

Evergreen Public Meeting
Tuesday, September 28, 2021 @ 6:00 - 7:30 PM

Questions & Answers

1. Question (from Russell Zerbo): Has Evergreen responded to DEP regarding the recent deficiency letter issued about the report on the Public Input Process so far administered by Sunoco/Evergreen?

Answer (Tiffani Doerr): Yes, we had to respond within 60 days, so we did respond to the deficiency letter. Our response, DEP's letter, and the original public comment report are posted on the website. So people can go in and download those documents. But we'll go over in just a little bit here.

2. Question (from Anonymous Attendee): Is Hummingbird Firm working with the Community Engagement leader Jasmine Sessoms of Hilco Redevelopment? Does your work overlap?

Answer (Denise Smith): We are not necessarily working together in terms of developing a joint public involvement plan. But as we move forward, the agencies are working to make sure that there are opportunities for a more robust information and exchanging process. And just to be clear, the work that Evergreen does and the work that Hilco does - the work overlaps in some areas - but on a daily basis the work is not necessarily aligned. Accordingly, the goals of the public involvement processes are different, so we have to make sure that Evergreen's outreach program speaks directly to the needs of the remediation and the public's concerns around the remediation. There will be situations where the work that Evergreen and Hilco are doing overlap. This is a question that has come up, even during the interviews, but right now we don't have any plans to have a regular joint update, but we do notice that there are times where a joint update is appropriate. So in that case, yes, we will be working with Hilco to make sure that those opportunities do come up when appropriate.

Answer (Tiffani Doerr): If I could just add to that a little bit...You know, we did have one joint meeting with them in the past and have talked about doing some additional ones in the future. Oftentimes, like this meeting, it's very focused around specifically what

Philadelphia Refinery

LEGACY REMEDIATION

we're doing, and of course at their meetings when they talk about their development stuff. But certainly there will be times in the future where we really do come together a little bit more. So good question, very good question.

3. Question (Peter Winslow): Evergreen has provided background/educational information about PFAS on the phillyrefinerycleanup website. But, no information has been provided as to when, where, and how much PFAS has been released at the site for training and for firefighting purposes. When will this information be provided?

Answer (Tiffani Doerr): That's another thing I have on one of the technical slides. We recognize that was one of the most frequently asked questions. We just got that information up this afternoon, so I'll talk about it a little bit more again. What's on the website now is just very basic PFAS 101: What is it? Why do we see it everywhere? We have some sample results that are due at the end of this month, on the 30th - so in a couple of days, and we will start posting that stuff up there too. We have also added some resources as we are preparing to have all that stuff on the website.

4. Question (Peter Winslow): What is the status and remediation plan for the settling pond at AOI-10?

Follow-up (Peter Winslow): The question is about holding areas for contaminants.

Answer (Tiffani Doerr): It might be helpful to have a little more information on the question. There's no proposed remedial activity and I'm not sure if you're talking specifically about a certain pond or AOI-10, which is the west yard; it's the other area on the west side of the Schuylkill River that's north and separated from the Schuylkill River Tank Farm. That area is in the phase of writing a risk assessment/cleanup plan/final report, so there are really no activities that are going to happen there in the future. The recommendations will most likely include continued monitoring, confirming caps are in place because there is no development going on there; there's no other use currently than what it is today so as far as remediation, like active remediation, there aren't any plans for that. It'll be in a post-remediation care plan type phase, but that's coming down the road probably in the next year or two. We want to get through the modeling and other things first and then that report can go in.

Philadelphia Refinery

LEGACY REMEDIATION

5. Question (Marta Guttenberg): There was no reporting of what happened at the site specifically during the recent high water event. Can you report out?

Answer (Tiffani Doerr): I'm not sure exactly what they're referring to. I think we all know we had record high waters, particularly in the river and smaller streams nearby. As far as our observations of any impacts on our remediation activities, there really were none besides seeing massive amounts of debris come down the river. There really wasn't any effect on the pumping wells that we have. I wasn't on site the day that we had the flooding and the next couple of days, but from what I understand from people on site, there weren't really flooding effects on the site itself. So, if the question was really "what did we see in relation to that?", it was really nothing besides really high water elevation in the river.

