Water Committee Meeting

November 3rd, 2016

JIMMY GUIDRY: I guess we'll go ahead and get started on time so we can get work done and hopefully get out of here at a descent hour. At this point we'll call roll.

CARYN BENJAMIN: Dirk Barrios, Vern Breland (absent), Ben Bridges, Robert Brou (absent), Jeffrey Duplantis (absent), Greg Gordon, Jimmy Guidry, Jimmy Hagan, Randy Hollis, Patrick Kerr, Amanda Laughlin, Rick Nowlin, Rusty Reeves, Chris Richard, Keith Shackelford, Cheryl Slavant (absent), Joe Young (absent), and David Constant. We have a quorum.

JIMMY GUIDRY: I was thinking about this meeting since yesterday and the fact that we have been at this for two and half years and I think we have all matured through this process, but certainly felt good about the sharing of knowledge and the amount of work we have done. So I am really proud of what we have done. I have to admit when we started I thought it would take us two years to figure out how to work with each other. Only took a year and a half. But in the end I do think Louisiana has a product that we're going to be proud of. We still have some work left, but we are getting close to the last chapter and hopefully a lot of work that we have done, we have done some stuff that probably I'm amazed that we got done

actually and we actually agreed on a lot of different things. I am real pleased with what we have done and I hope today is a meeting where we can get the rest of the work done as quick as possible so that we can go to the rule making that's going to make official what we put in place. With that said, thank you for being here helping make a quorum. And I will give you a few minutes and everybody should have had time to look at the minutes, but if not we will look for a motion to approve the minutes and get that done and move on to business. You're probably reading it to see what we did several months ago. But certainly we should be grateful and thankful that we actually had someone that's been here to take our notes for us cause it's pretty much verbatim what we say. Appreciate the work you have done for us all this time. It's been excellent work in my opinion. We have documented our discussions and the things we have come up with. If at this time someone wishes to move we accept as written we will move on. If not I will give you a few more minutes.

GREG GORDON: I will move on the minutes.

BEN BRIDGES: I will second.

JIMMY GUIDRY: Any opposed? The minutes are official as written. Next into old business part 4 sections 4.0 to 4.3.1.10 is the final revisions and we're looking for

final approval. I will open that up at this point. I will share with you the next part 4.3.1.11 was not discussed in any great detail. We didn't have any comments actually. We took comments of the committee and so we will also look at that as final approval. It should have been probably part of the one we're looking at in old business, but we didn't do it so it is part of the new business.

RANDY HOLLIS: I have a few comments on the old business. And this won't be long. I promise not to drag this out. Chris I think you did a lot of this, you did a great job. I'm glad I didn't have to go through this section. But under 4.2 clarification, under coagulation 4.2.2 we took out the flow splitting and we simply said flow shall be measured for coagulant dosing. Later on when we get into sedimentation we did leave in, under solid contact meters for example, if the flow is split a means of measuring the flow shall be provided. We have it later on under individual process units, but we took it out of coagulation. To me if we're going to split the flow and have two different coagulate chambers I think we need to measure the flow going into them so the proper dosage is there. I think some language needs to be, we can leave it like it was. If flow is splint between basins then a means of measuring the flow to each train.

JIMMY GUIDRY: D under 4.2.2.

RANDY HOLLIS: I would go back to the way it was originally written to say if the flow is splint between basins it is recommended that a means of measuring the flow to each train or unit shall be provided.

JIMMY GUIDRY: Any further discussion? We will amend it.

DIRK BARRIOS: How do you measure the flow in open control?

RANDY HOLLIS: Partial flume. Or if you have piping coming in going to the coagulate basins that you put in a meter.

DIRK BARRIOS: If you have coagulate.

RANDY HOLLIS: Dirk I would look at it like this. If you have flow coming in and you have a meter and a means of balancing the flow to both basins then you're measuring the flow and you're applying the dosage properly and then you're splitting it evenly. But if you don't have a means of splitting it properly how are you going to make sure your dosage, if it's into the coagulate basins, is proper?

DIRK BARRIOS: I would disagree with what you're saying other than if it specifically says you have to have a means of measuring the flow. And when you're having a means of measuring the flow where do you measure at. Who is going to make that determination. And there's a few other questions in these things about reasonably constant and all this other stuff. Who makes those kinds of determinations?

RANDY HOLLIS: What if the flow meter's at your raw water pump station?

DIRK BARRIOS: We have an effluent and influent metering station and we come into a mixer and we go into a splitter box and it's even distributed. As far as we're concerned that's how we do it. But if it's saying you have to have a measuring device and it's interpreted you have to have-- we have troughs that go to one basin to the other. That's very difficult to do.

RANDY HOLLIS: Keep in mind this is new construction. This is not retroactive.

DIRK BARRIOS: Regardless. Cause you're going to try to build your newer stuff using new technology, but at the same type of layout it's going to be similar in design. So more than likely if you have troughs you will probably have troughs in the future.

PATRICK KERR: Randy we talked about this at length and basically the conclusion we came to is the language that we've selected. You do have to be able to measure to do the dosing. We were just arguing where the measurement had to take place. So what we're saying in this language is you have to measure the dose and you can convince the department that you're measuring adequately by any several means. I don't think we're taking out, you can still split, do whatever you want, but the dosing has to be

based on flow. So we're going to leave it up to the system to tell the department how they're measuring coagulate dosage.

RANDY HOLLIS: Okay.

PATRICK KERR: We did change the language. I don't know why we didn't change it in the other part. But the fact remains that dosing is based on flow.

RANDY HOLLIS: And it will be provided that the coagulate application point is close to the flow meter or within that same train.

PATRICK KERR: No, it doesn't matter where you do it.

RANDY HOLLIS: Let me finish please. If you have a train coming in, one single pipe and you're measuring the flow in that one pipe and then you split it by throttling valves or by any other means into two basins and then you're putting in the coagulate you have no guarantee that coagulant is the same dosage in each basin.

PATRICK KERR: No you don't, but you have to measure flow to dose the coagulate and you have to convince the department that what you're doing is adequate. So we're leaving it up to system to devise its own process for doing that and then to convince the inspector or the plan review person that this is an adequate way to do it. We're still dosing based on flow.

CHRIS RICHARD: I think the problem is if you dose it first

after your flow measurement then you split it according to what you're saying you have to measure it again going into each basin and it's not necessary cause we've already fed our coagulate. So what he's saying is we'll dose it based on flow. That has to be done regardless of how you split it, but don't dictate that we measure it, do it here, then we measure it again just because we split the flow between basins.

RANDY HOLLIS: That's not what I'm saying Chris. If you're feeding the coagulate where the flow meter is that is absolutely a dosage based on flow. But if you measure the flow and then you split it and then you feed the coagulate it is based on flow. But it may not be split appropriately to each basin because the throttling valves may not be working correctly, your weirs may not be correctly. You may have 80 percent going in one and 20 percent going to the other, but you're splitting the coagulate 50/50.

CHRIS RICHARD: But I don't think you're pacing it to flow in that case because you're not feeding it based on the flow where you're feeding it. You can't take a reading here and then split it and then feed it. I think you would have to take into account the way you split the flow. Then if you're going to split the flow before you feed it then you need to measure it where you feed it.

But if you put the language you're saying in then it requires you to measure it when you split it even if you did the coagulate dosage ahead of.

RANDY HOLLIS: I'm just trying to say this could lead to an unbalance in dosages because we're just saying measure it somewhere.

BEN BRIDGES: If you will if you have filters on the back end you could measure your rate of flow through your filters and assume by calculating how much goes through each set, split it from there. You're never going to have it perfect. Every plant that has two or three trains the flow is never the same. One train always flows more or less than the others hydraulically. But you assume that and take your readings off your filters on the back end, subtract it out, and get it pretty accurate. I don't think you're going to be off by 50 percent of dose rate or else your train, the basin won't work if you don't have the chemical layer.

RANDY HOLLIS: That's just the one and one is two in me coming out trying to get an exact dosage of the flow to each basin.

BEN BRIDGES: Back it up to the meter to where you have a known volume and feed it right there and then split it after that.

CHRIS RICHARD: I think you make the requirement be that

you base the dosage on the flow at the location where you're feeding it and not try to dictate where you're going to measure the flow and then you say whenever you feed it you dictate it.

AMANDA LAUGHLIN: Caryn put some language up there that you guys can look at. Flow shall be measured at the point of coagulate dosing.

PATRICK KERR: Again, just because it could be calculated at the point of coagulate dosing too by the output from the filters as we were just talking about. There's just other ways to do it, so I don't know that we need to measure flow at the point of dosing, but we need to know the flow at the point of dosing and convince you that we do.

BEN BRIDGES: What's the difference in measuring 200 feet up the road? I think it's the proximity of where the meter is to where your injection point is is the sticky point. If you measure back here at raw water you know you've got a thousand GPM coming in if you inject it here or there it's irrelevant you still know the flow coming in.

DAVID CONSTANT: Instead of measure say determine.

PATRICK KERR: There ya go.

RANDY HOLLIS: I just want to bring the point home that this may lead to some errors.

CHRIS RICHARD: Regardless of whether it's split it doesn't matter. Wherever you're dosing you don't need to say if it's split because if it's not split you still got to know your flow.

RANDY HOLLIS: Strike out the red and just leave it. And I assume y'all are going to go through this because when we took out things and added things that the letters don't add up anymore. They're skipping some where we took out things.

AMANDA LAUGHLIN: We'll fix all that.

RANDY HOLLIS: Over on section sedimentation 4.2.4. This was interesting under G, and this is talking about under G sedimentation basins, but it references filters in here all of a sudden. And this is 10 state standards. But it talks about an overflow weir or pipe shall be designed to establish the maximum water level desired on top of the filters. That's interesting it's in this section that we have an overflow and a sedimentation basin that is dictating the level in the filters. We can leave it like it is, it's just out of section is what it amounts to.

CHRIS RICHARD: I think it's just trying to say that if you want your sedimentation basin to have an overflow such that you don't overflow your filters, you want to overflow it before you get to your filters to prevent the water, especially some of the older, some of your plants your

filters might be in a building you don't want overflow in your building. Overflow your basin instead of your filters.

RANDY HOLLIS: Okay. You're just going to have to watch your head loss carefully. Under 4.2.5.5 flocculation. I'm sorry, one more down under sludge removal. This was a should and under sludge removal it was originally, I'm sorry, sludge concentrators 4.2, go up a little bit, 4.2.5.6.

CARYN BENJAMIN: I took it out.

