

Albemarle County Service Authority Board of Directors

1 The Board of Directors of the Albemarle County Service Authority (ACSA) met in
2 a regular session on February 18, 2016 at 9:00 a.m. at the Administration and
3 Operations Center at 168 Spotnap Road in Charlottesville, Virginia.

4 **Members Present:** Mr. Clarence Roberts, Chair, Mr. Bill Kittrell, Vice-Chair, Mr.
5 Charles Tolbert, Mr. Richard Armstrong, Ms. Jennifer Sulzberger, and Ms.
6 Kimberly Swanson.

7 **Members Absent:** None

8 **Staff Present:** Jim Bowling, Gary O’Connell, Peter Gorham, Emily Shifflett, Quin
9 Lunsford, Michael Lynn, Travis Marrs, Timothy Brown, Patrick Newton, April
10 Walker, and Danielle Trent.

11 **Staff Absent:** None

12 **Public Present:** John Martin, Albemarle County Citizen, Richard Gullick, Ph.D.,
13 Director of Operations, RWSA.

14

15 1. Call to Order and Establish a Quorum

16 The Chair called the meeting to order and a quorum was established.

17

18 2. Approve Minutes of January 21, 2016 (Recording Time: 09:04:07 a.m.)

19 The Chair asked if there were any corrections or additions to the minutes
20 of January 21, 2016.

21 ***Ms. Sulzberger moved to approve the minutes of January 21, 2016,***
22 ***seconded by Mr. Tolbert. All members voted aye.***

23

24 3. Matters From the Public Concerning Items Not on the Agenda (Recording
25 **Time: 09:04:31 a.m.)**

26 There were no items from the public concerning items not on the agenda.

27

28 4. Response to Public Comment (Recording Time: 09:04:41 a.m.)

29 There was no response to public comment.

30

31 5. Consent Agenda (Recording Time: 09:04:43 a.m.)

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1 **a. Monthly Financial Reports** – Mr. Roberts stated that he had a
2 question with regards to the financial reports. He stated that water
3 consumption for the month is compared to the previous month and
4 asked if it would not be more beneficial to compare consumption for the
5 month to the same period of time for the previous year. Mr. O’Connell
6 replied that the staff could provide the Board with both comparisons. He
7 stated that the staff had charts showing both comparisons, thus it would
8 be easy to highlight. He noted that one of the items scheduled for next
9 month’s agenda was to look at all of the financial reports and different
10 options for the Board in terms of what information they receive. He
11 mentioned that the staff would look at what information is beneficial for
12 the Board and how it is best summarized or presented, and offer some
13 alternatives as well.

14 **b. Monthly CIP Report** – Ms. Swanson stated that she had a question
15 regarding the updates to the Route 29 Solutions Project, specifically the
16 Berkmar Drive Extended portion of the project. She asked what the
17 betterments were that were being proposed with that part of the project.
18 Mr. Gorham replied that VDOT would be crossing a sewer line close to
19 Hollymead Town Center and the ACSA is asking for casing pipe to be
20 placed under the new road, as that line is expected to be upgraded at
21 some point. Ms. Swanson stated that the jurisdictional map showed
22 that there was no water service for that area and asked if there was any
23 discussion about changing the jurisdictional area to provide water
24 service to that area. Mr. Gorham replied the ACSA would not be
25 changing the jurisdictional area. Ms. Swanson asked if there was any
26 effort being taken to provide water service along the new stretch of
27 road. Mr. Gorham replied no. He stated that it was discussed early on in
28 the pre-design stage and the final decision was not to go that route.
29 Ms. Swanson asked if the size of the casing pipe that will be placed
30 under the new road is part of the solution plan for the Airport Sewer
31 Collector Project. Mr. Gorham replied yes. He stated that in building the

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1 new road, a portion of the sewer line will have to be relocated and the
2 larger casing pipe will be installed at that time.

3 Mr. Roberts stated that he had a question regarding the soil
4 samples that were collected as part of the Fueling Station Project. He
5 stated that the soil was collected to be tested for fuel contamination and
6 asked what the results of those tests were. Mr. Gorham replied that he
7 did not know because the tests had just been completed and the
8 consultants were reviewing the results. He stated that he should have
9 the results pretty soon. Mr. O'Connell added that all of the contaminants
10 had to be removed. Mr. Gorham stated that all of the old tanks were
11 removed and taken away and there was no evidence of them leaking.

12 ***c. CIP Authorizations -***

13 ***d. RWSA Monthly Update*** – Mr. Kittrell stated that he had a question
14 regarding the condition assessment of the pipeline from Sugar Hollow
15 to the Observatory Hill Water Treatment Plant. He stated that the
16 Board has had concerns about the condition of the pipeline given that it
17 is 100 years old and in a very remote area. He asked Mr. O'Connell if
18 there was a timeline as to when the condition assessment on the
19 pipeline would take place. Mr. O'Connell replied that the condition
20 assessment is planned to be performed on the pipeline that runs from
21 the Ragged Mountain Reservoir to the Observatory Water Treatment
22 Plant, and not the Sugar Hollow pipeline. He stated that the anticipation
23 was that the pipeline running from Ragged Mountain to the Observatory
24 Plant will be used in the long term future, so RWSA wanted to assess
25 its condition.

26 Mr. Kittrell stated that he felt there should be an assessment of the
27 Sugar Hollow Pipeline because it was a critical piece of infrastructure.
28 He stated that it might not be as old as the pipeline from Ragged
29 Mountain to the Observatory Plant, but it was very close. He stated that
30 he would ask Mr. O'Connell to raise the issue of performing a condition
31 assessment on the Sugar Hollow Pipeline as well, with the RWSA

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1 Board. Mr. O’Connell asked if the rest of the Board concurred with Mr.
2 Kittrell, and all members stated that they did.

3 Mr. O’Connell stated that it made sense to perform the condition
4 assessment for both pipelines. Mr. Tolbert asked if the same technology
5 used to perform the assessment on the pipeline from Ragged Mountain
6 to the Observatory Plant could be used to assess the Sugar Hollow
7 Pipeline. Mr. O’Connell stated that he was not sure and asked Dr.
8 Gullick if it was possible. Dr. Gullick replied that he would assume so,
9 but he would have to ask the RWSA engineers.

10 ***e. ACSA Board Policy Future Issues Agenda 2016-***

11 ***Mr. Tolbert moved to approve the Consent Agenda, seconded by***
12 ***Mr. Kittrell. All members voted aye.***

13
14 6. **Presentation – Wastewater Treatment Process and Discharges – RWSA**
15 **(Recording Time: 9:14:21 a.m.)**

16 Mr. O’Connell stated that the ACSA staff had been asked several
17 questions about wastewater treatment, and he felt it was a good idea to walk the
18 Board through what happened during the wastewater treatment process,
19 particularly at the Moores Creek facility. He stated that Rich Gullick, Ph.D.,
20 Director of Operations for RWSA, put together a great presentation (Attached as
21 Pages____) which would address those questions, as well as other issues the
22 Board has asked about including odor control and nutrient credits.

23 Dr. Gullick came forward to address the Board. He thanked the Board for
24 allowing him to share with them what the RWSA does to provide service to its
25 two customers. He stated that he wanted to give credit to Tim Castillo, the
26 Wastewater Manager for RWSA, who was not able to be present today. He
27 stated that he would talk about the potential environmental impacts of
28 wastewater and what the RWSA does to prevent those impacts, and what might
29 be the impacts of RWSA’s particular discharges. He added that he would also
30 talk about the Moores Creek facility specifically, which was now referred to as the
31 Advanced Water Resource Recovery Facility (AWRRF).