6. Question (Peter Winslow): Who is attending/participating in this meeting?

Answer (Denise Smith, in writing): We currently have 51 total attendees - this includes a mix of Evergreen, Hummingbird, and agency reps, residents, and members of community organizations and academic institutions. We encourage attendees to introduce themselves!

Answer (Denise Smith): We do want to share the attendee list, so if you do not want your name shared please let us know. At the height of the meeting, we had 51 attendees and we're at 46 right now. We recognize that these virtual meetings do make it hard to really connect so we do want to offer that list, so if you do not want your name to be included, just let us know.

Follow-up (Peter Winslow): Who is here from the EPA, PADEP, and City?

Answer (post-meeting): Peter, our apologies for not catching this follow-up question during the meeting. Please refer to the [attendee list](#) to see who attended from EPA, PADEP, and City.

7. Question (Peter Winslow): Will Evergreen preview its findings concerning contaminant persistency, fate, and transport?

Follow-up (Peter Winslow): Will we get preliminary information prior to 6/30/22?

Philadelphia Refinery

L E G A C Y R E M E D I A T I O N

Answer (Tiffani Doerr): 90 percent of that model is the flow information (meaning the basis of the model including hydrologic and geologic parameters), so it's building that kind of foundation so that when you start inputting concentrations, you know it's an accurate assessment, so that's where we are right now - we're at that foundation point – and won't begin to inputting values until we've submitted an interim site-wide report we talked about so to get DEP's sign-off. Then, that last step is relatively quick, so we won't even start doing model runs until closer to June 30th. Of course, we need time to write it up. We can talk about what might make sense to put snapshots on the plume projections website, but it would still take quite some time to even get to that point.

Answer (Andrew Klingbeil): Tiffani, I think you said it well. We don't want to jump the gun, so to speak, and model before we have approval from the DEP and EPA on what we're putting into the transport model and also feed in recently collected information from areas like AOI-4 and AOI-9 and a few other places along the river so I agree with what you said. Again, we'll talk when we get closer to that point, at least if there's something that we can start showing you know, i.e., a preview.

Follow-up note: Evergreen will preview the model and results in a public meeting about a month prior to the report due date; sometime in May 2022.

8. Question (Anonymous Attendee): We had historically high water levels in the Schuylkill River and flooding this month. What changes is Evergreen making to its remediation plans and its site investigation of the Philadelphia Refinery?

Answer (Tiffani): We've had a lot of questions in the past about climate change, so, concerning that, we will be accounting for potential change, i.e., elevated river stage, more common flooding, higher precipitation, whatever the case with future modeling efforts. We will also assess the longevity of remediation systems. As far as the investigations go, that's a snapshot of what exactly you see right now. Still, we do constant sampling, so whatever changes we're seeing, say the small slow changes of climate change, you're going to see over time through the investigations anyway. Again, investigations are just snapshots so, most of that stuff will be accounted for in forward-looking activities and reports.

9. Question (David Steinberg): QUESTION on (AOI 11): In 1870, the refinery complex was built over the PRM (Potomic-Raritan-Magothy) Aquifer that NJ municipalities use for their drinking water and farmers use for to water their crops and their animals. In light

Philadelphia Refinery

LEGACY REMEDIATION

of the Hurricane Ida, I am very concerned that the last testing was done around 2013 and what effect has all of that water been to advance the pollution further into the Aquifer?

Answer (Tiffani Doerr): We've submitted reports for each of the AOIs. The last major report for AOI-11 specifically (the entire aquifer beneath or lower aquifer beneath the facility), was in 2013. Since that time, we've incorporated all of the AOI-11 deep groundwater sampling information collected since 2013 in each remedial investigation report where those deep wells are located. In other words, we've been sampling those lower aquifer wells routinely since 2013. So, you'll see that information in the AOI-9 and AOI-4 reports, for example.

