HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

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House Resolution 426

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House Environmental Resources & Energy Committee

Irvis Office Building
Room G-50
Harrisburg, Pennsylvania

Tuesday, October 14, 2014 - 11:03 a.m.

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COMMITTEE MEMBERS PRESENT:

Honorable Ron Miller, Majority Chairman
Honorable Becky Corbin
Honorable Eli Evankovich
Honorable Matthew Gabler
Honorable Donna Oberlander
Honorable Chris Ross
Honorable Thomas Sankey
Honorable Greg Vitali, Minority Chairman
Honorable Steve McCarter

NON-MEMBER PRESENT:

Honorable Joe Emrick

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INDEX OF TESTIFIERS

SUBMITTED WRITTEN TESTIMONY

Stuart Gallagher, Chairman, Board of Supervisors
Lower Mount Bethel Township
Maude Elizabeth Davis
Resident of Upper Mount Bethel Township
James E. Skinner, Ph.D., Former Professor of Physiology & Neuroscience Program
Baylor College of Medicine

(See other submitted testimony and handouts online.)

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MAJORITY CHAIRMAN MILLER: I'd like to call the meeting of the House Environmental Resources and Energy Committee to order.

The information for all those in attendance, this meeting is being videotaped by the broadcasting office of the House Bipartisan Management Committee. The video is also being made to the news media for streaming on the House website.

Pam, would you take role, please?

(Role call held off the record).

MAJORITY CHAIRMAN MILLER: There's a lot going on. We're in our last two days of session, possibly, for the year, and there's a lot of other meetings scheduled. So members will be coming in and out and leaving as the hearing goes on.

Do you have any opening remarks?

MINORITY CHAIRMAN VITALI: I do not.

MAJORITY CHAIRMAN MILLER: Thank you, Chairman Vitali.

MINORITY CHAIRMAN VITALI: Other than, it's been an absolute pleasure working with you this term, and we'll miss you sorely the next term.

MAJORITY CHAIRMAN MILLER: When you started that, sirens went off. It's been my

pleasure.

As legislators we are familiar with the concerns raised --

(Sound interruption).

MAJORITY CHAIRMAN MILLER: -- by the land application of -- We'll give it a second and see what happens here.

(Sound interruption).

MAJORITY CHAIRMAN MILLER: Again, as legislators, we are familiar with the concerns raised by the land application of biosolids in the Commonwealth. While this is a regulated activity, we can readily understand that there are some concerns. However, there are beneficial uses for this product as a soil amendment and land application saves space in our landfills.

Since our program for biosolids in this Commonwealth has not seen a comprehensive review in nearly 20 years, I have always believed that we needed a complete analysis of our regulations in this industry before we look at any type of policy change to this program.

Accordingly, House Resolution 426 directs our Legislative Budget and Finance Committee to undertake this review. Today we will

hear testimony from a variety of sources, each of whom have different perspectives on or roles in the biosolids industry.

I will also note, as Chairman Vitali said to me earlier, with two days left, why are we doing this at this point. We've tried to put this hearing together. We tried it in June, I guess, and could not make it fit with the testifiers. We tried earlier this fall and could not make it fit.

But, it's such an important issue, even though I will be retiring and will not be here next session to reintroduce this resolution, I'm quite hopeful that somebody else will take it up and that we will address this. By having the hearing today, we start to air out any of the issues, and we can move forward, because I believe it to be such an important issue.

Our first testifier is Lee McDonnell, Director of Bureau of Point and Non-point Source Management, Pennsylvania Department of Environmental Protection. Lee, when you're ready, you may take the microphone and proceed.

MR. McDONNELL: Chairman Miller, Vitali, and members of the committee: Thank you for the opportunity to share an overview of the

Department of Environmental Protection's biosolids management program. I will give a general overview of what the department regulates under this program and how the department operates in order to accomplish what is stated in its regulation.

Biosolids are a nutrient-rich organic material derived from domestic wastewater solids, sewage sludge and residential septage that has been stabilized to meet specific processing and quality criteria and are suitable for land application. The term biosolids comes from the most common method of its production, the biological processing of wastewater solids.

Some biosolids are land applied as a liquid, while others are dewatered and have the consistency of wet soil. Other biosolids products include compost material and pellets. Pennsylvanians produce an estimate 2.2 million tons of wastewater solids each year, nearly a quarter ton per household.

Biosolids are produced primarily from the treatment of wastewater at municipal treatment plants and from individual home septic tanks. Wastewater consists of wastes from household

activities; from the kitchen, dishwasher, laundry and bath. Industrial dischargers also may be part of wastewater traded at a municipal facility. However, regulations severely restrict the amount by industrial pollutants discharged to a municipal plant by requiring industries to pre-treat their wastewater before discharge.

Only those biosolids that meet strict quality standards for pollutants, pathogens and vector attraction may be land applied for beneficial purposes. All other biosolids not meeting these standards must be disposed in a landfill or incinerated.

DEP regulates both the generation and application of biosolids. PA Code Title 25, Chapter 271, Subchapter J, establishes standards of general and individual land application of biosolids permits for the beneficial use of biosolids by land application. This regulation applies to a person who prepares biosolids to be sold or given away, or that will be land applied.

EPA regulates the land application of biosolids under its Part 503 Rule. PA's regulations are as stringent, and in many cases more stringent so that -- than the EPA rules. For

example, the Department permitting, notification and buffer requirements exceed the Federal 503 requirements.

To land-applied biosolids in Pennsylvania, the generator of the biosolids, usually in a municipal wastewater treatment plant facility or septage hauler, must obtain a general or individual permit from DEP. Biosolids general permits are issued for a maximum of five years, at which time they may be renewed. This permit requires the generator to demonstrate that the biosolids produced at the facility meet all the quality standards for pollutants and for reduction of pathogens and vector attraction and requires routine reporting to DEP.

The department permits two types of biosolids; exceptional quality biosolids, which can be sold or given away to be used as fertilizer or soil conditioner, and non-exceptional quality biosolids which can only be used on farms or mine sites. Non-exceptional quality biosolids require additional management practices such as buffers to homes, wells and streams.

The generators of non-EQ biosolids also must demonstrate that each application site meets

strict standards for application rates, site suitability and management practices, and must secure written permission from each landowner where land application is proposed. Permittees must keep detailed records of biosolids quality testing results and land application data, such as agronomic loading rates and cumulative pollutant loading rates at each application site.

There are over 220 treatment plants and composting facilities that currently have permits to land apply biosolids. There are approximately 400 land application sites in PA. DEP routinely inspects biosolids generators in addition to verifying the suitability of the land application sites.

DEP regulation also requires that generators of non-EQ biosolids to notify adjacent landowners, DEP and the appropriate county conservative district at least 30 days prior to the first time the site is used for land application. When DEP receives this notice, the biosolids coordinator will evaluate the site to see if it is suitable for biosolids application. If the site is suitable, DEP will publish a notice in the Pennsylvania Bulletin and will notify the

local municipality. The generator may start land applying after 30 days. However, if, upon evaluation the site is found to be unsuitable, application may not begin or may be suspended until the problems are corrected.

Additionally, DEP regulation requires all generators and land appliers operating under biosolids permits to attend training classes. In the summer of 1998, DEP began offering a comprehensive two-day training course for all generators and appliers of biosolids. This training will continue to be conducted on a regular basis at various locations across the state.

