

Strategic Directive 8.3 Workshop – August 13, 2009
Summary of oral questions, comments and answers.
Not an official transcript.

Anaerobic Digestion Guidance Document

Q/C: How does the AD Guidance process relate to the current regulation of anaerobic digestion. Facilities already regulated such as wastewater treatment.

A: If you read through document, if anaerobic digestion is just bio-solids, then they're excluded. If they're adding in food material and it's being incorporated through separate processes then they could end up being notification level. If they're doing other material, it's standalone, they're just in boundary of Publicly Owned Treatment Works (POTW) and they're taking in food waste, then may be full permit.

Q/C: Has to do with definitions of waste material being processed...

A: Talks about how state law is handling activities. One is composting activity. It's determined that anaerobic digestion matched elements in that. Looked at our regs in compostable material handling.

Q/C: We'll talk more about this in food waste section. How we define various forms of renewable carbon resources for purposes of management and regulation. That will be something to look at going forward. From a waste management side, looking at how we look at renewable resources, is useful. How does this process dovetail current AD by climate registry?

A: Not familiar with AD aspects or activity in regard to the AB Climate change regulations. What we're examining is here is a set of regs. Here is a technology. How do they match?

Q: That may be something we have to look forward to? Ideally, in regard to those protocols and Air Board and the rules set through 4566, how do we define green waste? Speciation of materials seems to be an important issue. All of the different regulatory...It's an issue with industry trying to get credit for management of carbon sources. I'd like to see these definitions align.

A: For background, with the initial compost regs, the Board decided to make distinction between kinds of operations relative to the types of material they bring in: green, ag, food, etc. in an effort to define various facilities and where they fit into regulatory framework. Many have carried through last 20 years.

Q/C: How do you recommend for us in the industry, how do we harmonize with various agencies?

A: It's going to be a struggle. You can define things to line up with another entity, but it's hard to get another entity to align with us.

Q/C: How do six priorities relate to life cycle assessment and greenhouse gas process?

A: We're trying to track and incorporate as we go through. We're drawing some data from papers to lay up against regs to make determinations. We're on different tracks, a little bit

offset. We're trying to compensate from where we're at and they're at. There's sensitivity tracking what's going on to make best decisions.

Q/C: Is it worth discussing biomass conversion and including it in the write-up?

A: Yes, we just talked about it in a follow-up paper. We're going to start off high level and talk about the difference between transformation and biomass. We didn't see it in AD linkages.

Q/C: There's kind of a comparison for the exclusion of biomass where you can take in woody material.

A: I can see a need. If the document indicated that if you're taking in this kind of material and you meet the definition of biomass, then stop...our assumption was that someone will open document regarding anaerobic digestion. We can say, as you answer the questions, you may need to look at transfer station regulations to see whether you're out of all of regulatory oversight and say there's biomass that you might line up with. We did get a comment recently from a stakeholder indicating that what he wasn't seeing in the guidance was how the design and operation standards apply or don't apply to an AD. How do you figure out if you're in? We didn't go further and say now that you're in as a compostable material and AD, this is how the operation and design standards, pathogen reduction, sampling, this is how these regulations apply or don't, to you. Pointing out the flexibilities available in regs that could be addressed to an AD because of the nature of the technology. I just got that yesterday afternoon. Maybe we can add an addition to the paper that explores major regulations dealing with anaerobic, and clarity on pathogen reduction. The regs also indicate that an operator can propose, and LEA can approve alternate methods to pathogen reduction. Most AD operators could demonstrate their technology, methodology is an alternative approach. With sampling, can show they can operate in a manner that their pathogens are reduced.

Foodwaste Composting Q/C and A

Q/C: I enjoy having access to internet, but I realize it disrupts the free flow of interaction. It makes it more formal. You said you wanted a workshop environment. Filling out this chart is the key activity. If we all engaged in that in a collaborative process, we'd uncover a lot of interesting things. As I was watching your presentation, this is the perfect part of the industry where garbage in garbage out, we're trying to mitigate that process. It comes back to speciation of removable carbon material. Garbage in, the food material, depending on which material you put in this vertical column will depend on answers: odor, vectors, etc. If you had a bunch of grease trap waste, the grease trap is pretty good waste for composting or anaerobic digestion. There's competition. If we're not speciating the material, the more crude (mixed up) there is as opposed to refined. The goal of the waste board is twofold. Regulating vs. compost quality. It comes back to trying to regulate garbage food waste. How pure versus how post-refined is it. We could determine that by filling out chart.

