



City of Denton
MINUTES
COMMITTEE ON THE ENVIRONMENT

City Hall
215 E. McKinney Street
Denton, Texas
www.cityofdenton.com

Monday, April 1, 2019

2:47pm

City Council Work Session Room

After determining that a quorum of the Committee on the Environment of the Denton City Council was present, the Committee on the Environment thereafter convened into an Open Meeting on Monday, April 1, 2019 at 11:00 a.m. in the Council Work Session Room at City Hall, 215 E. McKinney Street, Denton, Texas

Council Members: Chair Council Member Keely Briggs, Council Member Paul Meltzer and Council Member John Ryan

Also Attending: Mario Canizares, ACM; Kenneth Banks, General Manager Utilities; Katherine Barnett, Sustainability and Customer Initiatives Manager; James Douglas, Conservation Program Coord; Ethan Cox, Director Solid Waste; Kim Mankin, Administration Manager

Guest were introduced from TWU ‘Climate change from human prospective course’

REGULAR MEETING

A. COE19-013 - Consider approval of the Committee on the Environment of the Denton City Council Meeting minutes of March 7, 2019.

Approved as circulated.

B. COE19-014 - Receive a report, hold a discussion, and give staff direction on request for support from University of North Texas for a grant and receive update on requests submitted to North Central Texas Council of Governments (NCTCOG).

James Douglas gave the presentation regarding the air monitors.

Background:

Air pollution requires attention at both the regional and local level for successful understanding and mitigation.

Douglas showed some **definitions** relevant to air monitors.

Particulate Matter (PM) – Air borne particles classified by size into categories of <2.5 (fine) or <10 microns.

Low-cost PM monitor – Uses light to generate readings of PM 2.5 and PM 10 and reports to an open data platform.

There were a couple of maps that showed the current locations of the low cost PM Monitors. There were also a couple of maps that showed the TCEQ Air Quality Monitors.

UNT research

Dr. Liang and her research team requested a letter of support from the City of Denton to apply for a grant.

- The grant will help fund activities to: Improve data validity of low cost PM sensors, Utilize fine spatial scale data to supplement air quality modeling (Multi-scale approach) and engage citizens in real-world science learning.
- Staff recommends providing a letter of support

Council Member Meltzer asked who will be giving the grant. Douglas answered Alfred P. Slone Foundation.

Meltzer then asked if there is a competition for the grant. Is it a general science and tech grant that is open nationally?

Katherine Barnett gave this portion of the presentation.

NCTCOG efforts:

- Staff continues to seek collaboration on air quality issues with other cities in the region
- Denton (and other cities) have submitted requests to encourage NCTCOG to act as administrator in a regional air monitoring effort.
- The goal is to increase the number of regional monitors beyond the current quantity operated by the TCEQ.
- To increase regional sustainability efforts such as regional GHG inventories.

Barnett stated if there was a desire to put two monitors along the I-35 corridor they can. If we look at the cost share and want to have five monitors in different locations around Denton we can. It would be the data platform and the data sharing would be consistent and we could decide where we want the monitors.

Briggs asked how accessible would the data be, would it be detailed or defined enough for us to determine the policies that need to be passed. They are concerned with vehicle emissions and they haven't wanted to talk about air quality in several years. Will they be able to handle, sustain and monitor the monitors if they don't really have that desire. Barnett answered she is unsure that they will be the host, they may coordinate the effort but we also have healthcare that staff is talking to which are JPS and Cooks Children's. There are a lot of players at the table and it may be decided that a third party would be the better administrator. Having the framework at the table is good. Also having NCTCOG acting as the regional entity would be a good start.

Barnett went on to say the monitors will not be TCEQ level, not sure if they will be policy level but some are. It will definitely give us more data and more localized data. The monitors will be co-located with TCEQ monitors to see if the calibration is there. The first step would be to get some deployed and see what data we get back.

Ryan stated that NCTCOG combined this with another group three or four years ago. It isn't that they are not meeting, they are still having the meetings it is inside of another group. They are concerned about air quality. C-Mac funds are constantly being used for this type of thing.

