

SACWSD – Water Hardness Advisory Committee (HAC)
May 2, 2017

Meeting Summary

Members of the South Adams County Water and Sanitation District (SACWSD) Water Hardness Advisory Committee (HAC) convened for their third meeting. The purpose of the meeting was: to review data from the District’s survey and discuss options that best balance the interests/criteria the HAC has already approved. (*See appendix A for a list of attendees*)

Aaron Phillips, SACWSD Board President welcomed and thanked the HAC for their sacrifice, their time and efforts; the welcome as read by Jim Jones, SACWSD General manager. Mr. Phillips’ letter also articulated his hope that the HAC would consider options with the following criteria (similar to the HAC criteria): address water hardness; legal (meet regulations and laws); good for all - customers and the District as a whole; fair; and explainable (easy to understand).

I. SURVEY – INITIAL RESULTS

Doug Jeavons and Michael Verdone, BBC Research, presented the preliminary results from the telephone survey. The desire was to get preliminary data to HAC for this meeting; there wasn’t enough time to compile all the data prior to the this meeting, therefore the results are preliminary and top level. The final and full report will be sent to the HAC when it is complete; the expectation is it will be available prior to BBC’s presentation at the SACWSD BORad’s June Meeting (June 14th).. (*To see a bit more detail on the highlights see appendix C below; to see all questions and results, please go to the full presentation or report once posted online.*)

Key Highlights:

- ***Who were called:*** 400 respondents completed survey questions; respondents were evenly split between the south and north (between the General Service Area - GSA is south of 112th and west of highway 2, and the non-GSA which is north of 112th and east of highway 2; mostly above and east of the Arsenal Refuge).
- ***How was the water perceived:*** The significant majority did not like the water (70% overall perceive the water as “very poor” or “unsatisfactory”); a larger majority of those from non-GSA do not like it (77%) compared to 63% from GSA.
- ***Why was the water perceived as very poor or unsatisfactory:*** The majority did not like the water because of the hardness (51%); many of those from non-GSA said the reason was hardness (68%), compared to those from GSA(35%); also mentioned as reasons were: appliance/plumbing wear, scaling, health, odor, and color.
- ***What are customers doing about it:*** A significant majority (72% overall) has a softener or softener and filter, and a majority also gets bottled water for drinking (59% overall); a much larger majority of non-GSA respondents have a softener (86%), compared to 42% in GSA.

- **How much are they paying** (open ended question, no ranges given): The middle/median monthly cost was \$19 for non-GSA respondents and \$10 for those in GSA; the median bottled water costs for non-GSA was \$40, and \$24 for those in GSA.
- **Which option is preferred to address hardness:** 60% preferred some rate increase (39% preferred “rebate...with smaller rate increase and 21% prefer “treatment...with large rate increase”; while 40% preferred “do nothing”); half of the GSA respondents preferred “do nothing” (50%), while the highest preference for non-GSA respondents was a “rebate...small rate increase” (45%).
- **If central treatment, how much would they be willing to pay** (participants were only asked about one of the three options-+\$12, +\$21, or+\$31 monthly): The preference was for a smaller increase (57% overall); more non-GSA respondents liked any increase option compared to GSA respondents.
- **If a one-time rebate was offered, would they participate** (participants were only asked about one rebate option): There was no clear preference between a \$250 rebate/+\$2 monthly option and a \$1500 rebate/+\$12 monthly option; the only higher result was that 63% of non-GSA respondents preferred the \$1500/+\$12 option.
- **How should the District fund it:** Preference was for increased water rates (50% overall), fewer preferred increased property taxes (29%); non-GSA respondents preferred increased water rates (59%) over property taxes (21%), while GSA respondents did not have a significant preference.

Discussion

- Concern: Survey respondents probably assumed the rebate would be cash back, but it could be a District credit on the bill; this might have had an effect on the responses.
- Concern: The difference between GSA and non-GSA results may be more than just the quality/hardness of the water they get, it may also be a factor of income, newer to the District (less used to it) and other demographics.
- Question: 400 people with a +/-5 does not seem comprehensive or definitive enough; will it impact how much we can trust the results. Answer: This is an industry standard, even for a larger district like Denver, 400 is statistically valid. Getting more responses would lower the +/-, but would take more money and time.
- Question: Why is the cost the median or middle? Answer: The average would have been skewed by the highest costs, giving the impression more people were paying more than is true.
- There is never perfect data no matter how much time or money you have; this data gives the HAC a benchmark of where customer’s are right now; this data will help the HAC understand what might be possible or what level of effort would be needed to change perceptions (or pass a tax or rate increase by the voters).

