

Forth Technologies Response to Public Comments

Responses to Public Comments Forth Technologies, Inc. Permit #O-1231-20-F

Comment on APCD Proposed Action [#34]:

The neighborhood in which this operates requests permit opposal.

We are writing today regarding Proposed FEDOOP Operating Permit O-1231-20-F with Forth Technologies, Inc in District 4 at 600 Bergman St, Louisville KY 40208. The neighborhood in which this business operates is opposed to the renewal of its operating permit. While hazardous air pollutants and particulate matter <10 microns emissions in a 12 month limit are within EPA guidelines. Current emissions testing is monitored, recorded, and reported by Forth Technologies. We have reason to doubt their numbers are valid and/or accurate based open records dating back to 2006.

Abby Long

Response:

The emission of HAPs are based on actual raw material usage and product production. Through the permitting process, "emission factors" are developed and agreed upon with the company and APCD. The emissions are calculated using these factors and multiplying by product/material usage. The permit limits are based on current APCD regulations. APCD limits are based on the classification of the facility.

The "emission factors" are based on engineering calculations, stack testing by the company (or others), EPA published emission factors based on similar operations, or data from other similar operations. These "factors" are reviewed by APCD and the company and each are incorporated in the reporting.

Comment on APCD Proposed Action [#35]:

Forth Technology is lying about pollution. They are not applying for legal permits and they are engaging in sketchy, and honestly illegal and bullshit practices. They are poisoning residents of Shelby Park. Shut these mother fuckers down or at least regulate them like proper humans...

Ryan Reimers

Response:

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth's customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

If a company desires to utilize Forth Technologies services; questions concerning air pollution permits and wastewater permits are always at the front of conversation and lack of permits or wastewater treatment can stop the new business. If Forth wants to add a new product and if a permit is needed; Forth will work with MSD and APCD to properly permit a new process.

Permits for air and wastewater have been renewed multiple times in the almost 25 years of operation. All applications are prepared by consulting engineers with knowledge of air pollution and water pollution regulatory requirements. Compliance with those permits are routinely checked by MSD and APCD. Sample analysis and recordkeeping is provided to demonstrate compliance.

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Comment on APCD Proposed Action [#37]:

Stop the stink!

As a homeowner and parent in Shelby park, this air pollution negatively affects my quality of life and is just gross.

Why would anyone give these people a permit to make my neighborhood smell like cat urine?

Mandy Bell

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Comment on APCD Proposed Action [#38]:

This is the same company that emits a high-pitched whine that sounds like a tornado siren in Shelby Park, Schnitzelburg, and Germantown, depending upon where you are. Every day, all day long. It's louder the closer you get to the plant. No further pollution permits should be issued until this company "cleans up" the noise pollution it is emitting in the surrounding neighborhoods. If this permit is approved, how much louder will their operation get?

Andrew Shaffer

Response:

A neighborhood noise survey was recently completed which did not indicate any significant noise levels from Forth Technologies. Elevated levels of noise were associated with the Interstate traffic, air traffic, lawn services, and the Louisville Metro solid waste operations at the former Meriweather Incinerator.

Comment on APCD Proposed Action [#39]:

I oppose the granting of the permit by Forth Technologies.

Please consider this my formal protest of Forth Technologies permit request

Permit # O-1231-20-F

I believe that their continued operation has a negative impact on the Shelby Park and surrounding neighborhoods.

Bryce Biery

Response:

Forth Technologies have been in the Shelby Park area since 1996. Forth has tried to be a good neighbor and show good compliance with their permits through monitoring of throughputs, maintenance, and routine inspections. Has the facility experienced minor upset conditions over the almost 25 years at this location; yes, but the facility has always used resources of their customers, regulatory agency help, and consultants in both the environmental and safety areas to solve the issues.

Comment on APCD Proposed Action [#40]:

I, as well as neighbors have complained about the smell for years to no avail. We've lost potential future neighbors because of this. Please take action.