Barnett added it is housed in transportation now with RTC.

Meltzer asked how this relates to the Downwinders Organization.

Jim Schermbeck with Downwinders at Risk stated he has been with this group for 25 years. 'Schermbeck stated they are the leading proponent of air monitoring as far as citizens are concerned in the region and have been for the last four years. This conversation is very frustrating because we started this and were rolling and have been left out of the development ever since because we

disagreed with the public participation aspects of this model that is being pushed on you now from COG. We specifically started with elected officials in Dallas and Dallas County and other folks from University of Texas at Dallas who would have already gone through this, there is no reason to reinvent the wheel they just need to call UTD. Had a perfectly good system worked out for a limited government cooperation to deal with this all that was agreed to by Plano and Dallas County and ourselves and UTD and then at the last minute Dallas staff objected. They objected as far as we can tell because there was too much public participation and heaven forbid groups like ours might be involved. So they have been fishing around ever since to try to find out another model. First they went to UTD and said well you host this all by yourself and UTD said no we don't think we are capable of doing that. They talked to cities about another model and now finally they are talking to JPS and Parkland and trying to do something with them, which is something I would encourage it is more of a public health centric focus there when you have the hospitals in charge. COG is not meeting as a clean air steering committee. They haven't met in about four or five years, I know because I am on that committee and we haven't had a meeting. There has been no point to because the state is in charge of smog planning and it is all they are interested in COG about its smog as it relates to non-attainment funding and highway funding. So they are not interest in PMO and they are not interested in VOC's necessarily unless it relates to smog and so forth. Especially not interested in toxic emissions. This is why taking it to COG is a very bad idea. Doing it through hospitals is a better idea. Doing it through some kind of original and dependent group that has you as a participant and adding your own elected officials in public representatives even better, which is what was being proposed when Dallas backed out. So Dallas has taken this show on the road and then decided to get these letters of support for COG but rhetorically they are talking about including citizens but of course the one citizens group that has been leading the charge for the last four years is not included in these discussions because we didn't like their original plan. So you are now being brought into this controversy that is now lasted a year and gone over Fort Worth and Plano and Dallas and so on. It is very regrettable because I think you ought to see the presentation that the City Council in Dallas saw and voted 7-0 to endorse. People of all political persuasions endorsed this idea after Dr. Larry from UTD and I presented it to them. It seems still sound and very much overlays with what is going on here except it uses a better caliber of monitor that they are building at UTD, which by the way we are buying like 30-40 of Plano has already bought. There is going to be a hundred of these things already out in the environment by the time these folks get this grant. So my advice to you is to hold off, I understand the home town aspect of voting for UNT money and all that but it seems like a very large grant for what they are asking for I think you could do it for a lot less. There is a lot more consideration, at least give us a chance to present to the Council.'

Time was up and Schermbeck was seated.

Meltzer stated he is happy for there to be more voices, he is interested in a future staff report or work session comparing the alternative ways to go.

Briggs asked if someone on staff wants to comment as far as if it is one thing or another, if there is only room for one type of monitor or if we can have different monitors and they can collaborate and talk together. With the direction today separate from UNT, are you looking for direction from this committee on one thing or is this for informational purposes on what is going on.

Barnett answered the COG piece was informational we don't know if it is going to make it into the work plan, it was just a request. She doesn't think it precludes us from having other monitors and different programs that are talking to each other. She isn't familiar with the presentation that Schermbeck spoke about for Dallas Council but can watch it.

Briggs asked with this information we are not closing off our options we are allowing someone else to have control of our air monitors for the future. Barnett agreed.

Briggs does know that air monitors have been wanted for a while, she is glad we are talking about it.

Briggs stated yes on UNT grant. Ryan stated yes on the UNT grant and continue with COG from a standpoint that they need to be calibrated the same, it not they could have different readings. That's why it is better to have a regional plan so that when you are comparing data points it's the same.

Briggs added we many need to have a work session on this information.