RANDY HOLLIS: One of those comments was large basins should have at least two sumps for collecting sludge located in the central flocculation zone. We have found that to be very important on large basins because if one basin gets plugged up, one of your sludge collectors gets plugged up you don't lose the whole unit, you can use the second one. I feel like that's very strong to leave in here because we've seen that happen at one of our plants and we would have lost the entire clarifier if we didn't have the second sump and it's a large unit. I really would like to see that on large basins just to have two sumps. 4.2.5.6.

CARYN BENJAMIN: It's on y'alls handouts.

RANDY HOLLIS: It reads large basins should have at least two sumps for collecting sludge located in the central

flocculation zone.

PATRICK KERR: We're just striking a should.

RANDY HOLLIS: Yeah, we're striking a should and to me it's a guidance in there that I really think they're going to look at carefully. It's not a mandatory requirement. I know we said well let's don't put mandatory.

JIMMY GUIDRY: You think it's a good reminder.

RANDY HOLLIS: It absolutely is.

JIMMY GUIDRY: Does anybody have a problem with that?

BEN BRIDGES: What constitutes large?

RANDY HOLLIS: I recommend we leave B in. My personal opinion. It's a should anyway. Go to 4.2.6 which is tube and plate settlers. We've removed section I support and if you go down to I I is in 10 state standards and what that states in there is that, let me find it real quick and I will tell you what it is, that is the support. And what 10 state standards dictated was is that the units have to be designed, the supports system should be able to carry the weight of the modules when the basin is drained plus any additional weight to support maintenance. It seems like a minor issue. We are spending about 900,000 dollars right now on a super pulsator ripping the guts out and replacing it because structural engineers have determined that unit is not adequately designed structurally to even handle the weight of the tube

settlers on top of it with the sludge. That needs to be in here to remind everybody. At least the owner has something to go back to that says hey you should have designed this thing to handle the weight of the plate settlers and the tube settlers and the maintenance workers. I'm very strong on that. I really feel like we need to add that back in to protect our clients, to protect municipalities.

CHRIS RICHARD: Then you would change a should to shall.

RANDY HOLLIS: Yes, I think it should be a shall.

DIRK BARRIOS: Why don't you just put a statement that everything be structurally sound and leave it at that.

RANDY HOLLIS: But this is a manufactured piece of equipment that we found a major deficiency and there are hundreds of these units around the country and they are not designed properly. And this is to help those behind us as they go through this and the state can say what is minute, did somebody look at this. Otherwise they're going to keep selling the same equipment and you're going to have somebody killed going underneath that thing because they're going to collapse. I feel very strongly that we need that statement in there to protect those coming behind us. It's under the section plate settlers and tube settlers. I would like to see it added back in. I'm not sure why we took it out. Cause it was a should I

guess. And at least make them go through the calculations.

JIMMY GUIDRY: Anybody disagree? It's not even there as a strikeout so it might have been totally missed.

RANDY HOLLIS: Next one 4.3.1.6 filter material. And what we have in there is we dictate the exact gradation of media. Now we give some allowances on thickness there. Two to 3, 3 to 5 and all of that.

CHRIS RICHARD: You mean the gravel.

RANDY HOLLIS: Yes. I'm fine with the sand, I'm fine with the torpedo sand, but the gradation in 10 state standards does not match those of some manufacturers for sand filters. And some of them have their own, mostly the 3 quarter and 1/2 inch, 1/2 inch to 316th is where it starts getting a little iffy. I've got one filter that has three gradations between three thirty seconds and half inch. And the problem is we do say that you'll accept other things for slow sand filtration or proprietary filter bottoms. Well I would like to be able to use gradation of media for manufacturer if it's recommended by them or standard sand filters. Instead of dictating this is exactly what you will use. I would like to see some flexibility in there for standard sand filters as opposed to only slow sand filtration or proprietary filter bottoms.

KEITH SHACKELFORD: Put a period after state health officer in that last paragraph.

RANDY HOLLIS: Yeah, and then delete the rest of it. And then you have to submit it. We're just not tying our hands to only those two types of filtration. If you want to use a standard gradation, go with that. If you have something else that works better, media, all this stuff, submit that with a justification. That's what I'm saying. Otherwise, you couldn't do it for standard sampling. You're only held to those two. The last thing that I have Caryn is going down to 4.3.1.9. When you see air scouring D. That was really a totally separate section under media washing. It's confusing the way it is so what we need to do is where D is is we need to label that like it was originally 4.3.1.9 air scouring and make that entire section of A, B, C, D, E, F, G. That's what it was originally. Now it's under media washing, which it shouldn't be. And that's my comments on part 4.

JIMMY GUIDRY: Glad somebody is looking at it closely.

AMANDA LAUGHLIN: To move it under 8 was the subcommittee's proposal.

RANDY HOLLIS: I will defer to Chris on that. It's totally different from washing and gets into air scouring.

CHRIS RICHARD: Air scouring is part of the washing of your media.

DIRK BARRIOS: Couldn't you just leave it like it was and take everything else because it's under air scouring?

RANDY HOLLIS: You could. So that you understand everything underneath that relates to air scouring. If you make that D like it was.

CHRIS RICHARD: You need to also address you're not going to have rotating arm. You're not going to clean your media with that if you have air scouring. It's one or the other.

RANDY HOLLIS: Well some do.

CHRIS RICHARD: But this says you will have both and a lot don't.

RANDY HOLLIS: Under which number?

CHRIS RICHARD: Was it C. It says systems will be designed with. Not some of them, so you have to do all of them.

RANDY HOLLIS: The first one says the rate of flow under those nozzles is fixed, with fixed nozzles or (inaudible).

CHRIS RICHARD: C. The first thing says wash water systems shall be designed with. So you have to have nozzles.

RANDY HOLLIS: Yeah, so what you're saying is D falls under that statement so that means you're going to have to have air scour.

CHRIS RICHARD: No, it says when provided. They don't necessarily go together is what I'm saying.

RANDY HOLLIS: Let's read the first sentence up there.

You're saying on C put if required.

CHRIS RICHARD: Yeah, and maybe delete the first sentence so it says may be accomplished by a system of fixed nozzles or revolving apparatus. Take that out because it doesn't mention air in the first sentence. And you can do C or D or you could do both. C would be if provided also.

RANDY HOLLIS: That's fine. And then everything underneath D falls under D. That was my main problem was we didn't have the separation there of air scouring. I guess it's under this section, maybe under the next one. Go to 10. Number three use of surface water that doesn't match at all. Three was deleted. Three originally said a meter indicating instantaneous effluent rate of flow. The comment I had from DHH is it will be removed from part 4. So that was not removed from part 4, nor was indicating loss of head, nor was the means. Number four was left in so you're not going to remove number three. Cause your comment that you sent us says was removed in committee discussion by member vote, language will be removed from part 4. So I was concerned about removing number three.

PATRICK KERR: We removed two.

AMANDA LAUGHLIN: I think the comment is accidentally on three and it should have been referencing two. So that would be strike out.

RANDY HOLLIS: Okay. That's fine. They never work on

filters anyway. I agree with it. I was thrown by the comment. The one above that Caryn number two is the one that would be deleted.

JIMMY GUIDRY: With those changes made do I hear a motion that we accept this section as proposed, a first and a second, and we'll vote on it and make this one more official part of our code.

CHRIS RICHARD: I make a motion.

BEN BRIDGES: I second.

JIMMY GUIDRY: Anybody in the audience have any public comments on this? I had a first and a second. Anybody oppose? Another section done. Now 4.3.1.11 to 4.3.7. And I don't think the department had any comments on this so it's really the work that was done by the committee from what I can tell. So is there any discussion on this part or section?

RANDY HOLLIS: 4.3.2 rapid rate pressure filters. The normal use of these filters is for iron and manganese removal. I agree with that. Back in 4.8.1.2 at the very end of the section, let me go to the comment. And these are references throughout, but at the end of this, I'll read it to you, it's probably easier. Under that last section 4.8.1.2 which is underneath iron and manganese control is talking about detention and under B sedimentation. It says sedimentation basins shall be

provided when treating water with high iron and manganese content. And so there's a word high in there. When I get back to this one normal use of these filters is for iron and manganese removal. What's the definition of high, at what point do we switch from a well water that's got one and half parts per million to say okay we can treat that with pressure filters. I have a plant in North Mississippi that literally is 40 parts per million. I'm not going to try and treat that with pressure filters. But do we define in this committee the word high or do we try and at least give some guidance of-- cause I don't think anyone of us want to see somebody out there trying to treat 5 parts per million iron straight with pressure filters. Or maybe we can. Ben, you have experience in the field. But to me one and half is kind of the limit.

BEN BRIDGES: Maybe two, yeah.

RANDY HOLLIS: So should we give some guidance in here about what the definition of high is?

BEN BRIDGES: Where is high?

RANDY HOLLIS: Page 46 of 53.

JIMMY GUIDRY: I guess the confusion Randy is we're working on this section so the change you're suggesting is in the next section we're going to be looking at.

RANDY HOLLIS: While that's true, they are tied together so we have it in one section we need to bring it back to this

one.

JIMMY GUIDRY: So is there going to be a change in this section?

RANDY HOLLIS: The one we're in right now?

JIMMY GUIDRY: Yeah.

RANDY HOLLIS: There may be if we can define high.

JIMMY GUIDRY: So you would have to put it in both places.

RANDY HOLLIS: Yes, sir. What's the feeling of the committee, what do you think high is, should we even dictate it? Or should we put in a should and not a shall? Ben suggested two, I think between one and half and two over that you're pushing it trying to do pressure filters.

AMANDA LAUGHLIN: What's the secondary MCL?

RANDY HOLLIS: 0.3, but that's finished. So when you have to treat it we have straight filtration, pressure filtration that we use routinely, but at what point is that really not advisable? And what concentration of iron?

BEN BRIDGES: Define high.

RANDY HOLLIS: That's my point is should we define high. What if one of your local sanitarians, engineers looking at this and somebody has 10 parts per million coming in and they approve pressure filters. You just killed that municipality cause they're going to be backwashing every two hours.

AMANDA LAUGHLIN: We've kind of dropped the iron and manganese rule and we looked at three times the secondary MCL considered high you would have to remove it at that point. Whereas anything less than that you might be able to sequester. That's kind of what we've looked at is three times the secondary MCL.

RANDY HOLLIS: That's sequestering or treatment?

AMANDA LAUGHLIN: Treatment. But the removal would be after three times.

RANDY HOLLIS: Right.

AMANDA LAUGHLIN: That's kind of something separate.