Thank you for inviting me to provide testimony on this issue. I'd be happy to answer any questions the committee would have at this time.

MAJORITY CHAIRMAN MILLER: Thank you, Mr. McDonnell. I will note that we have been joined by representatives Ross and Oberlander since we started.

I would have one question. I guess it's a concern, and partially what prompted me to introduce this resolution; when the initial regs

were adopted, no-till farming existed, but it was not as widespread as it is today. I think most of the conflict that I have seen in my district, at least, has been on property that has basically switched from till farming to no-till farming and the application of biosolids with that.

Do you have any experience within the DEP to suggest that we might need to make a change, or has the DEP looked at the expansion of no-till farming and how it applies to the application of biosolids?

MR. McDONNELL: I'm sure there are folks within DEP that have looked at the effect of no-till versus till farming. Unfortunately, I'm not able to provide you a good answer for that. I would be happy to follow up with that in writing.

MAJORITY CHAIRMAN MILLER: I appreciate that. Are there any other members that have a question? Representative McCarter.

REPRESENTATIVE McCARTHY: Thank you, Mr. Chairman.

Could you explain to me -- Again, thank you very much for your testimony. When you talk about inspection for two different things, and say routinely inspected, how many of the 220 wastewater

plants are inspected yearly by DEP?

MR. McDONNELL: I can't say that every plant is expected yearly, but at least every two years by DEP, and we're usually on a yearly basis for the larger facilities.

I guess the second part, we do routinely inspect all the farms before application occurs.

REPRESENTATIVE McCARTER: Okay. And what makes a site suitable or non-suitable? What are the criteria?

MR. McDONNELL: I've been out on a biosolids farm inspection with my staff. I would really have to have one of them here to explain the nuances of that. But really, it's about the slopes for the land being applied to looking at the buffer requirements; seeing that the proper things have been outlined in terms of buffers and not being applied in sinkholes and a few other things.

REPRESENTATIVE McCARTER: So it's mostly buffers in terms of food (phonetic) for the best part?

MR. McDONNELL: Again, from my understanding, yes, but I can provide a more complete follow-up to that.

REPRESENTATIVE McCARTER: Thank you very

much.

MAJORITY CHAIRMAN MILLER: Representative Sankey.

REPRESENTATIVE SANKEY: We have biosolids in my district as well. I'm trying to get some information between Representative Emrick and myself.

On your second page you state, exceptional quality biosolids which can be sold or given away to be used as a fertilizer or soil conditioner, and non-exceptional quality biosolids which can only be used on farms or mine sites.

What's the difference between the exceptional quality and non-exceptional quality? And when I say that, because if -- I understand we have abandoned mine sites that, obviously, this could be used for. What's the difference between it being used for fertilizer for the exceptional and can still be used on farms for the non-exceptional; the difference between them?

MR. McDONNELL: Primarily dealing with the pathogen disinfection and also vector retraction requirements. Those are both stated in the waste management regs in 271 Subchapter J. I can't repeat them verbatim, but that's the primary

driver.

REPRESENTATIVE SANKEY: The second part, if I may, Mr. Chairman, and I hope you can answer this. Do you support a new study on this topic?

MR. McDONNELL: Sure. The department would be in -- support in whatever way we could if the study is conducted.

REPRESENTATIVE SANKEY: Okay. Appreciate you coming. Thanks.

MAJORITY CHAIRMAN MILLER: Seeing no other questions, thank you, Mr. McDonnell. I appreciate you coming and testifying today. And, perhaps, my question might lead more into what the study might get into as far as no-till and till farming and the proper application that way. Thank you for testifying today.

MR. McDONNELL: You're welcome.

MAJORITY CHAIRMAN MILLER: I failed to mention that we are joined by a representative that's not on the committee. Representative Joe Emrick has joined us today. He has a very strong interest in this issue, and he's going to introduce our next testifier. Representative Emrick.

REPRESENTATIVE EMRICK: Thank you, Chairman Miller. Can I consider myself an honorary

member of the committee for one day?

MAJORITY CHAIRMAN MILLER: Absolutely.

REPRESENTATIVE EMRICK: Thank you. I appreciate that. Thank you for conducting this hearing, and thank you for helping us to bring this issue to light.

It is my honor, I have a constituent here today who is about to testify, Doctor Howard Klein. He's a resident of Lower Mount Bethel Township. He's also joined by his wife. I have several other constituents here as well who I've been meeting with at various times, probably from last year to year and a half, who have really helped educate me on this issue. It's one of the interesting parts about this job. You never know what you're going to learn about, and this is certainly an interesting topic.

So, if Doctor Klein would like to come up and take your seat, I appreciate you coming; taking the time out of your schedule to come to Harrisburg today, and the rest of the constituents from back home. We look forward to your testimony.

DOCTOR KLEIN: Thank you.

MAJORITY CHAIRMAN MILLER: Good morning, Doctor Klein. You may proceed when you are ready.

DOCTOR KLEIN: Good morning. Good morning, everybody. Chairman Miller, Chairman Vitali, members of the committee: I am Howard Klein, a resident of Lower Mount Bethel Township for the past 14 years.

During the last five years, I have served as a supervisor in the township and have three years remaining on my current term. I've been actively involved in farming, using organic methods for the past 12 years. In this capacity, I sell produce at the Easton Farmers Market and manage a small CSA providing food for subscribing families. I am pleased to have the opportunity to provide comments related to House Resolution 426.

As a supervisor, living in a rural township where the land application of sewage sludge is growing, I can provide a unique perspective on how the rules and regulations directly affect township residents.

My constituents are constantly expressing their concerns regarding the safety of applying sludge from wastewater treatment plants as fertilizer on local farms. Their questions range from what type of contaminants the sludge contains; where's it going to be spread; the

number of applications on a particular field, what it will receive; the potential impacts on water and air quality; how to keep their wells free of contaminants, and how property values will be affected are all grave concerns.

They worry about the health and quality of life issues arising as consequences of multiple sludge applications. Entire neighborhoods are directly affected by the putrid smells occurring during and after sludge is applied. At these times, the residents are frequently prevented from going outdoors due to the infestation of flies that occur.

One needs to remember, this is not a once-and-done situation. A single field can have multiple applications per year, depending on the crop being grown.

In my efforts to address their concerns, I've reached out to Tim Cravens, local DEP representative, overseeing sludge application on numerous times over the past two years. His response to questions I have posed on behalf of my constituents and myself is always that it is a permitted use. And as long as the landowners and the land applicator comply with the current

regulations, nothing can be done.

Given the fact that these regulations are at least 17 years old, if not older, and there's a growing concern, public concern about the hazards of applying sewage sludge on farmlands, it is time for the Commonwealth program and regulations -- it's time to review the Commonwealth's program and regulations on land application of sewage sludge. House Resolution 426 will allow for a comprehensive review of how seriously outdated study on land applications sewage sludge is, 1997.

I would like to highlight a few areas, certainly not all, where the present regulations are deficient, confusing or nonexistent.

1. The current testing of sewage sludge for only 10 pollutants need to be expanded to include new pharmaceuticals, new industrial compounds, and by-products such as flame retardants, carcinogens, radioactive agents and endocrine disruptors like phthalates that interfere with how testosterone is made, to name just a few. This testing should be done at the expense of the land applicator or application site landowner. If the township wants

to expand the testing list, it should not be threatened with legal action by the Attorney General's Office or the land applicator. This is of particular importance since contaminated wastewater from the fracking process is currently disposed at several grandfathered municipal sewage treatment plants.