Daimon Jameson

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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The cat urine smells have been a problem over the past couple of years, but as expressed in our Odor Evaluation; future odor production associated with a single process have been identified and will be prevented. However, sewer odor (especially considering the design of the sewers are old and are "combined" (wastewater and stormwater in same pipe)) cannot be prevented as natural process generate odors which are objectionable. Until city monies and budgets are directed in this area; some odor will remain.

Respectfully, Forth can only control what they discharge to the sewer. The sewers have historically been an issue in this neighborhood even before Forth Technologies started their operations. The sewers need improvement throughout the city, but as a result of this recent odor issue; MSD has made improvements to reduce odors. The replacement of vented manholes and catch basins with sealed manholes and carbon filters will help, but the age of the sewers and design make this a continuous challenge.

Comment on APCD Proposed Action [#41]:

Deny permit

To permit is one thing but this company isn't required nor does APCB promote the process. My faith in the process is non-existent at this point as an involved citizen beyond process that there is compliance by Forcht and oversight by APCB.

Time for Forcht to move. Time for transparency. I will continue to seek federal oversight . No one is providing an answer to the source on the long time, reported odor. That seasonal problem leads me to believe this is an empty process.

Deny the permit. Do not approve the release of participants.
Chip Rogalinski

Response:

The permitting and oversight by APCD and MSD does work. Permits control amounts of pollution by requiring recordkeeping, reporting, maintenance on equipment, emission inventories, testing, and inspections. Routine inspections by MSD and APCD provide oversight of the facility operations. Odor issues are difficult to evaluate; the science and lack of analytical capability to see compounds down to the part per trillion or below; creates an extended project time to get the answer. The cat urine odor cause has been identified and corrected by Forth Technologies.

In Forth Technologies main business we produce non-hazardous pigment type products for such industries as automotive paint colors and cosmetics. Forth also produces a product for plant food and have manufactured pollution control chemicals.

As a small family owned business, Forth prides itself in meeting the challenge of regulatory and customer oversight. We have always provided full access to our facility to regulatory agencies (EPA, APCD, MSD, DOT, OSHA, Homeland Security) and routinely provide them data about all the chemicals and processes at the facility. The hero's from Fire Department Ladder 15 have toured the facility and we support them in every way. Forth has provided the information to these professionals with all transparency. We have a good working relationship.

Unfortunately, out of respect and contractual issues with our customers, Forth cannot always provide information which our customers deem confidential. However, Forth realizes its short comings with respect to Shelby Park neighborhood engagement and involvement. While the company has never been invited, we haven't reached out and should have to the neighborhood. We want to do more in this area and hope you can agree that it will be beneficial for all.

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Forth performed an odor evaluation to characterize the odor. During late 2018 and 2019, complaints of odors from the Metropolitan Sewer District sewers increased in the Shelby Park area to a point in which the Louisville and Jefferson County Metropolitan Sewer District (MSD) began a study of the source of the odor (cat urine smell). In addition, the Louisville Metro Air Pollution Control District (APCD) began inspecting for potential odors. During this time, Forth Technologies (Forth) participated in the evaluation by APCD and MSD through visiting the location of odors in an attempt to characterize the odor along Ormsby and Jackson Streets and permitting MSD and APCD representative's full access to evaluate their operations.

The odor was characterized as "cat urine". As an industrial discharger, Forth and MSD examined Forth's contribution to the sewers and when surveyed and inspected, the wastewater discharges from the Forth plant never produced a similar odor. Forth reviewed their raw materials and production results and could not pinpoint any contributors to the "cat urine" odor.

In spring and summer of 2019, MSD after extensive testing of the sewers, was able to correlate higher levels of acetone during the odor episodes. When Forth was provided this information; it was realized by the company that the source could potentially be from a process at Forth Technologies. As a result, Forth began an extensive odor evaluation from their facility.

In early August, NSS Environmental, Inc. (NSSE) met with representatives of Forth Technologies, Inc. (Forth) to discuss potential causes of an odor as best described as a "cat urine" smell. Based on the discussion, NSSE performed a literature review of the "cat urine" smell to determine if a process at Forth could potentially be contributing to this odor in the Metropolitan Sewer District (MSD) sewers.