PATRICK KERR: The way this is written though iron and manganese control may be just for the esthetic, not because you're exceeding three times the MCL. Why don't we just strike iron and manganese removal from the first part and make pressure filters an option and if we could demonstrate they adequately remove the iron. And I'm thinking of changing technologies and changing media. We may be able to deal with three times the secondary MCL with pressure filters at some point in the future. Why define high here. If you use pressure filters these requirements if you choose to use conventional filtration then you have to do this. Whether you're treating for high someone may be using a conventional plant to remove iron that's not high, but they want to do it for esthetics

to keep from introducing iron in the system. These same requirements should apply whether it's high or not. How do we make it an option to do iron and manganese control for esthetics as opposed to meet three times the secondary MCL. That's the first I've heard we're going to try to establish an MCL, which is what we're doing, based on three times the secondary MCL. I know it's done, but if we put it in code it's going to be different.

RANDY HOLLIS: We need section 4.3.2 because this goes over the design criteria. We need this section 4.3.2 for pressure filters, and general, rate of filtrations and all this stuff. These are the design guidelines so we can't get rid of this. My question is at what point do you go from direct filtration to sedimentation first. And should we even dictate that. My point is trying to protect those coming behind us that some engineer didn't do 20 parts per million direct filtration. And if the state has no guidelines on that and somebody submits the plans and it meets all the criteria you can put it in. So what if we put after that iron and manganese removal we can put in there for waters in excess of two parts per million consideration should be given to sedimentation prior to filtration. So then we've alerted them, we've thrown up the red flag. And we can make it two parts per million. So what if we do that? Does that help? And then they

would have to justify it and make them look at the backwash rates and what they're doing.

BEN BRIDGES: They may not even make enough water to backwash.

RANDY HOLLIS: Exactly. Go back to 4.3.2. The section we're looking at right now. Chris, this is your section if you want to dictate how it reads.

CHRIS RICHARD: I'm fine.

RUSTY REEVES: Could you put it as a recommended?

RANDY HOLLIS: That's what I'm saying, a should. After the word removal. Should we say raw water. For raw water with an iron concentration higher than 2.0 milligrams per liter. I'm going to say higher than or greater. Consideration should be given to pretreatment prior to filtration. How's that? Put a period after removal. That's a new sentence. For raw water with iron concentrations 2 milligrams per liter or greater consideration should be given to pretreatment prior to filtration.

CHRIS RICHARD: While we're still here under the rate of filtration I know later on we talk about allowing the manufacturers y'all had inserted that language instead of requiring pilot testing here we could put it here as well. Instead of limiting it to six and requiring pilot testing to remove iron and manganese. Later in the next section

y'all added a statement recommendations, a lot of the filters go 8 to 12 gallons a minute square foot on rapid rate pressure filters. This still requires pilot testing. I'm saying take it out and put the same language y'all had put later in the section to allow higher filtration rates without pilot testing.

BEN BRIDGES: Because this is for esthetics.

CHRIS RICHARD: Right.

RANDY HOLLIS: Right above that under the general section we've tried to do this throughout the document, we're still saying plant design capacity. We've been changing that to the average daily flow of maximum month. We're trying to use that terminology throughout, meeting the average daily flow of the maximum month. So if you could look at that. Under general, the last sentence says the plant design capacity. We've been changing that to the average daily flow of the maximum month. That's just to be consistent with everything else.

KEITH SHACKELFORD: On 4.3.2.3 D minimum side wall shell height of 5 feet. Isn't that applicable to vertical style pressure filters. What if you're using horizontal? We can put minimum diameter or minimum depth above the media or some other.

BEN BRIDGES: Most green sand filters are horizontal.

RANDY HOLLIS: You're right Keith. That's vertical.

KEITH SHACKELFORD: We don't address the horizontal.

PATRICK KERR: So just saying vertical filters and vertical installations.

KEITH SHACKELFORD: But we're still not addressing the use of the horizontal style, which are the predominate styles nowadays. Cause Ben said particularly for the regenerative type.

JIMMY GUIDRY: What's the requirement on horizontal?

KEITH SHACKELFORD: I think generally as dictated by the manufacturer given the capacity you request.

BEN BRIDGES: They're generally 4, 5, 6 foot. They're big.

KEITH SHACKELFORD: And generally they're multi cell.

BEN BRIDGES: And 20, 30 feet long.

RANDY HOLLIS: Is that because with vertical units you've got almost a perfectly uniform gallons per minute coming in at the bottom going up through that shell vertical height where you collect it at the top. Horizontal units you're looking at a circular shape coming up. So do we not have that vertical height because of the hydraulic flow rate through the media and up into the unit. Is that why? I'm speculating why they didn't stipulate a 5 foot height on a horizontal unit cause you can't split the unit in half and add 5 feet to it in the middle.

KEITH SHACKELFORD: No, not in a pressure vessel like that. I guess my point was I don't have a problem with 5 foot

vertical side wall on vertical filters. We're just not addressing the design, or the sizing, and the requirements, or recommendations for the minimum diameter. Anything with respect to the vertical style filters. Which again are the predominant units installed nowadays. And I really don't have an answer for my question. I'm just putting it out there.

CHRIS RICHARD: You know like we did later we talk about not dictating the filtration rate or restricting or requiring 90 day pilot testing to remove a secondary contaminate. Just leave it up to like you did later in accordance with the manufacturer's recommendations which may allow 8 to 12 gallons a square foot depending on the application. Cause 90 days of pilot testing for iron removal nobody's going to do it. It's just too expensive.

RANDY HOLLIS: And if it's ground water things are not going to change. Surface water you need seasonable change. But ground water it's not going to change.

BEN BRIDGES: Which is where this is predominately installed.

PATRICK KERR: Should it just say rates shall not exceed manufacturer's specifications?

CHRIS RICHARD: Take out the six and take out the pilot.

PATRICK KERR: Shall not exceed manufacturer's recommendations is what you're saying.

CHRIS RICHARD: Right. If they're going to sell it for 8 gallons a square foot then they have some experience to say that.

PATRICK KERR: Of the media though it should say, right. Some new media could come down. It's not based on the unit, it's based on the output.

CHRIS RICHARD: It's based on the whole unit, but the piping has to be sized, the whole thing needs to be designed to handle a higher flow rate.

RANDY HOLLIS: Is that going to open up a can of worms because you put out for a public bid it's a performance spec and you don't nail down 6 is a limit or 8 is a limit. Are we going to get somebody saying I can do 16 and give then give you a little bit of testing data and now you're going to have some guys who aren't even going to pay attention to it and go sure I'll take a unit that's 2 square feet (inaudible) gallons a day.

CHRIS RICHARD: Then you have an engineer not doing his job if he's going to just put out there that without doing any of the other piping. He's going to be in a lot more trouble than with just DHH.

RANDY HOLLIS: But there are some like that out there. Should we put an upper limit on it? I don't want to tie my hands.

CHRIS RICHARD: But the upper limit let's say you put 12

because some manufacturers do 12 and it would be perfectly acceptable for some unit, but your water in your system that you based it on is 6. Well the limit says 12 so the engineer is still going to have to do his job.

RANDY HOLLIS: I'm just trying to think is there an upper limit that's reasonable that then they have to go through the pilot testing or something.

BEN BRIDGES: You put the burden of proof back on the manufacturer if they said they can do 15 then prove it. You're going to be based off of 15 GPM whereas you know may not work much more than 7 or 8 or even 10, but they say we can do 15. Okay, you put it in if it doesn't do 15 you have recourse to go back against them. I don't think you want to handicap how much you can go up if it proves to be workable. Looking at it from this side, you're looking at it from the left, I'm going from the right. If you can prove you can do it at 12 or 15 and it's for secondary esthetics, why not. Why limit yourself to 10 if you can do 15 or even 20.

CHRIS RICHARD: And it says based on the manufacturer's performance, not just he claimed he could do it.

BEN BRIDGES: It would be prudent on the part of the system to require at that point maybe proof that you can do 20, 25 as some may have stated.

RUSTY REEVES: Who's going to buy that before we figure it

out though. Somebody is going to buy that filter that didn't work before we figure it out cause it ain't going to work.

BEN BRIDGES: There's a bunch of crap out there people bought that doesn't work.

CHRIS RICHARD: They're going to demonstrate that it works before you do it or you didn't do your job. Their performance studies that they have to provide showing they can do it.

CARYN BENJAMIN: Of similar water quality, should we put that in?

CHRIS RICHARD: Sure.

BEN BRIDGES: That's apples and oranges. You can't say if you have TOC of 2 and it's going to work over here it's going to work on everywhere TOC is 2. I don't think you can do that. I would say it needs to be site specific. If you have any question or concern it won't work you run a pilot to prove that it will.

CHRIS RICHARD: Even if you put an upper limit of 12 you're still in the same situation. The engineer still needs to do his job.

BEN BRIDGES: True. I just don't want to see you put a cap out there of a certain maximum. If it can be exceeded and still performs who cares if it's 15 or 25 if it's for secondary.

CHRIS RICHARD: I agree. But what I'm also saying to further that argument is if you put a maximum that maximum still might not be suitable for the water quality.

BEN BRIDGES: Exactly. You may have to come back to 6 or 8. But don't cap it at 6 or 8 when it could perform at 12.

CHRIS RICHARD: Because what you're doing is you're reducing the cost to these systems that most of them that complain about the esthetic quality of water is iron and manganese. So now you're making it cheaper for those systems to get better quality water to the customers by allowing a smaller plant.

PATRICK KERR: And you give them the option of treating to the level they need to treat. My real concern is pilot studies and it's become a problem when we have lots of other studies, lots of units in production and we can base our criteria on those. We still might want to do some studies and things like that. To have to have a pilot study that's approved by the department, and specifically dealing with Louisiana, we can't afford to do that. We're keeping good technologies out of Louisiana by putting that requirement in there. You might want to put something about meeting the finished water standards specified by the owner. Or basically since this is an esthetic it's the owner who's driving this, it's not the state. So you

may want to put something in there to grab the attention of the design engineer and say we want to make sure this works the way it's intended to work.

RANDY HOLLIS: The rate of filtration has been a big issue of units that can operate at a higher flux rate than those that don't. LayneOx is the first one that comes to mind cause they operate (inaudible) flow rate. The thing that bothers me, and I'll say this publicly, politicians are going to get ahold to this and some manufacturer is going to go in there and say mayor mine does 30 gallons a minute per square foot and I can beat anybody's. And there's no limit on this thing so I can meet the state standard. And that politician is going to agree with that manufacturer and go to the engineer and say hey you're costing me money.