2. Requirements for adjacent landowner notification, Section 271.913(g), as stated in the Land Application of Biosolids Workbook, are grossly inadequate as related to on-site signage. First, the adjacent landowner notification signage should be expanded to the general public. Second, in the interest of clarity, all posted signs, and I emphasis, all posted signs, should include:

A, applicable permit numbers; B, classification of sludge, type A or B; C, name of the sludge applicator with a contact number; D, DEP's contact number; and E, a no-trespassing advisory. These signs should be informative only and not used as a marketing or promotional tool.

3. All signs should be posted at eye level approximately four feet high; easily legible and clearly visible; not placed at ground level. I was hoping that I included some pictures. I

hope you have them of the signs. I don't know if you have them or not. (Pause). You don't have them?

MAJORITY CHAIRMAN MILLER: We'll take a look.

DOCTOR KLEIN: Please do, because you'll notice that these signs are at ground level. They're covered by weeds, and that's where they're put. This is -- This is not -- This is not (sic) the norm. This is -- This is the norm. It's not an exception.

Synagro is the major company in our area. You can't see the name of the company on there. For one of those green signs, that's the notification sign. That's the one sign for a farm that could be a hundred, 200, 400 acres. If you see the pictures, it speaks for itself. Signs should be posted every two to 300 feet along all property lines and should remain in place and be maintained as long as the agreement with the sludge applicator is active.

4. Currently, the Commonwealth of Pennsylvania has no means of tracking health-related risks of citizens living where sludge has been applied. Certainly, this would be an area

that the Legislative Budget and Finance Committee should investigate.

There's a need to reevaluate the isolation distance for buffers that are presently required on site where sewage sludge is being applied. For example, at present, a long-term sludge storage site with no covering and no impervious space can be located on a farm property only 33 feet. That's a first intent and one yard, from the intermittent stream or a hundred feet from an active stream. Both distances are inadequate to prevent leaching and runoff into our streams which drain into the Delaware.

As mentioned earlier, a comprehensive review is needed to reassess the use of sludge as a fertilizer on farmlands. Times have changed and so has the product. Concurrent with this reevaluation, the Legislative Budget and Finance Committee should address the aforementioned examples of the administrative and enforcement deficiencies.

On a further note, my constituents are frequently confused by the terms biosolids and, in particular, exceptional quality biosolids. Classifying sewage sludge as an exceptional

quality is somewhat deceptive. Let's remember that DEP recognizes that these biosolids still contain pollutants, heavy metals and pathogens. The genesis of these terms appears to be the waste recycling industry itself in an attempt to distort the true nature of a product.

Hopefully, this committee will move forward House Resolution 426, allowing for a review of the Commonwealth's sewage sludge program by the Legislative and Finance Committee. If this review is undertaken, and if permissible, I would welcome the opportunity to participate in those deliberations.

Finally, I truly believe the use of sludge on farm fields should be determined by each township in the Commonwealth the way it used to be. House Bill 1866 would accomplish this. By passing both House Resolution 426 and House Bill 1866, we would have the best of both worlds; township self-determination and a better program and a better product.

I'd like to thank Representative Emrick and his staff for all their help. We certainly appreciate his co-sponsorship of both 1866 and 426. He understands the tribulations that his

constituents are going through.

Thank you for the opportunity to address this committee. If I can answer any questions at this time, I'd be happy to do so.

MAJORITY CHAIRMAN MILLER: Okay. Thank you. Thank you for your testimony, Doctor Klein. I would note that we've been joined by Representative Gabler.

We do have a question or two. Representative Evankovich.

REPRESENTATIVE EVANKOVICH: Thank you, Mr. Chairman. Thank you, Doctor Klein, for your testimony. We appreciate you coming down here and sharing your perspective.

In the beginning of your testimony, you mentioned that you are an organic -- you grow organic vegetables and you sell them.

DOCTOR KLEIN: I'm not certified.

REPRESENTATIVE EVANKOVICH: Okay.

DOCTOR KLEIN: I'm not certified.

REPRESENTATIVE EVANKOVICH: Under organic certification, you're permitted to use raw manure and still keep your organic certification so long as you don't use that raw manure within 90 days of actually picking the vegetable out of the

ground. It would seem to me that we want to encourage people to use those kinds of recycling methods for organics that are otherwise going to cause problems.

I guess my question is, do you feel that the use of sewage sludge is a quality issue of the sewage sludge, or do you not -- In other words, do you view that the sewage sludge quality is really what is a question, or do you believe that there should be different ongoing regulatory changes for the use period regardless of its quality, even though we do allow for the use of raw manure in applications and still even let people keep their organic certification?

DOCTOR KLEIN: I can't really address the organic certification process because I'm not certified organic. I know at times there were various restrictions on how manure and composted manure and things like that, but I'm really not familiar with that or up to date on that.

What I can tell you is this: When you're dealing with the sludge, you're dealing with nitrogen and phosphorus. That's good. Farmers like that. It's hard to get. It's hard to keep in the ground. The problem is all the baggage that

comes with it. It's all the -- You know, they test for 10 things. It's arsenic, it's lead, it's nickel.

So, when you're accepting that on the field, you're accepting everything else; plus, what you're not testing for. And that's a real issue, because if you don't really know what's in it and what's taken place in the last 17, 20 years, you've got a ticking time bomb here.

REPRESENTATIVE EVANKOVICH: Thank you, Mr. Chairman.

DOCTOR KLEIN: I hope that answers your question.

REPRESENTATIVE EVANKOVICH: I think, for the record, it would show that it's the quality of the sewage sludge; not necessarily the -- That's what I mean by -- I apologize. That's what I mean by quality, is what it's made up of.

MAJORITY CHAIRMAN MILLER: Seeing no other questions, thank you, Doctor Klein, for your testimony today.

DOCTOR KLEIN: Thank you.

MAJORITY CHAIRMAN MILLER: Next on our list of testifiers are Layne Baroldi and Peter Price from Synagro. If you gentlemen would come

forward, please. You may proceed when you're ready.

MR. BAROLDI: Thank you, Mr. Chairman, and fellow representatives for allowing us the opportunity to come here and testify in front of your committee. My name is Layne Baroldi, and I'm the Director of Regulatory and Legislative Affairs for Synagro Technologies. I've been in that role for the past five years. Based in Los Angeles, California, we thought enough of this committee to send me out here to testify.

I understand your issues here very thoroughly, and I'd like to give you some background information on where we stand on this. There's many facets to this. You'll hear a lot of different sides.

I've been in the industry 27 years now. The first seven years was enforcing what they call the Clean Water Act; to stop contaminants from getting into the wastewater system from the Orange County Sanitation District in southern California. Fifteen years after that, I managed the biosolids program in California which had many different technologies that were used, and we can talk about that a little later.

I was elected to a small city council in Los Angeles County, so I had a lot of these issues that came up to me, and I also served on the board of directors of the LA County Sanitation District. So I've seen all four sides of this. There's probably four sides on this; not just two on this, with all the issues involved.

I'd like to also introduce Peter Price who's our technical services manager located here in Pennsylvania. He's gonna, where I flounder, perhaps, on some of the specific issues with the technical aspects here in Pennsylvania, he'll definitely be able to answer those questions.

