South Bay Odor Stakeholders Group

Meeting Minutes

Date: May 5, 2022
Time: 10:30 a.m. – 12:00 p.m.
Location: Microsoft Teams
Recorder: Republic Services

Attendees: Adam Dassouki, BAAQMD; Gregory H. Nudd, BAAQMD; Jeffery Gove, BAAQMD; Jerry Bovee, BAAQMD; Juan Ortellado, BAAQMD; Paul Grazzini, BAAQMD; Tamiko Endow, BAAQMD; Tamiko Endow, BAAQMD; Chiang Ranyee, BAAQMD; Ryan Atterbury, BAAQMD; Kamboj Sanjeev, BAAQMD; Tony Boccaleoni, Republic Services; Antonia Gunner, Republic Services; Kelly Mcdonnell, Republic Services; Josh Mills, Republic Services; Daniel Orozco, Republic Services; Michael Geiss, Republic Services; Rachelle Huber, Republic Services; Dan North, Republic Services; Niki Wuestenberg, Republic Services; Jeanne Serpa, Republic Services; Kevin Divincenzo, Republic Services; Councilmember David Cohen, City of San Jose; Paul Harden, City of San Jose; Jose Guerrero, City of San Jose; Jason Nettleton, City of San Jose; Kathy Cote, City of Fremont; Abhijit Basu, Fremont Resident; Eric Uldrick, Fremont Resident; Urvish Mehta, Milpitas Resident; Chia Ling Kong, Milpitas Resident; Maura Dougherty, SCS Engineers; Anne Liu, SCS Engineers; Charlsie Chang, Office of Asm. Alex Lee; Rocky Fernandez, Office of Senator Bob Wieckowski; Tom Pyke, Congressman Ro Khanna; Scott Cowden, Jacobs; Bob David, Sartorius; Eric Kiruja, CalRecycle; Peter Zemek; Tom Stanley; Pat Sullivan; Art Hamfeldt; Patrick Maher.

Discussion

Dan North	1. Call to Order Call to order at 10:33 a.m. Dan reviewed meeting etiquette and meeting process.
Dan North SBOSG members	2. Overview of Meeting Minutes from January 20, 2022 Dan called to review the meeting minutes. • Tamiko sent updates
Peter Zemek Scott Cowden Chia Ling Kong Paul Harden Abhijit Basu Jason Nettleton Dan North	3. Regional Odor Study Report Refer to PowerPoint presentations provided by BAAQMD via email Chia: This group focused on odor, because plumes are elevated, is there long-term impacts on the community? Peter: Every location has background. Depends on industry and vegetation in the area. It may have a health effect, but I'm not qualified to answer that question. Jerry: We're discussing at the district. Paul: You mentioned Newby Island and there are several different activities that could generate odors. Compost, MRF, landfill working face. Did you distinguish between them? Jerry: We characterized those

	coming from Newby. Our results indicate it's coming from working face. We couldn't capture an odor plume. More work needs to be done to capture odorous plumes. Abhijit: So where do we stand if all these facilities do the take the recommendations and implement it, what percentage of the odor will go away? Scott: And that would be for us to actually quantify that we'd have to do dispersion modeling, which is what one of our next steps, because what needs to happen there is you need to now quantify the plume, you're using an error dispersion model. So we can say, OK, if you put covers over these areas, for example, the primaries, we can actually model that using it over dispersion model and figure out exactly what percentage of improvement we could see there. Abhijit: What's the ETA on that dispersion study? Scott: There is nothing in in our study, in our scope to do that right now. So that would be some follow-up work for us to do that or just diversion modeling. So, we're just recommending that that would be a follow-up study for us to do that. So, there's no ETA on that right now at this point. Abhijit: Obviously significant changes have been made as you guys claimed. So, in that situation do you really see investing in the monitoring system is really required if these facilities do the right thing to begin with? Scott: We couldn't actually collect any odor plumes, but we were able to definitely detect odors. Just doing our survey work. But the monitoring stations would be able to quantify if you have more data. And more data sets may be more legally defensible. And the nice thing with the monitoring station is as these facilities are making improvements, you can quantify the how, what kind of improvements are being made because you'd see that using that from the monitoring station itself. Abhijit: And what kind of monitoring systems are you are you recommending? Scott: So, each monitoring station would have multi sensor, multiple sensors. You'd have some Moss sensors. You might have a photoionization detector sensor on there. So basically, sensors that would be tailored to the odorant types that we think are going to be coming off that facility. Abhijit: What you're suggesting is a highly sensitive spectrometer couldn't pick up those smells of order, but these sensors would be able to? Scott: Yes. What's going to happen in the community is you're going to be at the low concentrations. Depending on where this monitoring station is placed, you could be measuring some low odors. And so, what you'd be doing is you need to make sure your sensors are able to at least pick up fairly low concentrations. And when you did pick up any kind of a spike, then you go ahead and get that sample into an auto or into a bag. And then somebody will pick up that bag and then send it off to for analysis. But the sensors themselves can't give you detailed data like this is. The sensors are really measuring like more odorant groupings. And so again, you're tailoring it to kind of the grouping of order and that you think you're going to have, but it's not. It's these sensors are not going to give you any kind of results like the PTR or even the analytical work that we did with the labs, it's going to be more generic than that. Abhijit: And that that's what I was kind of wondering about coming from this background. I think monitoring is only useful when the data is actionable and in this situation the data is not actionable. You have to do something as a human being carrying a bag and then then doing the analysis to actually make the data actionable. Scott: I mean the way I see it is like for example, if you had a couple monitoring stations at the on the fence line of say Zwed and you've got a year or two years of data there and then suddenly Zwed comes in and they make some big change and they make some kind of improvement. You would see that. You wouldn't necessarily be able to quantify it from an odorant specific standpoint, but you could