Indeed, it's a big part of the modeling and will be incorporated in fate and transport as it's one of the main pathways. We don't look at just the aerial extent or the expanse of plumes; you have to consider vertical changes, so how the shallow contamination might affect that deep aquifer which, I get, is where your questions stem.

To clarify, since the public comment remedial investigation report went out, there were a lot of questions about that PRM (which, for other people; it's an acronym for specific units geological units that are beneath the site which are known to go into New Jersey). There were a lot of questions about if contamination from the refinery could reach drinking water wells that are in another state. Until we have our completed approved model, we can't say definitively. We have said that we do not think that's a possibility, but again, in the interim, the PADEP reached out to NJDEP to ask that very question. NJDEP's response was to say that they do not consider impacts in New Jersey to be from the refinery specifically or the Philadelphia area.

Additionally, they gave several resources and sources as to why they think that is; we put that information up on the website and amended past Q&A where we talked about that. We put that information in our responses to the public comments and in the response to DEP's rejection letter for that public comment RIR so, that's in a couple of places. Again it's a lot of info; however, they gave that definitive answer to your question. I understand that that was a common question and a significant interest. Still, hopefully, this information relieves the concerns felt.

10. Question (Craig Johnson): What is the plan for "outdoor" air quality monitoring?

Answer: Concerning the sub-surface impacts, which is where Evergreen's investigation and remediation, if necessary, need to be one of those pathways of concern. It looks at

Philadelphia Refinery

L E G A C Y R E M E D I A T I O N

how soil contamination and groundwater and products or oil plumes in the subsurface affect air quality. We had already done what is called vapor intrusion. We sampled all of the buildings on-site because that's the immediate concern because they sit right above a plume and ambient air, which is outdoor air. The indoor air data isn't relevant anymore because all those buildings are going away; we'll have to reevaluate the on-site conditions when we know where buildings will end up going to evaluate those new conditions.

Again the ambient air was collected above where we had known plumes of either high dissolved concentrations or product plumes. There's no indication of air quality issues from those subsurface conditions. We can definitively say you know it's irrespective of on-site building issues ultimately that gets reevaluated routinely. Still, we do look at where plumes go off-site, and if they reach anywhere near a residential area, we need to evaluate that as well. So we know we've done assessments at the property boundaries where you have higher than further downgradient concentrations, and there's no indication of air issues from those subsurface conditions.

11. Question (Helene Langlamet): Will you send a recording of this public to everyone who registered? How will you make the reports you are producing accessible to the public? (verbal question)

Answer (Denise Smith): For your first question, we will send a recording to everyone who registered. We will also post the recording to the website. I will elevate you to a panelist to ask your second question.

12. Question (Helene Langlamet): I also have a comment about integrating community input into the remediation process (also verbal question)

- Question 1: I want to make sure that you guys are transparent with the way that you're going to share this information that you're sharing with us right now. So I want to make sure that you are going to send that recording to all of us who have registered and also if you could include in the chat, like a link to all the data and the reports that you have produced on this issue.

Philadelphia Refinery

LEGACY REMEDIATION

- Question 2: Secondly, I have a comment about how to include the community in this input process, because what i'm noticing right now when I tune in is that we we've heard from a representative of Evergreen and a representative of Hummingbird Firm, which you're responsible for below ground remediation for public outreach as far as I've understood. But neither of you represent the community directly, so I would be more trustful that the community is being meaningfully involved here if there were a community group and, in fact, several community groups that were directly involved in public outreach and were directly involved in decision-making on this issue.

Answer (Tiffani Doerr): These recordings are massive files, so we won't send them directly out, but we do post them on the website, so you'll be able to access and you can download it and disseminate it as you see fit. There will also be a PDF of the slides; any of the output from these meetings we put up on the website. Any Act 2 report that we've submitted plus DEP correspondence is already up on the website and any future reports will get posted; so that really houses all of that information. So any particular stuff you're looking for you should be able to find on that website and if there's something you're looking for and you don't see it, let me know. We're trying to reorganize it to make it easier to find stuff.