MAJORITY CHAIRMAN MILLER: Mr. Baroldi, would you do me a favor and just pull the mike a little closer to you, if it will come a little closer?

MR. BAROLDI: It will. Okay. Thank you.

A little bit about Synagro. Since its founding in 1986, through some of the companies that Synagro actually acquired, we played a vital role as one of the country's prominent providers of the environmentally-safe and cost-effective biosolids management services. This is just an

extension of the essential public service that your wastewater municipalities provide to you here in the Commonwealth of Pennsylvania.

We're headquartered just a little bit south of here in Baltimore. We employ about 800 people in 34 different states, and we serve approximately 600 different municipal and industrial wastewater facilities with biosolids management services and other residuals.

You heard earlier today from Mr. McDonnell from DEP about how biosolids land application is a safe and environmentally-sound practice. And it is evidence that this is the fact based on many peer review and scientific studies.

You heard that biosolids is rich in nutrients with phosphorus and nitrogen, and long-term studies show that it does improve the soil characteristics, increases crop yields, reduces the irrigation water needed, which, in Pennsylvania may not be a big deal, but in California it's huge; reduces soil erosion, and actually prevents erosion and pollution to streams by increasing the vegetated growth quickly, which stabilizes the soil and does prevent runoff.

One of the things that land application

does is, it also sequesters carbon. Many progressive states are looking at reducing demands for fossil-based fertilizers which use a lot of fossil fuels to produce, and it does sequester the carbon, reduce the greenhouse gas emissions especially as compared to landfill disposal. I think one of the keys here is, it also provides a lot of economic benefits for farmers here, which I'll talk about later, in the Commonwealth of Pennsylvania.

You've heard also about the strict federal science-based standards that biosolids have that regulations must comply with. This has been the subject of decades of debate, and the science process that supports this has been proven by critical peer review and through debate.

Government and university scientists working with biosolids have come to believe that biosolids recycling, in accordance with the current laws, is probably the best environmental management practice and does provide a negligible risk at best.

I just want to talk about three of the studies that a majority of the rules are based on, and the reasons why you can have comfort that the

existing regulations are protective.

You heard earlier about the federal regulation called 40 CFR Code of Federal Regulations, Part 503 regulation, which relied on probably the most comprehensive risk assessment study with decades of research that looked at 14 different pathways for contaminants that you heard about in biosolids to affect health and human -- environmental health and the environment.

It wasn't just, as you heard earlier, the arsenic CAD chromium, the different metals. EPA looked at a vast, vast litany of chemicals to see what would need to be regulated in terming through testing national sewage sludge survey that these contaminants others talk about were not found in the material at adequate concentration parts per billions, where it did not need to go through all the regulatory sampling requirements. It just doesn't exist at that level.

Subsequent to the 503 regulation being adopted in 1993, the National Academy of Science conducted two studies of biosolids. First one was done in '96, and it was called the Use of Reclaimed Water and Sludge in Food Crop Production. And that study -- To summarize that

study, it concluded that the use of biosolids in production of crops, you know, frequently in consumption, a vast majority of the land that we plan to apply biosolids are not used for crop production for human consumption.

It says, when practicing in accordance with the existing federal guidelines and regulations, which are less stringent than what you have here in Pennsylvania, present negligible risk to the consumer, to crop production and to the environment.

Subsequent to that '96 study in 2002, National Academy of Science again came out with another study. It was called Biosolids Applied to Land; Advancing Standards and Practices. And to summarize that, the National Academy of Science found that there was no documented scientific evidence that the Part 503 Rule has failed to public health. The chair of that National Academy of Science went on with a clarifying statement saying that, there are no studies documenting adverse health effects from land application biosolids even though land application has been practiced for years.

So, these are prominent communities

have been established with Ph.D.s who have their actual background in the sciences that are directly relevant to biosolids land application. You'll hear a lot of other studies from other experts that do not have the credibility of the National Academy of Science.

Subsequent to that also, there was reports of several cases of alleged harm from biosolids. In 2003, EPA responded to a petition to urge moratorium on the use of biosolids and found that the -- they refuted the claims of the petitioners, and their allegations with contra-evidence from each case they decided.

A lot of these issues have been asked and answered when it comes time for a study, if that was to occur, it's already been looked at and documented. I think your questions have already been answered.

And the research continues. You've heard earlier about the other contaminants that may be in biosolids; impacts from daily household products, pharmaceuticals. When these materials are tested for in biosolids, which they have been at research facilities, compounds are found in biosolids at concentrations several orders of

magnitude lower the most products themselves that are ingested or with different chemicals.

For example, one is PBDE which is a fire retardant that people have in their clothes and their furniture and all. It's actually a much less of a concern with the biosolids and the things we actually ingest or wear every day. Exposure to these chemicals are much greater throughout the household use than in crops or soils.

You heard earlier also, that in Pennsylvania you have, I think it was upwards of 2 million tons of biosolids that are produced, and Synagro manages probably a little over 10 percent of those biosolids, for over 30 of your Pennsylvania municipalities with land application, which is, again, a safe practice and, candidly, it's very cost-effective for your ratepayers and taxpayers within this Commonwealth. Average fee for such an application is worth transportation and management, helping farmers through land application is, at most, I think $40 a ton.

MR. PRICE: In the 40's, yes.

MR. BAROLDI: In the 40's. If you look at alternatives for your rate periods here in the

Commonwealth of Pennsylvania for landfills, ranging from 45 to $70 a ton. I don't even think that includes transportation.

MR. PRICE: No. That's just to compute the landfill gate rate.

MR. BAROLDI: And the other technologies, which I think the study would look at, would be incineration pelletization, which would even be more costly for the ratepayers of the Commonwealth.

As for the landfills, there is a limited capacity that they can accept. Typically, it's based on a ratio of biosolids versus sludge to municipal solid wastes. There's typically limitation on that, and there's also materials that cause structural issues with the landfills if you have too much biosolids in there, which, any increased regulation on land application could result in the unintended consequence of sending materials to the landfills. That's just one concern.

The one thing that resinates a lot when I go throughout the nation is, a lot of the farmers out there right now are having difficult times financially. There's a lot of them that recognize

not only the benefits of biosolids by itself, but also financial benefits that they receive. According to EPA right now, about half of the biosolids actually generated throughout the nation is beneficially recycled via land application of the nation's farms.

Studies have shown a wide range of what the financial benefit is to the farmer. I think most reputable numbers I see is about a hundred dollars per acre worth of organic fertilizer that includes many of the essential nutrients not typically found in the chemical fertilizers.

Farmers use biosolids in a way to reduce their dependency on such expensive chemical fertilizers. And even with the biosolids, they're held to a very stringent nutrient management plan that is prepared by certified nutrient management planners, agronomist.

Through the studies what we've seen is that, when you have additional regulations on biosolids that are not warranted by the peer-reviewed science, it makes it much more difficult for these farmers to access this material at a cost-effective rate, and it may even be the difference between a farm's profitability.

I think a lot of the other talks that I have here in my testimony were touched on. But I just want to make myself available to the committee as a resource and the company as a resource to assist you with whatever direction you decide to go.

I think there's definitely enough information out there. The science has not been static; it's been progressing, and it supports what your existing regulations as written.

Thank you.