A: If we start subdividing waste relative to criteria such as contaminant, nitrogen, etc. how does that play into potential issues, environmental impacts associated with handling of that in traditional compost.

Q/C: One example is moisture content. How woody versus how wet. Food waste is on the spectrum between solid and liquid. That argues because it's high water content, maybe we should grind it up and process through water treatment. But in SoCal, we're adding a lot of water to compost piles, so maybe we should treat it as solid.

A: I'm hearing there are operation differences.

Q/C: My question is does the board want to regulate the process, or the quality of the product.

A: Current regulations regard whether current operations impact public health. It's open ended how that occurs. The only piece we have is insuring that there's minimal pathogens or metals. I have not heard any direction as yet. Maybe we need to emphasize more of what we say or do relative to material coming out of back end. I would speculate that initially it would be focused on safety. Let's make sure material in marketplace doesn't do harm, doesn't have pathogens, metals, glass shards etc. I know the Board had a vibrant discussion about compost quality. What the Board's role might be. My recollection is it wasn't resolved whether Board should have active role on whether Board should have seal of approval on what comes out of compost sites. I think I'm hearing what you're saying. I think you could subdivide and subdivide and subdivide, but what does that mean on day to day operation, and what the Board should or shouldn't be doing at facility. If it's more liquidity should we change regs to have lots of absorbing material, or continue to allow operator flexibility the best way to do that as long as they are minimizing impacts.

Q/C: Any place that processes food, then reprocessing, then wherever material gets used. If material goes straight from coffee house to farm, that may or may not be a bad thing. From point of view of Waste Board, you are obligated to regulate all three of those events.

A: There's some gray in that. Overarching, the Board hasn't taken an active role in issues regulating aspects of waste generation. We encourage diversion, but not from a regulatory side of thing.

Q/C: So that's a local process

A: End use, before it goes off the site, we stop dealing with how it goes out in field or marketplace. Our energy focuses on processing.

Q/C: If you were to put theoretical bubble over facility, it's up to facility to figure out economics of garbage in, product out. In that sense, we could say there's going to be more issues to how "garbagey" or pure the garbage is. There's a spectrum of those kinds of materials. What does that tell you and how does it affect your regulations.

A: What we need your help with, if we did look at subdividing, if you're just taking pre-consumer, than you would have less oversight, the difficulty is the enforceability of it. There's a pile of stuff, am I obligated to find source. There's an enforceability that comes into play. We're already seeing that ag versus green. We need to keep it in mind. How do you make a distinction when you're in field and trying to figure out what's in it.

Q/C: With subdividing and classification of organisms, there's this ongoing tension. "Lumpers" want to say there are four kingdoms; the pickers get to family, genus, species, and strains, such as every organism is unique. That could be true for food waste. To me the amount of moisture and the amount of metabolizing materials, whether aerobic or anaerobic, how much water or dry, are going to be main variables. If it's non-metabolizing material, then it becomes trash and an issue when you put it on landscape. Is that a Waste Board problem or a California beautification problem?

Q/C: What we've observed in field, is when there's a lot of inert in facility, that facility can become a litter generator. As materials go out of a facility or directly from generation, if they continue inert, is that sham disposal or a beneficial use. We are focused on that. There are linkages all around there. How bad does it have to be before it's just disposal, and no ag benefit...issues relative to that at facility and at backend. I would love if we all had microphones so we could interact. If any facility accepting x amount of wet, nitrogen containing material, I would prefer to define more chemically than marketplace constituents but that's how you tend to identify it. Green material versus composted material. Green sitting around, so on...

A: We're aware of some models, Washington State, other kinds of food material, vegetable waste, part is moisture contamination. There are approaches being taken in food area to subdivide. We'll continue to look at what they are doing. To some regard I'll agree identifying worst case scenario is valuable but there's still the enforcement aspect, is it one time? Is it over time? Make sure threshold or milestone, we'll figure out whether you're there or not. If we default to tonnage records, sampling...

Q/C If you don't have fully compostable, how do you know if you're taking care of food waste?

