

Desalination Stakeholder Summary – May 9, 2014

Welcome – Linda Brookins, TCEQ

Introduction and Agenda – Marlo Wanielista Berg, TCEQ

Future Meetings

- Future stakeholder meetings will occur on June 3, 2014 and possibly mid-June.

Federal Regulations

Reduction of lead in Drinking Water Act

- Applies to lead content of lead pipes, plumbing fittings or fixtures, solder and flux.
- Reduction from 8% lead content to 0.25%.
- Was effective 1/4/2014.

Stakeholder Input

Charlie Maddox, Austin Water Utility: Will this include fire fittings, valves etc?

Marlo Wanielista Berg, TCEQ: Yes, we will need to have the same exclusions as the federal rule.

LT2 E. coli threshold

- Applicable to small systems performing LT2 sampling.
- The EPA used large systems data to find a new threshold.
- Old thresholds were E. coli averages of 10 CFU/100 mL and 50 CFU/100 mL would trigger Crypto sampling.
- New threshold is now an average of 100 CFU/100 mL. If triggered, then Crypto sampling is required for systems serving populations of less than 10,000 people.
- The TCEQ used the EPA's guidance, and wants to change the rule to match the federal study/recommendations.

Stakeholder Input

Eric Haydon, East Rio Hondo: Can systems sampling under the old E. coli trigger in the first round resample?

Marlo Wanielista Berg, TCEQ: No, the TCEQ used the 100 CFU/100 mL triggers for the smaller systems in the first round as recommended by the EPA.

Tamira Konkin-Garcia, TCEQ: The new trigger won't impact large systems because large systems must already perform Crypto, E. coli and turbidity.

State Statues HB1600 and SB 567

- Transfer of Utilities and Rate Program to the Public Utility Commission.
- Repeal 290.39(j)(3) Certificates of Public Convenience and Necessity from the TCEQ rules after 9/1/2014.

Staff Recommendations

Modifications of the Plan Review Process, Vera Poe

- Currently systems must notify the TCEQ of a change, then submit plans and specs on request.
- TCEQ staff want to amend the criteria for a change to be considered “significant”.

Stakeholder Input

Mark Graves, HDR Engineering: What are significant changes defined as?

Vera Poe, TCEQ: We want to clarify what significant changes are, including >10% changes to the distribution system, capacity changes, or disinfection changes.

Mark Graves, HDR Engineering: To a smaller water system, this may be expensive and burdensome. If a system has 50 customers, then they only need to add 5 more customers for the changes to be considered significant.

Would the TCEQ consider hiring an outside consulting firm to review expedited reviews when requested by utilities?

Vera Poe, TCEQ: How would you avoid the conflict of interest?

Mark Graves, HDR Engineering: The utility could pay the TCEQ’s selected consulting company to review the expedited plan review. The utility would pay the consulting firm for this service.

Vera Poe, TCEQ: We are open to the idea.

Linda Brookins, TCEQ: That question is outside the scope of this rule change.

Vera Poe, TCEQ: This rule list is designed to facilitate the passage of this package. We would be open to future discussions about this.

Enforceability of Exceptions, Joel Klumpp

- Investigators find that when there isn’t compliance with exceptions, they can be difficult to enforce. An example is raw water monitoring, and a system not taking their raw water total coliform samples for a well exception. Currently, the TCEQ must revoke the exception, then cite the Public Water System (PWS) for not meeting the rule or having an exception. The proposed changes would allow the TCEQ to cite a system for not taking required samples as stated in the exception letter.

Stakeholder Input

Mark Graves, HDR Engineering: Does the TCEQ have a policy which would allow grandfathering to prevent violations with new rule implementation?

Joel Klumpp, TCEQ: The TCEQ allows for changes because grandfathering may not protect public health. The current exception letter states that the TCEQ can revoke or review granted exceptions for this reason, and employees also look back at historical rules. As we are concerned about public health, then the TCEQ exception staff must review exceptions on a case-by-case basis.