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1 Dr. Gullick stated that there were many things found in wastewater, some
2 of which were regulated and some that were not. He stated that one of the main
3 things found in wastewater was pathogenic microorganisms, and that it was
4 RWSA's job to kill, remove, and/or sterilize them so that they do not reproduce.
5 He stated that RWSA also removed particles and organic material, which was
6 measured in terms of biochemical oxygen demand (BOD), or how much oxygen
7 the organic matter will consume when it is degraded by bacteria. He stated that
8 ammonia was another important component of wastewater to remove as it is
9 toxic to aquatic life. He mentioned that nitrogen and phosphorus are also
10 removed to protect the life of the bay. He added that basically anything that goes
11 into a sink, drain, or toilet is found in wastewater, including water, which was one
12 of the main resources RWSA recovered from wastewater.

13 Dr. Gullick stated that some of the potential impacts of untreated sewage
14 were human disease and toxicity to aquatic life. He stated that sedimentation
15 could also occur if the solids were not removed, as well as depletion of dissolved
16 oxygen and impacts from pH. He stated that RWSA is regulated on each of these
17 components at the Moores Creek AWRRF. He noted that smaller plants may not
18 be regulated on all of those components.

19 Dr. Gullick next referred to a diagram that outlined how the wastewater
20 treatment process works at the Moores Creek facility. He stated that the water is
21 pumped in and collected by gravity. He stated that there were two pump stations,
22 one in the plant and one near the plant, that lift the water up and bring it in the
23 plant and then it flows by gravity throughout the rest of the plant. He stated that it
24 was then screened to get rid of big objects, followed by a settling and clarification
25 process to settle about 2/3 of the suspended solids and about 1/3 of the
26 biochemical oxygen demand. He stated that the heart of the treatment plant was
27 the biological treatment, which was a fairly complicated system. He noted that it
28 involved the removal of ammonia, nitrogen, and phosphorus. He mentioned that
29 the solids from this process were returned back to the wastewater because they
30 were actually living organisms that consume the nutrients and nitrogen in the
31 ammonia. He noted that some of the solids are then wasted and removed. He
32 stated that this happened after the secondary clarification process, which yielded

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1 some pretty clear water afterwards. He noted that most plants treatment
2 processes ended there, but Moores Creek also used sand filters and ultraviolet
3 (UV) light disinfection. He mentioned that this did not remove the pathogenic
4 organisms but rather sterilized them and changed their ability to reproduce. He
5 stated that if the organisms were not reproducing, then they could not cause
6 disease.

7 Mr. Roberts asked how often the UV light bulbs were changed. Dr. Gullick
8 replied that he did not know the exact frequency but that they were inspected
9 regularly and changed as needed, but they were not replaced that often. Mr.
10 Tolbert asked if there was testing done after the UV light disinfection process
11 before the water was released into the river. Dr. Gullick replied yes. He stated
12 that the water was tested at different points during the process. Mr. Tolbert
13 stated that if the UV light was not sterilizing the organisms to prevent them from
14 reproducing, that is something that the RWSA staff would want to know before
15 the water is released. Dr. Gullick replied that the staff would know that from
16 online data from the transmittance of the UV light. He added that all of the online
17 meters were also manually inspected on a regular basis.

18 Ms. Swanson asked if the Glenmore facility had a holding pond where the
19 water was tested before it was discharged. Dr. Gullick replied that the water was
20 discharged continuously and monitored continuously. He stated that it moved
21 much too fast to try and hold it to check it. He noted that it was checked as it was
22 discharged.

23 Dr. Gullick stated that the bottom half of the diagram illustrated what
24 happens to the solids as they are removed from the secondary clarifier. He
25 stated that they went to a waste-activated sludge thickener. He stated that
26 RWSA had recently separated their two thickeners, so that one takes in the
27 hauled septage waste, which allows the RWSA to treat the different types of
28 waste differently. He stated that this optimizes the solids that are sent to the
29 anaerobic digester, which takes the organic material and turns it into methane.
30 He stated that the methane is then stored and sent through a cogeneration
31 system, and eventually used to help operate the digesters. He noted that none of
32 the methane is sold, but rather it is all used internally. He stated that the

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1 remaining solids from there are dewatered with a centrifuge and then hauled
2 away to a facility in Waverly, Virginia where they are turned into compost and
3 sold as compost fertilizer.

4 Mr. Tolbert asked where in that process did most of the odor problems
5 occur. Dr. Gullick replied that some of the odor issues came from the clarifiers,
6 which were big open basins. He mentioned that there used to be an odor
7 problem with the thickeners, but they were now covered. He stated that the solids
8 that are removed from the centrifuge used to be a big odor issue when they were
9 composted on-site, but now the solids stored are bio-solids, which still cause
10 some odor issues. He noted that the pump stations themselves already had odor
11 control measures in place. He stated that the primary settler was a huge, open
12 100ft. diameter tank that produced a lot of odor because of the raw sewage that
13 was already in a septic state, similar to the equalization basin. He noted that the
14 primary settler would soon be covered and the flow equalization basin would be
15 placed out of service, except for wet weather events.

16 Mr. Tolbert asked if the gases produced during the biological treatment got
17 released. Dr. Gullick replied yes, but there was no intention to cover the basin
18 because the gases did not spread much odor. He stated that the worst odors
19 were produced when the staff switched from one equalization basin to another
20 and they had to be cleaned out. He stated that the sludge became exposed and
21 that was when the worst odor days occurred.

22 Mr. Bowling asked where the sludge was taken. Dr. Gullick replied that the
23 sludge, which was a Class B solid, was taken to McGill Composting. He stated
24 that they then turned it into a Class A material and then sold it as compost
25 fertilizer. Mr. Bowling asked if the RWSA sold the sludge to McGill. Dr. Gullick
26 replied no. He stated that the RWSA actually paid McGill to haul it and process it.
27 He stated that RWSA used to compost it on-site, but it was a very odor-producing
28 process that was ceased for the sake of the neighborhood. He stated that the
29 elimination of that process was in Phase 1 of the odor control project.

30 Ms. Swanson asked how much power the cogeneration plant generates.
31 Dr. Gullick replied that it was enough to power the mixers, heaters, and the
32 digesters. He stated that it was basically a self-running system.

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1 Dr. Gullick next took a close-up look at each system in the process. He
2 stated that the intake screens rotate as the water comes in and the solids are
3 taken out and put in a dumpster. He stated that this area would also be covered
4 in the next phase of the odor control project, as it can get very odorous. He
5 stated that the primary clarifier had a device under it that rotated and helped to
6 remove the solids, as well as a scum remover on top. He stated that the
7 biological treatment process had some parts where air is added and some parts
8 where it was not. He stated that the biological process is called the Bardenpho
9 Process, named after the man who invented it. He stated that the “pho” was
10 added to indicate an additional mechanism for phosphorus removal. He stated
11 that all water from there goes to the secondary clarifiers. He noted that the solids
12 were removed and sent back to the biological process where they can consume
13 more of the contaminants that they are designed to get rid of. He stated that the
14 clean water flows over to the sand filters and through the UV light system. He
15 mentioned that the water gets hit with a very high intensity, low wavelength light
16 that disinfects the water very well before being discharged into Moores Creek.

17 Dr. Gullick stated that with regards to solids, the thickeners, one for waste
18 activated sludge and one for septage, were covered during Phase 1 of the odor
19 control project. He noted that the foul air from the thickeners is treated with a
20 chemical odor scrubber. He mentioned that Phase 1 also included covering the
21 intake for the Moores Creek Pump Station, eliminating the composting operation,
22 and improving the wet weather flow management which allows RWSA staff to
23 use higher flow rates through the plant.