Barnett answered as staff works through this they will come back with another presentation.

C. COE19-015 - Receive a report, hold a discussion, and give staff direction regarding the Solid Waste department's Enhanced Liquids Recirculation Program.

Brian Boerner gave the presentation stating with the business case analysis that they are doing they want to talk alittle about the program.

Enhanced Liquids Recirculation (ELR)

Purpose & Objectives

- Increase generation of LFG for Beneficial Reuse – Produce electricity for use by DME customers.
- Increase Landfill Capacity – Potentially expedite landfill settlement through accelerated decay of organics.
- Liability Reduction – Potentially reduce 30-year post closure care period associated with closure of the landfill.

Participants include: DTA – Electric generation contractor
Operations – DME, Landfill, Environmental Services and Waste water

Definitions that Boerner included were:

Leachate - A liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials.

Leachate Recirculation – Collection and delivery of leachate from and into the landfill to reduce leachate treatment costs, accelerate landfill gas (LFG) production, and expedite landfill settlement.

Landfill Gas (LFG) – Landfills produce methane gas due to the normal decay of trash/organic material.

Boerner showed a photo and discussed how ELR it works.

As staff was working on the business case analysis they hired SCS Engineers to do an engineering analysis of the operation of the facility.

Is the ELR system working? Staff has seen marginal success at the Enhanced LFG Generation. Gas production has increased but not at full recovery potential. LFG to Energy equipment is at full operational capacity, 64 percent is converted to energy and 36 percent is flared. There is not enough capacity to bring on another engine, would have to have another 350 standard cubic feet a minute of gas reliably produced.

Boerner then stated there is no benefits to the environment. The gas collection in our new cells is difficult, there are no wells in place. With the cover on and off to manage the waste there is no way to capture the minimal amount of methane that is occurring in the new cell. There are some leachate seeps that are having to be managed as a result of adding the leachate back into the top. There are no

LFG migration issues in Denton. There are potential increased odors due to accelerated gas production.

Regarding Accelerated Incremental Landfill Settlement, it is a marginal success. Approximately five days' worth of disposal capacity was added in FY2017-2018. The estimation was 15,000 yd³ in total settlement (natural settlement + ELR). It is challenging to quantify the ELR's contribution.

There is no reduction in the potential liability in doing the ELR system. TCEQ and EPA have not enacted rules to reduce the 30-year post closure care period for ELR landfills.

Meltzer asked what was the theory that would make post closure shorter. Boerner answered basically every landfill has a finite resource, only can produce so much gas. By allowing the leachate to work faster the gas production would happen earlier in the life of the landfill. Currently the State requires 30 years after you close the landfill monitoring to allow all that landfill gas to occur. If you pull it out on the front years while you are still operating that 30 years in theory could be reduced to twenty five or twenty years. We have not realized any regulatory relief at the State or Federal level.

Meltzer then asked if this was done in the first place was to reduce that liability. Boerner answered yes the first two liabilities were to increase capacity, staff has seen marginal success, and reduction in liability.

Briggs asked about the 'no' on Environmental Impact she asked if it has been fully vetted and the benefits it can be. There is a landfill benefits calculator, has this been taken into account on this. Boerner said they did not put it into the landfill benefits calculator but can do that for the next presentation. Boerner then explained the emission comparison from the LFGE engine and the flare. There is some benefit but from a cost standpoint that will be discussed soon, it is the most expensive energy that is in DME's portfolio. Briggs stated that has to do with decisions that were made from a contract that is until 2024.

Boerner then gave the financial overview.

The comparison – Non-ELR vs ELR

ELR Operations were suspended in January 2018 because of operational issues. In the past year staff has gone in and looked at how it is being operated, the cost and benefits.

Currently the net income is \$12,500, if solid waste goes back in a re-starts the ELR and runs it consistently for the remainder of the life of the landfill we would be obligated to \$935,000 per year based on what the annual cost would be for infrastructure improvements, gas well installations, collection system improvements, system operation, monitoring and recordkeeping.