PATRICK KERR: There is no state standard other than three times the secondary MCL.

RANDY HOLLIS: I'm talking about the rate of filtration. The rate of filtration that was in here dictated the size of the unit. If we take that rate of filtration totally out and now we're opening it up and some manufacturer is going to come in politically and make an argument. And it happens, we know that happens. So if we don't put any limit on it at all are we opening Pandora's box.

BEN BRIDGES: Possibly you are, but you're also if you do

put a limit on there and you have a manufacturer that can justify and show that it will work then you've limited that to the LayneOx specific. You go to 9 or 10 well LayneOx may go 12 or 15 and it may work. Then you have handicapped where you can't go that high. That's the other side.

PATRICK KERR: After the word unit could we put based on performance studies and the owner's removal requirement or finished water requirement. If you have two or three times the MCL you may only take it down to .3 and sequester it. You don't have to remove it all.

RANDY HOLLIS: Most of these units are going to take it down fully and it will just be exhausted faster. You're going to get the effluent quality it's just going to be filtered faster and backwash. It's not like they'll only get a little bit of treatment. They'll give you full treatment, it's just going to be exhausted quick. Is it the water systems finished water quality, it's not. They don't dictate the finished water quality.

PATRICK KERR: Yeah, I'm just looking for language to make everybody happy. I stand corrected.

BEN BRIDGES: My quality may be higher than EPAs. I like that.

RANDY HOLLIS: I want to see some flexibility in it, I do. I'm not saying I don't. I want to leave it at 2 or even 4

or even 6. I do want some flexibility. I'm just trying to say what is an upper limit here that we think we can live with and somebody's not going to get in trouble with.

AMANDA LAUGHLIN: I think too if you have an upper limit, but you still allow, like once you get to this point you're proposing something greater than say 6 you have to prove with studies or whatever from the manufacturer it can actually do that. And so it's kind of okay if you're going to exceed that you're going to have to go this extra step. You're going to have to prove you did your homework that it's going to work at a higher rate. I agree that I think if you went over 6 that you should have to have some additional documentation by the engineer that states it's going to meet, it's going to remove the iron at a higher rate.

RANDY HOLLIS: So why don't we combine these two. Chris y'all came up with 6 for a reason. What if we just set the baseline at 6 and then we also said that you could exceed this based on performance studies with the approval.

CHRIS RICHARD: The manufacturer's.

RANDY HOLLIS: Not a pilot study, but if you give performance data you can exceed that. So we've given them a limit of 6, if you want to go above that give some performance studies and you're fine. But you don't have

to do a pilot study.

BEN BRIDGES: I have a reservation about the manufacturer rep stating they can do this and give you a little bit of data that substantiates hey we have this claim, we can do this and it was on water in Washington State and not here. I think you still go back to the point where Chris doesn't like pilots, but I like proof is in the pudding. If you're going to say to do 12 or 15 run a pilot and prove it.

CHRIS RICHARD: But you have to change the pilot requirements because 90 days on ground water when the water from a single well that doesn't change quality why do you have to do 90 days.

BEN BRIDGES: I agree. And pretty much consistent water.

RANDY HOLLIS: I think Caryn said earlier on similar waters. We kind of glossed over that, but a water in North Dakota that's 0 degrees Celsius is not the same water down here that's 20 degrees Celsius at all. That's a different filtration.

CHRIS RICHARD: But right now you can have one that's 20 miles down the road identical water from the same aquifer and you got to pilot test it.

RANDY HOLLIS: So I kind of like the 6, going from 4 to 6. I agree with that. We're going to meet quarterly we can even look at this again, remember. But then if you want

to go above that do the performance study, produce the manufacturer's performance study, but you don't have to do a pilot study.

PATRICK KERR: So you want to say have demonstrated to the satisfaction of the state health officer, right.

CHRIS RICHARD: That would take the political argument out of it.

RANDY HOLLIS: Yes.

PATRICK KERR: Have demonstrated to the satisfaction of the state health officer that higher rates are possible.

RANDY HOLLIS: I'm all the way back to disinfection which is the next section.

JIMMY GUIDRY: Before we move to the next section want to get approval on this section with the changes that have been suggested. Unless y'all don't feel comfortable approving it yet. Do I hear a motion on the section we just went over 4.3.1.1?

CHRIS RICHARD: I make a motion.

BEN BRIDGES: Second.

JIMMY GUIDRY: Anybody oppose? Anybody in the audience have any comments on this section?

DIRK BARRIOS: Are they supposed to be looking at this language we've been discussing. It doesn't affect me obviously because I didn't say anything. Wouldn't we want to wait till after they looked at how this last section

was worded before we vote on it?

JIMMY GUIDRY: We can or we can finish it.

DIRK BARRIOS: We have to come back and revisit it anyway because she just told her to highlight that section and look at it to make sure all the wording.

JIMMY GUIDRY: Look I was ready to close it, I'm ready to finish it. I'm ready to go back to where we were. We're not coming back for this. If you want us to finish it so you can vote on it I'm fine with that. We're just a few words away from finishing it. We were just trying to save time, but if you don't feel comfortable. Cause it could change between here. So if you're not comfortable we'll go ahead and finish it cause we're almost there.

PATRICK KERR: It should be have demonstrated and probably higher flow rates or higher treatment rates, higher filtration rates are possible. Have demonstrated to the satisfaction of the state health officer that higher filtration rates are possible or higher filtration rate are--

AMANDA LAUGHLIN: I don't like the word possible.

PATRICK KERR: Yeah, I don't either.

BEN BRIDGES: Achievable.

JIMMY GUIDRY: Do I have a first?

CHRIS RICHARD: First.

BEN BRIDGES: Second.

JIMMY GUIDRY: Anybody from the audience have any comments about this? Anybody oppose? Passed. Thanks for keeping us honest Dirk. Next section. And we thought this one was going to be easy. What's been suggested, and I will see if the committee is in agreement, since someone is here to give us a presentation before we get into this last part do we want to hear that presentation and give them the opportunity to present and they can leave if they don't want to stay for the rest of the meeting. We might not finish this last section. Mr. Francis are you here? This other section could drag on and we may not even finish it. We want to hear from you now if you want to go ahead.

BJ FRANCIS: I'm requesting a blanket waiver for waterline extensions from you all. Right now any time we do a waterline in house, even if it's underneath the bid requirements of the State of Louisiana, we have to go and get the project engineered, we have to submit a bunch of stuff to DHH and it takes forever. And we're spending extra money that I feel we don't need to spend. We're the inspectors of the project because we're going to own it. I'm just wondering if there is something y'all can do to help. Is there a blanket waiver that y'all can institute for small projects, waterline installations that we do in house where I don't have to call DHH every time and wait

for them to review specs that are put together and things that are submitted by our engineer and pay him to do that. And he's talking to us and asking us what we need to do. It's like one vicious circle and at the end we're still doing all the work.

JIMMY GUIDRY: I guess I want to hear thoughts, but I'll share my thoughts as State Health Officer. When I give a waiver on anything I have to weigh what's the risk that somebody's not going to do what they're supposed to do and doesn't involve us. And if it's an issue that timing and approval takes forever there are some things that you could waiver that are small things, there are some things that in all the years I've been doing this people don't do what they say they're going to do and they don't give us the plans to review and then you have to fix it after the fact. It would be very limited if I considered a blanket waiver on anything. It would be very little. I would rather work on how do we expedite approval then say we're going to give a blanket waiver. But I want to hear other people here have had this experience so I want to hear from some folks on the committee.

PATRICK KERR: BJ we've talked about this quite a lot and I think we chose long ago not to call it a blanket waiver, but a blanket permit. And Chris has been working on language to allow us to define what would be covered by a

blanket permit for a main extension and you would make your application to the department, but upon submitting that permit request it's granted. They can review it and come back after the fact if you did something you shouldn't have, force you to fix it. That's a burden you would have to bear as the owner if you did in fact do something wrong. So it doesn't change the department's ability to review plans, but basically it says if you do this and this and this as soon as you submit the plan documents and this application you can go ahead with the work. So the permits issued basically pending review. And I don't know where we stand on that, but we started that two years ago. And I think we had an example out of Florida. And I would prefer that we do something like that Dr. Guidry. Not call it a waiver, it's not a waiver. You're still required to meet all the design requirements. But you don't have to wait to put in a simple half mile 8 inch extension.

BJ FRANCIS: Understand what you're saying, but I still have to bear the burden to pay an engineer to design a line that my guys are quite capable of doing. Ultimately I understand what you're saying, but we own the line. So if anything happens we're still the responsible party.

JIMMY GUIDRY: But I own the responsibility of health of the people drinking that so we share the responsibility.

BJ FRANCIS: The specifications would be y'all would have our specs we're going by or it could be on the web page, whatever y'all would prefer.

PATRICK KERR: We can't just allow a system to grow over time without any documents being submitted to the department. I guess you could do what you're talking about, as builds.

BJ FRANCIS: I'm not asking to do it behind y'all back.

AMANDA LAUGHLIN: The engineering requirement is actually LAPELS' requirement in their particular code. That's a professional engineering code. Anything that affects the hydraulic quality, or an extension, or your capacity, or any of that. In our sanitary code it requires a permit from us, but the engineering side of it is actually in the LAPELS' code. An engineering required to seal those plans.

CHRIS RICHARD: If you issue plans not prepared by an engineer that's considered engineering work whoever did that is in violation of the law. It has nothing to do with DHH or LDH.

BJ FRANCIS: I was just seeing if there was a method.

CHRIS RICHARD: The one in Florida basically takes about a week. You still apply for a permit, you submit your plans, but they outline, you check what you're doing and you email it in then you email back. There is a fee

associated with it, but you know you can proceed. You still have to get the permit first. The other method we talked about was on limiting it to certain size jobs is a general permit that would be issued by the department that you would apply for coverage under. And so the conditions that you have to comply with are already written out and you have to comply. And when you submit for coverage you're agreeing you will do all those things.

AMANDA LAUGHLIN: The biggest problem is not all engineers are created equal. So we still write comments on short little waterline extensions where they're on top of a sewer line or next to a sewer line. We're still having to write that. And so it's uncomfortable for me to do a blanket approval when I know the quality of some of the plans that we still get, even for simple waterline extensions. And I realize for large water systems it's a burden because you're constantly extending your lines and you don't want to wait for a permit and all of that. It's unfortunate, but we're still not able to just really-- we just don't get that many plans that we can look at at one time and permit.

