

Reclaimed Water Rule Making Committee Meeting
August 27, 2008
9:00 am – 3:30 pm

Welcome and Introductions 1
Task #1 Commercial/Industrial Uses..... 2
Task #2 Irrigation Uses..... 4
Task #3 Reliability & Redundancy..... 7
Task #4 Storage & Distribution 10
Wrap-Up and Action Items 13
Meeting Attendees 14

Welcome and Introductions

Angie Thomson, EnviroIssues, welcomed everyone and introductions were made. Angie reviewed the agenda. Jim McCauley, Washington State Department of Ecology (Ecology), said the panel had talked about discussing pharmaceuticals and personal care products (PPCP) and endocrine disrupting chemicals (EDC) at this meeting, but that discussion has been pushed back until September so that two guest speakers can attend. Ken Butti said LOTT should have some results from the study they are conducting on micro-constituents by September as well. Ken said he will post the results on the SharePoint site when they are available.

Jim provided an update on the legislative report. Jim said in 2007, Ecology presented a report to the legislature that included ten chapters on the rule making process. Ecology has the same task this year; however, they are providing a smaller report that consists of just four chapters. Jim said the first chapter will inform the legislature about the rule making progress, part of that will include a report on the Technical Advisory Panel (TAP). Jim said he posted an outline of the TAP’s work from the report on the SharePoint site for panel members to review. Jim said the first draft of the report is due by September 22nd.

Questions/Comments:

- Paul Schuler asked if the summary would be generic or detailed. Jim said it is just a progress report; it will report on activities that have happened thus far.
- Paul asked if Ecology received feedback from last years report. Jim said the Office of Financial Management (OFM) said it was a great report, but Jim was not sure if the legislature committees reviewed it. Kathy said Ecology will repeat their priorities for funding again because it will be more timely during the upcoming legislative session. Craig Riley said Senator Lisa Brown from Spokane told central Washington republicans that she would push reclaimed water funding aggressively this year.

Draft Meeting Summary

Jim reported on the TAP work plan progress and discussed the tasks that are still to come this year. Jim reviewed the topics for September and October and asked for comments on the proposed schedule.

Questions/Comments:

- Craig thought the timing for recommendations on storage and distribution should be aligned with the national Water Reuse Association's work on this topic. He said they have a study coming out by the end of the year that could influence the decisions on these topics. Kathy Cupps, Ecology, thought the recommendations should be made on what is known today, and Ecology could note that there will be new information in January and the topic should be revisited.
- Paul asked how the TAP schedule aligns with the Rule Advisory Committee (RAC) schedule. Paul thought that the RAC schedule did not allow for any additional input after November this year. Jim said the RAC will continue to meet into next year. Angie said the RAC meetings will be held in September and November so the input developed at the next few TAP meetings can continue to be sent to the RAC.

Task #1 Commercial/Industrial Uses

Kathy reviewed the default rule language for commercial uses. She said she tried to summarize the recommendations the panel made in a rule-like format. The three main parts to the rule are prohibition, exception to standards, and allowable uses. The fourth part is the best management practices (BMPs). Kathy reviewed the suggested rule language changes.

Questions/Comments on Controlled Access:

- Dale Richwine asked if there is a potential for runoff to a surface stream for any of the commercial and industrial uses. Kathy said that would be discussed under BMPs and if there was a potential for runoff there would need to be additional requirements. Dale thought that total dissolved solids (TDS) should not be an issue with commercial/industrial uses so that limit should be higher.
- Jay said he thought there should be an upper limit set for TDS around 2,000 mg/L, but any lower limit should be use-based. Paul said he also thought ammonia and nitrogen should be use-based. Kathy asked if an ammonia limit was necessary. Jay said nitrogen removal tends to have lower levels of micro-constituents so this discussion might be useful to defer until the panel discusses micro-constituents at the next meeting. Kathy agreed it made sense to defer the decision on nitrogen.
- Ken said he thought the panel should set minimum water quality requirements to protect the public and the environment, and any use that required further treatment would be required to work that out individually. Paul pointed out that there is a paragraph in the rule language to address this issue; Paul read this section. Kathy asked if the paragraph was clear enough to address this issue. Craig thought the

Draft Meeting Summary

paragraph addressed this concern but it should also say “do not dump the water in the environment and protect workers.” Kathy thought the BMPs would address that. Kathy said the panel previously agreed that these things should be addressed in user agreements and the rule language should ensure that everyone is aware and understands this process. Craig still thought it was important to say that the water should stay in the pipe. Kathy said if the water is used for unpaved roads and street sweeping then it is out of the pipe and in the environment.