MAJORITY CHAIRMAN MILLER: Thank you. Representative Emrick, do you have a question?

REPRESENTATIVE EMRICK: Yeah. Thank you, Mr. Chairman. Thank you for your testimony today. Thank you for taking the time to come and present to the committee.

In reference to your testimony to the federal studies, you referenced two of them. One was in 1996; the other one was in 2002. However, as I read what's at least written on the paper here, it says: In 1996, the National Academy of Science did an expert panel review of the federal biosolids, Part 503 regulatory program. It doesn't say they conducted a study. It just says

they conducted a review --

MR. BAROLDI: Right.

REPRESENTATIVE EMRICK: -- of the existing program.

The second part, in 2002, basically it repeats the same thing. In 2000, the EPA asked the National Academy of Science to review information on land application of sludge and evaluate the methods used by the USEPA to assess risk. It doesn't say anything new was conducted; that there were new studies; that there was new information brought forward. According to this, it simply asked them to conduct a review, in essence, on current to past practice. So, I don't see where this provides any information.

You know, a lot of times, the emphasis on what we say and how we say things can have very different interpretations. So the last line under that section under the 2002 study it says, currently, there are no studies documenting adverse health effects from land application of biosolids, even though land application has been practiced for years.

Now, from your perspective, I'm sure -- the sense is that there are no studies. There's

been lots of studies and there are no studies. But from a counter-perspective, I could read that and say there's never been a study done, which is why there are no studies showing that this is good, bad or other.

MR. BAROLDI: Sure.

REPRESENTATIVE EMRICK: Does that make sense?

MR. BAROLDI: It does.

REPRESENTATIVE EMRICK: So as I read this, I'm gonna be the counterpoint and say, I don't see anything in your testimony that would indicate that there's been any recent studies of the use of biosolids or sludge to see what are the contaminants; what do we need to know; what don't we need to know; what should we be concerned about; what shouldn't we be concerned about.

So, can you just tell me if there have been studies?

MR. BAROLDI: Absolutely. Granted, with the limited time and all that, I didn't add a lot of citations and different studies. Each of the National Academy of Science studies, or reports I think would be a better way to say it, looked at the existing literature, the existing peer-reviewed

science that had taken place between the enactment of the 503s and their study, looked at that, summarized it and came up with this report with their recommendations.

So when you see a '96, it was Doctor Al Page from the University of California at Riverside who was the chair of that committee. He looked at this with his committee. That was refined based on the research; same thing in 2002 with Doctor Berg.

And subsequent to that, there hasn't been a National Academy of Science study, but there has been a plethora of studies and review on different things you heard today related to biosolids with the consensus, again, of the peer-review science supporting the land application programs that EPA has right now, their existing regulations, and the Commonwealth of Pennsylvania even goes beyond that with their regulations.

REPRESENTATIVE EMRICK: So you're saying that you can provide documentation that --

MR. BAROLDI: Absolutely.

REPRESENTATIVE EMRICK: -- there were independent studies done to evaluate the use of biosolids to reinforce the federal guidelines?

MR. BAROLDI: Absolutely. There's many,

many, many, and that can be provided to the committee.

REPRESENTATIVE EMRICK: If you can provide that, that would be great.

MR. BAROLDI: Sure.

REPRESENTATIVE EMRICK: The second question I guess I have is, would you support passage of House Resolution 426 and a new study just for the State of Pennsylvania; and if not, why?

MR. BAROLDI: What I always look at is, like, in course of judicial economy or with regulatory and legislative bodies, what is the best way we can use our dollars for our constituents within the Commonwealth of Pennsylvania?

Based on my understanding -- And I do this every day and have a better understanding. I mean, you have to be experts on thousands of topics, and I just focus on one. I would have absolutely total comfort with the existing regulation as it's written as being perfectly protective of health and the environment, in that, all the research that's been done since supports your existing program.

That being said, I would say that such a

study under the proposed, what is House Resolution 426 would not be necessary. I see there would be a better way to spend the Commonwealth's funds. That's just based on my, what I like to call expertise in this field.

REPRESENTATIVE EMRICK: So you have no -- You have no, according to your testimony, no fear what the results of this study would find. So I would think you would openly embrace the study. We're not asking Synagro to pay for the study.

MR. BAROLDI: I understand. I just don't see -- I mean, you asked if I saw it was necessary. I don't see this being necessary.

REPRESENTATIVE EMRICK: Okay.

MR. PRICE: I think what we'd like to add to that as well, we're talking about the 503 rules, the EPA rules. Under those rules, the states are allowed to adopt their own regulations as long as they are as strict or more stringent than the federal standard.

When they were drafted in '97, the Cornell Waste Management Institute drafted a working paper entitled, The Case for Caution, which basically outlined their concerns with 503 regulations. In drafting those regulations,

Pennsylvania took into consideration that working paper written by Ellen Harrison and Murray McBride outlining their concerns about the 503 Rule. Over half of the recommendations in that paper, The Cause For Caution, was incorporated into Pennsylvania's regulations, the Chapter 271, Subchapter J, which we currently follow in Pennsylvania. So the Commonwealth has gone above and beyond to address these issues that have been raised.

REPRESENTATIVE EMRICK: Okay. Just a final comment, Mr. Chairman. Thank you.

I think a lot of things over the course of time change. I don't know if we know all the heavy metals being used in biosolids today, and all the other things that may or may not be in there. Nobody used to think smoking was a bad thing many decades ago, and many other parts of -- that we learn and find out as time moves on and technology and information becomes available.

So, I personally would highly embrace passage of this resolution. And thank you very much, Mr. Chairman.

MAJORITY CHAIRMAN MILLER: Representative McCarter.

REPRESENTATIVE McCARTER: Thank you, Mr. Chairman. If I could follow up on my colleague's last couple questions.

Again, if, in fact, these were not really full studies but were reviews; and given that they were in a time period, 1996, and even in 2002, that fracking as an industry had really not even taken off at that particular point. And I'm sure -- Well, I'm not sure. But I would assume that probably within those studies originally, a large part of the chemical process, the fracking fluid that is used, was probably not part of those reviews and looked at at that timetable.

Given that, and there's the concerns were raised by an earlier testifier of the nature of some of the treatment of this fluid going through the municipal treatment plants, still as they are grandfathered for that purpose, one would think that this would be something that could be addressed again in this new study to bring, you know, public concern and alleviate that public concern as part of that study as well, since that's something that we've heard many times expressed before the committee.

MR. BAROLDI: Representative McCarter,

I'm glad you brought that point up. The five grandfathered wastewater plants that accept fracking fluid in the Commonwealth, they are industrial wastewater treatment plants. They're not municipal wastewater treatment plants. They are not eligible for the Pennsylvania General Permit 0A which allows for the land application of biosolids. They're industrial plants; not municipal, so they don't even qualify for having the capability to produce material for land application.

So, that's a common misconception that comes up; that fracking fluid is being land applied, and it is not.

REPRESENTATIVE McCARTER: Just to follow up to that as well, we have seen studies that have been done out in the Allegheny and other -- its tributaries where we ended up with large amounts of phosphates in the water and in the ground surface underneath the water accumulating.

So again, this would alleviate, I think -- part of this study would possibly alleviate some of the fears that some people have as to whether, in fact, that was occurring or still is occurring is where we're going.