Susan Young, Municipal District Services(MDS): If a system needs exceptions for a well sanitary control easement (SCE), and chloramines, what needs to be submitted?

Joel Klumpp, TCEQ: There are checklists for both on the Technical Review and Oversight Teams (TROT) webpage. Please let me know if there is anything missing from the website, or if you need something else.

290.41(c) Clarification, Vera Poe

Clarification of well construction review process, and whether AWWA 100 applies.

Annular cement defined in AWWA 100 as requiring 3" radial cementing.

AWWA 100 does apply, will refer to this in the clarified rule.

Stakeholder Input

Tony Bennett, A. Bennett Consulting (ABC): AWWA lists the year which will need to be updated often. Could the rule instead refer to the latest version of AWWA?

Vera Poe, TCEQ: Yes, that is the intent. To refer someone to the AWWA's most current version, and not have to change the document.

Chloramine Disinfection, Marlo Wanielista Berg

There are more than 1,200 PWSs using chloramines within Texas.

The TCEQ staff would like to add chloramines into the disinfection regulations instead of water systems having to ask for an exception.

Systems using chloramines would be required to do periodic testing including free ammonia, monochloramines, total chlorine, free chlorine, quarterly nitrate/nitrite testing, institute a nitrification action plan, records retention, and chemical storage.

Stakeholder Input

Tony Bennett, ABC: If a water system changes to chloramines, is this considered a significant change?

Vera Poe, TCEQ: As it deals with disinfection, this would still require a Utilities and Technical Review Team (UTRT) review. There is flexibility though, and if a water system needs less than 50 gallon drums, then those plans don't need to be reviewed by UTRT. 30 TAC §290.39(j) needs to be clarified for small systems.

Celia Eaves, TRWA: How will purchased water systems be impacted?

Marlo Wanielista Berg, TCEQ: No one would have to apply for an exception.

Justin Sutherland, Carollo: Would the monitoring plans and nitrification action plans be stand-alone or together?

Marlo Wanielista Berg, TCEQ: The nitrification action plan would go well in the monitoring plan but can be a stand-alone document.

Alternative Appurtenances for Overflow Devices, Marlo Wanielista Berg

Originally gravity-hinged weighted covers were approved for overflow devices to close automatically and block small flies such as midge flies.

Now there are other options available such as duck bill flappers.

Stakeholder Input

Scott Foltz, Aqua America: Are you looking for anything specific or performance-based?

Marlo Wanielista Berg, TCEQ: We are thinking that we would go with a size exclusion of 1/16", and talk about others being performance-based criteria.

Water Storage, Vera Poe

- Clarifications to allow other tanks other than bolted tanks.
- Must meet AWWA 103 standard.

Water Distribution Crossings, Vera Poe

- Rule change occurred in 1995, caused a conflict between 290.44 and 217.33.
- Want to make rules consistent and state that lines do need to meet separation distance even if the lines are under 18 feet in length.

Stakeholder Input

Lonnie Robinson, Austin Water Utility (AWU): Will there be any changes to the wastewater to make them clearer? The City of Austin has trouble meeting the separation distances, especially new construction downtown.

Vera Poe, TCEQ: Make a list of your top concerns, and bring it to the next stakeholders meeting. Be careful about specific agendas, because may not be as important to other communities, can become controversial and fail.

Charlie Maddox, AWU: We'll talk to other utilities to see if other utilities are also on board.

Vera Poe, TCEQ: Please limit it to 1-2 issues.

Discussion Outline for Reverse Osmosis/Nanofiltration (RO/NF) Membrane Requirements, David Williams

- Today we are discussing the concepts and ideas for the design of RO/NF.
- Currently based on pilot testing. We have a guidance document using modeling tools in lieu of pilot study.

- We would like to discuss at what size a computer model for flow is not needed. As a starting point we have put 10 gpm as an idea. Also, we would like to discuss redundancy.

Stakeholder Input

Eric Haydon, East Rio Hondo: If it is not a primary facility, does the facility need redundancy?