An internet and regulatory agency review was completed to determine potential sources of the "cat urine" smell. Based on the review, the organic compound 4-mercapto-4-methylpentan-2-one (MMP) was found to cause such an odor. A review of the Chemical Abstract Service (CAS) database revealed MMP (CAS# 19872-52-7) to have synonyms of FEMA 3997 and Cat Ketone. Having what was believed to be the odor causing compound; a review of potential sources in the literature was undertaken.

Potential sources found included:

1. Wine flavorant (cabernet sauvignon wine)
2. Beer flavorant
3. Yeast impurity (from yeast) in brewing process
4. Bakery wastewater (from yeast)
5. Chemical reaction with mesityl oxide
6. Green tea
7. Sauvignon grapes
8. Grapefruit juice

While the area around Forth Technologies and the odor complaints had potential sources of brewery and bakery wastewaters; it was felt that these sources did not have significant levels of MMP to create the odor complaint or these sources may not discharge materials at such times to create the odor issue. MMP has an odor threshold range in water of 0.1 part per trillion to 5.0 parts per trillion. (In order to give some perspective of how small that is: a part per trillion is equivalent to 1.0 inch in 16,000,000 miles.)

A newspaper article from Wilmington, North Carolina characterized a similar smell in the Wilmington area was reviewed. The article characterized the odor as a "cat odor smell". The North Carolina Department of Environmental Quality (NCDEQ) had investigated the odor and with the help of a local industry determined that the company was producing an impurity which when combined with the hydrogen sulfide from the marsh areas of Wilmington, produced the MMP compound. NSSE personnel interviewed the DEQ representative by telephone and he confirmed his findings.

It was determined that the cat smell was produced by the combination of an organic compound called mesityl oxide (4-methyl-3-penten-2-one) CAS# 141-79-7 and hydrogen sulfide gas (H₂S) (found in the swamp gases). The local company explained to the NCDEQ that in its manufacturing process, acetone breaks down to form mesityl oxide (MO) which can react with hydrogen sulfide. Further chemical research showed that in the manufacturing of

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mesityl oxide, acetone reacts in an HCl solution to break down to MO. Additional internet research provided the key reaction for the formation of MMP from the combination of MO and H₂S. Forth knew that due to the age of the combined sewers, the sewers could contain hydrogen sulfide. It appeared that there was a potential for the formation of MMP.

Forth does not use acetone as a raw material. The only use of acetone at the facility is in the quality control laboratory and those volumes are very low; are collected as waste and disposed of off-site.

Forth Technologies provided samples of their wastewater and in-process steps from the suspect process to NSSE for analysis. Analysis of the samples produced low ranges (part per million) of organic compounds acetone and mesityl oxide.

From published literature; measured H₂S in municipal sewers with industrial discharges was estimated to be 20-200 ppm. Based on this range; the value of 200 ppm was selected for the evaluation. Review of available information of hydrogen sulfide and reactions with acetone and mesityl oxide was performed and a determination of the effects of hydrogen sulfide on each sample was performed.

In an attempt to mimic the conditions in the sewer, NSSE injected H₂S gas into the collected samples.

In the odor evaluation, it was known that the MMP would prove to have an odor threshold in the low parts per trillion. No analytical method was tried due to detection levels of gas chromatograph instrument could not detect that low, but instead two (2) individuals were used to determine smell (male and female).

If the individual in the odor test were to smell only hydrogen sulfide (H₂S); then there was no reaction to produce MMP. Results of the test showed detectable odor of cat urine from the process wastewater when combined with hydrogen sulfide. Note: There were no odors in the Forth wastewater when discharged because the MMP didn't form until combined with H₂S in the sewer.

The strong literature evidence and experimental analysis; indicated that the odor compound is most likely produced by the reaction of mesityl oxide (MO) and hydrogen sulfide (H₂S) present in the sewers. Acetone (when combined with MO) did not produce evidence of the MMP (cat urine) smell.