24 Dr. Gullick stated that the anaerobic digesters were big tanks and the
25 fourth tank has a floatable roof that moves up and down according to the amount
26 of gas that it contains. He noted that this digester was not mixed or heated, both
27 of which were required to get good gas production, but that most of the gas
28 production occurred in the first three tanks. He stated that the gas goes from the
29 floatable roof to a methane sphere, where it is run through a generator and used
30 for heat and electricity to operate the digesters. He stated that the solids coming
31 out of the digesters go through a centrifuge and come out in dump trucks, which
32 are then transferred to trailers. He noted that part of the odor control project was

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1 to eliminate this step because it was done outdoors. He mentioned that RWSA
2 will purchase its own trailers and either haul the solids directly out of the building
3 or store them, covered, on-site, to reduce the odor.

4 Dr. Gullick stated that the next slide was a snapshot of the discharge
5 requirements from the RWSA's permit with the Department of Environmental
6 Quality. He stated that the requirements pertained to things such as the pH, or
7 acidity, of the water, solids, bacteria, dissolved oxygen, ammonia, phosphorous,
8 and nitrogen. He stated that the next slide looked at the monthly average limits
9 for BOD, suspended solids, ammonia, nitrogen, and phosphorous. He stated that
10 the RWSA had excellent removal rates, with BOD and suspended solids being
11 removed at a little over 99% and 98% respectively. He noted that when the
12 RWSA received a grant to build part of the nutrient removal facility, they agreed
13 to a financing agreement. He noted that the agreement provided financial
14 incentives for permit limits of 5.0 mg/L for nitrogen and 0.3 mg/L for
15 phosphorous.

16 Mr. Kittrell asked if the grant came from the Virginia Resource Authority
17 (VRA). Mr. O'Connell stated that he believed it came from the VRA. Dr. Gullick
18 stated that he was not with the RWSA at the time and thus, did not have the full
19 background. Mr. Kittrell asked how frequently the samples were taken. Dr.
20 Gullick stated that the required sampling frequency was listed on the previous
21 slide. He stated, for example, pH monitoring was required to be done once a day,
22 but there was also an online meter that measured it constantly. He stated that the
23 RWSA staff attempts to monitor online as much as possible, and that the state
24 provides a minimum, but RWSA does not use that as their standard minimum.
25 He noted that RWSA samples more frequently than what is required by the state.

26 Dr. Gullick stated that the information is reported to the state each month
27 and that the RWSA has its own tracking system. He moved to the next eight
28 slides which were graphs illustrating how the RWSA discharges compared to the
29 permit limits. He stated that the first one looked at ammonia discharges. He
30 noted that the ammonia limits change from the winter to summer months
31 because ammonia is more toxic in warmer temperatures, thus yielding a higher
32 limit during the winter and lower during the summer. He mentioned that RWSA

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1 had not exceeded the limit, even in the summer months, for at least the last three
2 years.

3 Dr. Gullick stated that the BOD₅ was usually around zero. He mentioned
4 that some of the charts were expressed in terms of mg/L and some were shown
5 in terms of loading per day. He noted that there were permit limits for both and
6 the loading per day was found by multiplying the mg/L by the design flow. He
7 stated that there was no limitation on the flow and if there was a lot of inflow and
8 infiltration, there would be a higher flow rate. He noted that there was a higher
9 level of BOD₅ in September, which he would explain shortly.

10 Dr. Gullick stated that suspended solids typically do very well, but there
11 was brief upset in September. He stated that there was a huge rain storm, which
12 caused power outages at a pump station that the operators had to tend to in
13 order to prevent overflows. He stated that this resulted in an upset in the system
14 for a three hour period that happened to be during one of the weekly samples.
15 He stated that this put the levels over the monthly average

16 Dr. Gullick stated that the pH limits were 6.0 for the minimum and 9.0 for
17 the maximum. He noted that he was not sure why the minimum was 6.0, as rain
18 water would be lower than that, creating a tough standard. He stated that there
19 was no trouble in meeting the permit minimum for dissolved oxygen in the water.
20 He noted that the E. coli numbers were good as well, with levels staying
21 extremely low. Mr. O'Connell asked if that was due to the UV light. Dr. Gullick
22 replied that it was because of both physical removal and UV light disinfection. Mr.
23 O'Connell asked if the levels would be higher without the UV disinfection. Dr.
24 Gullick replied absolutely. He stated that if RWSA did not use the UV disinfection,
25 the staff would have to use chlorine and then dechlorinate the water, because the
26 chlorine cannot be discharged.

27 Dr. Gullick stated that in terms of phosphorous and nitrogen, there was a
28 permit maximum, as well as a maximum per the funding agreement. He noted
29 that phosphorous was measured over the course of a year, not daily or monthly.
30 He stated that RWSA could sell some of the difference between the permit limit
31 and what was actually discharged. Mr. Bowling asked how much the RWSA
32 received for the difference. Dr. Gullick replied that last year, RWSA received

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1 \$123,000 for the difference. He noted that most of that comes from the nitrogen,
2 not the phosphorous. Mr. O'Connell asked who was buying them. Dr. Gullick
3 replied that other utilities, for example, who do not meet their permit limits. Ms.
4 Swanson asked if RWSA was allowed to trade within the state or just within the
5 watershed. Dr. Gullick replied that RWSA could only trade within the James River
6 Basin. Ms. Swanson asked how many potential buyers were in the James River
7 Basin. Dr. Gullick replied that he did not know off the top of his head, but there
8 were not as many buyers as suppliers because RWSA does not sell as many
9 credits as it would like. Ms. Swanson asked if entities within the James River
10 Basin were required to participate in the nutrient trading. Dr. Gullick replied that
11 he did not think there was a requirement to participate, but he was not sure. Ms.
12 Swanson asked if utilities were limited to only trading with other utilities. Dr.
13 Gullick replied no.

14 Ms. Swanson asked if RWSA has worked with the septage haulers to
15 ensure that they have access to the plant during hours that are convenient for the
16 haulers. Dr. Gullick replied yes. He stated that the hours had actually just shifted
17 to include an extra ½ hour in the morning and an hour in the evening. He stated
18 that haulers could have access to the plant 24 hours a day, 7 days a week, but
19 there was a surcharge if access was needed outside of normal business hours.
20 Mr. O'Connell stated that he thought the fees for access during the extended
21 business hours had increased as well. Dr. Gullick stated that the fees had not
22 increased. He stated that the hours changed, and there was an extra fee for
23 access outside of normal business hours, but that those fees had remained the
24 same for at least the last nine years. The septage receiving revenues are
25 projected to increase by \$50,000 in the FY 2017 budget.

26 Dr. Gullick stated that in terms of odor control, Phase 2 of the project is
27 designed to contain the odors within the Moores Creek AWWRF property line. He
28 stated that the approved cost for the project was a little over \$9 million. Mr.
29 Kittrell stated that he had a question about the cost. He stated that the
30 information he had showed an approved cost of \$8.78 million. Mr. O'Connell
31 stated that originally, the estimated cost range was \$8.78 million to \$13.3 million.
32 He stated that there was a presentation to the RWSA Board in December, which

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1 the ACSA Board considered in January, and at that time \$8.78 million was the
2 cost for capital improvements to the project. He noted that this cost included
3 screening in the bio solids storage area, which involved a contract amount that
4 would have been added to the operations budget. He stated that an analysis was
5 done a few months later, and it was found to be cheaper to change the way the
6 contract worked. He mentioned that this meant some physical changes including
7 RWSA purchasing trucks. He stated that this money was included in the odor
8 control project budget as opposed to the operating budget, which is why the cost
9 increased to \$9.33 million. He stated that he did not have the analysis or the
10 specific numbers at that time, but he would get it to the Board for next month's
11 meeting.

12 Mr. Kittrell asked if the resolution the ACSA Board passed needed to be
13 changed to reflect the new cost. Mr. O'Connell replied yes. He stated that in
14 January 2015, the ACSA Board adopted a resolution to support the odor control
15 project and the approved cost reflected in the resolution was \$8.78 million. He
16 stated that for the record, the resolution should be readopted next month with the
17 new amount.

