Representative Policy Board

Public Hearing

Lake Gaillard Water Treatment Plant Filter Influent Valve Project

May 26, 2022 at 7:00 p.m.

Peter: Go ahead. Okay. Good evening, everybody. I was asked to preside over this hearing on the valve placement on the water treatment plant at Lake Gaillard. I would like to call this hearing to order. I'd like to remind everyone that the meeting is being recorded. And now I'm going to read the notice of the hearing.

The representative policy board, RPB, of the South Central Connecticut Regional Water District will hold public hearing to consider the South Central Connecticut Regional Water Authorities application for approval of the water treatment plant's valve replacement program at Lake Gaillard Water Treatment Plant filter [inaudible] valve replacement project located in North New Haven, Connecticut. The public hearing will take place on Thursday, May 26th, 2022 at 7:00 PM. Members of the public may attend the meeting in person at 90 Sergeant drive, New Haven, Connecticut or with remote access. For remote meeting information, and to view the application and accompanying information, please go to https://tiny.url.com/2b359cuj.

Public hearing is to be held from pursuing to sections 10 and 19 of the special act. 77-98 as amended. All users of public water supply system, residents of the Regional Water District, owners of the property served or to be served and interested persons should have the opportunity to be very concerning the matter on the consideration. Questions may be submitted in writing to the board office or by emailing jslubowski@rwater.com or by calling 2 0 3 4 1 2 5 1 5 Mario Ricozzi, Chairperson REPRESENTATIVE POLICY BOARD South Central Connecticut Regional Water District. Okay. I'd just like to remind everyone again, that the report, [inaudible] why we gave those numbers.

I'd just like that advice anyone who was wishing to testify that they will be sworn in, they'll be asked to state their name, residence and business affiliation, if any. Members of the public will be given an opportunity to ask questions at the end of public hearing and are not required to be sworn in. If any individuals will like to testify at this time, please state your name, home address and organization. And I will give you the oath.

Orville: Orville Kelly, 90 Sargent Drive, South Central Regional Water Authority.

Jim: James Sell, Regional Water Authority.

Orville: Okay, Jeff.

Jeff: Jeffrey Donofrio, 4 Nichols Farm Road, Trumbull, Connecticut, Office of Consumer Affairs

Christopher Bone: Christopher Bone, Tighe & Bond Engineering, Westfield, Massachusetts

Sunny: Sunny Lakshminarayanan, Regional Water.

Speaker 2: Anyone else?

Jim: Jim Courchaine, Regional Water Authority.

Sunny: Okay. Do you solely and sincerely swear or affirm and declare that the evidence you shall give concerning the case now in question shall be the truth, the whole truth and nothing but the truth on the pains and penalties of perjury or false statement.

Jeff: Yes I do.

Orville: Yes I do.

Sunny: At this time, I would like to turn this over to Orville Kelly, please for presentation.

Orville: All right. Thank you, Jennifer. Thanks everyone. Good evening and thank you for the opportunity to present in the Water Treatment Plant Valve Replacement Program, Lake Gaillard Water Treatment Plant Filter Replacement Project application to presented with me and Jim Hill, the director of operations. Of course I am Orville Kelly manager of design and construction in the engineering department. Jim Hill will be walking you through slide one through slide five. Go ahead, Jim.

Jim: Thanks, Orville. Jennifer, if you mute your laptop, it might get better audio. So go away into the project background first.

The Water Treatment Plant Valve Replacement Program is a multi-year program to replace critical water treatment valves required for the effective operation maintenance RWAs water treatment facilities. Examples include backlash valves, filter influent valves, and yard valves that are beyond their useful life and are starting to require significantly more maintenance. The anticipated annual cost of the program will range from $100,000 to $700,000. The valve replacement needs were prioritized and the Lake Gaillard Water Treatment Plant influent valves were replaced at the top of the lift because of the critical nature of Lake Gaillard Water Treatment Plant. It produces over 60% of the water supplied to our customers and provides water directly to the New Haven service area and Branford service areas as well as indirectly to other service areas. Next slide, please.