- Question: How will the growth rate impact costs, quality, etc.? Answer: The District has water sources for projected growth and does not anticipate any change to infrastructure based on growth.
 - *Note: Following the meeting Jenny Axmacher, Commerce City Planner sent an email with Commerce City growth data, in brief: estimated current-2015 population = 53,696, estimated future-2035 population = 71,600*
- Question: Are there any expectations for large infrastructure needs/expenditures? Answer: None are expected at this time, but regulations can change which would necessitate a new infrastructure need/cost.

II. OPTIONS MATRIX - ADDITIONAL INFORMATION - *Environmental Impacts, Unintended Consequence and Uncertainty*

Central Treatment

- Any central treatment option - For any of the central treatment options, there were concerns about treated water's chemical change creating sloughing off of built up scaling. Because the source of the water (original chemical composition) would remain the same, it is less a lot likely that sloughing would occur.
- Reverse Osmosis - The waste is a brine stream and disposal option would be deep well injection. Currently in Colorado wells are being permitted, but because of the environmental, public, and cost concerns it may become more difficult or impossible in the future.
- Pellet Softening - The waste (calcium carbonate pellets) may be marketable for farmers or concrete, but there is a significant concern that TENORM (radioactive materials) may exit in the sludge. If TENORM exist, the waste would have to go to a hazardous waste disposal facility, increasing environmental impacts and costs (regular disposal est.\$500,000, if TENORM \$12.6 million for hazardous disposal). It is not know if pellets from SACWSD's source and process will have TENORM or not. To know for sure, SACWSD needs to conduct a pilot study. The study would take months to complete (to be sure/prepared) and the cost of the study is not currently in the District's budget, therefore it would have to be conducted in 2018 (outside the current HAC timeline).
- Ion Exchange - The environmental impact is a larger carbon footprint from the increased truck traffic for regular deliveries of salt for the process. Also, there may be unintended consequences based on the increase of salt in the finished water; environment and health impacts are uncertain.
- Lime Soda - The environmental impacts stem from the need for a lot of land/space to dry the sludge and disposal of the sludge. This process may also result in TENORM and increased environmental and cost impacts.

Rebate Program

Any rebate program has potentially negative environmental and operational impacts due to the DIY softeners discharge into the waste stream. The discharge may violate the wastewater treatment facility's permit, creating increased costs for treatment to conform to the permit/be legal. Also, there is no certainty about the sustainability of the program; it may address the problem in part and for a moment in time, but may not be sustainable over time.

Amanda Thomas, SACWSD, did some research for examples of similar softener rebates across the country. Her research did not reveal any rebates programs for adding softeners, but there were programs for removing softeners. Most rebates found were for system wide benefits, like conservation (less water use overall; e.g. conservation toilets) or removal of softeners (improving system wide treatment costs). For example: Los Angeles, California had a \$150 rebate for removal of softeners; and Scottsdale, Arizona had a \$100-\$150 rebate, also for removal of softeners and/or exchange tanks. Most rebates found were also either a one-time rebate or once in 10 years rebate; conservation rebates were most likely to be once in 10 years while softener removal rebates were one-time.

There is uncertainty about the participation of any rebate program that provides an account credit rather than cash. Many in the survey may have assumed it would be a check/cash, but it could be a credit with the District instead.

III. OPTIONS DISCUSSION

HAC members discussed which option best balanced their criteria: addresses/lowers hardness; equitable-fair, good for all; minimizes/protects the environment; and manages costs to consumers/rate payers. They also considered the additional criteria Aaron Phillips, SACWSD-Board, suggested: legal and explainable

- Pellets look like the best balance of: equity (good for all and fair); lower hardness; minimize environmental impacts; and manage costs to rate payers. Although pellets are not pervasive in the US, there is a longer history and more use in Europe and the District could chose to be on the forefront of a newer technology.
 - But if the radioactive TENORM exists the cost to rate payers for this option would go up a lot and make pellets meet less criteria.
- Rebates have uncertainties about environmental and treatment impacts. More DIY softeners, particularly when accounting for growth, may overload the treatment facility and force a violation of permits and require an increase in treatment costs. Plus, customers may be very upset to discover the rebate is a credit rather than cash/check. Also, rebates do not address the impacts of hardness on appliances.
 - But the survey shows more people are willing to have a smaller rate increase, and rebates require a smaller rate increase; less impact to rate payers.
- Reverse Osmosis is too expensive so not equitable-fair, there is no market for the waste, and has greater environmental impacts and uncertainties related to drilling and injection wells. Even if the District could partner with an oil and gas company to fund

drilling (lower the cost), the impact of injecting the brine could be more impactful than we know at this time. Plus, public perception is against drilling and that could create even more challenges with disposal.