MR. PRICE: That's the main problem that this faces. It goes back to the 2002 study. The National Academy of Science found there is -- that there's no documented scientific evidence that part of 503 Rule has failed to protect public health. The next sentence follows that, but due to continued public concern, the problem is that this industry has a public relations problem. People are still concerned about the way that this performed; what is in it, what is not in it. So it's not so much a scientific issue. It's a public perception issue.

REPRESENTATIVE McCARTER: It could very well be. And at the same time, as we look at the buffering regulations that we're discussing in other context, too, at the same time here for high quality streams and exceptional streams, that we look at the buffering mechanisms also that are being used.

You know, if someone said, I'm just 10 yards and another little draw over the line in terms of where we're going here as to how far they are away from intermittent streams, or in the case of under-treat for regular streams, that may be something that needs to be looked at again, also,

just to give, again, the semblance.

I think it's important for all industry to make sure that people feel comfortable with what's happening. There have been a lot of changes, obviously, in the last 12 to 13 years that has taken place in terms of industry and the amount of chemicals that are going into some of the sludge that's there. So, maybe, I think --

MR. PRICE: The one thing that we do need to remember about what is in the biosolids, the main concern would be personal care products. These are things that we use in our everyday life.

Triclosan is one of the big -- one that always comes up. It's in our toothpaste. I think Crest now has labeled their boxes Triclosan free. It's in deodorant. The fire retardants, I've watched my twin boys chew on their onesies, knowing full well that they're impregnated with fire retardants that they're directly ingesting into their mouths.

The concerns are that a lot of people bring up, these are things that we use every day in our daily lives. We don't XYZ toxic waste plant dumping directly into your municipal wastewater plant. It's a biological process at a wastewater

plant.

So if you're looking at toxic constituents getting into this material, a lot of times it will shut down the biological process at the wastewater plant. We need to remember that this is a living, working, breathing plant. It's not just mechanical.

MR. BAROLDI: I've heard frequently the analogy -- Doctor Salligranny (phonetic) at the University of Washington has done a lot of research on these types of materials; these emerging issues that you're talking about.

When you're saying you ingest thousand parts per million, if you find this type of material on biosolids, it will be in probably in less parts -- or parts per billion range versus what you ingest. It's like looking at the analogy as half a drop of water in a swimming pool.

With the metal you brought up -- Representative Emrick is it?

REPRESENTATIVE EMRICK: Yes.

MR. BAROLDI: I was enforcing the clean water. You brought up the metals in the sludges. Prior to Clean Water Enactment in '72, it was an issue. What you've seen with the enforcement of

the treatment program by the municipalities, it's almost like a hockey stick in reverse. It comes from high metals and it's down like this.

The amount of metals that they do regulate are so few right now and such a low concentration, it qualifies not just for basic biosolids, but it qualifies under what they call Table 3 is exceptional quality because of the low metal content. It's very clean compared to what it once was. That data is available, too. Almost every municipality has their graphs that show that the benefits of the municipalities even within your Commonwealth of what their pre-treatment program has done to make sure the biosolids are suitable for land application.

REPRESENTATIVE McCARTER: Thank you, Mr. Chairman.

MAJORITY CHAIRMAN MILLER: I just have one question. Doctor Klein had referenced the Delaware River Basin, which I certainly appreciate because that's where he resides. I not only chair this committee, but I also chair the Chesapeake Bay Commission. One of the things that we're constantly -- Of course, that's the most studied estuary in the world, maybe, and probably the most

heavily regulated right now.

As far as the biosolids application within the Susquehanna and the Potomac River basins, have you seen any issues there with meeting compliance for the Chesapeake Bay, the requirements there?

MR. PRICE: Actually, if you look at the setback requirements, there's distances for biosolids land application. We're essentially complying with the NRCS Federal 590 Standard for nutrient management which provides for; you're, essentially, limiting application. You cannot get close to these water sources. You have to maintain a buffer from concentrated flow areas.

Under the regulations, we're required to apply an agronomic rate. Essentially what that means is, we're only allowed to put down enough nitrogen for the current crop that's planned to be grown for that growing season, so we're not over-applying nitrogen.

The nitrogen that's in biosolids is a slower release form of nitrogen. It has to be mineralized in the soil, and the soil has to be broken down by soil biota to become available. So, you're looking at a slowly-released nitrogen source

over the entire growing season as opposed to your petrochemical fertilizers that are made from natural gas that are 100 percent water soluble. So a farmer would go out and spread urea on his hay ground and you get a strong rainstorm, most of that material is saturated. It's water soluble; it's gone. It leaves the field; it was not able to be taken up.

So, that is part of the regulations that we have to follow. If you would be -- If you could pull some of the folks away from the Chesapeake Bay Foundation and speak to them about how the regulations are set for biosolids, I don't think they would have any issues with it. I think, in fact, they'd encourage it.

MR. BAROLDI: One of the things I didn't raise that up because it wasn't being raised as a topic here. It's important to note that biosolids does have phosphorus and can lead, like any fertilizer, to increase phosphorus.

But the percent of available or extractible phosphorus in biosolids is actually significantly smaller than other amendments and is a lot less likely to be available as compared to other fertilizers and soil amendments.

One of the notes I had here is, the remaining phosphorus is strongly absorbed enough that is unlikely to run out and leach and affect surface waters. I have the citations and the notes here that you've been provided to those studies.

MAJORITY CHAIRMAN MILLER: Thank you very much for your answers and your testimony today. With that, thank you. We'll move on to the next testifier.

MR. PRICE: Thank you.

MR. BAROLDI: Thank you.

MAJORITY CHAIRMAN MILLER: Next we have Trudy Johnston, President of Material Matters, Incorporated. Good morning -- afternoon. I apologize.

MS. JOHNSTON: Chairman Miller, Vitali, and members of the committee: My name is Trudy Johnston. I'm President of Material Matters, and we're a biosolids consulting firm located in Elizabethtown, Pennsylvania.

We recognize the critical necessity of having multiple options available for disposition of biosolids in Pennsylvania, particularly application to the land. Biosolids land application is a heavily-regulated program as

others have said this morning, by both EPA and DEP.

Questions raised regarding the science of biosolids, which a few members have asked about, have been and will continue to be addressed by a multitude of academic researchers at mainstream institutions, including Penn State, who is very active in biosolids research; Drexel, Bucknell, just to name a few.

You'll see in my testimony, I do have a link that is a nice summary of the science of biosolids. If you go to that link, it provides a very long laundry list of studies that have been done in the past and are ongoing. It's a very active research community involved around biosolids.

Municipal government considers wastewater treatment and biosolids processing management as an important responsibility as environmental stewards. In fact, trends in thinking consider wastewater treatment as resource recovery, with the goal to recover energy, nutrients, organic matter and clean water. These goals clearly include beneficial use of biosolids as nutrient and organic matter resources.

In my testimony today, I was asked to

cover the following points:

Number 1. Application of biosolids to the land has a long tradition in Pennsylvania, dating back to the early 1970's.

Municipality wastewater treatment plants employ a variety of methods to process and manage biosolids in an environmentally-sound way.

Biosolids end use is commonly the second largest budget line item in a municipal wastewater treatment budget, second only to energy. And beneficial use of biosolids has positive environmental benefits and is an excellent option to preserve in the State of Pennsylvania, as well as landfill and incineration.