- Angie asked if there is a general consensus that the minimum standards to protect water quality and health, as well as any additional treatment needs, should depend on the use. Panel members supported this approach. Kathy suggested using secondary treatment and disinfection as a minimum treatment. Paul thought that the rule language was okay the way it was if the ammonium and nitrogen standards were removed. Kathy said she liked the way the water quality standards were written for irrigation and suggested repeating those in this section. Ken thought that the TDS standard should be removed as well and that the industrial boiler feed reference should stay in the rule language. Kathy said she thought the footnote should be left in if the boiler feed reference stays in. Ken thought the footnote was okay. Kathy said she would talk with her rule writer about how to include a footnote.

Comments on Unrestricted Use:

- Paul said he had the same comments for this section; eliminate ammonia and nitrogen standards. Kathy asked if the panel liked the format for the irrigation rule language. Panel members liked the irrigation format and suggested copying that.
- Jim asked if the statement regarding maintenance personnel includes other workers. Kathy said the statement regarding responsible maintenance personnel was attempting to address training. Kathy said there may be a better way to differentiate between the sanitary workers and office workers. Dale did not think it mattered what term was used, but said there needs to be a definition in the rule for what a “responsible maintenance person” is. Kathy agreed and said she would add it to her list of definitions.

Questions/Comments on Best Management Practices:

- Denise Lahmann asked what mobile transport is. Kathy said mobile transport refers to tankers.
- Dale asked if the set back distances would be defined differently for restricted and unrestricted uses. Kathy said they would be.
- Ken asked if the BMPs address Craig’s concern about the water reaching the public or the environment. Craig thought BMPs need to say no discharge to the environment. Kathy said a lot of the uses do have a discharge to the environment. Craig said the use of water for compaction and street sweeping are the only ones and water is not used for compaction (water jetting) anymore. Craig asked to remove that as an allowable use. Jay said he had never seen water jetting in use and thought it was

Draft Meeting Summary

okay to delete. There was general agreement to delete the statement regarding water jetting.

- Paul asked if the BMPs will go into guidance. The panel thought it would go in guidance instead of in the rule.

Task #2 Irrigation Uses

Kathy reviewed the suggested language for the irrigation rule language.

Questions/Comments on Restricted Access Irrigation of Non-Food Crops:

- James Hagstrom asked why the nitrogen requirement was included. Kathy said the nitrogen requirement was included because of a concern about infiltration to groundwater. James said that by including a nitrogen standard, the panel would impact the ability of plants like King County's South Treatment Plant to do reuse. James said he did not understand the basis for this standard. Dale agreed, and added that if irrigation follows agronomic rates, nitrogen is not an issue. Jay thought the standard was based on groundwater nitrate impacts, but he could not remember why the panel included nitrogen. Angie asked if panel members thought it made sense to remove it. James thought that there are other ways to monitor for nitrogen. Jay thought that an agronomic rate could be added to the BMPs to address this issue. Panel members agreed with this change.
- James asked why the free chlorine residual was included. Kathy said the standard was included to control for plant tolerance. James asked if it would preclude someone from using free chlorine in the distribution system. Kathy said it would not. Jay asked if the standard is set at the point of use. Panel members thought the point of use should be added to the free chlorine standard to clarify the compliance point.