CHRIS RICHARD: Maybe an expedited process like in Florida instead of waiting several months. And I think I sent it already, but it has a check off do you have your clearance from the sewer. They have to check it, you have to

actually stamp, sign, and seal the application. There is recourse if they do something they said they didn't do. The engineer has to fill out the application that says I got my clearance if I'm crossing a water body, what size line, minimum line size. Checks off all those things. You get it, you know they did it. They said they did it, you don't even have to look at the plans, they outlined everything. And you issue a permit quickly. If they don't you have two courses. They have to fix a line and you turn them into LAPELS. Just to speed things up.

JIMMY GUIDRY: I guess my response is that we would want to certainly find a way to be more efficient to where we cannot make you spend money that's unnecessary to spend. So I would look to a process like they're talking about where we could expedite short line extensions and what the requirements would be. So I think it's worth continuing to follow. And if you want to be a part of that and share your experiences when we put this together we certainly would welcome you helping us figure that out. It would be nice to say that everybody's going to give us the same quality of work, we trust them. And I would tell you there are probably some systems and some engineers we trust we would give in a second and there are others we would never give. So it's really over the years trying to figure out who knows what they're doing is really what

it's about. I would suggest this is not an issue that we're going to finish today, but I would like to see what those costs are, I would like to see what those costs savings would be just so we can figure out how we can expedite and where we could save money. I appreciate you bringing it to our attention. Anybody else have thoughts on this? Thanks for coming and feel free to remind us that we need to keep working on this. I am looking at almost 2:30. I would say a 5 minute break.

All right, I've given you 10 minutes so let's get back to it. Back to part 4, sections 4.4 to 4.1. So in the past what we did in the side by side was kind of go through what we stated and see if we can get some agreement as we go along. I guess I'll turn it over to Amanda.

AMANDA LAUGHLIN: We also have the document pulled up so we can continue on that path of making whatever adjustments we want as we go so we don't have to come back later. This is going to be a lengthy section about disinfection. In the first paragraph our comment was that we needed to add in accordance with 355 and 357 of the sanitary code since we do have mandatory disinfection and we also have a minimum residual requirements now. That was our first comment, but we agreed on the other strikeout. Everybody okay with that? 4.4.1.1 so what's in red, the wording in red and blue was the subcommittee recommendations and so

4.4.1.1 a must was changed to a shall. We're fine with that. 4.4.1.2 on capacity. We referenced the section in the sanitary code about minimum chlorine residuals again. So that's LAC 51.12.355. We didn't have any other comments until page 18 regarding contact time and point of application. And we had some references from the sanitary code that we wanted to add about contact time. Some of those are from the surface water treatment rule. The sections that start with 11 are surface water treatment requirements. Under D the subcommittee said this is covered elsewhere in the existing sanitary code and we actually added the references where it was covered. Same thing with residual chlorine, that's our minimum residuals requirement 357. For testing also. So a lot of those references are all just going to be back to where we already have in the code.

RANDY HOLLIS: Do you want to cover some of these things as we go through?

AMANDA LAUGHLIN: If you have a comment as we're going through I think we should stop and go over it at that point. If I've already skipped over we can go back.

RANDY HOLLIS: Actually page 17 of 53 under 4.4.1.2 capacity. What we say in here is the chlorinator capacity shall be such that a free chlorine residual sufficient to comply with the minimum chlorine residuals. Where, at the

MRT. And what if you have two design engineers, you've got one doing the plant and one doing the distribution system how is the plant guy going to know what the kaco efficients are in a distribution system and what you're supposed to maintain way down at the end of it. And so are we just going to leave it up-- it just seems extremely vague to me to just say minimum chlorine residuals.

AMANDA LAUGHLIN: We have minimum chlorine residual requirements at point of entry and at the MRT and that's already in the sanitary code. So that's what we're referencing.

RANDY HOLLIS: But what is that at the point of entry in the minimum?

AMANDA LAUGHLIN: It depends.

RANDY HOLLIS: But you have to allow for some decay throughout your system. And so are we going to let a guy design for 1.0 leaving the plant. And if it's capacity you guys can consider the demand of the raw water. What if the demand of the raw water is 20 parts per million.

PATRICK KERR: Minimum residual indicates you've overcome the demand already. And I don't think we should specify other than saying you have to meet the code requirement because people do booster chlorinate, do lots of things to manage it. And the code requires a part at all points in the system for free chlorine, right. So I think the code

covers that.

AMANDA LAUGHLIN: .5 and it says at every point in the distribution.

CHRIS RICHARD: That's how I read it is if you need to meet it at the end you have to design your system to meet it wherever you need to meet it. If it's at the plant you need to meet it at your maximum time then that's what you need to size it for. The minimum is not restricted to that one application.

RANDY HOLLIS: I understand, it just seems like we're leaving it extremely vague there.

PATRICK KERR: But it's tight at 355.

RANDY HOLLIS: Okay.

RUSTY REEVES: So in the final proposal will 355 language be here?

AMANDA LAUGHLIN: No, a reference to. Cause this is going into the sanitary code so it's just a reference to another part.

BEN BRIDGES: What if you put in in all parts thereafter in and between chapter 3, at all parts in the system. Does that make you feel better? It's redundant, but at least it specifies. Instead of MRT it's just in all points which is what 355 says.

PATRICK KERR: That's not true. I don't need to treat at the plant to meet all points because I may booster

chlorinate. And we do.

DIRK BARRIOS: On 4.4.1.5 it says reasonably constant. Who is going to determine what's reasonably constant? It's at least twice in this section, in this portion of what we're looking at.

JIMMY GUIDRY: To me they have to meet .5.

DIRK BARRIOS: No, this is about proportionate.

AMANDA LAUGHLIN: Chlorinator.

DIRK BARRIOS: Says automatic proportioning chlorinators shall be required where the rate of flow or chlorine demand is not reasonable constant.

JIMMY GUIDRY: You got suggested language?

DIRK BARRIOS: No, I don't. I'm just saying stuff that I brought up with our guys at work and who's going to make that determination.

CHRIS RICHARD: You have to meet your requirements of minimum and maximum so if you can't do it reasonably because your flow is varying too much then you need to take appropriate action to make sure you comply. If you can do it without proportioning because it's a constant flow and the demand is constant then you don't need to. The end result is meet your chlorine that you have to have.

DIRK BARRIOS: Which we do, but again.

CHRIS RICHARD: If you're having trouble then you would

probably want to go (inaudible).

RANDY HOLLIS: What if you add to the end of that sentence and you say is not reasonably constant where minimum chlorine residuals are not being maintained. Now you've given them a reason to look at it. But if you can maintain minimum chlorine residual levels then you're fine.

DIRK BARRIOS: You understand what I'm getting at, it's so opened ended.

RANDY HOLLIS: You would only look at that if you're not being able to maintain minimum chlorine residuals.

CHRIS RICHARD: Or maximum. You might be feeding too much. As long as you're complying with the end result then you're okay. If you're not then you need to take action. It's not reasonable if you can't comply.

RANDY HOLLIS: I'm just trying to put in a trigger that what Dirk's looking for is when would you look at this reasonably constant. It's when minimum or maximum chlorine residuals could not be maintained.

CHRIS RICHARD: For how long of a period and how often. It's still vague.

AMANDA LAUGHLIN: I'm fine with leaving it the way it was. I think it's understood.

DIRK BARRIOS: I'm not saying it needs to be changed, I'm saying the way it's written is vague. It's open ended.

PATRICK KERR: Why don't we just strike it cause the last sentence in 4.4.1.2 covers it.

RANDY HOLLIS: That's true.

JIMMY GUIDRY: Do I have agreement?

RANDY HOLLIS: Fine with me.

JIMMY GUIDRY: All right, strike. Let's go.

RANDY HOLLIS: 4.4.1.3 standby equipment. The first line at the end of that when you have standby equipment take out the word of. Standby equipment shall be available to replace the largest unit.

PATRICK KERR: Since you opened up that paragraph another option is to be able to isolate the facility if you don't need it. So in a distributor production facility if I don't need a pump station do I need to have standby equipment for each of these critical assets if we can access capacity. I wish there was some way to relieve a system of the need to have standby equipment for other than critical equipment. I don't know how to do it. But my point is I have sites where we booster chlorinate or chloraminate at a tank and I can manage a system if that chloramination system is down at the tank such that I don't need to boost. So do I need to have standby equipment for the chlorine pump for that tank. The answer is no. And I just don't quite know, I mean if it said standby equipment shall be available to replace critical

equipment or something like that. But my point is we have some runoffs in our systems that I don't have standby equipment, I don't have equipment to maintain. How do we fix that.

JIMMY GUIDRY: Let me ask this, when we review plans how do we even know if you put standby equipment?

PATRICK KERR: You don't. When you inspect us you find it. You say where's the spare for this.

KEITH SHACKELFORD: As a designer we normally list spare parts.

AMANDA LAUGHLIN: I would ask in plan review those types of questions.

CHRIS RICHARD: How long would it take you to get one?

PATRICK KERR: What difference does it make?

CHRIS RICHARD: It doesn't say you have to have it in hand.

JIMMY GUIDRY: How do you verify that it's not at another place even?

PATRICK KERR: I may have equipment that I like to use that saves me money or makes me more efficient, but I don't need to use it. I can run the tank levels at different heights instead of booster chlorinating and still not have to flush and things like that. So we don't have redundancies on some of the equipment. The mixing units we put in tanks we use those to booster chlorinate. If the mixing unit's down I can't booster chlorinate, but I

don't have a spare mixer.

AMANDA LAUGHLIN: If I asked you that question and you told me that answer I would be okay with that.

PATRICK KERR: So how do we put that in the code. How do we give you the authority to be okay with that.

AMANDA LAUGHLIN: Standby equipment shall be available to replace the largest unit unless an alternate disinfection method is approved by the state health officer. I would just say an alternative. A lot of times we'll ask on a survey do you have standby equipment and if you have standby equipment and it might not be in the closet right next to the chlorinator, but I know that you have it as an entity that's okay. I know that you can readily exchange out whatever you need cause you have that. That's mainly just to have continuous disinfection.

PATRICK KERR: I guess my question is why can't it say standby equipment shall be available to replace critical components.

AMANDA LAUGHLIN: That's fine with me.

PATRICK KERR: You may have two the same time.

AMANDA LAUGHLIN: And the intent is not for you to have a spare of every little thing. It's really to like oh, no something crucial happened with my disinfection and I have the availability to fix it quickly.