The project scope includes filter influent valve replacement through sequential isolation of 16 30 inch valve and motorized actuators. In order to maintain continual plant operation. The project will first isolate filter influent piping from the fasciculation basin and effluent channel. The demolition will include installation of scaffolding since the valves are over 16 feet high and temporary provisions to allow isolating sections of the influent pipe, including the installation of a mechanical plug in the 78 inch steel pipe header, and then sequential demolition of the 30 inch filter influent valves. Project sequence will allow for continuous operation of the Lake Gaillard Water Treatment Plant with only four filters offline at any one time. The mechanical and electrical portion of the project will install new valves, motorized actuators, associated electrical conduit, and wiring full of electrical valve actuators. Next slide please. So this slide is project site conditions. It's a video narrated by Orville Kelly, which will detail some of the challenges that we have with the project. Jennifer, can you play the video please,

[VIDEO PLAYS]

Jim: Thanks Jennifer. And thanks for the narration Orville. So next slide please. In terms of the project lead valves do not seal completely and are leaking after many attempts to resolve the leaking by adjusting valve limits, including RWAs instrumentation control department and outside contractors, water leaking by the influence valves into the filters while we down during a [inaudible] increases, the time required in and reduces the number of factor, actually that complete during periods of high demand. The leakage also increases the impair water recyclers requiring more electrical energy for pumping. The actuated control valves beyond their useful life. They're over 35 years old, the new filter influent valve will improve the control with reliability of the water plant increase energy efficiency, reduce the risk of plant shutdowns, and continue to and callouts to that. One of our primary challenges Orville pointed out, there's no current means to isolate the filter and keep the plant in continuous operation to them here. Pipe replacing the inflow valves include the purchase of temporary [inaudible]. Next slide please. And I'll turn it over to Orville to talk about the summary of alternatives analysis, budget schedule and pipe summary.

Orville: All. Thank you Jim. Before I move on Jennifer, if you mute your, then we'll get rid of the echo please. Thank you. All right. So the summary of alternative analysis that was looked at is a no action, not replacing the existing leaking influent valve is not a viable option. As the valves are beyond their useful life, they will cause the valve leakage to be worsen and further restrict plant filter, operation flow rates and flexibilities, thus making this alternative, not acceptable. Replacing the valve is the selected option. This required further analyzing constructability methodology of for best to isolate water flow. So new valves can be installed. We look at a permanent isolation. This alternative would require installing four 54 inch isolation valve, approximately 11 to 12 feet off the

finished floor, inside the pipe gallery. These valves are large, they're heavy and would be difficult to fit in the existing piping arrangement due to their size.

This mentored also requires a temporary plug or a temporary means of isolation as well. While this alternative would provide the RWA with convenience and ease of isolating flow in the future, it is a costly alternative with high construction risk. And therefore this alternative is not recommended. The selected preferred option, which is the temporary isolation system is install temporary mechanical plugs, which will be removed once the valves are installed. It is less cutting to the existing pipe as compared to installing permanent 54 inch valve, which is as stated before 11 feet above the ground. This makes it less invasive and reduces the length of construction. Such as the mechanical plug are easier and quicker to install since they are elevate, not as difficult as the 54 inch valves, the mechanical plugs can be reused for future isolation needs. This recommended alternative addresses the agent valves in a cost effective and operational efficient manner. Next slide, please.

The budget and schedule the filter ILU valve project is budgeted as a multi-year project at 2.69 million. While the average annual spend for the valve replacement program is anticipated to range from 100,000 to 700,000 annually. Typically outdated between planning year and construction years where it's been submitted in March. We're anticipating action from the RPB in July. And so we move on to final design and award based on the requirements to perform this work, during the low demand season, November to March, it is anticipated that no active construction will occur this winter due to the supply lead time issues presently seen. Active construction expected to begin November 2023 through May 2024. Next slide please.

In summary, the Water Treatment Plant Valve Replacement Program will address replacing aging, leaky valve and actuators that have reached the end of the use of life, improves filter controlled and reliability by assessing and replacing critical valve as needed at the treatment plants. Replacement of the Lake Gaillard Water Treatment Plant filter influent valve project will reduce the risk of unexpected shutdown at the Lake Gaillard treatment plant, which is at 80 MGD capacity facility, the RWA's largest and most critical facility. It will provide mechanical plug that is reusable to isolate filter influent flow for future inspections and or maintenance as well as it is the most cost effective solution to provide flow isolation, to install the new valve. Thank you very much for your time. We'll answer any questions please.

Stephen: Hi, this is Steve Mangelow. I have a question on how does the mechanical valve block work? Can you go into that a little bit?

Orville: I'll have Tighe & Bond Chris Bone, who is on the skull to go into the technical detail of the design.

Christopher Bone: Steve. So this... Because there's no other isolation in here, this is at the end of the 78 inch pipes where water goes from the flocculation basin channel into the filter building. So we've got a round 78 inch pipe in the middle of a concrete wall. The process would be contractor going in there really this winter.