Answer (Denise Smith): So two things: First, thank you for that comment. For the first part, I just want to mention that the public involvement plan is very research-informed, in terms of how we develop a public involvement plan, and that research is mainly from hearing from residents and stakeholders. So, I'll certainly follow up with you on your comment. The other part, in terms of a formal group: We believe that Evergreen's top priorities right now, in terms of public outreach, are to provide focused, accurate, and timely public information that responds to the issues and questions that the public has. In order to really employ tools and techniques to engage a very broad range of individual residents, we want to get as close to those individuals as possible. We don't necessarily believe that putting together an advisory group at this stage is the best tool, but we will reconsider it. We definitely want to hear directly from residents and we'll continue to work with trusted organizations and trusted leaders to make sure that we have those opportunities to get input. So one was the interviews, and I'm going to put a link to a short questionnaire in the chat that can be shared as well. And then I'll follow up with you on your other thoughts. And we'll be working with the City Council and other organizations that we've already been in communication with.

Philadelphia Refinery

L E G A C Y R E M E D I A T I O N

Answer (MaKara Rumley): I just wanted to add to what you just shared. So this is the first of many meetings and for our formats going forward, we would prefer the meeting format of Zoom because as you guys have noticed you can't even see who is attending in this webinar formatting, which is a bit frustrating. And then also the agendas going forward - we'll probably have opportunities for community residents to participate in the agenda as well. We'll be doing breakout groups, have a lot more interactive nature to these meetings, so stay tuned. Don't count us out yet. This is really just a baseline meeting to introduce ourselves to those of you who we haven't had the opportunity to connect with and to really make sure that we're choosing ways to connect with you in a way that you can appreciate the most. So we are gathering information. So thank you for your patience and thank you for all of the questions that have been asked. They will all be addressed.

Answer (Denise Smith): And just as a way to close out that question, in terms of the Public Involvement Plan, I just want to be clear that this is not something new for Evergreen. Before working with the Hummingbird Firm, Evergreen has had a Public Involvement Plan in place, and it just speaks to the nature of evolution as it pertains to public involvement - hearing from the community, developing a Public Involvement Plan, and executing, and then getting feedback, and making revisions to make sure that the Plan becomes more robust and appropriate for what the community sees as success as well as what those involved in the remediation see as success. So we see it is an iterative process.

Follow-up (Helene Langlamet): Just to clarify, I meant just as a start to make all the supporting data that you use for this meeting available to us; that would be great.

Answer (Tiffani Doerr): Denise, I don't know if you have an anticipated date for when you'll be able to start having stuff that we can actually post. A lot of this is conversational, so it's hard to put it on paper, but there will be a more formal plan put together at some point. If you can touch on that at all Denise...

Answer (Denise Smith): Sure, so the [update to the] Public Involvement Plan is in draft form and we're just in the process of internal review. I don't have a specific date; maybe within the next month, we'll be able to share what that Public Involvement Plan looks like. And as you see, we're already integrating some of those elements of the Public Involvement Plan.

Answer (Tiffani Doerr): There's a public involvement tab on the website and really to date it's just been meeting information and a little bit of other stuff. This

Philadelphia Refinery

LEGACY REMEDIATION

is iterative so that'll end up being, besides the reports, where the bulk of the information that people are interested in. So those bulletins will be there, updates will be there, output from meetings, the situational analysis, and the future plans; that'll all be in that location, hopefully in a less text-heavy, more friendly format so that can be the page that you go to for that type of information.

13. Question (Joseph Ingrao): Are you seeking a formal amendment to the consent order which marks the Fate and Transport RIR as due on 12/31/2021? The applicable comment and review periods haven't changed, so wasn't the idea behind the consent order that the Fate and Transport Report would be developed and due before the finalization of these RIRs? And would an amended date for the F&T RIR interfere with the Ecological Risk Assessment? TD note: Joseph is a new attorney for the Clean Air Council.

- Question 1: Are you seeking a formal amendment to the consent order which marks the Fate and Transport RIR as due on 12/31/2021?

Answer (Tiffani Doerr): We have had discussions with the DEP to inform them of our evaluation and their thoughts behind it. We believe that they agree on our parameters; however, we have to submit a formal document. We may need to formally submit a letter of request to extend the time frame, but to answer your question, we seek a formal amendment to the consent order that marks the Fate and Transport RIR as due on 12/31/2021.