Questions/Comments on Food Crop Irrigation:

- Denise asked if panel members thought the issue of spraying for frost protection is adequately covered in this section. Craig said given that today's practice of spraying high microbial quality water has not lead to a public health issue, then spraying reclaimed water should not be an issue either. Kathy said the current standard for irrigation of all food crops is to use Class A water, which is a higher requirement than the surface water quality standards. Kathy thought the rule may need to include an exception for use in crop protection and include a timeframe for limiting the harvest after the trees have been sprayed. Denise thought she should speak to someone at DOH about this before a decision is made. Angie suggested leaving a placeholder in this section for the possibility to include a frost control standard.
- Paul asked if the nitrogen standard would be removed from this section as well. Kathy said it would. The panel discussed whether a nitrogen standard should be included to address situations where irrigation water may sit in a canal for a length of

Draft Meeting Summary

time. Panel members felt that you could not draft a rule to accommodate every situation. The panel decided that the caveat at the end of the section that says additional water quality requirements may be necessary would be adequate.

Questions/Comments on Irrigation in Public Areas:

- Remove nitrogen standards.
- Craig asked if the standard should use TDS or refer to sodium absorption ratios (SAR) which is the typical irrigation limit. Craig suggested adding the SAR requirements under BMPs. Kathy thought they should be addressed under the engineering reports.
- James asked what the basis was for the varying biological oxygen demand (BOD) limits. Kathy said the intent was that the BOD and total suspended solids (TSS) would show that a plant is meeting Class A level treatment. Angie clarified that James is referring to the differences in the numerical limits in the standards; in some places it is 30/30 and in others it is 10/5. James asked if panel members would accept secondary treatment instead of 30/30 and tertiary instead of 10/5. Dale said that tertiary treatment standards are not defined. Kathy said the RAC wanted the rule to be in terms of water quality instead of treatment technique.
- James thought that setting the BOD level limits a plant's ability to do reclaimed water. He said the BOD in the effluent is based on particulates which are related to TSS. Kathy asked if the panel would be okay with going back to what Washington is doing now, which is a limit of 30mg/L before the filtration step. Panel members thought that would be adequate. James said there is some removal/inactivation of pathogens through secondary processes and the panel should make sure the removal of those is happening through a properly functioning secondary system. Kathy asked where a membrane bioreactor (MBR) would be measured using this standard. James thought MBRs would be covered under the turbidity limit. Kathy said that a turbidity limit has not been set specific to MBRs. James said the BOD limit adds one more sample and another step and was not sure the benefit was worth the extra step. Paul added that the BOD test requires a five day sample so it would bring up an issue of storage as well. Kathy thought that the standard could assume the MBR meets the 30/30 requirement before filtration, but it would have to show equivalence some how. James said in the water business they use a surrogate to show equivalence. In reclamation, turbidity is used which is an in-line test. James emphasized his point that BOD is not an indication of cleaner water and a better indication is turbidity which is correlated to the coliform. Kathy stated that the BOD was a measure of removal of organic matter, not particulates and so was something different from the turbidity measurement. James thought that separate language should be drafted to address MBRs.
- Kathy said the RAC wants final water quality standards. Kathy said it would be okay to require an oxidized wastewater, but that will lead toward defining a treatment technology. Angie asked if the panel would be okay with changing the rule language to require 30 in the two places it says 10 now. James said King County's South Plant

Draft Meeting Summary

does not do a second BOD test on the filtered water. Kathy asked if the requirement could be an either/or; either BOD of 30 (monthly average) after secondary treatment, or BOD of 10 (monthly average) after filtration. James thought that would be okay. Paul was okay with this approach as well. Kathy asked if the language could require a BOD of 10 in the final disinfected reclaimed water of a filtered reclaimed water instead of saying after filtration. Turbidity is generally measured prior to disinfection. Panel members were okay with that change.