Q/C: We have two compost facilities, Riverside County and Oceanside. As an operator my comments are agronomic, having had soil testing for 20 years, trying to make distinction between waste product and end product. Coming up with end products that they can hopefully sell profitably. I don't think that should be a function of a Waste Board. I think that should be a function of facility. I would like to mention on STA because it's something coming up on contracts. There were requirements that compost facility had to have...issue is that it doesn't assure quality of compost, is assuring quality of testing procedures of lab. That's a huge distinction. What's happened, and the burden, now we have to belong to new club, the STA club, to participate. I don't think it's needed and should be under Waste Board. That is a barrier and I would like to see a distinction and better understanding. I'd like to talk about waste discharge. Our facilities, we need to manage our waste and come up with ways of doing that with waste discharge requirements. I do hope that this Board can work with Water Board in drawing distinction of waste discharge on feed stocks, and compost materials on farms. The way it's being written up it's a barrier to expansion in industry because of compost being treated as waste discharge. Compost is finished product and I'd like to see that discussed. Litter. One of our biggest challenges, our facility _____ 1 million tons, all gone to soil amendments. We're adamant about what we want to do with ours. We take our feedstock from 10 mile radius and use within 20 mile radius. We think it's a good model. It's environmentally and economically sustainable. One of our biggest challenges with litter is with lack of control over feedstock. Because of the way cities deal with waste stream, we don't have opportunities with food waste to work with food waste handlers. We're precluded from picking up any materials ourselves. There's no incentive on haulers to work with generators. We've done studies, contamination from food waste from restaurants, we can't take material in and more waste in it or not, we have to have the confidence of our customers that we're not grinding up plastics. This is a longterm strategic approach but unless we have some kind of control, we'd be more than happy to run education program, but we're precluded from doing that.

A: There's a combined workshop on August 17. Your observations would be directly applicable.

Q/C: We appreciate that. So much of what I've seen has been the end. Having worked in ag for 30 years, to see these misunderstanding with Water Board, and the emphasis on salt, I keep

hearing salt issue, didn't anybody read their soil books? I'm hoping that the Waste Board will help.

A: Your observations about food waste and contamination, and need for assurance on quality, I have direct experience that there aren't always operators that are as conscientious as you. Many will take just anything for a tip fee, some are willing to take marginal stuff.

Q/C: This is directly related for facilities like mine, because if we could procure ourselves, then there would be competition. Sadly, one of the comments is as long as we get our diversion, in most cases an indemnification clause. One of my biggest concerns is this is a whole generation that's doing the "right thing" we haven't done anything to solve contamination issues, and everybody thinks we're doing something really good. We have a generation that is misled on this. It has to be about conservation. The best way to reduce energy is not use it at all. There's nothing in way it's set up right now, should I be reducing amount of green waste I'm generating. If they did, there'd be less water and transportation. That is a big concern. It's drifted into waste management now. I think we should be conservationists.

A: Part of dynamic is how we classify facility can act as incentive or disincentive in establishing or growing facilities. If I have to get a full permit, I'm not going to do what I want to do. If we address regs and say you bring in clean materials, you still get to stay in low tier. Would that have a trickle effect to jurisdictions?

Q/C: We have that model in Oceanside. It's great model. We can utilize our waste stream. That facility has full permit. I guess you can say all those things. I can't get that waste stream. If the hauler doesn't bring it, or you take it to somewhere else at a low cost, than for a fraction of what it really costs. That has been other barrier. Because of playing facilities against each other, we can't do it. I really applaud the training that's gone on with LEAs. Facilities would do better if we had control over feedstock, and could procure, and subject to three part test. Our ability to expand what we do right now, if we were subject to three part test on air, water, litter, vectors, we'd have better... than we do today. Put organics into that same three part test.

A: We have study in San Luis Obispo, so there are starts

Q/C: Regulatory issue. Two missions, protection of public health and safety and environment and to divert waste from landfill. Sometimes this comes as nexus at LEA level. Maybe we need to provide more of a definition of food material to help LEAs make decisions about facilities they might be regulating. Current issues work because they are vague and allow interpretation. I think it would be helpful to look at pre-consumer, post-consumer, contamination, three part test like Mary talked about. One of the impacts that I didn't see in the white paper that might come about with use of food material look at vector side of things, the food in the windrows, we've seen at Miramar, we've tracked coyotes and crows. There have been studies in Miramar that that has highest density of coyotes outside of Texas. Could be because of food waste. You saw in that slide the picture of pile of hotdogs, that was a Miramar facility.