So the idea of bidding it this fall would be the contractor can go in this winter and take really detailed field measurements of the 78 inch pipes and then a specialty fabricator, and there's folks out there that make these types of plugs will make essentially a 78 inch diameter disk. It's got a profile in it of something like nine inches of flex, so it's a relatively deep disc made out of steel or stainless steel, depending on what we do in final design. It's got a gasket around it. And then it's got these shims that tighten that, push it up against the pipe. And in top of that, we put a strong back bar or bars on the outside of that we would anchor into the concrete to put that in place. So it's held in place by the shims as well as, and then it provides a essentially a gasket.

Jim: Thank you very much. Appreciate it.

Greg: This is Greg. Can you hear me?

Orville: Yes.

Greg: You can hear me.

Orville: Yes. Great.

Greg: Okay. Can you tell me what the useful life of the new valve will be?

Orville: Typically the useful life of these valves are somewhere between 20 and 25 years.

Greg: Okay. Thank you. Why did we take so long to replace this valve?

Orville: So we had started replacing valve at the treatment plant where we did them in stages. So we did the ones that were most important in terms of the influent valves and from the influent valves. Then we did the isolation valves. The influent valve was the most challenging to replace. And as we are here today, there was really no means of isolated flow coming in. All the others were able to isolate. So those were and easy to be replaced. So that's the reason why we get into the influent one. We had to take them in stages.

Greg: And if we had complete failure on this valve, what would've would've happened?

Orville: If we have complete failure on one valve going to the infulent to the filters, Jim, I think you could elaborate a little bit more on that in terms of what all impact it would have on the treatment process.

Jim: So if we had one valve that failed, essentially we would lose that filter. With the influent valve failed, either open or shut, partially open, we wouldn't be able to backwash any longer because, or get water into the filter. The problem with these valves is, multiple valves are leaking excessively, and it would be likely that if we started having complete failure of one valve, the rest of them are not that far behind. So we would start losing significant capacity in the treatment plant.

Greg: Thank you

Mario: Got a question, Mario. My question would be obviously this plant was built a long time ago and you're having to deal with isolating and using a plug method, which you're going to be able to be used. Going back in time. Was there no state of the art that he anticipated filtered replacements and therefore resulting in really a pretty complicated task or am I misreading what you're doing? Because it sounds like it's going to be a difficult experience.

Orville: So Mario, when the plant was originally designed, there was some blocking mechanism that was constructed to isolate the flow going into the treatment plant. And that would eliminate flow into the filters altogether. There was nothing that was set up to eliminate flow to just four filters or a section of it. When they did the expansion in the nineties then there was a section that would've eliminated just four of the 16 filters. So we presently can set aside four of the 12 filters without impacting the overall flow. And so the plug, the mechanical plug is needed so that we can only take four filters off at a time and still allow the treatment plan to function at I would say 75% is capacity, which would be 12 or the 16 filters.

Mario: Thank you.

Sunny: Any other questions at this point for the presentation? Hearing none. Thank you Orville and Jim for your presentation.

Orville: You're welcome.

Sunny: I turn the meeting over to Office of Consumer Affairs, Jeffrey Donofrio, please.

Jeff: Thanks. Good evening, everybody. You all should have my memo that is dated May 19th a week ago, which contains my analysis of the application as was indicated. The Lake Gaillard Water Treatment Plant is the largest of the authorities plants and the plant supplies on average 61% of the total water to the authorities' system according to the application and as has been discussed

in the follow up questions by the RPB, we've got 36 year old valves that had a 25, I know authority said 20 to 25 years. The application says 25 to 30 years. So either way the valves are passed they're useful lives and replacement of the valves is clearly necessary in order to maintain reliability of the plant, prevent unexpected shutdown and avoid challenges, procuring replacement parts. The memo that I issued does discuss one other item that wasn't addressed in the authorities' presentation, which is the authority, as you know, from recent applications has been looking at bundling projects as a means of taking advantage of economy of scale and to mitigate construction costs, especially soft costs.

The authority did have Tighe & Bond take a look at bundling potential for this valve program, with the HVAC and electrical improvement projects and concrete restoration project that were the subject of a recent prior application concerning projects at Lake Gaillard WTP. And the memo that Tighe & Bond issued on May 6th, which I referenced in my report is a thorough analysis considering a dozen factors in evaluating the advantages and disadvantages at this point in time of bundling the valve replacement projects with the other pending projects at Lake Gaillard and the recommendation from Tighe & Bond is to not bundle the valve project with the other projects, primarily because of the potential for delay and an increase in cost overall for the projects.