The results of the testing demonstrated the potential formation of MMP. Using this as a basis; Forth investigated why the odors were occurring now in the Shelby Park area since the product for which the potential odors can generate has been produced since 2009. The conclusion was the amount of wastewater produced by the plant as a whole had decreased significantly and the reduced flows made the concentration of the identified process higher and created a situation of a "slug" of material which could react with the hydrogen sulfide in the sewer. Forth immediately changed their process to segregate the process wastewater material and not allow it to slug feed into the wastewater discharge. The analysis for acetone was also added to the facility's wastewater sampling program at the request of MSD

Results of odor evaluation of dilution and oxidation of the process wastewater from the one process indicate that simple dilution can achieve odor control. Any slug loading appears to create levels of mesityl oxide which if in contact with H₂S can produce the cat urine odor. Attempts to oxidize the material provided unsuccessful results. No change was noted with various oxidation reagent (30% hydrogen peroxide) concentrations. The results demonstrate that slug loading of the process wastewater can produce detectable levels of cat urine odor (MMP) if it encounters hydrogen sulfide in the sewer.

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of "0", which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has

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completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Comment on APCD Proposed Action [#42]:

Deny Permit

There are over 800 pages of incidents, complaints, investigations etc. of the chemical companies in Shelby Park of which Forth Technologies is a part of. Forth Technologies has long been a poor steward of the neighborhood and a permit resulting in further damage to the surrounding community should not be granted. Until there is a resolution of what the existing smell is and what Forth Technologies continues to dump down the sewers to result in a MSD tested pH of 1.0 no further action should be taken.

VICTORIA DANVELO

Response:

The cat urine smell compound has been identified and the reaction of materials in the MSD sewers has been determined to cause the odor. Unbeknown, Forth Technologies was a contributor to the formation of this compound after the wastewater discharge from the plant. The facility did not put the odor causing compound in the sewer, but the wastewater from one chemical process at Forth created a reaction with the hydrogen sulfide in the sewer causing the odor.

Comment on APCD Proposed Action [#43]:

Opposition

After years of complaints against this company, I would like to oppose this permit.

Response:

The Forth Technologies facility has been in operation at this location since 1996. Forth takes every complaint they are aware of seriously and addresses it. Forth strives to maintain a compliant facility and has always wanted to be a good neighbor.

In all most 25 years of operation, the recent odor issues are the most complaints from the area. Initially, based on our understanding of the odor, Forth believed it was not the source. Upon learning additional information, Forth took action to evaluate its process and make changes. It is our understanding that no odor complaints have occurred in the area of Ormsby Street this year (2020).

Comment on APCD Proposed Action [#44]:

Opposition to O-1231-20-F

I would like to express my opposition and pose further questions on permit O-1231-20-F. I am a current resident of East Ormsby Ave and am concerned about the potential health impacts of this facility.

My question is as followed: While MSD officials stated in February that there is no danger in smell in Shelby Park, could you in your professional opinion completely rule out that other scientific professionals could not come to a different conclusion? Have any other professionals from other agencies or academic bodies been consulted as to the cause or impacts? Do we get a second opinion?

Right now I do not feel comfortable with the city's response. I know there is not empirical data to support this odor coming from a private actor, but we can't rule it out. Shelby Park deserves the right to have safe air. Please do not renew this permit until we have further substantive review.

Mitchell Hadley

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#45]:

I am opposing this permit because it allows for emissions that, as a resident of Shelby Park, I do not have information on and that I fear are related to the strange chemical-like odor that I often smell throughout the year. If this permit is to go forward, it would be highly appreciative of more information and investigation into our neighborhood's concerns.

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#47]:

Shelby Park resident opposed

I would like more information and health effects on the emissions before proceeding.

Thank you

Justin Tallio

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#48]:

Forth Pollution

I oppose the renewal of this permit due to the large amount of pollution being put into my neighborhood. Forth is not doing proper testing to accurately report its pollution levels for compliance.

Response:

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth’s customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

If a company desires to utilize Forth Technologies services; questions concerning air pollution permits and wastewater permits are always at the front of conversation and lack of permits or wastewater treatment can stop the

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new business. If Forth wants to add a new product and if a permit is needed; Forth will work with MSD and APCD to properly permit a new process.