AGREEMENT: HAC agreed to remove RO from discussions at this point - it is too expensive, too many environmental impacts, and too much uncertainty regarding disposal (regulations could stop injection wells).

- *Blending* would be the second best option. Although it is only temporary it would be a smaller cost increase, as well as equitable and lowers hardness.
 - But blending doesn't lower the hardness level very much (350 down to 325/270 mg/L).
 - But blending is unlikely because there is no surface water sources (less hard source) and even if a source could be found the infrastructure needed would be cost prohibitive; the west slope is not amenable to sending more water to the front range and it would cost approximately \$300+ million to build the infrastructure to transport the water.

Other discussion points

- Question: What is the treatment impact of DIY softeners if the water is coming into a house is first centrally treated? Answer: Because the water is already less hard going into the house the DIY softeners do not have to take as much out, would not work as hard or put as much discharge into the waste stream.
- Concern: The \$12 increase option will not create enough change in the water, people will feel the water has not changed enough for the rate increase; people will get very angry at the District.
- Concern: The options do not change the taste, the most noticeable water issue. People will become angry after an increase in rates and no immediately noticeable change.

IV. NEXT STEPS

- **Next HAC Meeting:** June 6th - Purpose: To build agreement on what input from the public would be useful to develop the HAC recommendation (e.g., option(s) that best balance all criteria and how the public feels, or...)
- **Public Meetings:** July(ish). The intent is to have the HAC get public input through interactive public meetings; get more/deeper information than the survey; the process could be small groups and other interactive exercises. Once the HAC clarifies what input would be most useful, Jody Erikson will work with SACWSD and HAC on an agenda.

APPENDIX A: Attendance

HAC Members Present:

- Brett Burrough, Business-North
- Danny Thomas, Resident-South
- Elaine Hassinger, Tri-County
- Jack Hagaman, Business -South
- Jenny Axmacher, Commerce City
- Jessica Monahan, Resident-North
- Jim Jones, District General Manager
- Kelly Tannenbaum, Resident-North
- Pam Sprattler, Resident-South
- Robyn Jeffords, Resident-North
- Steven Erwin, Resident-North
- Tillie Villarreal, Resident-South
- William Frew, Business-North

Observers:

- Betty Thomas, Resident

SACWSD Staff & Consultants

- Blair Corning, Environmental Program Manager
 - Amanda Thomas, Environmental Communication Specialist
 - Byron Jefferson, Administrative Services Manager
 - Jody Erikson, JSE Associates (Facilitator)
 - Doug Jeavons, BBC (Survey researcher)
 - Michael Verdone, BBC (Survey researcher)
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APPENDIX B: HAC Criteria/Interests to address by any solution

- Address water hardness in the district
- Equitable – good for all, fair
- Manage costs to rate payers
- Protect the environment (decrease impacts)
- Diminish costs to consumers for doing it themselves (DIY)
- Provide good tasting/drinkable water
- Minimize negative impacts to human skin
- Be affordable to scale for growth
- Protect or improve property value for resale
- Ensure stable water source

APPENDIX C: Survey Result Highlights

Please see the presentation online or report once published for all questions and results.

Key Highlights:

- **Who were called:** 400 respondents completed survey questions; respondents were evenly split between the south and north (between the General Service Area - GSA is south of 112th and west of highway 2, and the non-GSA which is north of 112th and east of highway 2; mostly above and east of the Arsenal Refuge).
 - 83% own and 17% rent - it was intentional to get more owners than renters because it is assumed that more owners pay the water bill
 - 50% were from the General Service Area (GSA; this area is a slice south of 112th and west of highway 2) and 50% were from outside the GSA (north of 112th and east of highway 2; mostly above and east of the Arsenal Refuge)