BEN BRIDGES: But I think the point is you would have a

spare chlorinator on a shelf somewhere at a warehouse that could fit four or five different well sites and that one would suffice as your backup. Which is more your point than having nine.

PATRICK KERR: My point is I may not have a spare at all. A tank mixer I don't have a spare at all for that. It's a one off so I can't booster chlorinate that tank. So I manage the tank differently while I can't booster chlorinate.

AMANDA LAUGHLIN: If I asked you that during an inspection, I know this is design, but if I asked you that on an inspection and you said well I actually don't need it because I can do it this way we would say that's fine.

CHRIS RICHARD: Maybe put repair slash replace. You don't have to replace the entire unit. It can be repaired.

RICK NOWLIN: Maybe another way is to say should be available to replace the largest unit unless the loss of the operation of the unit would not-- would replace the largest unit if the loss of the unit's operation would negatively impact water quality.

PATRICK KERR: I don't think the word largest is necessary, any critical piece of equipment. If you need three you have to have three.

RICK NOWLIN: The bottom line is the water quality.

RANDY HOLLIS: I think one other thing is your redundant

unit is an entire new well site. If you lose a well site for any reason the standby you've got 58 other sites so your standby is we can lose 10 of these, we're still fine. Our redundancy is in the distributed network.

AMANDA LAUGHLIN: So are we good with this language. Standby equipment shall be available to replace repair.

PATRICK KERR: I would say critical units.

BEN BRIDGES: Take out largest.

PATRICK KERR: Any critical unit, I don't know.

RANDY HOLLIS: Or a critical unit.

AMANDA LAUGHLIN: I would say a critical unit. A critical unit unless an alternative is approved by the state health officer. Y'all good with that?

DIRK BARRIOS: I got an example. You have two ammonia tanks, one serving one part of the plant and the other serving the other part. The capacity of the ammonia tank one of them is large enough to handle both feeds so if one tank develops a leak or whatever and you have to take it out of service. Rather than having a spare ammonia tank would that be allowed.

CHRIS RICHARD: I don't think that's what this is talking about because it's talking about parts that are subject to wear and breakage so I would say the tank doesn't apply. It would be more mechanical equipment.

AMANDA LAUGHLIN: Any other comments on page 17? What

about page 18? Anybody else have any questions or comments on page 18? And just to kind of point out on page 19 the subcommittee had taken out a lot of language, but we're just going to reference the sanitary code requirements in those areas. 4.4.5.1 cross-connection protection. So we just again referenced our backflow prevention language that we have in the sanitary code which is 344 and 346 which were final this year so we're just referencing another part of the code. We agreed with 4.4.5.2. Anybody have any comments on materials before we go into chloramination? So actually the chloramination section in red was added by the subcommittee and we only had a few comments. I'm sure there will be some conversation about this. We referenced the disinfection rule in here, but we also changed aqueous ammonia to aqua ammonia. And the section at the bottom under injector diffuser that talks about if injectors are used provisions for scale formation shall be considered. We commented that we could delete that.

RANDY HOLLIS: The only comment I have on this page is at the bottom where you have ammonia solution shall be fed through stainless steel diffusers. Schedule 80 PVC has worked well for us and so I would ask that we at least put in an alternative material there because we're saying you can only use a stainless steel diffuser. And I would like

the option to be able to use at least schedule 80 PVC on the diffusers.

PATRICK KERR: A question, we're not feeding through horizontal diffusers in Baton Rouge. We're just using injectors, correct.

RANDY HOLLIS: Correct.

PATRICK KERR: So that's another issue. In their design to introduce ammonia in the pipeline this is more for basins.

RANDY HOLLIS: If you're going to do that then you're going to use a type of rubber diffuser or something because of the scaling possibility.

BEN BRIDGES: You have to use a bladder that would retract and shrink so your scale would not be a problem at that point.

PATRICK KERR: So how do we get that in the code?

RANDY HOLLIS: Fed through appropriate diffusers instead of naming the material.

PATRICK KERR: Can we do that, appropriate diffusers?

RANDY HOLLIS: Materials of appropriate design or something.

PATRICK KERR: And installed per manufacturer's recommendations instead of horizontally or vertically or anything else.

AMANDA LAUGHLIN: I like that.

PATRICK KERR: If we make the same changes to standby

equipment and proportionate as we did in chlorination.

AMANDA LAUGHLIN: So the standby equipment in this section we should use the language that we just used under chlorinator. We can only copy and paste that over.

PATRICK KERR: One other comment in the preamble I guess to this section about with ammonia addition usually downstream of the application of chlorine. Is that necessary? Chloramination is the application of ammonia and chlorine with the ammonia addition usually downstream of the application of chlorine. Why is that in there?

JOHN WILLIAMS: If you're trying to meet CTs of your free chlorine first then your ammonia. But if you don't have to meet CTs you might do ammonia first then chlorine.

PATRICK KERR: Strike the usually downstream thing.

BEN BRIDGES: Page 20 of 53 at the top.

RANDY HOLLIS: Because it usually allows you to flip.

PATRICK KERR: Why do we need it in the code? Why doesn't it just chloramination is the application of ammonia and chlorine at a proper ratio to produce combined chlorine residual.

RANDY HOLLIS: That's fine.

PATRICK KERR: I'm saying we try and take out the shoulds, this isn't even a should. And we do it not just for contact time, sometimes we're bleaching color or things like that and we'll actually add the chlorine first.

BEN BRIDGES: That's interesting because Clay used to make us put ammonia second. We weren't using free for our CT.

JENNIFER KIHLKEN: No, you weren't using free for your CT, but you do that because that's at the plant. What John is talking about when you would put the ammonia first and the chlorine second is booster stations. Because you need free chlorine contact time otherwise your detention time is going to be larger cause the contact time.

BEN BRIDGES: I just always thought you wanted chlorine in first and Clay did not allow.

JENNIFER KIHLKEN: You're talking about, it's apples and oranges, you're talking about at the treatment plant for the ground water system that you would design. John's saying this would be booster chloramination out in the distribution system like what Tensaw's doing they could have done ammonia first and chlorine second.

BEN BRIDGES: It's irrelevant.

JENNIFER KIHLKEN: But all the ones you sent to us--

JOHN WILLIAMS: It's relevant for CT to have free chlorine first.

BEN BRIDGES: But this injection is irrelevant for the CT what you're talking about adding the ammonia first as far as not worrying about meeting any kind of disinfection.

JOHN WILLIAMS: I agree. This is just fluff.

AMANDA LAUGHLIN: So we took out automatic proportion which

is consistent with the previous section and then standby equipment we changed it to be the same as the previous.

RANDY HOLLIS: Under the next page under pipe material.

DIRK BARRIOS: Before our comments we talk about ammonium sulfate do we need to add it. It's a note. That's the more prominent.

AMANDA LAUGHLIN: There were only a couple of types addressed so we tried to add in. I would do I guess anhydrous, aqua, ammonium sulfate. Anything else?

RANDY HOLLIS: Page 21, piping material.

AMANDA LAUGHLIN: Our comment said to include ammonium sulfate and we also wanted to reference some acceptable standards.

RANDY HOLLIS: I was looking under pipe material, pipes carrying anhydrous ammonia shall be black iron and then it says aqueous ammonia piping shall be stainless steel. And it says stainless steel, rubber, or PVC shall be used for aqueous ammonia solution piping and fittings. If you're looking at aqueous ammonia right out of the tank then stainless steel or polyethylene tubing both work. I don't want to limit us only to stainless because once you go to the LMI pump you got a big problem. Polyethylene tubing works extremely well for the aqueous ammonia solution. And then you could add it to the second one if you wanted to under solution piping cause it works there as well.

PATRICK KERR: You only need one of those two, right?

RANDY HOLLIS: The second one is really after you've blended it with water. The aqueous ammonia is talking about right out of the 12 percent or whatever. And then the second one is after you've blended it with water. If you're doing that and not feeding.

AMANDA LAUGHLIN: We need to add ammonium sulfate as well.

CARYN BENJAMIN: This will apply to all the other?

PATRICK KERR: No.

AMANDA LAUGHLIN: I think it's aqueous ammonia and ammonium sulfate, or ammonium sulfate. Any other comments? So go into ozone. We agreed like for the rest of page 21 we agreed with the things that were removed. On page 22 our comment was to leave those two statements in. That you do have to have a disinfectant residual after ozone into the distribution system. Also we also commented that you need skill and training to use ozone. So your operators need to have, be properly qualified. So those were our two comments. Any comment on that? Anybody have any comments on the rest of page 22? Nope. Our next comment is on page 25. We just added in the backflow requirements from the sanitary code which is section 344 and 346. So we just added a reference there. And 4.4.7.4 I guess we accepted the change. Contactors shall be open to the atmosphere. We were fine with that. Number six our

comment was to leave the provision in as is so the large contact vessel should be made of reinforced concrete. All reinforcement bars shall be covered with a minimum 1.5 inches of concrete. Smaller contact vessels can be made of stainless steel, fiberglass or other material which will be stable in the presence of residual ozone. So the subcommittee just said it's going to be based on engineering design and the concrete design. I guess we just felt like it didn't need to be changed.

CHRIS RICHARD: I think 1.5 is not a lot on a water holding vessel cause you will have cracking and you do get exposure to your steel. I would change a minimum to 2. That's what's in the ACI 350 for sanitary structures.

AMANDA LAUGHLIN: I like the use of a standard, but I didn't want to totally delete it and leave that.

CHRIS RICHARD: I would change the 1.5 to 2 to match.

AMANDA LAUGHLIN: Should we just cite the standard? What if the standard goes to 3 next year.

CHRIS RICHARD: The problem with the standard is a lot of the engineers that do this kind of work don't realize it exist. You can tell sometimes they didn't design it according to ACI 350. It wouldn't be bad to reference it.

KEITH SHACKELFORD: I have a question, I'm sorry to make us back up to page 25. The comment that y'all added contactors shall be open to the atmosphere. I've never

designed an ozone system, but I sat in on some programs where you really don't want to vent any excess ozone to the atmosphere. Doesn't it have to be destroyed?

CHRIS RICHARD: I understood it was a safety issue for the workers by containing it in the building. But I don't know enough about ozone to say.

AMANDA LAUGHLIN: I didn't write any notes about that, I just checked it. Actually that was added by the subcommittee. We researched it too and we were okay with it. I can go back. It's been a while.

DAVID CONSTANT: In the sentence before that the contactors must be kept under negative pressure and have monitors. So you shouldn't have any fugitive emissions maybe in theory.