Permits for air and wastewater have been renewed multiple times in the almost 25 years of operation. All applications are prepared by consulting engineers with knowledge of air pollution and water pollution regulatory requirements. Compliance with those permits are routinely checked by MSD and APCD. Sample analysis and recordkeeping is provided to demonstrate compliance.

Comment on APCD Proposed Action [#49]:

Please deny Forcht's permit to further pollute the neighborhood of Shelby Park.
Kathryn Aqua

Response:

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Comment on APCD Proposed Action [#50]:

I am asking APCD to oppose permit O-1231-20-F based on years of previous incidents and violations from Forth Technologies

Response:

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Comment on APCD Proposed Action [#52]:

Demand for Public Hearing

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I am very concerned as a resident of Shelby Park that this business may be contributing to the odor issues in our neighborhood, not to mention we are unsure if there are any potential health risks to the chemicals we are smelling. This company has numerous violations in the past and an open records request revealed that APCD is allowing higher levels of chemicals to be released into our system than Forth even requested. We demand a public hearing to be held virtually in the evening so residents can ask questions and get more information.

Maria Gurren

Response:

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Comment on APCD Proposed Action [#53]:

Neighborhood is requesting a public hearing before permit approval
Shelby Park neighborhood association is requesting a public hearing so that neighbors may ask questions in a formal setting.

Questions I would like answered:

1. Why are the HAP emissions not itemized and quantified?
2. Please itemize and quantify each component contributing to total HAP emissions.
3. Why is does the permit allow nearly 4x higher HAP emissions in comparison to the calculated emission limit that Forth derived?
4. Why isn't APCD setting the HAP limit closer to the business's calculated value?
5. Why is a calculated value acceptable when we all know that theoretical vs actual numbers vary greatly?
6. Has an independent or third party entity verified these calculated amounts?
7. Why isn't acetone regulated as an emission when this company has a history of (allegedly unknowingly) dumping acetone and creating a noxious odor in the neighborhood?
8. Why is this permit being allowed despite years of complaints and violations from the APCD, MSD, and visible pigment emissions being documented via Metro call 311 complaints?
9. Why is the APCD allow this company a permit when they are in violation of Kentucky Statutes 77.155, specifically subsection 2?

Abby Long

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Response:

The following are answers to the numbered questions:

- 1) In annual emission inventories submitted to APCD, Forth Technologies provides a detailed accounting of hazardous air pollutants (HAPs) at the facility. Forth customers have requested that the inventories be considered confidential. Without this confidentiality, Forth's customers would withdraw their business, as they are concerned about individuals stealing their formulas and manufacturing methodologies. APCD does see what each HAP is and the amounts of each HAP every year. The quantity of all HAPs combined have been significantly less than one (1) ton per year.
- 2) See response above.
- 3) The emission of HAPs are based on actual raw material usage and product production. Through the permitting process, "emission factors" are developed and agreed upon with the company and APCD. The emissions are calculated using these factors and multiplying by product/material usage. The permit limits are based on current APCD regulations. APCD limits are based on the classification of the facility.
- 4) See #3 above.
- 5) The "emission factors" are based on engineering calculations, stack testing by the company (or others), EPA published emission factors based on similar operations, or data from other similar operations. These "factors" are reviewed by APCD and the company and each are incorporated in the reporting.
- 6) The emission factors and emission estimates used are based on Environmental Protection Agency's compilation of emission in AP-42: Compilation of Air Emission Factors. These factors are updated routinely and are based on background documents which provide background information on how the AP-42 emission factors were obtained. These documents include a literature review, methodologies, and reference materials. Most background documents can be found on the EPA website.
- 7) Please be aware that Forth Technologies does not "dump" acetone. Acetone is found in the wastewater discharge, but it is from a wastewater not a solvent. Any solvent acetone (used in laboratory) is collected and properly packaged for shipment off-site for disposal/treatment by a waste contractor. Regular inspections are performed by the company and the Kentucky Division of Waste Management. Annual reports are submitted to the Division of Waste Management.
- 8) Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth's customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

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- 9) Forth is in compliance with Statues on Hazardous Air Pollutants.