I know that the chairman of the RPBs had some discussions with the authority. I've had some discussions yesterday, or the day before. The day before Sunny and I had a teams meeting and we talked about the approach going forward of considering bundling at the beginning of project and program design so that we don't have any concern about delay and price escalation due to one component of bundled projects being behind the others in terms of the maturity of the design.

So that was, I thought a good conversation. Like I said, I know that the chairman of the RPB had similar conversations with the authority as well. Ultimately I recommend approval of the application because the valves are critical components to the continued reliable uninterrupted operation of Lake Gaillard water treatment plant. And I'm satisfied that the work that was done by Tighe & Bond in its September 30th, 2015 report for the Lake Gaillard capital improvement plan, as well as the recent work supports the project as the preferred alternative for dealing with the need that's posed by the application. Thank you.

Sunny: Members have any questions for attorney Donofrio?

Mario: Excuse me. I should have asked this before, I forgot to ask this. Is there any value to the valve that we are replacing as used valves to somebody else?

Speaker 13: I think Mark's question, I think last time too, I think for the [inaudible], I think we have addressed, I think in the contract there are, would say language in terms of, I would say addressing salvage the clarify contract, as well as there. I think you similar measure for the valve replacement contract as well.

Mario: Yeah. I just wondered if Tighe & Bond knew a valve that's 30 years old was worth as scrap.

Christopher Bon...: We haven't evaluated the salvage value of these valves in particular. They may have value to somebody. You just have to find the right buyer. We could certainly do what Sunny just indicated, which we did on the clarifier job and include a salvage item on the bid form to allow that to be identified. And if there is somebody that could be identified at the bid that [inaudible].

Mario: Thank you. I just want to... That's a concern I have. Thanks you.

Sunny: Any other questions for Mr. Donofrio?

Speaker 11: Okay.

Sunny: Thank you, Mr. Donofrio. I don't know if we have any members of the public that would like to offer testimony?

Speaker 14: Are there any members of the public who are attending?

Speaker 13: Members of the public?

Sunny: Okay. Okay, great. For closing the hearing. Are there any other questions or comments?

Stephen: Hi, this is Steve Hampton. Just in reference to Mark's question. If a valve could be rehabilitated how does it get rehabilitated? What would be the value to somebody else and could it be rehabilitated for this particular project?

Sunny: Hey, Chris, do you want to take the question or...

Christopher Bon...: I can take that one. Yeah, that's fine. Yep. I was just curious was going to jump on. You can rebuild valves to a point. At some point as they get older and older, the risk of them having a shorter life cycle gets decreased. I would say in this case, it's because it's like two factors. I would say I would not recommend rehabilitating them, putting them back in here. The first is it's so difficult to do this project in terms of shutting the plant down and taking the valves out that I wouldn't want to do that again, any sooner than I absolutely have had to. So we would want to rely on newer equipment. Much of the cost of this project, isn't the replacement of the valve. It's really everything else that goes around till you can get to the point where you can replace the valve.

The other, the other factor is the time we're trying to have the shutdowns as short as possible. So there's not really time to take the valve out, identify what might be wrong with it try and procure replacement parts at that point, rebuild the valve and then put it back in. So we just don't. We need to have everything ready to go. Once we go to the shutdown, take the old valve out and immediately put the new valve right back in. So both of those factors don't play into reusing the valves on this project, but certainly somebody else, if they saw value could take them and determine which of the 16 valves could be salvaged and rehabilitated and which ones are so far gone that they couldn't be and would just be salvaged for scrap value.

Stephen: I appreciate the information. Is there also new technology that's involved or new materials that...

Jim: The actuators are more advanced than the old ones for sure. In terms of the actual valves they're I don't think the technologies significantly improved since those valves were put in.

Stephen: Thanks Jim.

Sunny: Any other questions or comments? Thank you very much at this time, I believe Charles Habrin will read exhibits into the record exhibits.

Charles: Exhibits are application submitted to the RPB on March 31st, 2022 for approved of treatment plan balance. Programation exhibit B. Notice of public hearing published Monday, May 2nd, 2022, the Connecticut Post and the New Haven Register. Exhibit C Office of Consumer Affairs memorandum dated May 19th, 2022 recommending approval of the application and exhibit D application presentation dated May 22nd, 2022.

Sunny: Thank you Charles. Are there Any other questions or comments? Being done I believe at this time, close the public meeting. Additional commission motion. Motion to close the meeting.

Charles: So moved.

Sunny: Second, thank you. Okay. Meetings closed.

Charles: Thank you all very much.

Sunny: Thank you.