A: There's a site in NorCal that had a problem with feral pigs.

Q/C: When you're introducing plastics, you have different kinds of plastics, are there byproducts that are based from breakdown of plastic materials. That might be concern if you're receiving compost from agricultural operation. Compost quality issue, certain types of seeds like peppers and tomatoes, they go through human digestive tract and you find them growing. If you're introducing them into a windrow, that might impact product.

A: Do you see that as affecting markets?

QC: I think it's a compost producer rather than LEA concern. It depends on source. We need to look at sources of materials. You made an observation about wildlife, there could be plant impacts too.

QC: We have six organic facilities in our jurisdiction. Quarantines. Because we're in San Diego, we have quarantine issues with a number of different type of pests. Fruitflies, a number of other issues we work with our ag department in regards to that. When we look at siting, that becomes an issue. Planning groups, allowing green materials even pre-consumer food products citrus that goes from one county to another, and potential of moving pests around. Not a lot of good cross communication between ag and waste management. That's an important issue to us. Odors, odor impact works when everybody communicates and works together. You're always going to have noise issues because there's a lot of equipment, whether inside or outside. It comes back to location and local issues. It would be difficult to ask Sacramento to set up in our community standards that would take away local jurisdictions. Food brings its own impacts. There are emotional impacts around it or transportation lines. CEQA process takes it into account and at least provides local inhabitants and resident input... if local residents don't have impact and ability to participate, they're going to be making more complaints. For our LEA, it's risk based. We don't want to see the quality of end product that we need to regulate also. We're not compost quality cops but we're there to make sure public health, safety, and environment are management problems, and make sure no impact on neighbors.

Q/C: Multiple facilities throughout southern California... We manage a lot of green waste, chipping and grinding, Ventura other places. In last 20 years, organics find the path of least resistance. Economics, quality control.. When quality control down, least resistance through beneficial use. Beneficial use important when result identified, chemical or physical use of product. We produce 215 types of soil and mulches that are delivered to agricultural, horticultural venues. I think it's important to focus on the environmental risk of food waste as it pertains to organics, and the level of risk, low or high, typically determined by volume and capacity of sites and types of feed stocks collected. Some places it's homogenous, like celery and lettuce, but others more cumbersome. Food waste has to be identified before processing to determine what we can make from it. We are paid to manage waste streams, so contamination management is part of our job. I like the white paper. It addresses all the issues. My recommendations are to take a look at types of food waste whether they're pre-consumer or post-consumer which are more complicated. We like to manage produce waste streams, and percentage of food waste. There's a lot more green waste than food waste. That's a bold statement. If I had to manage food waste, I wouldn't want to have to take more than 10 or 20 percent. Unfortunately, there's a comparison between solar energy and compost. For me they're both subsidized. They require tipping fees. The product doesn't support. There's a large volume. We've grown 25 percent in last four years. I consider most of those companies trying to solve problems, as you continue to work on this I will make some comments in writing. We've come a long way. There are minor changes to help us manage organic waste stream.

QC: Quarantine issues, in this part of the state, when we have insects or diseases, it can be a huge issue on miles of farming areas. Some of the organics, is path of least resistance. Chip and grind least resistance. Those materials were going to go to nonagricultural uses. The state has permitted a lot of chip and grind where that material is being spread on agricultural land, not in conjunction with crop. It doesn't have a lot of agronomic value, but it's skewed situation on tipping fee. It's harder for compost facility to survive. Because of amount of quarantine area,

and a disconnect between waste stream being picked up and ground and spread, it may not affect that piece of land, but it can affect neighbors. When we have quarantine areas, they encompass many miles, and spraying on areas people don't want sprayed. The whole thing has to be "do no harm." It's frustrating to have STA hanging over head of compost facility, but stuff from chip and grind being land-scraped.

A: Paper on land scrap would need to look at type and source of material. Cases we've seen of marginal materials weren't identified as compost, but in realm of chipped material with inert glass, plastic metals included in it. We'll probably pick up an aspect of what you're suggesting in that.