18 Dr. Gullick stated that RWSA could not control the bid environment, but
19 they were trying to change some of the processes. He stated that as part of
20 Phase 2 of the project, instead of covering the equalization basins which were
21 large tanks, RWSA was eliminating use of the basins except for wet weather
22 flows. He stated that it was great to have flow equalization but it was not
23 required. He stated that a new grit removal facility would be installed as well,
24 which was a fair amount of the project cost. He stated that the headworks, which
25 was the initial screen where the wastewater first comes into the plant, would be
26 covered and the foul air would be treated.

27 Dr. Gullick mentioned that RWSA would also be eliminating the use of the
28 clarifiers that are used to help settle the digested solids, as the centrifuge would
29 be sufficient for that purpose. He noted that the centrate holding tank would be
30 eliminated as well, which could be quite odorous, and the centrate would go back
31 to the head of the plant and dealt with there. Mr. Kittrell asked how the staff
32 planned to deal with the centrate without the holding tank. Dr. Gullick replied that

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1 the centrate would be covered and by the time it is not covered in the process,
2 the odor will be gone. Mr. Kittrell asked how the odors are removed. Dr. Gullick
3 replied that the centrate is volatilized into the air, which then gets sucked out.

4 Dr. Gullick stated that the outdoor handling of biosolids would be
5 eliminated and new trailers would be purchased to haul the centrifuge solids
6 directly from the building. He noted that this would eliminate odor because
7 biosolids would not be stored outside. He stated that new coating would be
8 applied to the inside of the digesters to help reduce gas leakage. Ms. Sulzberger
9 asked if it was a new type of coating or another layer of what was currently being
10 used. Dr. Gullick replied that it would be a new type of coating, but that it needed
11 to be redone regardless. He added that the grit would also be cleaned out of the
12 equalization basins and holding ponds. He stated that water during wet weather
13 events contained a lot of grit and it needed to be removed in order to use the
14 basins more efficiently. Mr. Kittrell asked what grit was. Dr. Gullick replied that
15 grit was just solid material such as sand that is found in wastewater. He stated
16 that some types of grit are coarser than others, but it could be harmful to the
17 pumps and other mechanical functions in the system.

18 Mr. Tolbert asked if there were things eliminated from the project in an
19 attempt to reduce the cost that RWSA would like to add back to the system at
20 some point. Dr. Gullick replied that the project focuses on function and not form.
21 He stated that some of the changes were just choosing to use a different material
22 for a pipe or cover, or coming up with new ideas to perform the same function.
23 He noted that if there was any part of the project that the staff felt should be
24 retained, they advocated strongly to retain it. Mr. Tolbert stated that the purpose
25 of the project is to control the odor, and the original plan for the project was
26 altered to reduce the cost. He asked if there was anything, if money was not an
27 issue, that the RWSA staff would add to the project to improve the odor control.
28 Dr. Gullick replied no.

29 Mr. Bowling asked where the cost would show up, if anywhere, in the
30 future. Dr. Gullick replied that some of the changes would potentially make
31 operations a bit more difficult. He stated, for example, that operators could only
32 walk on top of the clarifiers in certain places and accommodations had to be

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1 made for that. Mr. Bowling asked if the elimination of certain items from the
2 project would result in costs being put off until later. Dr. Gullick replied no. Mr.
3 Tolbert asked if the project was being designed in such a way that RWSA could
4 go back and add items. Dr. Gullick replied that it was being designed so that
5 adding items in the future would not be necessary. He stated that the intent
6 throughout the entire process is to meet the fence line goal and that the goal
7 would not be sacrificed just to reduce the cost. He stated that there were certain
8 things such as how a foundation is built or how air pipes are hung, that would not
9 affect the odor control but could affect the cost.

10 Dr. Gullick moved to the last two slides which outlined why the Moores
11 Creek AWRRF is “advanced,” and the resource recovery aspect of the plant. He
12 stated that the biological process used at the plant is advanced beyond
13 conventional wastewater treatment. He noted that most wastewater treatment
14 plants do not utilize sand filters or ultraviolet light disinfection. He added that the
15 odor control system was fairly advanced as well because not all plants have
16 covers. He stated that most plants just burned off the methane produced from the
17 anaerobic digesters, but the Moores Creek plant recovers the methane through
18 the use of a cogenerator and turns it into heat and electricity. He stated that, in
19 addition to methane, the plant also recovers clean water to release to the
20 Rivanna River and nutrients such as nitrogen and phosphorous to use as
21 fertilizers.

22 Dr. Gullick stated that, in response to Mr. Kittrell’s earlier question about
23 the price per pound for nitrogen and phosphorous, nitrogen is \$1.17 per pound
24 and phosphorous is \$0.89 per pound. Mr. Bowling asked if the purchase price
25 was set by the DEQ. Dr. Gullick replied that the price is set by the Virginia
26 Nutrient Credit Exchange Association, Inc. Mr. Tolbert asked if it cost more to
27 buy it than it does to sell it, who received the difference. Dr. Gullick replied that
28 there were organizational costs, but mostly the surplus gets rolled into a better
29 rate for the next year.

30 Mr. Bowling asked what Dr. Gullick saw as the biggest problem for the
31 plant in the near future. Dr. Gullick replied that he began employment with the
32 RWSA 1 ½ years ago and the manager, assistant manager, and supervisor were

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1 no longer with the RWSA which meant new leadership. He stated that the new
2 leadership had new expectations for the plant operators, which meant learning
3 new methods of operations. Mr. Bowling stated that he was thinking not so much
4 in terms of organizational challenges, but rather challenges with the plant itself in
5 terms of returning clean water to the environment. Dr. Gullick replied that RWSA
6 was trying to improve the SCADA system to gain better control of the facilities.
7 He mentioned that they were also attempting to get the cogeneration system
8 working well as there have been issues with it that have been difficult to identify
9 and fix. He added that implementing the odor control changes was a big
10 challenge, as well as the new pump station project which will create an entirely
11 new system to operate.

12

13 7. Resolution Amending By-Laws – gender neutral language **(Recording**
14 **Time: 10:21:41 a.m.)**

15 Mr. O’Connell stated that the staff attempted to edit the ACSA by-laws to
16 make them gender neutral. He stated that Mr. Bowling had a few suggested
17 changes to add to those already outlined in the resolution. Mr. Bowling stated
18 that in Article III, Section 3.3, the phrase “their successor” should read “a
19 successor.” He stated that the second change was to Article V, Section 5.2. He
20 stated that the phrase “as they may deem necessary” should read “as deemed
21 necessary.”

22 Mr. O’Connell stated that Mr. Roberts raised a question about the
23 language in the by-laws regarding the Executive Committee, specifically the
24 second paragraph in Article V. He stated that, to his knowledge, the Executive
25 Committee has never met nor acted but the by-laws give the Executive
26 Committee the authority to act for the entire authority in any situation. Mr.
27 Roberts stated that the Executive Committee could convene, for example, for the
28 purpose of firing the ACSA attorney without the knowledge of the whole Board.
29 He stated that a clause should be added specifying that meetings of the
30 Executive Committee are for emergency purposes, as the current language
31 suggests meetings that are general in nature.

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1 Mr. Bowling stated that this provision in the by-laws is archaic, having
2 been created in the 1960's when email and certain legislation did not exist. He
3 stated that the common sense and the law provide the Executive Committee with
4 the mechanism to act on an emergency basis. He noted that, however, when the
5 Executive Committee did act on an emergency basis, they were required to
6 follow up and ratify that action. He mentioned that he had not had a chance to
7 scrutinize the language in the ACSA by-laws, but that he would suggest adding
8 a clause that stated any action taken in an emergency situation must be ratified
9 by the Board at the next regular meeting.