- Question 2: The applicable comment and review periods haven't changed, so wasn't the idea behind the consent order that the Fate and Transport Report would be developed and due before the finalization of these RIRs?

Answer (Tiffani Doerr): New consent order dates were written before the past year of items. In redeveloping the consent order we discussed with DEP where we thought the reports would fall into place, and the previous timeline came to be. While it is written in the consent order, dates can be adjusted as needed if it makes technical sense (which we agreed that it does).

- Question 3: And would an amended date for the F&T RIR interfere with the Ecological Risk Assessment?

Answer (Tiffani Doerr): No, the ecological risk assessment was done and written and in final format for about a year and a half. However, we could not submit anything during the extended review period, and we felt it was more important to get the last two RIR addendums before the ecological risk assessment.

Philadelphia Refinery

LEGACY REMEDIATION

Regarding the ecological risk assessment, it won't necessarily depend on the modeling. Most of the contaminant transport is subsurface groundwater flow, which isn't where you have those ecological receptors. We have that information kind of ready to submit but we're also trying to do the reports in a phased process.

14. Question (James M): For areas off-site where levels of contamination (benzene, for one) have been shown to be very high, and where multiple sources of contamination are suspected, what is the plan? Have the other sources been identified? Is Evergreen coordinating with the owners of these other sources to clean things up? Where those owners have gone out of business, who is taking ownership?

- Question 1: For areas off-site where levels of contamination (benzene, for one) have been shown to be very high, and where multiple sources of contamination are suspected, what is the plan?

Answer (Tiffani Doerr): I assume they're probably talking about AOI 4, which we talked about earlier where we have multiple sources. The plan moving forward is to model any of the impacts that we know are from the refinery or that we see results and say we can't separate it from the refinery; then, of course, we model it as well. Anything that isn't definitively from some other source is tough to prove, which is why we have a lot of data collected. The idea is still to incorporate a lot of the data into the model we are creating. The presentation was designed to give general information; however, more of the specifics are found in AOI 4 report. The report has a lot of data, but it may help answer your question in more detail.

- Question 2: Have the other sources been identified?

Answer (Tiffani): There are suspected sources, for example, we know that there were old retail stations, but this is the type of work handled by deep forensic dives. In the past, lead was used in gasoline, and MTE was used in gasoline and then stopped so, we assess history to help aid our understanding. To definitively say the source belongs to any one place, we are not at the point. Within the refinery, we have separated where some substances could be from regarding the other area of the facility or whether it is from a distal or distant source. Our biggest question is, "do we have enough of it characterized to be able to parameters into a model that's defensible and that we're taking responsibility for anything from the facility."

Philadelphia Refinery

L E G A C Y R E M E D I A T I O N

Answer (Andrew): Other sources have not been identified yet, so we're just we're making suggestions and postulating about what else is present in the area and using high-level science work to try and figure it out, and in regards to a previous question about the fate and transport modeling we don't want to model on a site-wide approach which is what we should do here without critical pieces of information at AOI 4 and AOI 9 because it's sort of like jumping the gun, so we want to make sure we have all that in line first and we have DEP and EPA buy-in on it before we go and do that, so at this point no.

- Questions 3 and 4: Is Evergreen coordinating with the owners of these other sources to clean things up? Where those owners have gone out of business, who is taking ownership?

Answer (Tiffani Doerr): To reiterate what Andrew stated, there are many possibilities of pollution sources. For example, sewers around the facility, for the most part, movement can be tracked. We can account for contents that come in contact with groundwater; however, there are also leaky sewers. Therefore, we have to look at things that are potentially far away that might be impacting us simply because they can travel down that line. It is important to note that the burden of proof isn't to determine what that other potential source might be the burden of proof is that you can determine that it is or isn't yours (does not originate from your facility). So, most of that focus has been asking the question, "is it tied to our facility?" We're not talking about an oil plume or something easy to see, even on a compound by compound basis. This is complex geometry and chemistry; thus, a lot of work went into this area, trying to answer the question, "Is this tied to our facility?"