Marlo Wanielista Berg, TCEQ: We are borrowing language from the media filters. We're looking for input on the numbers. Should everyone have a model?

Justin Sutherland, Carollo: 20 gallons-per-minute (gpm) is the size of a pilot plant.

Marlo Wanielista Berg, TCEQ: Also, regarding redundancy - should this be an extra skid or rack? Or is that too far? Any suggestions?

Tony Bennett, ABC: What is the logic for the need of redundancy when treating secondary standards?

David Williams, TCEQ: For capacity, water systems need a redundant filter. Redundancy for large systems may be expensive. 7.5 MGD or above (maybe a redundancy need?). Less than 7.5 MGD, no redundancy needed. Redundancy may not be needed everywhere. There is a regulatory need to control Total Dissolved Solids (TDS), nitrates, etc. There may need to be some distinctions for secondary standards. RO longer length between cleaning depends on different factors.

Scot Foltz, Aqua America: For secondaries, backup supply becomes costly. Could we leave in the rules ways for alternative redundancy? Primary versus secondary, or acute vs. chronic should be looked at for redundancy, and allow for an alternative.

David Williams, TCEQ: We still need to look at this for health effects.

Marlo Wanielista Berg, TCEQ: Is there a way to base this on cleaning?

Steve Blackhurst, Aqua TX.: For smaller systems, if they had storage and took advantage of non-peak periods.

Tony Bennet, ABC: Primary, secondary, acute, and chronic need to be addressed independently.

- RO is not chlorine tolerant, must remove chlorine prior to RO.
- Cross-Connection and Backflow Prevention
- Cross-connections and Backflow Protection standards required as with low pressure membranes.
- Flow-measuring devices: Located to assist with chemical dosages.
- Filter/Monitoring Performance: This should be split between systems with primary and secondary MCL's and also dependent on the system size.

Stakeholder Input

Eric Haydon, East Rio Hondo: What is the goal for the monitoring? Would this go on the MOR?

David Williams, TCEQ: This is for process control. It will tell the systems if there are O-ring failures, or other failures types, like if the filters are failing. There could be some documentation depending on the level of contaminant.

Steve Blackhurst, Aqua TX.: Where would one draw the line at number of connections? If 250 connections are ok, then why not 251? 251 is a small cutoff, should be more than 500 (for secondary MCL's). Need to make a distinction between primary and secondary MCL's.

Scott Foltz, Aqua America: What is the potential impact (with multiple units)? One unit with breakthrough may not go over MCL for the secondary, but is important for primaries.

David Williams, TCEQ: Beneficial for primaries, not as much for secondaries.

Steve Walden, TX. Desalination Association (TDA): Will we be loaded with extraneous data? What about excursions that go outside of bounds? Where would the bar be set? 10-15%?

David Williams, TCEQ: Finding the bar for gathering data is difficult.

Tony Bennett, ABC: Pre/Post-filtration, where does monitoring take place?

David Williams, TCEQ: We are looking at the train water quality for feed and permeate. 250 connections is low.

Tony Bennett, ABC: Increase the 250.

Alan Murphy, Bob Johnson & Assoc.: If pretreat, we like the 15-minute rule, especially for small systems. To me it's about process control. Small systems (45 000-60 000 gallons/day) can foul quickly, the membranes see more flux. TDS in the water can be a problem. Monitoring can show a baseline, but this is only good if someone is reviewing the data within a system.

Greg Neal, RWL Water: What is a non-community water system defined as?

David Williams, TCEQ: He read the definitions for a community and non-community system out load.

Saqib Shirazi, (San Antonio Water System) SAWS: What will be achieved by monitoring conductivity before every train? Raw water quality won't change.

David Williams, TCEQ: Good point, only need it for permeate, not feed water.

Saqib Shirazi, SAWS: We must comply with the rules. When operators see they don't make MCL limits, they search to find out why not meeting finished Water Quality Rule. It's redundant to require 15 minute monitoring.