10 Mr. O'Connell asked if the phrase could be removed altogether. He stated
11 that the few times there was a need to meet outside of regular meetings, the
12 entire Board met easily. Mr. Bowling replied that the Executive Committee had
13 the authority to meet so the phrase was not needed. Mr. O'Connell stated that if,
14 for example, a pump station went out and a contractor needed to be hired, the
15 Board would probably receive an email or a phone call but the ACSA would go
16 ahead and hire the contractor. He stated that the Board would be aware of the
17 action, but the appropriation for the contractor would not be ratified until the next
18 formal meeting.

19 Mr. Tolbert asked if there was language that could be added and voted on
20 today, or did the Board need to wait until the next meeting. Mr. O'Connell replied
21 that since it was a change to the by-laws, it needed to be advertised and
22 considered first. Mr. Kittrell stated that his opinion was that the Board should vote
23 on the changes already outlined in the resolution and vote on the proposed
24 changes from today's Board meeting next month.

25 Ms. Swanson asked if there was an attempt to convene the entire Board
26 before arranging a meeting with the Executive Committee. Mr. O'Connell replied
27 that the Executive Committee consisted of three Board members and a quorum
28 of the Board required four members. He stated that he would attempt to get a
29 quorum of the full Board, unless it was truly an emergency situation. He noted
30 that even in an emergency situation, he would still email or call the entire Board.

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1 Mr. Roberts stated that the Board would vote on the existing resolution,
2 with the few wording changes from Mr. Bowling, today and discuss the other
3 changes at the next meeting.

4 ***Ms. Sulzberger moved to approve the Resolution as amended,***
5 ***seconded by Mr. Kittrell. The Chair asked for a roll-call vote: Ms. Swanson,***
6 ***aye; Mr. Armstrong, aye; Mr. Roberts, aye; Mr. Tolbert, aye; Ms. Sulzberger,***
7 ***aye; Mr. Kittrell, aye.***

8
9 8. **Presentation – New ACSA Website (Recording Time: 10:29:352 a.m.)**

10 Mr. O’Connell stated that there was a team of people that helped with the
11 new website design but that April Walker, Systems Engineer for the ACSA, was
12 the main force behind the project. He stated that Ms. Walker’s presentation
13 (Attached as Pages____) would walk the Board through some features of the
14 website they may not yet be familiar with, as well as the new ability to track users
15 of the website. He added that she would also go over some items that the ACSA
16 was looking to improve in the future with regards to the site.

17 Ms. Walker came forward to address the Board. She stated that the ACSA
18 website is designed and maintained solely in-house and maintained on a
19 separate network with separate firewall and intrusion information and detection
20 software for security purposes. She mentioned that with the redesign, the staff
21 wanted to implement the customer suggestions that were outlined in the strategic
22 plan, as well as employee feedback. She stated that in 2015, a survey was
23 distributed to all employees asking for their feedback and personal rating of the
24 current website. She stated that the responses from those surveys were taken
25 and a redesign committee was formed with representatives from each
26 department. She noted that the committee also worked with RWSA to discuss
27 collaborative efforts between both organizations.

28 Ms. Walker stated that one of the improvements made with the new
29 website, in addition to the strategic plan items, was making the site easier to
30 maintain. She stated that features and processes needed to be streamlined and
31 in some areas they were automated. She stated that another improvement was
32 the responsive design. She noted that the site is supported by, and easily

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1 accessed through, most mobile devices such as tablets and smartphones. She
2 mentioned that the World Wide Web Consortium (W3C) sets the standards for
3 how a website should display and function, and that the new website is in
4 compliance with those standards, including ADA requirements. She stated that
5 compliance with the standards entailed specific coding and formatting to ensure
6 that the website renders on all browsers. She mentioned that Google Translation
7 has also been added to the website, which was a suggestion made by the Board.
8 She stated that a huge improvement to the website is the addition of Google
9 Analytics, which allows the staff to monitor how the website is utilized and
10 accessed.

11 Ms. Walker next walked the Board through a demo of the new website.
12 She stated that the goal was to have the website open to the same homepage
13 and have all information accessible without using the scroll bar, regardless of the
14 type of device used to access it. She noted that all important ACSA events and
15 recent news items were listed on the homepage, and that Google Translation
16 would translate the website into any language. She stated that the search feature
17 was kept from the old website design.

18 Ms. Swanson asked how to get the word “search” to go away in the
19 search box. She stated that in some search boxes, it was not necessary to
20 delete the word “search” before typing. She stated that in some search boxes,
21 once the cursor is placed inside the box, it allowed the searcher to begin typing.
22 Ms. Walker stated that she put the word there as a placeholder. She stated that
23 dial-up customers had to turn off images in order to make their page rendering
24 faster. She stated that buttons, such as the one labeled “search” under the
25 search box, are considered images and thus, those customers would not know
26 that there was a search feature there. She stated, however, that she could
27 remove the word “search” from the box.

28 Ms. Walker stated that a “Get In Touch” form has also been added to the
29 website. She noted that one of the strategic plan items was to make it easier for
30 customers to get in touch with ACSA staff. She stated that when customers filled
31 out the form, it would automatically email the staff. Mr. Armstrong asked if there
32 was a member of the staff dedicated to responding to those emails. Ms. Walker

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1 responded that the IT department was responsible for responding to the emails
2 and they all checked it several times throughout the day. She mentioned that
3 they forwarded emails to the appropriate department as opposed to having them
4 sent directly from the customer because there was a lot of spam that came
5 through the website.

6 Ms. Walker stated that the website had a new map feature called “Where’s
7 My Meter?” which was a fan favorite so far. She stated that when an address is
8 typed into the box, for example the ACSA’s address, it gives an idea of the meter
9 location for that address. She noted that when a user clicks on the meter symbol
10 on the map, it gives the last reading date and consumption. She mentioned that
11 this feature was specifically helpful for customers that suspect they have a leak
12 because they can look at the prior month’s reading and compare it to the current
13 month. Mr. Tolbert asked what the symbol for the meter was. Ms. Walker replied
14 that the symbol was the letter “m” with a circle around it. Mr. Tolbert stated that it
15 looked very tiny to him. Ms. Walker stated that one could zoom in on the map if
16 necessary. Mr. Tolbert stated that the customer would first have to be able to
17 locate the meter in order to zoom in. He asked if the same symbol that is used on
18 some maps could be used for the meter location.

19 Mr. O’Connell stated that the same symbol that is used in the GIS system
20 is the one used on the website. Mr. O’Connell stated that he felt it was difficult to
21 see because of the location of the building, but that it should be more prominent
22 with another address. Mr. Lynn added that the particular meter they were looking
23 at is located in the basement of the building, which is another reason why it did
24 not show up well. Ms. Walker stated that the IT staff would look into making the
25 meter symbol more prominent. She stated that the GIS Coordinator developed
26 the application so she was not familiar with its full capabilities. Ms. Swanson
27 asked about those customers behind master meters. Ms. Walker replied that the
28 master meter would show along with all of the service addresses associated with
29 that meter.

30 Ms. Walker stated that the new Capital Improvement Project (CIP) map
31 was also a popular feature on the website. She stated that it displays projects by
32 district and clicking on an individual project would display the project manager,

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1 the proposed budget, a description of the project, and the areas affected by the
2 project. She stated that there was also a page dedicated to the Board of
3 Directors. She noted that there was a link on the page to access each board
4 packet or individual items digitally.

5 Ms. Walker stated that Google Analytics now allows the IT staff to track
6 how many visitors the website receives each day, as well as the most frequently
7 visited pages on the website. She mentioned that most customers visiting the site
8 were using e-Pay to pay their bill. She noted that the analytics tool also details
9 the average length of each visit to the website, as well as new versus returning
10 visitors. She mentioned that it breaks down visitors by city as well. Ms. Swanson
11 asked if the staff found it interesting that so many people outside of the ACSA's
12 service area were visiting the website. Ms. Walker replied yes, and stated that it
13 was especially interesting to get people from other countries visiting the site.