Currently there are about 3,500 landfills in the United States and there are only 33 that are either considered bioreactors or ELR.

From a conclusions and recommendations standpoint, the primary objectives of ELR are not being realized. Post closure liability has not been reduced. Accelerated landfill settlement is marginally beneficial and difficult to quantify. LFG production has increased but has exceeded LFGE capacity. Staff recommends discontinuation of ELR operations to prevent additional costs required to operate a compliant facility. Staff would also propose to begin research on other opportunities to utilize LFG. The DTE contract ends in 2024 after that explore other options: LFGE, high BTU, vehicle fuel conversion, etc.

Briggs stated she is not prepared today to say stop, there are other things that can be considered. When Briggs first got on the Council, Denton landfill was considered forward thinking nationally

recognized landfill for all the things we are doing. Understand some things were not implemented correctly but still think the intention was there for environmental purposes. She appreciates all the costs concerns but still trying to balance and weigh environmental versus costs.

Meltzer stated this isn't shutting down the waste to energy it is the leachate circulation, Boerner agreed.

Briggs stated she has had people reach out to her and say this is part of the same, the leachate and the waste energy is one in the same. Boerner responded that landfills always have gas and right now we have enough gas to power the landfill to energy plant. By eliminating the ELR system it does not impact the operation or the amount of energy that will come from the DTE power system. We will continue to run that engine, continue to provide the energy to the homes. What we will not be doing is generating exceptionally more landfill gas that what can be burned in this engine. The remainder will be flared off.

Briggs would like to know what other things we can do with that extra gas in the meantime besides quite doing this. Boerner stated under contract we can't do anything because DTE right now has the right to all the gas. If there is additional gas that is being flared off, we would have to purchase it back from them. Right now the wastewater treatment plant uses the gas that they generate off of its digesters to heat the digesters to run the process. In the summer they don't have any issues with it but in the winter time they are short gas, we could potentially divert some of the gas from the landfill over to the wastewater treatment plant digesters. That would be a beneficial reuse. Unless there is something on site or we are able to generate significantly more gas in a short time, we are at our best option at this point.

Briggs reiterated that this was put on hold January 2018 then asked if it has been put on hold since. Boerner stated we have not operated it since that time. The infrastructure is still there could be spun back up but there would have to be significant funding needed for additional infrastructure. Additional funds would be needed annually to be a compliant system.

Briggs then asked if we did all those things would we still need to flare. Boerner stated we would always have to flare, there will always be some incremental piece that is in excess of what our capacity is. Briggs asked if we would have been operating the ELR if we would have enough for another engine. Boerner answered there still would not be enough for an additional engine.

Meltzer stated he doesn't really understand the mechanics of what happens with the gas that comes out of the landfill if we do nothing. Boerner stated Federal and State law requires to have the landfill gas collection system. That is what we have right now, what we are doing with that is what we need to do to be in compliance with the air permits under the landfill permit. The gas is collected that is coming up, minimize the emissions (currently three tons a year), we are extremely low compared to standards.

Meltzer asked why we are at a decision point today, if this hasn't run since January 2018. Boerner answered that Solid Waste has seven programs that is being brought to this committee, this is the next one in line. Meltzer stated that there is an indication that there is a better way to do landfill to gas that could use that gas. Doesn't change what we are doing now. Just find those other better ways.

Ethan Cox stated the reason that staff is talking about this now is this was a portion of the Blue Ridge report, recall Councils direction was to bring back most of the recommendations of that report and revisit it. Staff has brought in SCS Engineering to come in, they the industry experts on designing landfill gas management systems. The DTE contract will come to an end in 2024, there are environmental benefits to flaring versus the engine but may not be true for other options. Staff will

explore the options and come back, this will take several months. The recommendation today is to not spin back up the circulation of liquids that does not shut down the engine. The engine will continue to run and the excess will be flared. The biggest thing in terms of staff direction is we are working on the budget, if we are going to re-start the ELR operation it will require a significant investment to do it correctly. Up to this point we have done it about half right, doesn't mean it wasn't successful at generating gas it just generated more than we could contend with. There isn't an environmental upside to running the ELR, you are accelerating the gas generation up to the front of the gas curve which means you are less able to normally collect that gas in the early years. What we have is very efficient in collecting the gas in the out years. Staff is not building this system back into the budget unless there is direction otherwise.