Biosolids land application has a long tradition in Pennsylvania. Biosolids have been land applied in Pennsylvania for well over 40 years, with the first permits that I'm aware of that were issued in the early 1970's. These early standards for the program were based on research conducted by Doctor Baker and Doctor Sopper, and folks like me who have been around for a while remember these guys. They both are from Penn State University. In fact, Annville Township

Authority held one of those very first land application permits to apply liquid biosolids on 500 acres surrounding their wastewater treatment plant in Annville.

Since that time, biosolids have become one of the most studied materials and are heavily regulated under EPA and DEP rules. Pennsylvania biosolids generators are regulated by both EPA and DEP, as others have said this morning. The current set of regulations, EPA regulations was promulgated in 1993, and that was based on technical standards. DEP regulations incorporate those technical standards, but they have additional safeguards, such as more restrictive buffers, as we talked about; notification to neighbors, nutrient management conservation planning, and more detailed record-keeping reporting, just to name a few.

Over 300,000 dry tons, or 1.2 million wet tones, of biosolids are generated in Pennsylvania each year for municipal wastewater treatment plants. That was from a study conducted by Doctor Herschel Elliott of Penn State in 2007. Options for biosolids management include, typically, land application, landfilling or

incineration.

Nearly 40 percent of the biosolids generated in Pennsylvania are land applied, 45 percent are landfilled, and 15 percent are incinerated; again, from Doctor Elliot's study. This compares to the national land application rate of about 55 percent, so we are slightly less than the national average here in PA.

Approximately 480,000 wet tons of biosolids are land applied annually in Pennsylvania, compare that to the 25.2 million wet tons of manure that is produced and managed in Pennsylvania each year. Biosolids represent less than 2 percent of the total volume of manure generated, and less than one percent of nutrients from manure; just to put it in perspective.

Because biosolids are closely regulated, they cannot be applied to farms with excess nutrients, which ensures careful management of those farms where biosolids are applied, as Layne Baroldi mentioned in his testimony.

Municipal wastewater treatment plants use various methods and technologies to process biosolids to meet these regulatory standards. There are over 700 wastewater treatment plants in

Pennsylvania, making Pennsylvania only second to Texas in the number of treatment plants.

Processing methods and technologies included a variety of both Class A and Class B; classes such as aerobic and anaerobic digestion, lime stabilization, drying beds, composting, ATAD, thermal drying, and incineration, and there's probably a few that I missed. Note that all biosolids must meet pathogen standards prior to landfilling or land application.

Biosolids beneficial uses in Pennsylvania include farm application, mine reclamation, biomass production, and distribution as fertilizers to farmers, turf producers, soil blenders, and fertilizer blenders. One example I'll use is the Borough of Mechanicsburg who recently constructed a compost facility where they produce biosolids compost that will be sold to consumers and soil blenders.

The largest wastewater treatment plants continue to participate in land application in Pennsylvania. Both Alcosan in Pittsburgh and Philadelphia Water Department land applying a majority of their biosolids. Other large generators such as Allentown, Bethlehem, Altoona,

Harrisburg have very robust Class B land application programs. Also, a majority of treatment plants that land apply tend to be in the south central portion of the state, with eastern portion of the state gradually shifting towards land application.

Trends in Pennsylvania show that medium-sized wastewater treatment plants are moving towards Class A/EQ technologies. Currently, approximately 15 wastewater treatment plants are using these Class A technologies. However, Class B land application programs remain the largest beneficial use programs.

Biosolids end use is typically the second most costly line item in a wastewater treatment budget, second only to energy.

Decisions on selection of processing, technologies and end-use methods are generally driven by cost. However, other factors are also considered, such as risk, reliability, regulation, liability, flexibility, and public acceptance. Biosolids processes and technologies are very different relative to capital and operating costs, ease of operation, and complexity. So each treatment plant makes their own choice in terms of

type of technology and management method.

Generally, land application programs are the most cost-effective programs. Prices range from 20 to $32 per wet ton for self-managed programs, and 34 to $50 per wet ton for contracted land application programs. Landfilling is generally more expensive in the eastern part of the state and less expensive in western Pennsylvania. Prices range anywhere from $30 per wet ton in western PA to over a hundred dollars per wet ton in the eastern part of the state.

However, there remains a number of wastewater plants in the east that continue to landfill and depend on landfilling at cost ranging from 80 to over a hundred dollars per wet ton.

I'll use an example here. The City of Harrisburg, which is now Capital Region Water, is a municipal wastewater treatment program that moved from landfill to land application in order to save close to $500,000 per year. Landfill was costing the city close to $60 per wet ton to dispose of over 13,500 wet tons per year. Self-managed program was developed, and current cost of just over $30 per ton resulted in cutting their program costs in half.

Incineration is reported to range from $55 to $90 per wet ton. That's based on, again, a study by Doctor Herschel Elliot of Penn State. However, recent charges to air emissions rules for incinerators is requiring existing incinerators to expend large capital outlays to upgrade to meet air quality -- new air quality standards.

Once these existing incinerators have outlived their useful life, they will be faced with extremely large capital costs for replacement as new incinerators must meet tough new air emissions standards. As an example of the concerns of replacement of these incinerators, two municipalities are implementing beneficial use programs to manage a portion of their biosolids to extend the life of these incinerators.

Beneficial use programs have positive environmental benefits. There have been numerous academic and institutional studies that confirm the safety of biosolids as Layne Baroldi and others have testified to this morning. In fact, the biosolids community continues to participate in research as questions about biosolids quality, stability, health and environmental effects are raised. In my 30 years of involvement with

biosolids management, there has always been significant support for research in our community to address each and every challenge.

As previously noted, there are basically three options for biosolids management in Pennsylvania: Line application, landfill and incineration. Biosolids generators select end-use options based on a variety of factors, making continuation of each one of these options important to municipal agencies.

However, from an environmental perspective, landfill is one of the largest generators of greenhouse gas emissions. Organic materials decompose under anaerobic conditions in the landfill and generate methane and carbon dioxide, which are greenhouse gases. Understandably, many states are banning biosolids and other organic materials from landfills for this reason. Incineration uses large volume of energy to combust biosolids, which are generally not heating and they require more energy to burn.

Land application, on other hand, provides a source of nutrients and organic matter when applied to the soils. The nutrients in biosolids replace other fertilizers that are

environmentally costly to produce. Land application also preserves the carbon that's found in biosolids and recycles it back to the crops and soil organisms.

I want to just close by saying, there's an example of an excellent biosolids recycling program very close to Harrisburg. It's in Hershey, PA, Derry Township Municipal Authority. Their biosolids program is an excellent example.

DTMA anaerobically digests their solids to generate nothing, and that is used to power a generator. The heat from that generator is used to dry biosolids, which are then sold to farmers to replace fertilizers they would typically purchase. These are the types of programs that Pennsylvania House of Representatives may want to examine and support as an example of future trends in biosolids processing and management in Pennsylvania through studies that would be done in House Resolution 426.

I thank you for inviting me to testify today. I would be pleased to answer any questions that you might have.

MAJORITY CHAIRMAN MILLER: Thank you very much for your testimony. I don't see any

questions right now, but -- It was very thorough. Thank you. Thank you for your testimony.

Our final testifier, Vince Phillips, PA Septage Management Association. Good afternoon, Vince.

MR. PHILLIPS: Good afternoon.