Comment on APCD Proposed Action [#54]:

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OPPOSE Permit O-1231-20-F

I request that you oppose permit O-1231-20-F due to consistent incidents and violations causing air quality issues by Fourth Technologies.

Kristen Valentine

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Comment on APCD Proposed Action [#55]:

Delay permit approval until a public hearing is held

We ask that the comment period be extended until a virtual public hearing for neighbors to ask questions in an informal setting can be scheduled. Neighbors request that the hearing be on a weeknight evening.

While hazardous air pollutants and particulate matter <10 microns emissions in a 12 month limit are within EPA guidelines, current emissions testing is monitored, recorded, and reported by Forth Technologies. These calculations appear to be estimated and not actual monitored values. Why has no monitoring happened to ensure that the calculated estimates are accurate? Why are the calculated theoretical emission levels for 2018 of PM10 – 6.83 tons per year and the APCD permit allows for 25 tons per year or less? The APCD is allowing nearly 4x times higher than the calculated PM10 level. Why are the calculated theoretical emission levels for 2018 of total HAP –0.23 tons per year and the APCD permit allows for 12.5 tons per year or less? The APCD is allowing 50x times higher than the calculated total HAP level. Why are the calculated theoretical emission levels for 2018 of a single HAP –<1 ton per year and the APCD permit allows for 5 tons per year or less? The APCD is allowing 5x times higher than the calculated total HAP level. This leads us to two conclusions. Either Forth has no grasp on their actual emissions or APCD doesn't have a grasp on the business's emissions. Both are concerning considering the APCD is the agency who should be working to identify gaps in emissions and holding the business in account to lower them.

Considering the past 1-2 years of interactions with APCD and obtained open records, the Shelby Park Neighborhood Association has no confidence in the public agency responsible for improving Louisville's air quality.

In spring/summer 2019 at a Shelby Park neighborhood meeting, an APCD representative verbally said we should not be concerned about the industrial businesses here and that chemicals either on site or being produced on site had no associated health risks. When we asked for that in writing, we were denied.

Forth Technologies is in violation of Kentucky Statutes 77.155.

Please respond by close of business on May 13, 2020 informing us if the public meeting request has been approved or denied.

Abby Long

Response:

The regulatory levels and how they are arrived at and applied may be better answered by APCD; Forth will leave that to them.

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth's customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

Forth Technologies Response to Public Comments

If a company desires to utilize Forth Technologies services; questions concerning air pollution permits and wastewater permits are always at the front of conversation and lack of permits or wastewater treatment can stop the new business. If Forth wants to add a new product and if a permit is needed; Forth will work with MSD and APCD to properly permit a new process.

Permits for air and wastewater have been renewed multiple times in the almost 25 years of operation. All applications are prepared by consulting engineers with knowledge of air pollution and water pollution regulatory requirements. Compliance with those permits are routinely checked by MSD and APCD. Sample analysis and recordkeeping is provided to demonstrate compliance.

Comment on APCD Proposed Action [#56]:

Opposing Forth Technologies

The Shelby Park Neighborhood has had many air pollution problems over the past few years and we do not want to endure any new instances. This company has a proven record of noncompliance and deficient testing procedures. Please deny their application until they have proven they are capable of assessing their impact on our community in a reputable and trustworthy manner.

Abbey Bowman-Rogers

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

The cat urine smells have been a problem over the past couple of years, but as expressed in our Odor Evaluation; future odor production associated with a single process have been identified and will be prevented. However, sewer odor (especially considering the design of the sewers are old and are “combined” (wastewater and stormwater in same pipe)) cannot be prevented as natural process generate odors which are objectionable. Until city monies and budgets are directed in this area; some odor will remain.

Respectfully, Forth can only control what they discharge to the sewer. The sewers have historically been an issue in this neighborhood even before Forth Technologies started their operations. The sewers need improvement throughout the city, but as a result of this recent odor issue; MSD has made improvements to reduce odors. The replacement of vented manholes and catch basins with sealed manholes and carbon filters will help, but the age of the sewers and design make this a continuous challenge.