14 Mr. Roberts asked why people not in the jurisdictional area would be
15 visiting the website. Mr. O'Connell replied that there are some properties that
16 Google would consider not in the area that actually are. Ms. Walker added that
17 another reason could be that Google Analytics pulls the city information through
18 the internet service provider who could have the incorrect information. Mr. Tolbert
19 asked if the information from Google Analytics was available to anyone or just
20 the ACSA staff. Ms. Walker replied that it was only available to the ACSA staff.
21 Mr. Bowling asked if it was possible to find out the individual email address of a
22 person visiting the website. Ms. Walker replied no. She stated that they could
23 determine what browser they are using, but not the email address.

24 Ms. Walker stated that the website was a work in progress. She stated
25 that if the Board wanted to see anything on the site changed, updated, or added,
26 to let the staff know. She mentioned that there would be new content coming
27 soon and the goal was to keep the site fresh and relevant. She stated that she
28 personally wanted to thank Gary O'Connell for supporting the IT department,
29 Travis Marrs for supporting her throughout the process, Justin Ray for his work
30 on the maps, and Danielle Trent for her help with editing the content. Ms.
31 Sulzberger stated that she wanted to compliment Ms. Walker. She stated that

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1 she accessed the website from two different devices and found it to be very user
2 friendly and easy to navigate, which was a big improvement.

3
4 9. Water Quality Presentation (Recording Time: 10:46:05 a.m.)

5 Mr. O'Connell stated that Mr. Brown would discuss water quality and lead
6 testing, in response to the current water issue in Flint, Michigan and specific
7 questions from the Board. Mr. Brown stated that he wanted to thank Mr.
8 O'Connell for maintaining regular presentations on water quality as water is the
9 number one product the ACSA is delivering to its customers. He stated that he
10 would move through the first half of the Power Point presentation (Attached as
11 Pages____) rather quickly, as most of the Board was familiar with it and that the
12 second half would go over lead testing.

13 Mr. Brown stated that there were around 400,000 tests done per year on
14 South Rivanna treated water before it is even released from the plant. He stated
15 that many of the parameters are tested continuously, with values being logged
16 every 15 minutes, every day of the year. He noted that tests were done on
17 various things including raw, settled, and finished pH, raw, settled, and finished
18 turbidity, filtered turbidity at multiple filters, settled and finished chlorine, and
19 finished fluoride. He stated that on finished water, testing for an array of metals,
20 minerals and inorganics, and volatile organic compounds occurred annually. He
21 noted that testing for pesticides, herbicides, and radiologicals is done a little less
22 frequently.

23 Mr. Brown stated that there was also significant testing that took place
24 once the water was in the ACSA's system. He stated that many things needed to
25 be monitored between the water leaving South Rivanna and entering the
26 customer's tap. He stated that coliform bacteria are a general indication of the
27 sanitary conditions of the water supply and the testing for it follows the 1990 EPA
28 Total Coliform Rule. He stated that in the Urban system, there were currently 70
29 samples taken per month, which is based on the estimated population served.
30 He mentioned that samples are collected by RWSA staff from 23 sites. He
31 mentioned that of the 840 samples taken in 2014 and 2015, there was one
32 positive coliform sample each year, and none in 2013. He noted that those

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1 results were a testament to the quality of the collection by RWSA personnel. He
2 added that each tap has to be sterilized before collection, and it takes much skill
3 and care to properly collect a sample.

4 Mr. Tolbert asked how many of the 23 sample sites were in Albemarle
5 County and how many were in the City of Charlottesville. Mr. Brown replied that
6 all 23 were in the ACSA's jurisdictional area. He noted that the City, in turn, has
7 to collect 50 samples per month, based on their estimated population as well.
8 Ms. Swanson asked if the testing for coliform bacteria was rapid testing, as
9 opposed to older methods. Mr. Brown replied that testing was done in the RWSA
10 lab, with results yielded in 24 hours. He mentioned that there are multiple
11 methods now that are much quicker than the older methods such as agar plating.
12 Ms. Swanson asked if the test was a DNA or RNA type of test and how presence
13 of bacteria was determined. Dr. Gullick replied that it was not a DNA or RNA test.
14 He stated that they used the Colisure method, which is a standard, certified
15 method. He mentioned that there are faster methods available but they are not
16 certified. He added that it would be bad to get a false negative on a test, but that
17 they did not want a false positive either. Mr. Brown stated that with the method
18 used, if bacteria are present and there is growth, the metabolism will result in a
19 color change. He stated that in the case of the few positive test results recorded,
20 repeat sampling at the site was performed as well as upstream and downstream
21 of the site, all of which were negative.

22 Mr. Kittrell asked where the samples were taken in the system. Mr. Brown
23 replied that they were scattered with the intent to be in every pressure band
24 within the system, but that they would be changing as of April 1, 2016 as part of
25 the EPA Revised Total Coliform Rule (RTCR). He stated that the Virginia
26 Department of Health (VDH) approved them to be scattered throughout the
27 distribution system. He noted that there had been some clustering of sample
28 sites that needed to be addressed and an attempt is being made to have more
29 sample sites within the neighborhoods and subdivisions as opposed to the main
30 distribution lines.

31 Mr. Brown stated that the ACSA is working closely with RWSA to finalize
32 the Bacteriological Sample Siting Plans to deliver to the VDH. He stated that the

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1 plans called for 20 sampling sites, four times a month, with nine of the sites being
2 new. He stated that four of the nine new sites would involve sampling stations
3 positioned in key neighborhoods including Ashcroft, Key West, Redfields, and Ivy
4 Oaks. He stated that the RTCR places a greater focus on assessing sanitary
5 defects when there are total coliform exceedances and follow-up corrective
6 action. He mentioned that the sampling stations would consist of a device
7 approximately the size of a fire hydrant with a brass fixture that can be sterilized
8 like any other tap. He noted that four would be installed in the Urban area and
9 one in Crozet by ACSA maintenance staff in the next few weeks. Mr. Tolbert
10 asked if the sampling stations would be green like the one in the picture. Mr.
11 Brown replied yes. Mr. Tolbert stated that since they are about the size of a fire
12 hydrant, they should not be red or yellow so as to distinguish them from fire
13 hydrants.

14 Mr. Brown stated that the reason for the sampling stations was to get into
15 the neighborhoods where the ACSA customers are and where there are few or no
16 commercial facilities. He stated that ACSA staff was looking to avoid using
17 households to take samples as they did not typically ask to enter a customer's
18 private residence. He noted that this meant using an outside tap and there are
19 multiple problems associated with that such as not being able to access the tap,
20 sterilizing the tap, or contamination from rainwater.

21 Ms. Swanson asked if there had ever been an effort to connect a sampling
22 station to a fire hydrant. Mr. Brown replied that coliform samples can be collected
23 from a hydrant. He stated that David Tungate, Water Manager at RWSA,
24 indicated that his previous employer regularly collected samples from fire
25 hydrants. He noted that they could be disinfected but, in his opinion, that
26 presented an even greater challenge. He stated that the purchase of the
27 sampling stations would be well worth the money spent as opposed to attempting
28 to collect a sterile sample from a fire hydrant.

29 Mr. Brown stated that the ACSA had probably not made more
30 improvement in any area of testing than that of residual chlorine testing. He
31 stated that in the past two years, thanks to the efforts of Rich Gullick and Alex
32 Morrison with the ACSA, there has been greater data accuracy based on longer

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1 flush times within a commercial facility, greater testing frequency, better
2 coverage throughout the system, better knowledge of seasonal variations, and
3 better knowledge of variations within the same season. He noted that chlorine
4 was tested regularly at the same sites used for coliform bacteria testing and
5 issues with chlorine in Crozet and Scottsville, as well as a few Urban areas, have
6 been addressed. He mentioned that chlorine data was now being added to the
7 GIS system with any hydrant visit and automatic flushers have been used at six
8 locations.