Briggs asked on the contract, does it prohibit us from asking for upgrades to their generator to make it more environmentally friendly to reduce the emissions. Cox stated DTE is required to maintain the infrastructure we can see if there is more environmentally they can do. From a business position they have seven years left of the contract, any investment they put in will probably not see a return so Cox believes we will be at an impasse with the way the contract is worded. Boerner added that engine requires a permit to run by the State and they are in compliance.

Meltzer asked if it is possible to store the gas. Boerner answered it is but extremely expensive.

Briggs would like to see the options. She would also like to see the percentage of flaring both before the program was halted in 2018 versus now. Boerner state they have looked at that earlier in the day and they are consistent with what is being flared now. Briggs asked what it means that it is consistent. Boerner answered in the six to seven years that the liquid has been run through the system and had been enhanced, the bugs are working and doing their job. If it had been enhanced a little more there may have been an uptick. Briggs stated that with this information she believes there may be enough gas to have another engine. Boerner agreed in four to five years.

Meltzer stated if we were to have a city wide composting program would that tend to right size the amount of gas production to the energy capacity. Boerner answered no, the reason being the way the current program is set up our permit to compost is a wastewater permit to manage the bio-solids which is very restrictive on what it can take. What can be taken is yard waste and pre-consumer organic materials. As a result we cannot mix the materials, we could go and permit and spin a composting operation that could manage the materials. There is additional factors because you would be dealing with meats, fats and oils. Outside of the true solid waste piece if you install masticators or high end food processors in a lot of these restaurants you could run it down the sink and the organic load would go to the wastewater treatment plant. They would produce more gas to heat and the solids would be out, the bio-solids would be in and then we could compost in the existing program.

Meltzer then added if you took the organic materials out of the landfill to compost so that it is not in the gas generating would we then be more right sized in terms of the amount of gas that comes out of the landfill. Boerner answered at some point yes, it would be hard to hard to get there.

Briggs asked Barnett to comment on the Greenhouse Gas Inventory difference for our landfill, do we have numbers on that since before the program and after. Barnett answered Douglas is working on the 2018 numbers now, Douglas added those numbers came in last week from TCEQ. That information should be available at the next meeting.

Ryan left the meeting at 3:45

D. COE19-016 - ACM Update:

1. Update Sustainability, Recycling, and Learn 2 Conserve events

2. Matrix

Canizares stated Matrix items 2, 5 and 7 will be at the May meeting.

CONCLUDING ITEMS

Under Section 551.042 of the Texas Open Meetings Act, respond to inquiries from the Public Utilities Board or the public with specific factual information or recitation of policy, or accept a proposal to place the matter on the agenda for an upcoming meeting AND Under Section 551.0415 of the Texas Open Meetings Act, provide reports about items of community interest regarding which no action will be taken, to include: expressions of thanks, congratulations, or condolence; information regarding holiday schedules; an honorary or salutary recognition of a public official, public employee, or other citizen; a reminder about an upcoming event organized or sponsored by the governing body; information regarding a social, ceremonial, or community event organized or sponsored by an entity other than the governing body that was attended or is scheduled to be attended by a member of the governing body or an official or employee of the municipality; or an announcement involving an imminent threat to the public health and safety of people in the municipality that has arisen after the posting of the agenda

Briggs curious have there been any reduction in contamination in the last month.

Briggs asked about an earth day event to partnership with a small business to use Denton reusable bags instead of plastic bags.

Briggs would like to start recording the meetings. Canizares responded that there is an item going to Council as a supplemental from Communications office as part of their budget to video more of the meetings.

Adjournment: 3:54pm

Approved: May 6, 2019

DocuSigned by:

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Chair, Council Member Keely Briggs

5/28/2019

Date