- James asked what the basis was for deviating from the Title 22 rules for turbidity. James thought that California set this standard because they were concerned with the fact that the membrane is in the middle of highly concentrated mixed liquor. If the turbidity test exceeded 0.2 in this condition, it would mean there is a problem with the membrane which would mean a higher load of pathogens in the final water. Kathy said she did not have a problem with California standards and that Washington has been using them as a default.. She said that currently in Washington there is no standard written for MBRs. Kathy thought the panel should decide if Washington should adopt the California standards for turbidity for membrane treatment, or use something else. James said short of any scientific study, he did not see any reason to recommend anything different. James added that the only tool available for an operator to know they are producing safe water is the turbidity measurement. Angie asked James to summarize the recommendation. James said the rule would say something to the effect of: if your source is secondary effluent, defined as oxidized wastewater at 30/30, then the standards would be 2 NTU; if your source was anything other than that, you would have a more stringent standard which would include tighter turbidity standards and the BOD standard. Kathy said she would like to come up with better language than “if your source is anything other than secondary effluent,” because it is too broad.
- James brought up an example from the Brightwater reclaimed water facility. He said the implication of what the panel is proposing is that Brightwater could place a membrane in the tunnel and meet the standards during times when they bypass the secondary process. James asked if Kathy and Craig would be okay with this. He elaborated that Brightwater could meet the BOD standard with a blended supply where only a portion of the source has had secondary treatment. Kathy said she was not sure Ecology would be comfortable with that. James said it would still meet final water quality standards, but the question is whether Ecology cares how a plant meets the final standards. Kathy said she did not have a problem with James’s scenario if they could show equivalent protection. James said if the concern is about pathogens, the net log removal from the membrane is higher than what is allowed for a typical secondary system. Kathy said it was more than pathogens.
- Angie said the panel has come up with some mixed recommendations on BOD and turbidity standards so far. Angie asked Kathy if the panel needs to continue to work through these to come up with a final recommendation, or if Ecology could take the recommendations and make some final decisions. Kathy said Ecology has heard the panel’s recommendations, and appreciated the feedback from the discussion. Kathy said Ecology will continue to discuss this internally in consultation with DOH to determine a final recommendation on this topic.

Draft Meeting Summary

- James asked Ecology to reconsider the need to have a TSS standard for filtered reclaimed water (Class A). He said if there is a turbidity standard then there is really no need to do a TSS test. Kathy agreed and suggested that TSS could be measured in the source water after secondary treatment at 30 and turbidity in the filtered effluent. James agreed with that approach.
- Ken suggested that if any changes are made to the rule, that Ecology go back and look at the definitions to see if anything needs to be updated.

Task #3 Reliability & Redundancy

Reliability and Redundancy

Jim handed out a draft of the new rule language for the reliability and redundancy. Jim read through the items under reliability requirements.

Question/Comments on Reliability and Redundancy:

- Craig said the first and second points are written so that someone could bypass the requirement for multiple barriers. Kathy asked if putting the first and second bullets together would address this issue. Jim said the second bullet was meant to be an overall statement for the section. Kathy said it sounds like everyone agrees with the language in the first bullet that everything should meet the requirement before it goes to point of use; the conflict is the intermediate processes and maybe the solution is in the engineering report. Craig said he did not like striking the intermediate process because that is an invitation to bypass coagulation. Denise suggested saying no bypassing from an approved reclamation plant. Craig said he would accept not using different processes if there is a demonstration of an equivalent level of processes. Kathy suggested swapping the order of the first and second bullet to address the issue. Paul suggested adding the language “approved reclamation plant” as well. Kathy added “as approved by Ecology and Health” to the statement. Craig thought this was a good compromise. Dale suggested ending the sentence after reclamation plant. Kathy thought it would be okay to take out the rest of the sentence as Dale suggested.
- Dale thought the third bullet under reliability was too subjective. Jim said it is a “catch all” the way it is worded. Kathy asked if that bullet belonged in the Washington Administrative Code (WAC). Dale thought it should be taken out. Paul suggested putting it in guidance. Kathy said it could also go in the engineering report. Panel members agreed to move this bullet to the engineering report.
- Paul thought that the first bullet (4a) should say primary power supply, instead of normal power supply.
- Dale asked if the second bullet (4b) says you need a different power supply for the alarm system. Ken explained that plants typically have a UPS set up for the alarm system so if your power goes down your alarm does not go down. Craig suggested

Draft Meeting Summary

that the bullet be clarified to say “primary power supply failure” instead of normal power supply. The panel liked this change.