9 Mr. Brown stated that disinfection by-products are chemicals that can form
10 when there is an interaction between the added disinfectant, chlorine, and the
11 organic carbon in the source water. He noted that these chemicals were the
12 primary stimulus for the Granular Activated Carbon (GAC) upgrade at the
13 treatment plants. He mentioned that there is a direct correlation between some
14 disinfection by-products and water age. He stated that there were currently eight
15 testing sites, with many of those sites located at the fringes of the ACSA system,
16 and that testing was done on a quarterly basis. He added that the staff tracked
17 what is called a locational running annual average, and that all sites are in
18 compliance.

19 Mr. Brown stated that with regards to lead and copper testing, the Lead
20 and Copper Rule, which is a mandate for the ACSA, states that its purpose is to
21 protect public health by minimizing lead and copper levels primarily through
22 reducing water corrosivity. He stated that the rule is very extensive, calling for
23 testing in homes and buildings, installing corrosion control treatment at the
24 plants, regular testing of other water quality parameters at the plant and in the
25 distribution system, replacing lead service lines, and public education. He noted
26 that test results go to the owner of the site where the sample is collected and
27 every customer can get information about lead in the annual water quality report.

28 Mr. Brown stated that the Lead and Copper Rule varies from other
29 aspects of water quality in that it established what is called an Action Level (AL)
30 for lead and copper. He noted that an AL is not the same as the maximum
31 contaminant level set for all other parameters. He stated that there is an AL of
32 15 ppb for lead and 1.3 ppm for copper. He mentioned that for each round of

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1 testing, the action levels cannot be exceeded by 90% of the sample sites. He
2 stated that this meant 10% of the sample sites could exceed these AL's and still
3 be in compliance.

4 Mr. Brown stated that the Lead and Copper Rule was also unlike any
5 other drinking water provision in that the supplier is responsible for the quality of
6 water that flows through plumbing out of its control. He stated that "first-draw"
7 water samples are collected by the resident, not trained water supply personnel.
8 He noted that there had been several revisions to the rule in the last 25 years,
9 with the most recent one being in 2007. He added that water suppliers must
10 obtain approval from the VDH prior to adding a new water source or altering a
11 process such as treatment.

12 Mr. Brown stated that Mr. Kittrell had asked about the sample site
13 selection process earlier in his presentation. He stated that in Virginia, there is a
14 tier system. He stated that Tier 1 includes single family residences that have lead
15 service lines, lead pipes, or copper pipes installed between January 1983 and
16 April 1986. He stated that Tier 2 was the same as Tier 1 except it involved multi-
17 family residences. He mentioned that Tier 3 includes single family residences
18 with copper pipes installed in 1982 or earlier. He noted that there were no
19 institutions including schools in the three tiers, and that a water supplier is to
20 continue using the same sites unless the copper or lead pipes have been
21 removed.

22 Mr. Kittrell asked if the same 30 sites have been used for lead and copper
23 testing over the years. Mr. Brown replied yes and stated that using the same
24 sites was a VDH requirement. He stated that many of the sampling sites go back
25 to the 1990's and early 2000's. He mentioned that every time a sample has to be
26 taken, the current homeowner has to be contacted. He stated that if there has
27 been a change in the homeowner, they may or may not wish to participate. He
28 noted that, in some cases, the ACSA has been turned down by continued
29 participation by the same homeowner. He stated that the other key issue was
30 whether or not there had been any significant changes in the plumbing.

31 Mr. Tolbert asked what the original selection of the sampling sites was
32 based upon. Mr. Brown stated that it was long before his time at the ACSA. He

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1 stated that the tier system was used, and the intent was to include as many of
2 the representative neighborhoods as possible. He noted that in some cases there
3 are two or three sample sites within the same subdivision. Mr. Tolbert stated that
4 it would be interesting to see a map of the distribution of the sample sites. Mr.
5 Kittrell stated that he would question how well the ACSA knows its system given
6 that the same sites have been sampled for over 25 years. Mr. Brown replied that
7 the VDH requires that the sampling sites remain the same. Mr. Kittrell stated that
8 additional samples could be taken outside of the required sampling sites.

9 Mr. Brown next went over the logistics of lead and copper testing. He
10 stated that the sampler gets a one liter sample bottle with detailed instructions.
11 He stated that the water should sit unused in the plumbing for at least six hours
12 according to VDH guidelines. The sampler would then collect a “first-draw”
13 sample, which would result in the potential highest concentration of lead and
14 copper. He stated that the sampler would record the date and time of last water
15 use and the date and time of the sample collection and leave the sample outside
16 for the ACSA to collect. He noted that the sample is then sent to the RWSA lab,
17 which is state-certified to test for lead and copper. He mentioned that an area of
18 variability with the testing is that the customer is asked to collect the sample, and
19 they could make mistakes that would yield false results such as using the
20 bathroom in the middle of the night.

21 Mr. Brown stated that as Mr. Kittrell mentioned earlier, 30 samples were
22 required for the Urban area, with 20 being taken in Crozet, 10 in Scottsville, and
23 5 in Red Hill. He stated that all of the required sampling numbers were reduced
24 by half based on historically low results. He stated that triennial collection began
25 in 2001 and since that time, there have been 290 samples collected from all
26 ACSA systems with no sample being greater than 15 ppb for lead.

27 Mr. Bowling asked if he was correct in stating that the sample sites were
28 originally picked because they were areas known to have lead and copper pipes.
29 Mr. Brown replied yes. Mr. Bowling stated that the ACSA did not have control
30 over a customer’s personal service line. Mr. Brown concurred and stated that the
31 ACSA’s control was only up to the meter. Mr. Lynn stated that over the years,
32 the ACSA staff has replaced the lead gooseneck fittings in the system and they

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1 were confident that there were not any left between the water main and the
2 copper setter. He stated that the last known water line that contained lead
3 packing was in Crozet, but that the Jarmans Gap Road Project eliminated that.
4 He mentioned that there was one area that may still contain lead, which is a
5 section of water line next to Buckingham Circle that the ACSA staff cannot
6 access.

7 Mr. Brown stated that if 1 out of 20 tests is over the threshold, that means
8 that 19 out of 20 are not, indicating that there is not a system-wide issue with
9 corrosion. He stated that the ACSA staff did not have knowledge of the
10 customer's private plumbing past the meter but, with no sample being over 15
11 ppb since 2001, corrosion control, distribution line composition, and water quality
12 at the meter were clearly very good. He mentioned that even those homes that
13 still had lead and copper pipes were not showing any significant release of lead
14 from the internal plumbing.

15 Mr. Kittrell asked about the copper testing results. Mr. Brown replied that
16 there had been a couple of copper exceedances. He stated that at one house in
17 Red Hill, a first sampling barely exceeded the 1.3 ppm copper limit. He stated
18 that a corrosion inhibitor was added to the water treatment and continued testing
19 has shown decreased copper levels each of the five times testing was performed
20 since 2009. He mentioned that the second time testing was done, he performed
21 a "first-draw" test and another test after a two minute flush. He noted that the
22 copper levels came down 75% to 85% for both lead and copper after the two
23 minute flush.

24 Mr. Brown stated that not only had the lead test results not been over 15
25 ppb since 2001, 95% of the samples from the last round of testing were less than
26 the lab reporting limit of about 2.5 ppb. He mentioned that the lab was confident
27 that anything over 2.5 ppb was a real number in terms of lead content. Mr. Kittrell
28 asked if the same percentage of samples were below the lab reporting limit going
29 back to 2001 when the sampling first began. Mr. Brown replied that Dr. Gullick
30 prepared a detailed report of all numbers, including the City, and it was along the
31 lines of more than half of the samples were found to be under the reporting limit.

