. So if the total pool is 100 mgd and everyone has their shares/allocations, then somebody injects an additional 10 mgd, do they then own that 10 mgd or is the total pool now 110 mgd? It depends – if they put it in for their private use then they would own and control that 10 mgd but if the entity putting in the additional 10 mgd didn't want to have ownership and didn't want to market that additional water and they had a relationship with the state (DEQ) then it would be up to the state to determine what that additional 10 mgd would be used for or how it would be allocated – it could become part of the consumptive pool. It depends on whether the rights to that water are being claimed by the entity injecting the water or not.

- The workgroup discussed the Australian model and what would be needed to use it in Virginia.
- If DEQ is going to come up with a number for total consumptive use it is going to be a reasonably conservative number and therefore it is not going to necessarily be as optimized as it would be using the system in place today. You would have to make assumptions about who is pulling water where and you would have to make reasonably conservative assumptions for that zone, so in all likelihood it would be net under-allocated than net over-allocated. The keeper of a public good would tend to probably err on the side of being more conservative than less. The one benefit of this system is that you can gain benefit from learning about how the system responds and tweak it as you go.
- If you are setting these consumptive pools you could integrate or pair up a regional planning type of process that would advise DEQ on setting the consumptive pool.

#### **4. SUMMARY – FLIP-CHART NOTES:**

##### **What do we want to get out of a Trading System?**

- 1. Means for permittees to be in compliance with limits and to meet their needs.**
- 2. Cost-effective – economic efficiency for the whole region**
- 3. Encourage beneficial projects and efficient use for the aquifer**
- 4. Flexibility**
- 5. Incentivize investments**
- 6. Mechanism to deal with growth and environmental concerns**
- 7. Clarifies goals and mechanism to achieve**
- 8. Clarity between the regulatory process and the trading program needed**
- 9. Need for Stability and Predictability**
- 10. Sharing the risks – have to allocate the risks associated with changes in the available water**
- 11. Encourage optimization of use of the resource**
- 12. Encourage efficient use of the resource**

## 5. ACTION ITEM:

**A copy of the Australian Model (handed out during the meeting) will be distributed to the members of the workgroup and interested parties.**

## 6. Banking – Groundwater Banking (ASR) Strawman Discussion:

Mark raised the concept of the Groundwater Banking (ASR) Strawman which was the last work product developed by the Workgroup and which was distributed to the workgroup meetings prior to today's meeting.

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### Groundwater Banking (ASR) Strawman

#### **Definitions**

*Injected water:* water that is injected into an aquifer in the eastern Virginia and Eastern Shore Groundwater Management Areas.

*Groundwater storage credit:* the total quantity of injected water that is authorized to be recovered from the aquifer. Credit available for use in a given year is equal to the remaining injected water at the end of the previous year multiplied by the recovery factor. Credit is deposited into the permittee's groundwater storage account at DEQ and retired when authorized water is recovered.

*Recovery factor:* 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.

*GW storage account:* DEQ will maintain and publish annually a groundwater storage account for any permittee holding groundwater storage credits.

*Recovery zone:* the area within the spatial boundary from which injected water is authorized to be recovered.

*Seasonal storage:* injected water that may be recovered within 12 months of the date of injection.

*Long term storage:* injected water that may be withdrawn across multiple years.

*Water loss rate:* the rate at which injected water is lost for recovery.

#### **Groundwater Credit**

Within existing groundwater management areas, DEQ will grant a *groundwater credit* to any party that injects water into the coastal aquifer for purposes of using the aquifer for water storage and recovery.

A groundwater credit is considered additional to a groundwater allocation granted under a groundwater withdrawal permit. Groundwater allocations shall not be reduced based on injection activity of the permittee.

A well injection permit would be required before any water is injected into the Virginia aquifers.

### ***Seasonal Storage***

Recovery factor for seasonal storage shall be 1. (1:1 inject to recovery rate)

Credit duration: 1 year. Credits not used within the year of being injected will be retired.

Spatial Recovery: Recovery occurs at the same facility as injection.

Credit transfer between permittees: None

### ***Long Term Storage***

Recovery factor: Recovery factors will be based on estimated *annual aquifer losses* using the groundwater model. Guidelines for estimating aquifer losses will be published and updated by DEQ. For projects injecting into the Potomac coastal plain aquifer, the recovery factor shall not be less than “to be determined”.