- Denise asked if the third bullet (4c) addresses the need to get a remote alert to people offsite. Craig explained that small utilities report to the police station or fire department. Angie pointed out that this is addressed in the next bullet. Ken said during the off shifts at a satellite facility, if there is an alarm it calls the main plant operator, who either responds or designates someone to respond. Denise and Kathy suggested some minor rewording to clarify this point.
- Dale thought the fourth point (4b) should be split into two points: 1. individual alarms should be connected to master alarm and must sound in an attended location and 2. if a facility is not attended all alarms must sound at another location. Kathy suggested moving the first two sentences to 4c. Dale thought this would be okay.
- James thought bullets d and e under section 5 were redundant. James asked why a facility would want to use long term retention. Ken explained that if plant operations go down you have to have retention to keep the plant running. James thought Ecology should dictate that. Ken said it is part of the permit requirement. James thought that Ecology should require long term storage if a plant does not have the ability to divert the discharge or shut the plant off. Ken suggested adding “facilities required to use...” in front of bullets 1, 2, and 3 in section 5. James thought this would help clarify the facilities that might require short term vs. long term retention. Panel members agreed.
- Angie suggested that Kathy capture the scenarios that would require short and long term storage. Jim thought that the rule should say that Ecology can make a decision regarding short vs. long term storage on a case by case basis.
- Dale said he did not agree with the statement in 5a3 requiring odor control. He thought odor control was appropriate for a city, but not for plants out in the middle of nowhere. Dale suggested that the odor control language be removed from this bullet.
- James thought the language in 5a4 needed to be clarified in the case that a facility does have the ability to shut off the plant or discharge. Jim suggested adding the word diversion before equipment and getting rid of the reference to the pump back equipment. The language was changed per James’ suggestion.
- Dale suggested removing the odor requirements in 5b2 as well. Craig thought that if odor is removed then nuisance should be taken out too. The references to odor and nuisance were removed from the second bullet point. Denise asked whether the odor and nuisance control would go into guidance. Kathy said she made a note to include it either in guidance or in the engineering review. Panel members agreed with this approach.
- Jim clarified that the point in 5b3 is different than the one in section 4 because it is saying the whole plant needs to be under a separate power supply. Kathy thought that retention and discharge needed to be separate; she suggested removing the word discharge from 5a and 5b and creating a new point 5c to address discharge. Angie asked what the sub points under c would be. James suggested using the language

Draft Meeting Summary

from 5a1, a3, a4. Ken thought that point 5a1 should be added to 5b as well. Others agreed.

- Panel members did not have any comments on point 5c. Points 5d and 5e were determined to be unnecessary due to the changes made to the rest of the section.
- Kathy asked if section 6 was “WAC-worthy”, or whether it belonged in guidance. James thought the redundancy requirements should be dependent on if the facility has to be online continuously and if they have a discharge. James suggested defining the types of plant configuration (i.e. satellite, discharge or zero discharge). Paul thought this should be done outside the WAC.
- James said the basis for the redundancy requirements goes back to the EPA guidelines. James suggested referring back to the classifications in the orange book. Craig did not think the EPA reliability guidelines were good enough because they are based on technologies from 1974. James asked if Craig would be okay with modeling the guidelines on how the EPA developed the orange book classifications. James added the rule would not duplicate the EPA guidelines, but follow the format for classifying the plants. Craig said he would be okay with using the EPA guidelines as a model, but thought the requirements should go in guidance.
- Craig also proposed adding a section for a reliability requirement to be approved by both agencies. James asked if the guidelines are put in guidance whether Ecology has the ability to be more stringent. Craig said the guidance needs to suggest things to think about. Angie clarified that putting it in guidance puts an upper bound on what you can do. James said he did not want the requirements to be more stringent than the panel intended. Craig thought that if the guidelines go into guidance they cannot be required. Craig suggested that the rule require a reliability assessment which includes x, y, and z, and put the rest in guidance.
- James asked why section 5 is different than section 6 in terms of what should go in guidance vs. rule. Kathy said she wanted input on what in sections 4, 5 and 6 needs to be in regulation, and what should be in guidance. Kathy thought that most of the information seemed to be something you typically read in the engineering documents, not in the rule. Dale thought section 6 should be in guidance because every design is different, and the engineering report will show that a plant has redundancy. Kathy suggested that Ecology staff write up what would go in the engineering report so the panel could look at that in combination with this information.
- James suggested that the Ecology ask Larry Esvelt for guidance on what should go in guidance and what should go in the rule. James added that he thought it was important to provide guidance on what type of reliability and redundancy should be required whether in guidance or rule. James said if the rule generally characterizes the types of systems that are out there, then they would not need the same level of redundancy that would be needed at the end of the pipe in a treatment plant. James said the EPA guidelines are a great place to start to look at this. Kathy supported this idea and suggested looking at the orange book standards.