Comment on APCD Proposed Action [#57]:

Permit Denied

I write today to express my opposition to the permit Forth Technologies, Inc., is requesting for their plant. They have a long history of previous incidents and violations. It is NOT in the city's best interest to approve this permit.

Additionally I am requesting a public hearing on this issue and that it be conducted at such time as to give the Shelby Park Neighborhood residents and others close by the chance to attend. It is imperative in this process to have an open hearing which best allows the residents to participate. Further I would request the hearing be held in the neighborhood so as to afford resident easier access to the hearing. And, if the city chooses to do a virtual meeting for this process that locations such as the Shelby Park Community Center be opened to residents to come in for a shared meeting of this type as many of the residents do not have the high speed internet service needed for such meetings.

Richard Meadows

Response:

Forth Technologies Response to Public Comments

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As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth’s customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

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Comment on APCD Proposed Action [#58]:

Please reject Forth's permit

We have ongoing concerns about problematic chemicals being processed in our neighborhood. Bad smells from sewers, likely caused by acetone and other chemicals, have plagued the area around Ormsby Avenue for several years. Based on the results of an open records request that reveal violations from Forth, we request either a refusal for this permit or stricter limits, better oversight and enforcement of the company's waste disposal practices.

Matthew Ruben

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#59]:

I oppose the permit and would like to request a public hearing as well

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#60]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.

Forth Technologies Response to Public Comments

Response:

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Comment on APCD Proposed Action [#61]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.
Joni Jenkins

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Forth Technologies Response to Public Comments

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Comment on APCD Proposed Action [#62]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.
John Jenkins

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#63]:

I oppose this permit and would like to request a public hearing.

Response:

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Comment on APCD Proposed Action [#64]:

As a resident nearby the Shelby park area I oppose the permit 0-1231-20-F and would like to request a public hearing.

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Forth Technologies Response to Public Comments

Comment on APCD Proposed Action [#65]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#66]:

I oppose this permit and would like to request a public hearing

I oppose permit 0-1231-20-F and would like to request a public hearing

Response:

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Comment on APCD Proposed Action [#67]:

I oppose this permit.

Response:

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Comment on APCD Proposed Action [#68]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.

Response:

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Forth Technologies Response to Public Comments

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Comment on APCD Proposed Action [#69]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.

Response:

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Forth Technologies Response to Public Comments

Comment on APCD Proposed Action [#70]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth’s customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

If a company desires to utilize Forth Technologies services; questions concerning air pollution permits and wastewater permits are always at the front of conversation and lack of permits or wastewater treatment can stop the new business. If Forth wants to add a new product and if a permit is needed; Forth will work with MSD and APCD to properly permit a new process.

Permits for air and wastewater have been renewed multiple times in the almost 25 years of operation. All applications are prepared by consulting engineers with knowledge of air pollution and water pollution regulatory requirements. Compliance with those permits are routinely checked by MSD and APCD. Sample analysis and recordkeeping is provided to demonstrate compliance.

Comment on APCD Proposed Action [#71]:

I would like to request a public hearing

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

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Forth Technologies Response to Public Comments

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Comment on APCD Proposed Action [#72]:

I oppose any more release of contaminants in the air, and when visiting friends in the area, I notice a smell that is coming from the site

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

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Comment on APCD Proposed Action [#73]:

I oppose permit O-1231-20-F and request a public hearing.

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has

Forth Technologies Response to Public Comments

completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

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Comment on APCD Proposed Action [#74]:

Oppose permit
I oppose permit

Response:

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Forth Technologies Response to Public Comments

Comment on APCD Proposed Action [#75]:

I oppose
Mary Lidtke

Response:

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Comment on APCD Proposed Action [#76]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#77]:

Opposed
would like to request a public hearing.

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#78]:

I am opposing permit 0-1231-20 F and would like to request there be a public hearing.