KEITH SHACKELFORD: My next question to follow up to that is if you're keeping it under negative pressure how is it open to atmosphere.

AMANDA LAUGHLIN: The statement that's been removed I think was replaced with the red so it says placement of the contactor or the entire roof is exposed to the open atmosphere is recommended. It was changed to a requirement.

CHRIS RICHARD: It was a long time ago. I don't remember.

AMANDA LAUGHLIN: I think what happened is a recommendation got changed to a requirement.

DAVID CONSTANT: It's like an incinerator running at negative pressure cause it does leak a little bit, right. So this thing must leak a little bit.

JIMMY GUIDRY: The way I read it, and I'm not an expert, but it says if you look at the line it says it has to be kept under negative pressure so that's containment in something. But then the next line we took out placement of the contactor, which is probably the contactor that's under negative pressure, the roof needs to be exposed to open atmosphere. I think when we put the contact shall be open to atmosphere I don't think that takes into account that that contactor's in something that keeps it under negative pressure. We changed the meaning when we added that sentence. Cause the first sentence says contactor must be kept under negative pressure and you have your monitors and this is to protect worker safety.

AMANDA LAUGHLIN: The container has to be exposed to the atmosphere.

CHRIS RICHARD: So you don't trap any leakage like they were saying. So your contactor is under negative pressure, but if you enclose it in the building then if there's leakage you've trapped it and you have no way for it to get out for the workers.

JIMMY GUIDRY: What I would suggest, cause it seems unclear to us, I think the statement that says they have to be

under negative pressure and provide for worker safety kind of leaves it up to the design and we don't have to say open to atmosphere. You don't know if that's the contact itself.

CHRIS RICHARD: If you put it in the building you have to be able to get it out. Don't trap it.

JIMMY GUIDRY: If they're placed in a building should be open to the atmosphere.

CHRIS RICHARD: Or vented somehow.

JIMMY GUIDRY: So contactor shall be open to the atmosphere if placed in a building.

AMANDA LAUGHLIN: Contactor's enclosure shall be open to the atmosphere.

KEITH SHACKELFORD: I was just suggesting the wording be that any secondary enclosure for the ozone contactor shall be vented open to atmosphere, vented to atmosphere.

AMANDA LAUGHLIN: Page 26. Any comments before we go past 25? Eleven and 12 our comment was to leave it in and change the should to a shall. And that's kind of what the subcommittee stated as well.

DAVID CONSTANT: The good thing about 11 if you run it the other way it won't work.

AMANDA LAUGHLIN: Our next comment was on page 29. It was regarding alarms. And our comment was to change the should to shall and leave the language as is. We do have

systems in the state currently using this and it is anticipated it will be used in future designs. The next section that we commented on was chlorine dioxide. Any other comments on ozone before we leave ozone? So chlorine dioxide currently in 10 state standards there's not really much about chlorine dioxide on the design or the use of it so we added language regarding chlorine dioxide. So the first one is generators designed or intended to operate outside of this criteria shall require justification and be considered on a case by case basis instead of what was deleted. And then we also added, we commented to add back in when you're choosing chlorine dioxide consideration must be given to the formation of the regulated byproducts chlorite and chlorate. Some other items that we added were generators need to be designed, built and certified in compliance NSF 61. At a minimum bench scale testing must be conducted to determine chlorine dioxide demand and decay kinetics. In order to establish your dose an O&M manual in the language about that was added. And we added some language about certified operators and training and skill set. Any conversation about that, those additions?

DIRK BARRIOS: There are other types of equipment out there. We use sulfuric acid and (inaudible). Some of the stuff that's in here I don't think will apply to it. Have

to sit down and get with the manufacturers before we could agree to any of this. I don't think some of this stuff would relate to the type of system that we use. May not even be covered. I don't know how many systems they have.

BEN BRIDGES: Predominately more the chlorine sodium chlorite.

DIRK BARRIOS: We use the other one at both plants. We went to it because we found it did a better job than the other one.

JOHN WILLIAMS: Can we be specific though?

DIRK BARRIOS: This is a technology that I can't sit down and discuss cause I don't know enough about it. I'm just saying there's issues I would need to get with our representatives. I didn't have time to do that before we would adopt anything. I'm not saying there's anything wrong with what you have. But I couldn't honestly say there's anything that would not be a conflict. I think that's a big issue right here because you have a lot of stuff in here that y'all added as comments. And I understand there wasn't a whole lot of stuff in 10 state standards. But that's a lot of stuff to digest in a short period of time and I just ask that we were given a little more time to look at the chlorine dioxide stuff before we start making a whole lot of decisions.

PATRICK KERR: Dr. Guidry, can I make a suggestion that we

instead of having the side by side ask the staff to put this in written form, this section, and circulate it so we can look at it and take it up at the next meeting.

CARYN BENJAMIN: That's the next step.

PATRICK KERR: Let's kind of skip this discussion and look at it in tact and give folks who have an interest in it time.

JIMMY GUIDRY: What you're saying is on this section?

PATRICK KERR: Just section 4.4.

JIMMY GUIDRY: We'll put this section into the format that we did on these other ones where you scratch out and this section some people may have comments, we may change some language, but everybody will get a copy of what that looks like.

PATRICK KERR: Cause the department's comments are so lengthy it's hard to put them together. Let's just look at them intact and move on.

JIMMY GUIDRY: Yeah, cause we're not going to vote on that today so we might as well keep moving. But we're going to put it in the format that we looked at today when we voted the others and that's what's going to be the final on that. Is that okay with everybody?

PATRICK KERR: And we'll have time to look at it.

BEN BRIDGES: I know the history on the CLO2, but you're asking for like NSF 61 bench scale testing stuff. Are you

going to require such for ozone and such as that or just only on CLO2. Or any other disinfectant besides chlorine is it going be to the same scrutiny I guess as what you're requiring for CLO2.

AMANDA LAUGHLIN: What do you think is different?

BEN BRIDGES: There's a lot to digest here. I don't know, that's why I'm asking. Like you want the entire generator NSF 61 approved when all the components of said generator are NSF 61 approved piping, pumps, tubing, reactor, that kind of stuff.

AMANDA LAUGHLIN: There are other types that are NSF approved, generators.

BEN BRIDGES: So a bench scale test or a pilot test before CLO2 could be considered?

AMANDA LAUGHLIN: CLO2 has the tier one so it is a little different than other chemicals. And considering the number of tier ones we've had recently we need some stipulations in the code for an approval process.

BEN BRIDGES: It's a lot to digest and I just want to make sure that we're going to be applicable to each of the other that are just as bad, I guess. And not just pick on chlorine dioxide.

AMANDA LAUGHLIN: Chlorine dioxide is a tier one though so it is different than other chemicals.

BEN BRIDGES: Ozone would not be tier one?

AMANDA LAUGHLIN: No.

BEN BRIDGES: Nothing else?

AMANDA LAUGHLIN: E coli and I think a nitrate.

RANDY HOLLIS: The criteria you've put in here comes straight out of the EPA guidance manual.

JOHN WILLIAMS: A lot of it does, not all.

AMANDA LAUGHLIN: Some of it is what Mississippi and Texas use. It's used all over. These stipulations are not just something we made up. They're all documented, referenced, other states use them. And a lot of them come from the EPA manual.

RANDY HOLLIS: Is there a reason to put in a minimum efficiency of 95 percent cause we don't specify--

PATRICK KERR: Next meeting.

AMANDA LAUGHLIN: That's in the EPA manual, the 95 percent.

RANDY HOLLIS: Cause we don't specify minimum percentages for an electric motor. We're not telling them you got to use a premium efficiency or anything. Want to use a 30 percent efficient motor they can. I didn't know if 95 percent was tied to the performance of the unit and do you get any other things produced from this chlorine dioxide if you don't meet the 95 percent.

JOHN WILLIAMS: You do and the efficiency is related to perhaps how much chlorite is going to be a byproduct. If you have a 30 percent efficient chlorine dioxide unit what

is the rest of it. And it's going to be byproduct. Whoever is using that chlorine dioxide unit is pushing that unit harder to achieve whatever they're trying to achieve and they are producing more chlorite in the process which is regulated. And is the tier one that we're talking about. So for chlorine dioxide efficiency is very important in my opinion.

SPEAKER: It's different than feeding chlorine and ammonia if the chlorine's not (inaudible).

JOHN WILLIAMS: And that's correct. We want efficient chloramination 4 to 1, 5 to 1.

RANDY HOLLIS: But we won't get a tier one with chlorine and ammonia. We will with chlorine dioxide. And I think that's the driving point behind this is this tier one from EPA and we're dealing with a unit here that...

JOHN WILLIAMS: The efficiency is related to the byproduct, the byproduct is related to the tier one.

RANDY HOLLIS: Thank you.

AMANDA LAUGHLIN: The stuff in here about the O&M is also related to a tier one because if you're not following the disinfection byproduct rule section about chlorine dioxide, if you have any exceedance at the point of entry and you don't do the follow up monitoring in the distribution because maybe you don't know the regulation it's an automatic tier one for failing to monitor. It's

same as if you overfed chlorine dioxide, or you exceeded the MCL I should say. That's one of the big issues is knowing what you have, knowing what you're using, knowing how to use it, knowing the rules around it.

RANDY HOLLIS: And the two plants that I've been associated with used it it was phenomenal. It did a great job, both plants I was associated with. I think there is a strong case to use chlorine dioxide. I've seen it work really well. We just got to make sure it's fed properly and produced properly.

AMANDA LAUGHLIN: Correct. We'll put all of that in a better format and send it out. So we have about 25 minutes left.

RANDY HOLLIS: On page 32 on sludge collection of softening. And under sludge collection A where it says mechanical sledge removal equipment shall be provided in the sedimentation basin. That is extremely restrictive. We have processes that use orifices and ports where we remove sludge hydraulically and there are hydraulic removal systems commercially available that I hate to see us tie it to only mechanical. I would like to rephrase that under sledge collection that simply says... you caught up with me. 4.5.1.6. Under A what I prefer that to say is a means for sludge removal shall be provided in the sedimentation basin. You've got to provide it.

AMANDA LAUGHLIN: If you were designing a plant today though would you not use mechanical?

RANDY HOLLIS: No. They make some hydraulic systems that cover the floor that are phenomenal that we would strongly consider using.

KEITH SHACKELFORD: Predominate manufacturers use the hydraulic sludge tank.

RANDY HOLLIS: That at least gives us flexibility to consider that as opposed to mechanical equipment.