Q/C: Safety concerns. Lower metal concentration...chromium is listed as regulated metal, but it's no longer regulated by EPA. Bio-solids rules developed, EPA charged with concentrations that could not be demonstrated to be harmful to public health. No appreciable rise in chromium in plants. As far as European standards, U.S. standards based on metals within bio-solids. The target or goal was levels that could not be demonstrated to be dangerous. Their goal is different. Goal not to degrade soil in any way. When you talk about European standards, what is goal of regulation. Confused about how compost used on crops for human consumption works with water quality and Waste Board without including other actors. I would think there's also been a model of government and industry collaborating to identify threats and assess threats and come up with standards. European marketing agreement does have standards for compost. Any activity Waste and Water Board start should be coordinated with other activities. I like the idea of best management practices training courses. Composting is admirable public health activity. Question is, we do have a hit where we're showing pathogens after treatment. It seems likely that there are poor sanitation practices on the site. I think if you take loader and you use it pre- and post-processing, you're going to get cross contamination. The best way to avoid is to educate people who are operating equipment on how to prevent problems. I suggest UC Davis be involved in developing education materials and certifications. Food waste vs. ag waste, this is probably all ag waste, but if there were a disaster, hoof and mouth disease wiping out 100,000 cows, we don't have rendering to take care of that. Composting could take care of that. When is food waste "food waste" when it's been comingled. Those could contain disease. Spoiled meats, contaminated with salmonella, but maybe consideration on how they're handled. One of the ways you can benefit society is you can take waste that has reached shelf life. You're not getting uniform feed stock coming in. I don't know that we have good guidance to talk with people how to handle. Vectors, certainly food is going to attract vectors, danger is if food left sitting around and not composting. It's not vector, you have to consider nature of feedstock. Bio-solids typically contain pathogens prior to composting. Food waste, normally not. So presence of vectors is going to be lessened somewhat unless you have contaminated feedstock. Quarantines, don't know if it applies, composting is effective at reducing vectors and plant disease vectors and plant diseases. It inactivates them both. The threat to ag with greening disease that could be very significant, we know it could be a problem if you're collecting from diverse area without inactivating pathogens, you're spreading pathogens. There is data that we can inactivate the insect vectors and pathogens.

A: What is tangible threat...

Q/C: We're protecting public health, society, plants, wildlife. We can control disease. That's why we do sanitary landfills too. It does not make sense to prevent people with contaminated materials to prevent them from taking them to a place where they can be treated. Composting, most seeds inactivated.

Q/C/A: There is a rationale why board is regulating these activities. Is there another entity that would be better suited... In the state statutes, there's a short list identified as solid waste. Composting is in that list. Certainly the function of regulation is to determine how it implemented, certain kinds of composting activities don't warrant. Backyard composting not included...the reason why we're involved is solid waste is composting, as Waste Management Board we have responsibility to set standards. We do have some discretion in terms of how big or small. A number of commenters, there are a number of entities with lifecycle, generation, handling, end use. That's been true for 20 or more years. It's always a distinction for us, our regulatory framework are there gaps in that larger regulatory universe that need to be filled. Do we have authority to fill that. As we've developed regs, that's how we've addressed them. How should we fill gaps... Whenever we see another entity fully engaged, regulating, protecting, we defer. We try not to duplicate those kinds of efforts.

ADC White Paper

Q/C: Shredded tires have value for outdoor tracks. Are shredded tires a diversion or disposal, it's one material that can be used more effectively than ADC?

A: Shredded tires can function as effective cover. Not a lot of sites doing it. A big chunk of Board's efforts with loans and grants aimed at finding a way to reduce tires going into landfill in any form, but bringing in landfill and shredding to use as cover is going the opposite way. Board Tires group finding market for tires. Work out thickness of ADC Requirements. But, any substance going into landfill can be determined to be recycled.

Q/C: Structure of benchmarks of actual disposal. I think it would be interesting if Board considered if a community was able to site facility and divert a certain amount of waste.

A: Here's a model of how Waste Management Board wants to see green waste handled, and if you meet it, there's an incentive. That may get to economic piece that needs to be analyzed.

Q/C: Green ADC, good use in southern California. Air district regs make it difficult to site new facilities. Maybe look at the compost capacity. If many are available close by, maybe regulations say you need to check this at first before using as ADC.

A: Look at incentives and disincentives. Greenhouse gas might be one approach.

QC: GHG credits to not use ADC....

A: See if there's some shifting. The statute does obligate us that when we open up these regs, it would be something we would need to look at.

Q/C: Re-evaluation on demo projects based on science. Look at environmental impacts, CEQA. Look at projects. Co-location at Solid Waste facilities – if materials are already coming in, shift use from ADC to other uses—compost, chip, grind.