Philadelphia Refinery

LEGACY REMEDIATION

Select Comments from the Chat

The comments included in this document are those that are informational or those which Evergreen and its consultants felt solicited a response.

- From attendee to Hosts and panelists: These are their response documents
https://phillyrefinerycleanup.info/wp-content/uploads/2021/09/Evergreen-Response_PC-RIR_20210828_Part1.pdf
- From attendee to Hosts and panelists:
https://phillyrefinerycleanup.info/wp-content/uploads/Evergreen-Response_PC-RIR_20210828_Part2.PDF

- From attendee to Hosts and panelists: Act 2 is designed to prevent industry from being sued for public health impacts. It is “voluntary” in that context.

Response: While Act 2 itself is a voluntary program, our remediation is not. The remediation of this site is under a Consent Order. The Act 2 program was designated as the regulatory framework in which the project must be conducted.

- From Helene Langlamet to Everyone: PFAS are also called “forever chemicals.” See the film Dark Waters.
- From Craig Johnson to Everyone: Your presentation identified that there would be “indoor” air quality monitoring. Is there also “outdoor” air quality monitoring.

Response: Yes, both indoor and outdoor air monitoring have been conducted across the site. Outdoor air samples are often collected to identify ambient air conditions to compare to indoor air samples and are also collected over known plume areas to identify worst-case scenarios. Keep in mind that Evergreen’s air sampling was to determine what potential impacts to indoor/outdoor air may be coming from the ground (both soil and groundwater contamination), not from past operations at the site development.

Philadelphia Refinery

L E G A C Y R E M E D I A T I O N

- From attendee to Hosts and panelists: That is wildly assumptive. To say that all water will flow in a single direction. That is ridiculous.

Response: Water does not flow in a single direction. There is much variation on a small scale, but in general there are flow patterns that are consistent. Each Remedial Investigation Report and other routine remediation update reports submitted to date show groundwater flow directions interpreted based on the individual datasets included in those reports, which show the variations over area and within the same areas over time.

- From attendee to Hosts and panelists: Modeling is no substitute for testing. From David Steinberg to Everyone (sent in the Q&A box): Computer modeling is only as good as the information that is used. Computer modeling is used to determine the path of Hurricanes and that is often wrong due to changing conditions or unforeseen circumstances or limited or wrong information. It is not an exact science, but based on the best educated guess at the time. In other words: GIGO! (Garbage in and Garbage Out!)

Response: There is a massive amount of historic data (testing) those go into the model. This data includes both the chemical compound concentrations (data collected over decades) but also physical testing data collected so that real site conditions that affect contaminant flow are also used in the model. The model, based on real data, is then used to predict future movement. You can't directly measure the future, so models are used. Part of the Act 2 program includes a Post Remediation Care Plan, which often requires testing even after the project has demonstrated attainment of the selected standards to show that the existing conditions remain as they had been projected to be.

- From attendee to Hosts and panelists: This is all evidence for more well drilling.
- From James M to Everyone: I think this speaks to why in-person meetings are so valuable so that people can actually see who is in the room - there may be community members in the room tonight but the zoom webinar format only permits attendees to see the "panelists," and not the audience

Post-meeting response: Point well-taken.

Philadelphia Refinery

LEGACY REMEDIATION

- From attendee to Hosts and panelists: I want to sure this is the website that all the information is at: <https://phillyrefinerycleanup.info/>
- From attendee to Hosts and panelists: To answer your question, Denise, it would be a good start to make all the supporting data for this meeting available to us
- From attendee to Hosts and panelists: The Public Involvement Process (PIP) has been inadequate since its initiation in 2005.
- From Oyemwenosa Avenbuan to Everyone: <https://phillyrefinerycleanup.info>
- From Oyemwenosa Avenbuan to Everyone: Link to the website
- From Denise Smith to Everyone: I am also including a link to the questionnaire which seeks to ask residents about their current information channels and communication preferences: <https://forms.gle/gU2enKGT1KEZsDB5A>