	quantify it in terms of an overall that particular grouping of odorants. We've seen like 20% reduction in levels because of the improvements they made, that kind of thing. Abhijit: But bringing the focus back to the solving the problem. I think policing is only required if people are not ready to do the right thing. So, if we have to motivate our polluting sources to do the right thing, what is that we can do from your scientific perspective, other than this monitoring, which is basically mostly policing them. Scott: Again, I think the treatment plant is a little easier because treatment plants you can cover, and we do that all the time when we work with treatment plants. Zwed I think is fairly easy too because they can button up that building and they can probably improve some things by buttoning things up and the problem with Zwed is of course, as soon as you open up a door you've got a bunch of odors being emitted out the open door, so that's hard. That's hard to keep. You can't keep that door closed all the time, but there's some things you could do. You could have some quick opening, quick closing doors. You could actually pull a greater negative pressure on the inside of the space, so there's some things you could do with Zwed. I think the landfill is a little bit more challenging because they've done about as much as they can do with the working face and that they've really done a good job as soon as stuff shows up, they cover it with non-odorous material. They do a really good job of doing what they can to limit odor emissions. There's not a lot more that I think they can do there with the with the exception of the green waste. Again, we did find in the later odor events or older sampling events that we conducted that the green waste was problematic. We found some pretty high odors coming off the green waste. So that's one where they could build a process building around that and totally contain it. Jason: Regarding the slide 13 Blob map. There's one of those locations that's kind of an outlier over there, a good distance from all the others. It's quite a distance downwind of the of the three facilities. I was wondering how you were able to say that that is from the RWF and if so what particular operation at the RWF where you observing there? Scott: Basically, decided what that odor smelled like, and they characterize the odor at that particular location. They assigned an intensity to it, and then they decided what the hedonic tone was. If it was offensive or not. And so, the character of the odor we were able to determine each time there was different types of character, wording that was used. And they fell under certain categories of each facility. For example, if you had, like, a more rancid or sweet, we know for fact where it's coming from. It's either Zwed or the landfill, whereas more rotten vegetable like decaying cabbage. That's going to be more coming from the treatment plant. So again, each of the survey folks went out there and measured over 50 times. Each of these locations was measured over 50 times as part of the Milpitas survey work. We partnered with them on this. And so that's how that pie slice looks on the far, far away on the right-hand side there about half of the data indicated it came from the treatment plant because the odor character was basically assigned it correlated with what we believed was coming off the treatment plant if that makes sense. And so the treatment plant again based on all of our analysis, really mostly rotten eggs. Rotten cabbage, decaying vegetables, that kind of thing. So that type of odor was what we were measuring there or observing there. Peter: We were actually able to measure each process in the wastewater treatment plant with the PTR and obviously there were two locations with the most emissions, and they were different types of odors. Obviously the one was the inlet screens, the grades. And then obviously the other