David Williams, TCEQ: Right now this is required only for primaries. I feel there is an obligation to have some process monitoring.

Scot Foltz, Aqua America: I'm concerned that these values are micro-regulation. TCEQ shouldn't be defining how to properly operate these units. That should be left to the manufacturers.

David Williams, TCEQ: Conductivity monitoring shouldn't be burdensome.

Saqib Shirazi, SAWS: When designing a plant, conductivity is monitored. Do we want to make it mandatory for each stage? Should it be sufficient to monitor feed and final water conductivity?

Scot Foltz, Aqua America: We should look at the raw and finished water quality only. In some cases, there may be a burden to put the cost on small systems, as opposed to an operator recording it. It can cost \$15 000 due to software.

David Williams, TCEQ: Can we test something else? Will monitoring and alarms work rather than recording and reporting?

Scot Foltz, Aqua America: Not shutdowns, unless 600 MGD plant. Smaller plants can't afford shutdowns, but alarms are possible.

David Williams, TCEQ: We want to give an operator a heads-up if any action is required.

Tony Bennett, ABC: On the small system side, there is a concern whether the alarms need to be manned or automated. This makes a difference where monitoring will be required. This needs to be based on whether treating primary or secondary contaminants. With primary contaminants, there is not a problem with continuous monitoring.

[LUNCH BREAK]

- Chemical Cleaning: What parameters do the manufacturers look for in order to determine when cleaning needs to be done?

Stakeholder Input

Dan Muff, Toray: Typically there is a 10-20% change in salt passage or pressure drop. Also normalization modeling software can predict a date for a chemical clean. There is essentially a baseline that is used to predict the date of the clean. We typically look at normalized permeate flow and normalized salt passage; basically things like flow, pressure, conductivity, and temperature.

Steve Walden, TDA: We should incorporate a performance based on manufacturer thresholds and put this into the plan review process. This can either be captured in the engineering report or an SOP type document. It would be clearly stated in the approval letter.

Marlo Wanielista Berg, TCEQ: Would everyone want something in the submittal and then formalized or a plan that can change?

Steve Walden, TDA: Yes, we would want something general that could be adapted and changed.

- Pretreatment: We have general parameters for pre-treatment to start off. This includes things like and SDI = 5, turbidity <1.0 NTU.

Stakeholder Input

Robert Rodriguez, North Alamo WSC: Why does the state want to know the SDI? The SDI doesn't affect public health. As long as the treated water quality meets the standards, why does the state care?

Marlo Wanielista Berg, TCEQ: The reason is for fouling. Also, a utility must have Financial, Managerial, and Technical abilities. TCEQ must be sure the system is not going to spend money on something that become broken right after installation.

Alan Murphy, Bob Johnson & Assoc.: I have a system where they took out the pretreatment to save money. The water system lost a lot of money having to replace the membranes when they fouled.

Steve Walden, TDA: I agree that pretreatment should be provided, but only the 3rd bullet on the slide ["Any limiting WQ parameter"] is all that is needed; not silica, TSS, iron, or the others.

Steve Blackhurst, Aqua TX.: We can't get too prescriptive because technology changes. The rule should stick to the manufacturer specifications.

Tracey Long, Hazen and Sawyer: These should be in the rule because of Alan's [Alan Murphy] example.

Marlo Wanielista Berg, TCEQ: For pretreatment considerations, we didn't want to make this so that RO wouldn't need an exception, but pre-treatment would.

- Post-treatment: Assurance that water entering distribution is non-corrosive.

Stakeholder Input

Marlo Wanielista Berg: We considered other measures of corrosivity, but left LSI off.

Saqib Shirazi, SAWS: You mentioned degas and CO2 but why is this specific? What about other gases that aren't listed? Maybe say "all hazardous gases" instead.

Steve Walden, TDA: It is intentionally vague because there are many indices. Water can meet them, but they are still corrosive. We could put "the product water is shown to be non-corrosive according to one or more indices."