Draft Meeting Summary

Angie clarified the path forward on the discussion of reliability. Kathy said the conversation today was a great start. She suggested that at the next meeting, the panel should spend time looking at the EPA standards to see what is missing, what applies, and what does not apply.

Task #4 Storage & Distribution

Jim briefly reviewed the language in the first two paragraphs under storage in the handout.

Questions/Comments about Storage:

- Craig said the idea with the storage requirement is if you have a treatment plant like Holmes Harbor, WA does and it starts to rain a lot you either have to store it or treat it and release. Craig said the requirement would allow for three times the average daily flow for storage. Dale said that if you design a system for a ten year storm for western Washington; it will account for the same accumulation as a thunder storm in eastern Washington. Craig said that is why they are proposing to require three days worth of storage. The intent was to capture both intensity and duration in the standard.
- James asked why a satellite plant that can turn off their operations would have to have three days worth of storage. Craig said a satellite plant that could shut off operations would not have to provide storage; but in the case of Holmes Harbor where they cannot discharge they have to have storage. Dale thought that storage requirements should not be dictated in the rule, but that the engineering report should show how every drop of wastewater is dealt with under every condition. Craig argued that there needs to be a baseline. Jim suggested that the first two paragraphs be moved to the reliability and redundancy section instead of storage. Panel members agreed with this change.
- Angie asked the panel what they thought about the storage impoundments section of the handout. James asked why this section is included. James said all the cases where storage impoundments would be necessary would be regulated under other sections. For example, if a plant has a storage impoundment used for landscaping, they would follow the standards under landscape irrigation for unrestricted use. The panel discussed where all of the potential storage impoundments would fit in under the existing sections of the rule. Panel members felt that this section was too vague and did not contribute anything that had not been covered in other areas. James asked what the LOTT ponds are considered and how they are regulated currently. Craig said LOTT is permitted as a storage impoundment. Craig said there are also ponds at Yelm that are considered experimental wetlands. Dale suggested adding experimental wetlands to the commercial/industrial section. Craig thought that would be okay.
- Kathy thought that storage impoundments need to be defined in the rule even though different types might fit in different categories. Kathy said she was concerned about the possibility of a pond leaking to groundwater and not being captured in the other sections. Dale suggested leaving the third bullet under storage impoundments to deal

Draft Meeting Summary

with high level storage issues. Kathy thought that would address her issues. Kathy said the section could be incorporated in the engineering report requirements as well.

- John Malady asked if the panel is recommending that the point of compliance be after the storage impoundment. Denise thought a storage impoundment was used as storage and therefore the point of compliance is a moot point. Kathy said there may be different requirements for storage on different types of water. John said this issue has come up previously because sometimes irrigation systems include an impoundment, and it is unclear whether the point of compliance is after the pond in this case. Kathy said the rule should be clear about the difference between storage of water with public contact and storage of water at a plant. Kathy said there are three types of storage: 1. wastewater that does not meet reclaimed water standards that needs more treatment, 2. storage at treatment facility of water that cannot be used because of weather or demand, 3. storing as a feature onsite like ponds or a golf course.
- Denise thought that the panel had not addressed whether a plant has to protect the quality of the water under the second type of storage that Kathy described. Denise asked if an open pond is acceptable. Craig said from public health perspective, there are no additional health risks because a pond is open. Craig said re-growth issues have yet to be determined. Ken thought that the second type of storage Kathy described will depend on the intended use for the water and whether it can be in an open pond or reservoir. Denise thought this might be an issue for the engineering report. Denise said she thought the panel would be reluctant to require covered storage, but an open pond might have public health risk. Denise suggested flagging this issue for further discussion at a later meeting.