A recovery factor schedule covering 10 years will be established by DEQ. Once established, the 10-year schedule shall not be modified. At the end of the 10-year period the schedule will be re-evaluated and the recovery factor may be revised based on new information.

Annual recovery factors contained in the recovery factor schedule may vary across time. For instance, the recovery factor may increase over time if annual loss rates are not constant over time.

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

Spatial Recovery: Recovery can occur off-site of the injection location. The spatial recovery zone will be delineated during the permitting process. DEQ will develop guidelines for defining the spatial recovery zone. The spatial recovery zone will be defined to the maximum practical extent and subject to reasonable expectations that no adverse impacts will be imposed on the groundwater resource. The “spatial recovery zone” will be re-evaluated every 10 years.

Credit transfer between permittees: Groundwater storage credits may be transferred to another party within the spatial recovery zone.

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### **Discussions by the Workgroup included the following:**

- It was suggested that there appears to be a lot of consensus on the basis concept of the banking proposal and there seemed to be a lot of support for the banking concept around the table at previous meetings of the workgroup and that the topic that the workgroup has been discussing

today is the more challenging of the two by far so if we are serious about that then we need to spend some time on addressing that today since the “banking” piece is probably going to be relatively easy.

- In terms of moving forward with something, the banking piece can be implemented within our current regulatory structure. It could be implemented as an addendum to our current regulations.
- The implementation of the Australian Model would require a complete regulatory rewrite. It would require significant statutory changes.
- It was felt that the ASR strawman could be implemented now as additions to the regulations/without a statutory change and could be included as part of the recommendations to the Advisory Committee.

## **7. Discussion – Building on the Australian Model for use in Virginia:**

Mark asked for suggestions from the workgroup on how we could build on and modify the Australian Model for use in Virginia.

### **Discussions by the workgroup included the following:**

- The tricky part is how do you get started developing and implementing the Australian Model? This could take a long time to develop.
- Would it be beneficial for somebody to recommend that we ought to have sort of established aggregate withdrawal targets articulated in a groundwater management area that has been recognized as having limited supply relative to demand?
- Would it be beneficial for us to go through and start putting the pieces of the Australian Model that we would have to develop or customize for Virginia?
- We would have to set up our own form of zonation because we are not going to have just one zone.
- We know we have a lot of existing users and we are going to have to allocate the amount per zone for the users in that zone for the initial start.
- If we have an agreement – a public acknowledgement – that there is a finite amount of groundwater within this system or within the zone that can be allocated for withdrawal within a specified period of time – that provides motivation. If you can answer that question first, then the next question that you have to answer is then how do you divvy up that allocation amount – that fixed amount of water? From a technical standpoint there is not a finite amount of water – there is an amount that you can withdraw based on where your wells are and if you move your wells around then you have a different amount that you can withdraw. It is not quite exactly a finite amount available that we are dealing with. But we can pretend that it is.
- It is rather a recognition that there is a limited amount that can be withdrawn depending on where you are within the state or within the Management Area.

- In our discussions, are we contemplating application to surface water or just to the groundwater resource? Australian addresses both. The charge of the Advisory Committee and the workgroups deals strictly with groundwater. Surface water is not part of our charge.
- The workgroup discussed the application of the Australian Model to Virginia.

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**FLIP-CHART NOTES:**

- 1. Limited amount available for withdrawal – groundwater only**
  - a. Determine amount over period of time**
  - b. Determine zones both vertically and laterally**
  - c. Determine amounts available from each zone**
- 2. Need a Process**
  - a. Stakeholder process with State as Decision Maker**
  - b. Control for Unpermitted Use (Locality – tie to Comp Plans?)**
  - c. Need a Public Education component**
  - d. There needs to be public acceptability**

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**8. BREAK – 2:40 P.M. – 2:55 P.M.****9. Interim/Middle-Term Solution Discussion:**

Mark brought the workgroup back from the break with the introduction of the topic of what would be the recommendation to the Advisory Committee in the Interim/Middle-Term? Do we need a study of how a trading program would work in Virginia? What do we need to look at as the next steps in this process and as a recommendation to the Advisory Committee? What can we create within the existing permit system for the next ten years that gives people a little flexibility within that ten year period to adjust their use as an intermediate step? What would this “Interim/Middle-Term Solution” look like?