Justin Sutherland, Carollo: LSI, Larsen are good indices, but lead/copper is different from iron. Maybe look at the TWDB report on corrosivity. It might be good to have a guidance document for corrosivity instead. The main point is that it needs to be non-corrosive and stable at all points in distribution system.

- Tony Bennett, ABC: The parameters should include non-corrosive and stable, such that the water doesn't become corrosive as it moves through distribution.
- All Design – Pipe galleries, labels, etc.

Marlo Wanielista Berg, TCEQ: This section was pretty standard, much like other sections of the rules that have these requirements. If there are no comments on this we will move on.

- Engineering Report – Membrane Cleaning and post-treatment or blending.

Stakeholder Input

Tracey Long, Hazen and Sawyer: In the wording, you mean cartridges need to be replaced not "cleaned."

Alan Murphy, Bob Johnson & Assoc.: When we get startup data does it go back to the TCEQ?

Marlo Wanielista Berg, TCEQ: Yes, it will come back to us for the final verification.

Tracey Long, Hazen and Sawyer: Will you clarify that the maximum daily demand is net, but with ground it's the raw source. So, well capacity will need to be great than 0.6-gpm?

Marlo Wanielista Berg, TCEQ: Yes, we will clarify this in the rules.

- Operator Licensing – 20 hours of membrane operation and maintenance training.

Stakeholder Input

Eric Haydon, East Rio Hondo: The problem is there are no classes available to take.

Tracey Long, Hazen and Sawyer: Would these requirements be met by grade or attendance?

Dan Muff, Toray: I would like to take the opportunity to let everyone know we provide training.

Steve Blackhurst, Aqua TX.: There is an issue but there just isn't a market for it. This is a good start.

Eric Haydon, East Rio Hondo: You almost need a ground, surface, and waste water license to operate a single plant. Is it possible to get a single license for all of these?

Ivan Messer, TCEQ: It is not currently possible. There would have to be a public petition to create an umbrella operator's license.

Steve Walden, TDA: The TCEQ doesn't have authority to make a class. It might need to be done in another rule package. The legislature needs to do it.

Michael Vollmar, TRWA: Individual license or endorsement attached? Is there going to be a class 1,2,3?

Marlo Wanielista Berg, TCEQ: This should be in addition to a groundwater license. Right now, it's already in place for the different levels based on the size of the water system. How many people think you need to pass a specific test to run an RO?

2 Yeas and 1 Nay

- Records and Reports – Retention policies.

Stakeholder Input

Tracey Long, Hazen and Sawyer: Two years is not sufficient for surface and mixed waters; especially for analyzing droughts.

Steve Blackhurst, Aqua TX. We also need to clear up the confusion over paper vs. electronic copies.

Tony Bennett, ABC: Do we have to report when a CIP is conducted?

David Williams, TCEQ: Yes, we need the date, chemicals used, and a manual that has CIP procedures.

- Operations Manual

Vera Poe, TCEQ: Wells are approved for construction based on submitted plans and specifications. After they are constructed, another submittal that includes the water samples is reviewed and an interim use is approved. They could approve the plant and the wells for construction at the same time.

Steve Walden, TDA: This is what I prefer. Performance based approval. Would the 2nd step involve the operations manual after the plant has been started?

Vera Poe, TCEQ: Yes, this sounds good. The 2nd step would address the unforeseen problems that the plant might have after startup.

- Maintenance and Housekeeping – Triggers in engineering report.

Marlo Wanielista Berg, TCEQ: What would be a good trigger to investigate the system? This might be something defined in the engineering report.

- Testing- Equipment must be calibrated.

Stakeholder Input

Alan Murphy, Bob Johnson & Assoc.: What certification will be required for the testing equipment?

David Williams, TCEQ: The manufacturer or industry requirements.

Final Comments

Tony Bennett, ABC: Why is this only limited to groundwater? Why can't we add surface water in this?

David Williams, TCEQ: Our rules are structured by source type, so this was the easiest way to start off. This has to be plugged in to one of those. It would be good to bring up that question next time.

[END OF MEETING]