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1 Mr. Kittrell asked if the Board could receive a copy of that report. Mr. Brown
2 replied yes.

3 Mr. Tolbert referred back to the customer in Red Hill whose copper levels
4 decreased after flushing for two minutes. He asked what happened if that
5 customer's neighbor, who was likely to have the same issue, did not flush their
6 water every day before using it because they were not aware that there was an
7 issue. Mr. Brown replied that in Red Hill there were eight private residences and
8 an elementary school. He stated that one sample from each house and two from
9 the school are taken during testing, so the ACSA is aware of the lead and copper
10 levels of each customer in Red Hill. Mr. Tolbert asked if the ACSA notified every
11 house or just those with an issue. Mr. Brown replied that there has not been a
12 need to notify as there has not been a household over the threshold since 2001.
13 He reminded the Board that up to 10% of the samples could be over the
14 threshold and the ACSA would still be in compliance.

15 Mr. Brown stated that due to the issues in Flint, Michigan, his guess was
16 that there would be some changes to the Lead and Copper Rule, such as a more
17 detailed assessment of all customers, a greater emphasis on the ACSA to
18 remove any remaining lead in the distribution system, a greater number and
19 frequency of samples collected, possible sample collecting by the water supplier
20 as opposed to the customer, and a lowering of the Action Level because there is
21 no safe lead level determined for pregnant women and young children.

22 Mr. Tolbert asked how much the lead and copper tests cost. Mr. Brown
23 replied that a private lab will charge anywhere from \$18 to \$50 for lead and
24 copper combined. Mr. Tolbert stated that if the ACSA wanted to double the
25 number of sampling sites, it was not a big cost. Mr. O'Connell stated that it would
26 be an issue of labor more so than the cost of the test. Mr. Tolbert stated that the
27 homeowner would be collecting the sample and the ACSA staff would pick up the
28 samples. Mr. O'Connell stated that when doing something like that, it was good
29 to think about what changes the regulators may be making. He stated that he
30 has a meeting with a representative from the VDH tomorrow, and their focus was
31 on the City as it was an older system. Mr. Tolbert stated that he understood
32 nothing should be done until the changes were made, but he felt that it would be

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1 better for the system if there was some random testing in addition to the original
2 30 sites.

3 Mr. Roberts asked if there was some type of filter that could be bought for
4 drinking water. Mr. Brown replied yes. He stated that the Brita and Pur water
5 filters can be effective for lead. Mr. Kittrell stated that he did not think there was
6 any problem with the quality of the water in the ACSA distribution system. He
7 stated that his focus was not on the regulations, but rather ensuring that there
8 continued to be good, safe drinking water for ACSA customers. He stated that he
9 was thinking about additional sampling that could be done, whether it is random
10 or in a stratified random manner where specific areas are looked at, such as
11 Buckingham Circle. Mr. Lynn stated that he wanted to make a clarification with
12 regards to Buckingham Circle. He stated that all water lines have been replaced
13 in that area. He stated that the water line that he referred to earlier in the meeting
14 is located adjacent to the entrance to Buckingham Circle, but is not connected to
15 Buckingham Circle.

16 Mr. Kittrell stated that the issue in Flint, Michigan was not an isolated
17 situation because it happened in Washington, D.C. He stated that he wanted to
18 make sure that there was good, quality water in the older neighborhoods and
19 homes, as well as other places too. Mr. O'Connell stated that the ACSA wanted
20 to be in a position that it can back up its claims of safe water with solid
21 information. Mr. Kittrell added that most customers do not know that they should
22 flush the water from the system before they use it, and perhaps some type of
23 educational program for them would be helpful.

24 Ms. Swanson stated that as the materials that go into the water system
25 are improved and there is a standardization of materials, the ACSA should not
26 have to worry about the newer developments because the materials they are
27 using should be lead free. Mr. Gorham stated that some brass fixtures still
28 contained a small amount of lead. He stated that after January 1, 2014, those
29 were no longer allowed to be installed.

30

31 10. Update on the Vulnerability Assessment (Emergency Planning) Project
32 **(Recording Time: 11:38:20 a.m.)**

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1 Mr. Lynn stated that he wanted to give the Board a quick update on the
2 status of the Vulnerability Assessment Project. He stated that five proposals were
3 received for the project from Tectonics, O'Brien & Gere, WRA/Baker, ABS
4 Consulting, and Launch Consulting. He stated that on January 6, 2016,
5 representatives from the ACSA, RWSA, City of Charlottesville, and UVA met at
6 the ACSA Operations Center and interviewed three of the consulting firms. He
7 stated that, through a unanimous decision, Launch Consulting was chosen.

8 Mr. Lynn stated that each entity will develop their own individual scope of
9 work with Launch Consulting as each will have different criteria and items that
10 are important to them. He stated that Linda Warren, the CEO of Launch
11 Consulting, is a local resident and a customer of the ACSA. He mentioned that
12 she has a personal interest in the integrity of the water system as it provides
13 water for her and her family. Mr. O'Connell added that Ms. Warren had also
14 done some work with the ACSA on the strategic plan.

15 Mr. Lynn stated that on February 10, 2016, he met with Ms. Warren to
16 discuss a draft for the ACSA's scope of work. He stated that he has spoken with
17 the Albemarle County Police Department, Albemarle County Fire & Rescue,
18 Kirby Felts, the Emergency Management Coordinator, and the local health
19 department. He mentioned that the ACSA would be utilizing them in the project to
20 get their perspective and to provide additional insight. He stated that he was not
21 sure about the City's plan, but that RWSA is looking into having a discussion with
22 the local police and fire department as well. Mr. Lynn stated that this project is
23 an opportunity for all entities involved to communicate more.

24

25 11. Items Not on the Agenda (Recording Time: 11:42:28 a.m.)

26 Mr. O'Connell stated that the staff reviewed all the job descriptions as a
27 result of a Board request to make some changes to the years of experience
28 sections. He stated that the staff found a few other areas that needed to be
29 changed and those changes were made as well.

30

31 12. Executive Session (Recording Time: Due to Executive Session, no
32 recording was conducted during this time period.)

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1 Ms. Trent read a Resolution to enter into Executive Session pursuant to
2 Virginia Code §2.2-3711 A (7) to consult with legal counsel and staff regarding
3 specific legal matters requiring legal advice (Attached as Page _____).

4 **Mr. Kittrell moved to approve the Resolution as presented to the**
5 **Board, seconded by Mr. Tolbert. The Chair asked for a roll-call vote: Ms.**
6 **Swanson, aye; Mr. Armstrong, aye; Mr. Roberts, aye; Mr. Tolbert, aye; Ms.**
7 **Sulzberger, aye; Mr. Kittrell, aye.**

8 The Board of Directors came back into regular session. Ms. Shifflett read
9 into record a Resolution stating that only matters so previously stated and
10 exempted from open discussion in regular session were discussed in Executive
11 Session (Attached as Page _____).

12 **Mr. Tolbert moved to approve the Resolution as presented to the**
13 **Board, seconded by Ms. Sulzberger. The Chair asked for a roll-call vote:**
14 **Ms. Swanson, aye; Mr. Armstrong, aye; Mr. Roberts, aye; Mr. Tolbert, aye;**
15 **Ms. Sulzberger, aye; Mr. Kittrell, aye.**

16
17 13. Adjourn (Recording Time: 12:27:38 a.m.)

18 **There being no further business, Mr. Tolbert moved that the meeting**
19 **be adjourned, seconded by Mr. Armstrong. All members voted aye.**

20
21
22
23 _____
24 Gary B. O'Connell, Secretary-Treasurer