Kathy asked how the rule should deal with distribution.

Questions/Comments regarding Distribution:

- Dale thought that the rule should require plants to follow what is in the plumbing code. Dale added that separation is a big issue. He said if he were to try to put a pipe in an urban area, it would be hard to maintain the separation requirements. Dale added that there is no way water could get from a gravity fed reclaimed water line into a pressurized sewer line. Dale said in order to encourage reclaimed water, it needs to be cost effective. Dale also suggested that the panel consider people with dual systems in their homes for non-potable use of toilet water.
- Craig said there is guidance for how to get less than ten feet of separation that requires you to figure out the soil type and risk factors. Craig said this guidance was developed after LOTT put in their reclaimed water lines. The guidance provides sufficient separation and controls for maintenance. Craig said they found that when you get less than four feet of separation you start to have problems. Dale thought four feet would be better than ten feet. Dale said in areas where there is already sewer, water, and cable in the right-of-way, you cannot fit a reclaimed water pipe too with ten feet of separation. Jim thought that the guidance created for pipe separation could be used in the reclaimed water rule under guidance. Jim asked if there is guidance for stormwater piping separation. Craig said there is no guidance for that; if there is a

Draft Meeting Summary

- Angie asked how the panel would like to address the issue of dual systems. Denise said there is existing greywater guidance that would cover this issue. Craig said that commercial and industrial uses of greywater are allowed, but not for residential use because of cross connection issues. Dale said that he knows of a few buildings in Oregon that are working on dual systems and he expects it to become a bigger thing in the future. Ken said they were thinking of doing a dual system at the LOTT administration building and they talked about putting in a reverse osmosis plant. Jim said the current standards talk about toilet flushing and say it is okay for use in commercial and residential where residents do not have access to the plumbing systems. Ken suggested that cities could put something in their code to allow for reclaimed water, as long as the state does not prevent it. Craig said that California has a lot of experience on this and the panel should look to their guidance on this issue. John suggested saying “refer to locally adopted codes” in the rule to cover this issue.
- Ken said something they run into all the time with distribution of reclaimed water is operating pressure. The users are used to drinking water systems that are at 85 psi, and the reclaimed water line is pressurized at 65 psi or lower. Ken said LOTT adopted the policy that the city provides the operating pressure since they are the purveyor of the water. Craig said these issues have often been resolved through user agreements. John said he had a situation in Redmond California where the pressures were not high enough for irrigation. Craig said it is common in other states to require a pressure differential between the reclaimed water system and the nominal system of 10 psi. Angie asked if something like that should be added to the rule. Craig thought this would be an issue dealt with in guidance and end user agreements.
- Denise thought that the panel should also discuss operations and maintenance (O&M) issues. Denise said that there are many ways the water can be produced and distributed, in some cases the plant will produce the water and distribute it, and in other cases a plant will hand it off to a local jurisdiction to distribute. Ken said this is also addressed in the user agreements. Ken added that every system is going to be different. Craig said DOH reviews and approves the end user agreements. Jim McCauley said this issue has come up in a permitting standpoint because Ecology permits the generator but not the distributor. Jim said Ecology relies on the user agreements to cover the distributor. Denise asked if the City of Olympia put a pipe in the ground that failed whether LOTT would be responsible for it. Ken said LOTT has to approve the design of the system. Angie suggested that this issue be brought to the RAC because it is more of a policy question. Denise thought the TAP should categorize what the different applications are and the ownership scenarios to make sure that the public and the environment are protected. Jim thought that this would be addressed in the rule under O&M.
- Angie asked if the panel wanted to address pipe material and leakage/pressure issues. Jim said there is a manual that Ecology can refer to for those topics (AWWA-M24). Denise asked if the rule should specify that the pipe actually be purple. Ken thought that the valve boxes, covers and pipe should all be specified. He said he had issues with a city putting in a reclaimed water line with round pipe covers that had triangles

Draft Meeting Summary

on the lids. Ken said they will have to dig up the pipe and put in new covers before the line can become active. Ken thought that education is needed to avoid mishaps like this one. Ken thought that if this is going to be a standard, it needs to go in the rule.