AMANDA LAUGHLIN: So for cation exchange process a lot of things were removed and under 4. Waters having 5 units or more turbidity should not be applied directly to the cation exchange software. So when we read through that we thought what if you're using that for a primary contaminant removal. Page 32 and 33. Like for instance, they talk about iron and manganese or combination need pretreatment when the content of iron manganese or combination is 1 milligram per liter or more and then they talk about turbidity. And we felt like if you're using that process to remove a primary contaminant don't you need to meet the pretreatment criteria. Shouldn't that be part of your design process. We felt like we should leave that language in.

CHRIS RICHARD: The 4.8 by the way is. It's referring from another section. I thought you thought it was a heading

for this section.

KEITH SHACKELFORD: Cation exchange treatment can be tailored to the specific component you're trying to take out of the water. So if you're trying to remove total organic carbon you may not care about iron and manganese

AMANDA LAUGHLIN: Well it's talking about near a resin.

BEN BRIDGES: Oh, then the iron and manganese could blind your resin and defeat the purpose of what you're trying to do because of that deposit.

AMANDA LAUGHLIN: It's like pretreatment requirement before you even get to that process.

RANDY HOLLIS: I think that's good to leave that back in under pretreatment.

AMANDA LAUGHLIN: It's kind of the same comment 4.5.2.2. We commented to leave that language in as well. Automatic regeneration based on volume of water soften should be used unless manual regeneration is justified and approved by the reviewing authority. For exchange capacity our comment was that shall be in accordance with the manufacturer's specification. I think that was removed. It was kind of, it was a should for one thing. That's why it was originally removed. But I think that should be considered. Any comment?

KEITH SHACKELFORD: I actually have a question 4.5.2.4 depth of the resin. The depth of the exchange resin shall

not be less than 3 feet. Is that in a resting state where it's settled or is that an expanded bed if it's at an up flow regime. What does that refer to?

AMANDA LAUGHLIN: I think it would be the settled.

KEITH SHACKELFORD: I recently had some dealings with an iron exchange system and it's an up flow process so you have an expanded bed of resin within that contact.

AMANDA LAUGHLIN: I would imagine it's resting. Any other comments on 33?

SPEAKER: If you're going to leave the 4.5.2.2 design are you changing the should to a shall.

AMANDA LAUGHLIN: We can. 4.5.2.2 instead of automatic regeneration based on volume of water soften shall be used unless manual regeneration is justified. And take out reviewing authority and use state health officer. On page 34 really that was just a typo. It said must and shall so we changed that. So before we skip to the next comment which isn't until page 42 do you guys have any other discussion on the pages in between?

RANDY HOLLIS: On page 36 under 4.6.4 number of units. You can search this, but you're talking about the design capacity of the plant. 4.6.4. In red you have water at the design capacity of the plant. We're back to that water at the average daily flow of the max month.

CHRIS RICHARD: Whatever language we used earlier.

AMANDA LAUGHLIN: Average daily flow of the maximum month.

RANDY HOLLIS: On page 38 4.7.1. Go to 4.7.1. Item number H we've got one there is not will not. Are you trying to make a point there. When used in applications where the water will not be subject to open vessels. Take is not out.

AMANDA LAUGHLIN: Take the is not.

RANDY HOLLIS: The next page on 39. This is underneath forced or induced draft aeration number D. And what I would like to use is the same language that we put under the previous one under D to say include a downturn and 24 mesh screen air outlet and inlet. I would like to remove the 24 mesh. Or we can use the same language for the previous one, when used in applications where the water will not be subject to open vessels and downstream. That 24 mesh screen on the outlet of a aerator will tend to plug over with water and slime and will greatly reduce the capacity of the unit where you're no longer getting oxygen transfer. And so if you got downstream units that are open clarifiers, filters you don't need the insect screen on those. Under I right below that.

AMANDA LAUGHLIN: So what do you propose?

RANDY HOLLIS: Include a downturn, well you can leave in the words and 24 mesh screen air outlet and inlet and say and the screen may be omitted when used in applications

where the water will flow to open vessels in downstream treatment processes.

CHRIS RICHARD: Just take what it said on the first one.

BEN BRIDGES: Is subject to open vessels.

CHRIS RICHARD: You only need the screen if it's not open downstream. That's what it says on 4.7.1

RANDY HOLLIS: 38 it says you have to have screens when used in applications where the water will not be subject to open vessels. In other words, you have to have a screen if you're going straight into a basin.

PATRICK KERR: So put include a down turn air outlet period and then use the language from the prior.

CHRIS RICHARD: You need a screen if it's closed downstream. You don't need one if it's not.

RANDY HOLLIS: That's fine. Put a period and then use it identical to the previous one.

PATRICK KERR: Down turned air outlet and inlet period.

RANDY HOLLIS: Go back to the previous page 4.7.1 and you can copy that entire sentence and paste it into the next one. Let's go to I right below that. Discharge through a series of 5 or more trays with separation of trays less than 6 inches or as approved. A number of aerators do not use trays. We have some units that use 3 or 400 1 inch pipes, not a single tray in there. And it's a forced trapped aerator.

CHRIS RICHARD: When trays are used.

RANDY HOLLIS: There ya go. And then let's go 4.7.3 spray aeration. At the bottom of the page under item D we have another one there of the 24 mesh screen. So let's grab the same thing we did on the previous one about the screens. Then you can take out that any openings ventilation, etc. must be protected from insects. Then you can leave that in, any openings for ventilation, etc. must be protected. Take out with a 24 inch screen protection. 4.7.5 is under packed tower aeration. And under packed tower aeration under A we have air flow system that's 4.7.5.4. Air flow system. Again, have the 24 mesh screen, but this is on packed towers. So I am almost okay leaving it in the packed towers because of the fine material in packed towers.

CHRIS RICHARD: I would leave that.

JENNIFER KIHLKEN: Are you leaving page 42? So for 42 it looks like we have a note that said discuss this seems necessary to determine operation. The comment was an air flow meter shall be provided on an influent air line or an alternative method to determine the air flow shall be provided. And the comment by the committee was that it was not necessary and then we were just asking for some discussion because we were thinking it might be needed.

CHRIS RICHARD: It may be, but it may not be. We have one

that has the blower is sized for the removal and there's no adjustments, there's no reason to monitor the air cause you don't have the ability to change the air flow. It's designed for a certain flow rate. Air flow capacity through the area. For the well water coming down there's no reason to measure. We have a well flowing through 1200 gallons a minute. We have a blower at 2400 SCFM to remove the contaminates that are in the water. I don't need to measure it. It's that well, that blower, and that's it. I can't change the flow. Measuring it doesn't do any good.

BEN BRIDGES: If you add more air you don't do any damage, you just ensure that you strip out whatever's there.

CHRIS RICHARD: And measuring doesn't do any good too cause I have no method of adjusting air flow cause I got a squirrel cage blower hooked up.

JOHN WILLIAMS: What the results are, quality.

CHRIS RICHARD: Quality of the water.

RANDY HOLLIS: And on our plants where we do CO2 removal we design the aerators for maximum flow rate and maximum CO2 coming out of the wells. We don't always run at maximum flow, but they're constant at a speed lower so we may be getting better efficiency out of the unit when the flow is not as much, but we never measure the air flow.

JENNIFER KIHLKEN: We just had a note that said a

discussion about it to see if there was something we didn't know or didn't follow.

JIMMY GUIDRY: It's almost 4:00. There's not much left in our comments sections. I think we want to put it in a posture like we had the others today. We'll go ahead and finish that. What I would recommend one I want to check with the audience if there is anyone here that came specifically to say something I want to give you an opportunity. What we're going to plan to do is have the edits and stuff we talked about today in a format that y'all saw with scratch outs and a format y'all can look at. Hopefully that won't take much time to review. We might have some discussion on chlorine dioxide. And then I was asked if we could discuss some other issues that will be coming up. So I can see an important meeting where we would discuss finishing up this section and then total coliform rule and other subjects that y'all might want to talk about as a committee. That wasn't in my plan being that we're getting closer to the end of the year, but we didn't quite finish today and I want to get it done. So I would hope to have another meeting. And Caryn I look to you as to when that can happen as far as are we talking about two weeks from now, four weeks from now. Once you get into the holidays it's going to be hard to get people together unless y'all want to do like first or

second week of December. Leave it up to the group. But I would like to wrap it up to where we can start processing and going to rule making. Unless y'all have any heartburn with that. I would have liked to wrap up today, but there's still some important parts that we're not done with. We won't rehash what we hashed out today. Unless you see something that is really glaring. Y'all like the time. Is this going to require some work to finish this up. I think we did a lot of it today. What I'd like for is what we've done today share with everybody along with the proposal and you have some time to review it so if y'all want to do it we're getting close to Thanksgiving. I don't know if you're talking about the week after Thanksgiving or two weeks before.

AMANDA LAUGHLIN: What about the week of the 14th of November.

PATRICK KERR: We're going to need time to get the chlorine dioxide comments circulated and feedback back to you. Is that too soon.

AMANDA LAUGHLIN: We can make those comments in a section and send them out probably by tomorrow.

JIMMY GUIDRY: The question is do y'all want to meet again in two weeks, is that doable for y'all, does that give you enough time to review everything and get your input. I'm trying to give you enough time, but we also want to wrap

this up and there's some other objects y'all may want to discuss as well.

BEN BRIDGES: The one I want to do is the January one deadline so the sooner the better.

JIMMY GUIDRY: Again, give us those subjects you would like to discuss because a lot of things are changing come January. We need to try to answer some questions, clarify.

BEN BRIDGES: The bac-t and THM sampling that is important. We would like to discuss that before January one.

JIMMY GUIDRY: We would be ready to talk about that, right. I feel like we're almost done with this section hopefully with the exception of the chlorine dioxide discussion. So I'm hoping that we can come back, wrap up pretty quick, vote on it and then have an educational moment for all of us what the new rules are going to be and how things are going to work. And then rule making that will take months. So that's not like that's going to happen immediately, but I would like to get it done before session if possible.

RANDY HOLLIS: So let's meet the 15th, let's meet two weeks from now. She could send out the doodle poll.

JIMMY GUIDRY: We'll get back to you with a set date, but look around the 15th for what we'll shoot for. And then we hopefully can wrap up a lot of things, have a good

discussion. If you have something that you want to discuss send it to us, we can add it to the list. Everybody in agreement? Do I hear a motion that we adjourn?

CHRIS RICHARD: So moved.

BEN BRIDGES: Second.

JIMMY GUIDRY: Anyone opposed? Nobody opposed.