**Discussions by workgroup included the following:**

- The “who” eligible for participation in a trading program would be the 14 largest permittees. It was suggested that it should not be limited to the 14 largest – if you have a permit then you should be eligible. The 14 largest would clearly have the most to do with such a program. Staff noted there are probably 350 permittees now with the expanded Groundwater Management Area and the majority of them are less than 1 mgd. Instead of pegging it to these 14 largest users could you tie it to those permits greater than 1 mgd? That is essentially how the 14 largest were identified – as being greater than 1 mgd.
- Permit Holder greater than 1 mgd – or greater than a certain amount.
- The size of the total allocation would be the total of the allocations of those entities eligible to participate in the trading program – the sum of the individual allocations of the participants.

- Not talking geographic boundaries. However, how the traded amount is moved around has to be geographically considered. The geographic limitation may be that you can only trade a certain amount based on location of the trade. The trade would have to be contingent on DEQ approval.
- What is an “allocation”? What permissions are given in a permit now? Staff noted that there is a “daily”; a “monthly” and an “annual” allocation amount. There is a total annual limit. The annual limit (allocation) may be based on 1 mgd times 365 while your “monthly or daily” limit might be higher and wouldn’t add up if you tried to just do the simple math. So the permittee has to figure out how to manage their operation to stay under the annual limit while still having the peaking flexibility.
- It was suggested that if the amount that a permittee is proposing to trade does not adversely impact the groundwater system then you can trade whatever you want – Staff noted that might work. It would be essentially the same as the current permit review process except the permit applicant would come to the table and say that “Party B” says that they are going to give me this certain additional amount (allocation). Then the technical review would be done including that additional allocation amount. It was noted that the area that is giving up a specific volume is going to be a net benefit. It is essentially the same process being done by DEQ today with that additional piece of information on the traded amount. In addition DEQ would need whatever certification is required to identify and designate the traded amount that would allow DEQ to consider it as part of the evaluation.
- How simple would the trading mechanism be? Staff noted that you could probably make it as simple as possible – you would just need to agree on what was reasonable assurance that the trade was valid and would take place. DEQ would need to approve the trade. You could just set up a set of rules for trades to be followed for an allowable trade or DEQ would have to approve as a minor permit modification.
- Is there something that we can preauthorize so that we don’t have to require permit modifications?
- A trade is going to be the exception to the rule.
- What kind of agreement would you need to allow for implementation of a “banking” concept? Would you allow a permittee to bank a part of their allocation during the 10 year permit period? Staff noted that you would have to have a contract of some kind.
- The workgroup discussed the concepts of trading and banking as an interim; middle-term step.
- There has to be some level of “check” to make sure that someone else is not harmed by the trade.
- The term of the trade should probably be tied to the permit term (10-Year Permit Term).
- Various allocation flexibility and variability can be built into the permit when it is originally negotiated with DEQ.
- It is important to be able to add credits back into the system.

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**FLIP-CHART NOTES:**

- 1. Permit Holder greater than “X” MGD.**
  - 2. Total allocation equal to the sum of the annual permitted amounts for those permit holders greater than “X” MGD as identified in “1.”**
  - 3. DEQ approval as a minor permit modification.**
  - 4. Compliance trading for “existing permittees” - does not address new development/new growth.**
  - 5. Term of the trade = the maximum length of time transferred annual allocation is good for = length of seller’s permit.**
  - 6. There needs to be a mechanism to add “credits” in system – Example: See Banking Strawman and other ideas (bundling small users).**
  - 7. Transparent trading through minor modification process or posting of annual report by DEQ – Trades would be public – posting in annual report.**
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**10. Scheduling and Next Steps (Mark Rubin):**

Mark Rubin thanked everyone for their input to the process today and noted the following:

- We will write up the recommendations and discussions of the workgroup as recommendation to provide for the Advisory Committee. The intent is to provide that write-up to the workgroup for their review and consideration prior to the next meeting of the Advisory Committee in March.

**11. Public Comment:**

No Public Comment was offered.

- 12. Meeting Adjournment:** Mark Rubin thanked everyone for their attendance and participation in today's meeting. The meeting was adjourned at approximately **4:05 P.M.**