First of all, I want to tell you, Ron, I've known you since you came to Harrisburg. I just want to thank you for your service to the citizens of your district, to the taxpayers generally, and, of course, your stewardship of this committee. I want you to know it was a pleasure to work with you. As always, I really appreciate your integrity. So thank you very much.

MAJORITY CHAIRMAN MILLER: Thank you.

MR. PHILLIPS: For the record, I'm Vince Phillips. I'm the lobbyist for the Pennsylvania Septage Management Association. That is an association whose members are business people who engage in on-lot septic systems on the residential side. Over 40 percent of Pennsylvania residents use septic systems.

Then on the industrial side, a number of our member firms are involved in the application of biosolids. Of course, they work with farmers,

municipalities, et cetera.

Now, notice that I use the word biosolids rather than sewage sludge. That's deliberate on my part, because I fear that the phrase sewage sludge has become tainted. I did some research. The Center for Media and Democracy, for example, defines it as growing and continuous mount of hazardous produced daily by sewage plants; a little bit of pejority in there. I prefer the Oxford dictionary definition of biosolids, which I think is a little more neutral, where they define it as organic matter recycled from sewage, especially for use in agriculture. But, hey, that's just me.

I would say, though, when it comes to House Resolution 426 that I may take a slightly different approach on this; that I'm not sure I see the necessity of adopting that resolution. First of all, if a resolution were adopted, I want you to know that members of my association would want to work vigorously with anyone who is doing research to try to be helpful, if we can. But I'm not sure I see the case for that additional level of research, because of the tremendous volume of research that's already been done, both in

Pennsylvania and nationally.

For example, I checked -- There's a publication called Residuals Weekly. Yes, there is a publication for everything. The October 11th edition had 48 different articles on various facets of biosolids, waste management, compost, et cetera. Just to Google research, and not an overly-exhaustive one, I gave up after about 100 academic studies that were cited, and they came literally from all over; everywhere from the University of California Davis to the University of Maryland, to Tulane University, to Yale University, Utah State, and others as well. And, of course, our own Penn State figures prominently in that body of research that's already been conducted.

On the Penn State website, I decided to see how many entries there were on biosolids research and I came up to 2,050. So I think the research is there.

One, in particular, that research biosolids application in 18 counties, it's called Land Application of Sewage Sludge in Pennsylvania, the effect of biosolids on soil and crop quality, and what I did in my written testimony was some of

the conclusions of that study, again, for your review, time permitting. Suffice it to say, there's been a study done of this topic.

Now, Penn State is not alone. There's other Pennsylvania educational institutions that have also developed a body of research data on biosolids land application. For example, one I ran across was Bucknell University, Professor Matthew Higgins, and I've listed three of his research studies. I will tell you, when it comes to me understanding some of what I'm looking at here, you have to know that that's probably on the deeper end of the pool from where I am.

But, suffice it to say, a lot of highly technical research has gone into whether or not there are pathogens connected with the application of biosolids. Of course, in addition, Delaware Valley College has its own blog on biosolids based on their agricultural programs as well.

So, suffice it to say, there's a lot of academic research that's already in play right now in the Commonwealth of Pennsylvania and nationally, so I'm not quite sure I see the rationale for adopting the resolution for yet another study, if that research has already been

done.

In addition, of course, and DEP was here earlier, but I also checked out part of the DEP website that noted that they had updated the regulatory reviews of biosolids land application; and also, of course, have put a few resources in here from their website showing other research that had been done.

I would also suggest to you that the General Assembly has also sponsored research in on this topic in 2007. One of the previous presenters mentioned a study done by Herschel Elliot, Ph.D. from Penn State. The full citation is Biosolids Disposal in Pennsylvania, Herschel Elliott, Ph.D. and Robin C. Brandt, Ph.D. from the Department of Agriculture and Biological Engineering, and James Shortle from the Department of Ag, Econ and Rural Sociology at Penn State in November of 2007.

What makes this interesting, in addition to the fact that it was a good read, is that, it was a study that was sanctioned by the Center for Rural Pennsylvania. As you know, the Center for Rural Pennsylvania is an entity created by the General Assembly to provide resources for

those living in rural areas and to help policymakers, such as yourself, understand some of the issues affecting that segment of Pennsylvania's population. In other words, even the General Assembly has already undertaken to do this research Now, if you want an update since 2007, since, obviously, some things have changed since then, a different approach might be to simply again direct the center that you'd like to have more research done. Let's get a review of the data since then. Let's synthesize some of the many different research items that have been done and see what, if anything, new comes up. That to me would be a shortcut, and I'm not sure you actually need a resolution to do that.

But, again, I don't pretend to understand all the methodologies work within the Center for Rural Pennsylvania. It does seem to me that's a quicker way to possibly get to the same goal.

The other thing is, when I reread the goals stated forth in House Resolution 426, it seemed to me that some of them were actually met with the center's research; for example, methods

currently used for biosolids use and disposal; cost connected with current methods of biosolids use and disposal; methods used to administer and enforce the DEP programs.

If my theory is true, my assertion is true, that three out of four may have already been done. Where a lot of the ground work means that, perhaps, you don't have to do that again; or, if you do, it's just an update.

But there is one thing I do want to point to, and that is the fourth goal centered in the House Resolution. And that says, to identify, quote, all appropriate alternatives to current use and disposal methods, particularly in regards to their economic feasibility and effects on the environment and on public health in comparison to current use and disposal methods, unquote.

My fear is that fourth goal will be so politically polarizing that you may not get a research product that will serve the needs of what you would like to achieve. And you've seen the difference in view points here today where the difference between night and day is not too strong of a contrast, between those who look at the elements contained within biosolids as a clear and

present danger versus others who maintain that scientific research has shown that those dangers do not exist. Of course, it does get politically overcharged, and people are very concerned about pro and con.

I would suggest to you that the wording of that goal might tend to lead to research that would tend to be a little more volatile than you would like. The alternative there might be to suggest an update on research done by the center to talk about the qualitative research done. Even though I only talked about academic research, obviously, there's private sector research too, both pro and con.

Then, perhaps, the next session of General Assembly, this committee could reconvene hearings where you're looking at the stakeholders. You know, what does Synagro say? Of course, they've already said it. But what do those who don't like biosolids applications, what do they say? Make that a set of hearings that talks about the various points of view that would help the General Assembly to come up with whatever solutions.

I also note that there has been some

discussion within some areas of the General Assembly to look at other issues connected with the whole regulation of sewage, of on-lot, et cetera. Perhaps the research, if undertaken by the committee, could work in tandem, perhaps, with Synagro as well.

But the bottom line is that, I wanted to thank you for holding the hearing. I think it does provide an important public service. I appreciate the opportunity you've given myself and the Pennsylvania Septage Management Association today to testify. Thanks.

MAJORITY CHAIRMAN MILLER: Thank you. Any questions for Mr. Phillips?

(No response).

MAJORITY CHAIRMAN MILLER: Seeing none, thank you very much. With that, probably for the final time, this committee meeting is adjourned.

(At 12:30 p.m., the hearing adjourned).

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C E R T I F I C A T E

I, Karen J. Meister, Reporter, Notary Public, duly commissioned and qualified in and for the County of York, Commonwealth of Pennsylvania, hereby certify that the foregoing is a true and accurate transcript, to the best of my ability, of a public hearing taken from a videotape recording and reduced to computer printout under my supervision.

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Karen J. Meister
Reporter, Notary Public