- Craig said the panel should consider disinfection waivers in the distribution system. Ken said the current standard needs to be clarified to determine if a total or free chlorine measurement should be used. Dale asked if free chlorine was a preferred measurement. Ken said free chlorine is what you measure for disinfection, with the combined measurement you have to account for the chlorine bound up. Craig said most of the measurements they saw when they started doing reclaimed water were total chlorine, but they have pushed them to measure free chlorine instead to be consistent with CT. Denise suggested saying in the rule that there is a requirement for chlorine residual, and then putting the standard in guidance. Craig said this is a maintenance issue, not a public health issue.
- Dale said he sees a lot of small membrane systems that have an in line UV system. Dale asked how these systems deal with the chlorine measurement. Craig said the standards do not talk about UV. Denise asked if the panel supports continuing the minimum requirement for a residual in the distribution system. Ken thought a minimum number should be identified and that it could continue to be subject to a waiver. Angie asked if the panel wants to identify a minimum level. Craig suggested that it could be left at 0.5. Angie asked if the minimum measurement should be total or free chlorine. Craig said the intent of the current standard was free chlorine. Denise supporting leaving the requirement the way it is now, but revisiting it when a report on chlorine comes out at the end of the year. Ken asked if the minimum level could be variable based on the system (length of pipe, etc.). James said drinking water standards are set at 0.2 for free chlorine; James did not think the reclaimed water standard should be more stringent than the drinking water standard. Denise said the drinking water standard is set to be protective of cross connection issues. Craig said the efficacy of the disinfection is reliant on the break point line which may be why the drinking water agencies decided that free chlorine was better.
- Angie suggested that the minimum level come back for further discussion at a future meeting. Jim did not think this should go in the rule because reclaimed water would not necessarily require disinfection in all cases (i.e. wetlands and streamflow augmentation). Denise said that is what the waiver is for. James thought this was an O&M issue, not a public health issue. Dale said there are two pieces to the chlorine issue, one is achieving the right disinfection, the other is the amount in the distribution system and stopping the re-growth. Dale suggested that disinfection might be in the rule, but management of the system might be in guidance.

Jim thought this was a good start to the distribution issue. He said he would work on some draft rule language and bring it back to the committee at the next meeting.

Wrap-Up and Action Items

Draft Meeting Summary

Angie reviewed the topics for the next meeting. She said the next meeting will be on September 17 in Lacey.

Jim gave a short update on the progress of the 90.46 legislation. He said the second draft of the rewritten statute has now gone through the code revisers office and is in upper management at the director's office. Jim said they received several comments back from stakeholders wanting things changed in the draft. Jim said they have changed the language a little bit to meet those people's desires while still meeting the RAC's desires. The agency now has to decide how many things to run through this legislative session. There are twelve items, and in the past they have only taken a couple. Jim said he is hopeful the legislation will go through and reclaimed water will remain a priority for Ecology this year.

Meeting Attendees

Department of Ecology

Katharine Cupps, Agency Lead (by phone)

Angie Thomson, Facilitator

Emily Neff, Note Taker

Committee Members and Alternates	Guests
John Malady, CH2M Hill (by phone)	
Denise Lahmann, DOH	
Craig Riley, DOH	
Jay Swift, Gray and Osborne (by phone)	
Ken Butti, LOTT	
Dale Richwine, MWH Global	
Paul Schuler, PNCWA	
James Hagstrom, PNCWA (by phone)	
Ecology Staff	
Jim McCauley, Department of Ecology	
Eugene Radcliff, Department of Ecology	

Documents referenced in these notes are posted to the TAP SharePoint site at <http://ecywblcyadxd0/sites/wq/reh2o/TAP/pages/August%20Meeting.aspx>

TAPreliabilityredundacy_strawdog1

Suggested Language – Commercial and Industrial Uses 8-14-2008kcc

Suggested Language – Irrigation Uses 8-20-2008kcc(2)