	one was the beginning of the aeration basin. But these were obviously different sets of compounds, and neither one of them got very far from the facility. But those were the two locations. Jason: So, based on that, it's from the characterization of the odors. The primaries and the secondaries are both ground level releases that theoretically we're not going to have odors that persist far down wind. Is there a mechanism that you can identify that would allow the odors to somehow miss everything in between there and that blob be attributed to us? Or is it something that's generating sewage odors kind of in that area where you were observing that's not necessarily coming directly from the treatment facility? Scott: We run into this a lot right where you get a little outlier like you said and it's like well what is happening there. I mean they're potentially could be an odor. An odorant grouping that that does have the ability to persist, and it can potentially travel that far, but we just haven't? We know that the compounds tend to be less persistent versus like musty, earthy. Then it's always tending to be kind of the final layer of the onion, if you will. Once you get far enough away and the other odorants kind of become non detect suddenly you know that's what you smell. The remaining odor is kind of a musty, earthy. And I could see that coming off lagoons. I could see that coming off your bioreactors and possibly moving a far distance. But again, I think the next steps for the error dispersion modeling would help. Chia: I want to go back to the recommendation regarding the odor monitoring systems, is there a realistic goal out of the system? What is the sampling rate like because just like what period and the Montrose team has shown the plumes come and go in a couple of minutes, will this $45,000 unit have the resolution to really capture? Transient plumes like that and will facilities be able to use it effectively for proactive containment as well as for enforcement? Scott: To answer your first question, I do believe that it would be an appropriate technology or approach because again with these multi sensitive devices, as soon as you hit any kind of a spike. So let's say the plume shifts as Peter was talking about where you get some shifting of plumes depending on the weather and climate conditions. But if plumes shift, it impacts the monitoring system, you get a spike instantly, you would go into an auto sampler and you'd pull ambient air into that bag, or that summa canister and then that would allow you to now take that sample, which has now been collected simultaneously with a spike. Then that's really, hard to do. You can't do that when you go out and just do it manually. An autosampler with these multi sensor devices actually allows you to collect an ambient sample at the same time you measure a spike then would you'd have an alarm that would be sent to somebody, and they drive out, pick up the sample, and then they'd shipped that off to Montrose or somebody to do that comprehensive analysis. Chia: And in essence, we would need the collaboration from the facilities and BAAQMD to support this, correct? Scott: Somebody would have to own the monitoring system and be responsible for collecting the data, keeping the devices calibrated, collecting the samples when they become available, etc. We're looking at upwards of about four stations, four monitor monitoring systems and in the community. Chia: I know that based on data from both Montrose presentation as well as Jacob's presentation, both are just pointing to the working surface being a main contributor to the odor in the community, and I keep hearing that the facilities have done a lot. Is there more that can be done especially for the working face? Jacobs: The opening area can be reduced further as well as consideration for the operating hours so that it doesn't coincide with the wind direction that brings everything

	into the community. Scott: I think there probably are some things that could be done. There is a little bit more restrictive for them operations wise. Reducing the size of the face or limiting operations during certain times. Clearly those would be helpful - I just don't know how realistic they are in terms of terms of their operation. But there's also some topical neutralizers. I'm not 100% sold on them, but we do use those, and we do recommend those to clients especially at wastewater treatment plants where they have a lot of stored cake outside, and you can throw some topical neutralizer on there that could potentially be another option especially during hot days when the climate conditions are such that you know you have a bigger impact off site or something. Peter: And the two that come to mind really are, like Scott said, prevailing wind, right when it's coming off the estuary. And of course, the meteorological conditions. If there's an inversion that day or predicted inversions will trap all of that odor. And that's really when you get your majority of your odor complaints, so you'll get them early in the morning, right when the wind is prevalent, and then you'll get them in the evening when the cool air settles on top of warm air and traps it. And those are the two times you'll get those odor complaints the most. Abhijit: One last request to Jerry. Is there a way that we can use SSG platform to actually start the collaboration to get the housekeeping things taken care of as soon as possible, which seems like it's doable from the conversation we just had? Jerry: As far as next steps at the air district right now, the purpose of this study for us was to determine the relative contributions of the individual facilities and the individual processes to the odors in Milpitas and I think that we were successful in that. What we're doing is taking this information back and we're discussing internally what we can do within the limits of our authority actually mitigate and possibly impose monitoring if it seems like it is going be useful, but one of the things that we're really looking at is trying to figure out what to we can do now based on this data, to put in mitigation measures and. We're also going to be sharing all these results with the individual agencies, the city, and the LEA to determine what they can do and try to work with them to try to try to push things forward so we can actually get rid of the odors that we can. There's no guarantee when get rid of all of them. There's going to be orders coming from these facilities no matter what. But we want to try to do what we can to minimize them. Abhijit: And then what? I was hoping that given now the facilities are looking at the same data as us. I'm looking at goodwill and kind of a volunteer kind of situation where we have this friendly conversation to say, hey, I want to solve this, how can I solve this right kind of conversation rather than taking a policing approach. Obviously, you can continue with the monitoring pursuit, which will be you have to do RFP and all that stuff which is going to take years probably. But I think it's pretty clear that there are things that facilities can do as a good business practice and housekeeping and that might solve at least some percentage of the problem itself. Dan: We're absorbing this information in real time as everyone else on this call is. But I will say this data is extremely helpful for us in directing our efforts. So, we'll have more to talk about that the next opportunity. Jerry: There's a question from Tom in the chat about when the reports are going to be publicized? Right now, the reports are draft because we had some internal comments from staff, and we wanted to bring the presentations here to this group. And we're also presenting to the City Council on the 17th, and we want to get some input and then we're going use that input to finalize these reports and try to

	make them as clear as possible so that the results are understandable. Anybody can read them and understand what they're looking at. I expect that to take place sometime, probably in the final reports in early June. That's what we're shooting for, and then they would be released on our website. We're also going be sharing the final reports with this group and with the other agencies in the cities to so that they can take it and we can work with them on it going forward.
Dan North	4. Update on MRF Facility Modifications No update
Dan North	5. Round-Table Update No update
Dan North	6. Suggested Next Meeting Date Next scheduled meeting July 21, 2022, at 10:30 am – 12 pm via Microsoft Teams
Dan North	7. Adjourn