- **How was the water perceived:** The significant majority does not like the water (70% overall perceive the water as “very poor” or “unsatisfactory”), a larger majority of those from non-GSA do not like it (77%, compared to 63% from GSA).
 - 70% overall rated the water very poor or unsatisfactory (29% very poor, 41% unsatisfactory)
 - Of GSA respondents, 53% rated the water very poor or unsatisfactory (26% very poor)
 - Of non-GSA respondents, 77% rated the water very poor or unsatisfactory (32% very poor)

- **Why was the water perceived as very poor or unsatisfactory:** The majority didn’t like the water because of the hardness (51%); much more of those from non-GSA said hardness (68%) than those from GSA(35%).
 - The majority identified hardness as the reason for poor water ratings (51% overall; 68% of non-GSA respondents, and 35% of GSA)
 - Taste was the second reason for the bad rating (43% overall, 48% of GSA respondents, and 37% of non-GSA respondents)
 - Other reasons identified for the bad rating: appliance/plumbing wear; scaling/curst; odor; color/appearance; and other

- **What are customers doing about it:** A significant majority (72% overall) have a soften or softener and filter, and a majority get bottled water for drinking (59% overall); a much larger majority of non-GSA respondents have a softener (86%, compared to 42% in GSA).
 - A significant majority use an in-home water softener (72%; 59% use just a softener and 19% use both a softener and a filter)
 - 86% of non-GSA respondents use a softener (63% only use a softener) compared to 42% of GSA respondents (31% only use a softener)
 - A third of the GSA respondents use just a filter (30%) compared to 10% of those from non-GSA

- The majority also use bottled water for drinking (59% overall; 70% of those from GSA and 48% from outside the GSA); some also identified they use bottled water for cooking (33% overall identified cooking as another use)
- **How much are they paying** (asked open ended, no ranges given): The middle/median monthly cost was \$19 in non-GSA and \$10 in GSA; for bottled water, non-GSA median monthly payment was \$40, \$24 in GSA.
- **Which option is preferred to address hardness:** 60% preferred some rate increase (39% preferred “rebate...with smaller rate increase and 21% prefer “treatment...with large rate increase”; while 40% preferred “do nothing”); half of the GSA respondents preferred “do nothing” (50%), while the highest preference for non-GSA respondents was a “rebate...small rate increase” (45%).
 - 40% overall preferred “do neither and keep rates and taxes down”, and 39% overall preferred a “rebates ...with a smaller rate increase”, only 21% overall preferred “treatment...with a larger rate increase”
 - 50% of GSA respondents preferred “do nothing”, compared to 31% of those outside the GSA
 - 45% of non-GSA respondents preferred a “small rate increase” for rebates, compared with only 34% of GSA respondents
- **If central treatment, how much would they be willing to pay** (participants were only asked about one of the three options-+\$12, +\$21, or+\$31 monthly): The preference was for a smaller increase (57% overall); more non-GSA respondents liked any increase compared to GSA respondents.
 - Overall, more would be willing to pay a \$12 increase (57%overall), than a \$21 increase (46% overall), or a \$31 increase (34% overall)
 - For non-GSA respondents 63% are wiling to pay +\$12, 48% are willing to pay +\$21, and 41% are willing to pay +\$31
 - For GSA respondents 52% would be wiling to pay +\$12, 43% are willing to pay +\$21, and only 24% are willing to pay +\$31
- **If a one-time rebate was offered, would they participate** (participants were only asked about one rebate option): There was no clear preference between a \$250 rebate/+\$2 monthly option and a \$1500 rebate/+\$12 monthly option; the only higher result was that 63% of non-GSA respondents preferred the \$1500/+\$12 option.
 - Overall 56% of those asked about the \$250rebate/\$2 monthly increase would participate; and 56% of those asked about a the \$1500 rebate/\$12 monthly increase would participate
 - Non-GSA respondents are more likely to participate in the \$1500/+\$12 monthly rebate (63% vs. 55% for \$250/+\$2 option)
 - GSA residents liked the \$250/+\$2 monthly option better (56% vs. 50% for \$1500/+\$12 option)
- **How should the District fund it:** Preference was for increased water rates (50% overall), fewer preferred increased property taxes (29%); non-GSA respondents

preferred increased water rates (59%) over property taxes (21%), while GSA respondents did not have a significant preference.

- Overall 50% preferred increased water rates (59% of non-GSA respondents preferred this and 40% of GSA respondents);
- 29% overall preferred funding from increase property taxes
- Only 8% overall said “do nothing”; while 9% overall didn’t know how the District should fund it