Forth Technologies Response to Public Comments

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#79]:

I am opposing permit 0-1231-20-F and would like to request there be a public hearing

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Forth Technologies Response to Public Comments

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Comment on APCD Proposed Action [#80]:

I oppose and would like and public hearing!

I oppose this permit, and would like a public hearing!

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#81]:

Pollution

Please have a public meeting about this. It’s bad enough that we’re stuck in our homes- now contaminates will be added.

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#82]:

I am Opposing permit 0-1231-20-F and would like to request there be a public hearing.
James Ehringer

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#85]:

Forth Technologies Response to Public Comments

Please don't allow this permit to pass. Our health matters.

Response:

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Comment on APCD Proposed Action [#86]:

Please oppose permit O-1231-20-F based on years of violations and incident reports obtained from open records.

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#87]:

I oppose 0-1231-20-F

Hello - I would like to state that I strongly oppose 0-1231-20-F and would like a public hearing regarding this matter. I know that will be challenging during a pandemic but the people being impacted by this should have the opportunity to share their opinions.

Rebecca Hammer

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Forth Technologies Response to Public Comments

Comment on APCD Proposed Action [#88]:

Please oppose permit O-1231-20-F based on years of violations and incident reports obtained from open records & hazardous air pollutants not being itemized individually with listed quantities.

Jody

Response:

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Comment on APCD Proposed Action [#89]:

GPNA Opposing Permit and Requesting Public Hearing
From GermanParistown Neighborhood Association
Board of Directors/

To Whom it Concerns at APCD:

By a special vote taken the GPNA Board of Directors has chosen to support the position taken, and the detailed listing provided in the May 12, 2020 Shelby Park Neighborhood Association that was presented by their president and board members in sharing their stance of opposition to the Proposed FEDOOP Operating Permit)-1231-20-F. They have also made clear their desire for a Public Hearing to be held by APCD in review of this Permit. To be clear we forward this so GPNA is on record in our joining in support of their opposition and request for a Public Hearing. Our major concern is that this permit request is seeking permission for the company filing to move forward in a way that will negatively impact air quality of our portion of the city made up of several neighborhood associations. Concerns for such issues has certainly been brought to light during 2020. Indeed the impact of the Corona Virus has demonstrated well that airborne germs, viruses, odors and poor air quality won't stop tied to neighborhood association boundaries in any city and this includes Louisville, Kentucky. The western part of GermanParistown boundaries connect with the Shelby Park boundaries. Thus for this issue being reviewed there is very close proximity. And to purposefully repeat, GPNA is offering our opposition to the permit, and we join with our brother-sister neighborhood in requesting that a Public Hearing be set and held by APCD. Here is the wording of the letter referenced above that has already been forwarded by SPNA to APCD accordingly-

May 12, 2020

Dear APCD & Louisville councilperson(s),

We are writing today regarding Proposed FEDOOP Operating Permit O-1231-20-F with Forth Technologies, Inc. in District 4 at 600 Bergman St, Louisville KY 40208. The neighborhood in which this business operates is opposed to the renewal of its operating permit. We ask that the comment period be extended until a virtual public hearing for neighbors to ask questions in an informal setting can be scheduled. Neighbors request that the hearing be on a weeknight evening.

Forth Technologies Response to Public Comments

While hazardous air pollutants and particulate matter <10 microns emissions in a 12 month limit are within EPA guidelines, current emissions testing is monitored, recorded, and reported by Forth Technologies. These calculations appear to be estimated and not actual monitored values. Why has no monitoring happened to ensure that the calculated estimates are accurate? Why are the calculated theoretical emission levels for 2018 of PM10 – 6.83 tons per year and the APCD permit allows for 25 tons per year or less? The APCD is allowing nearly 4x times higher than the calculated PM10 level. Why are the calculated theoretical emission levels for 2018 of total HAP –0.23 tons per year and the APCD permit allows for 12.5 tons per year or less? The APCD is allowing 50x times higher than the calculated total HAP level. Why are the calculated theoretical emission levels for 2018 of a single HAP –<1 ton per year and the APCD permit allows for 5 tons per year or less? The APCD is allowing 5x times higher than the calculated total HAP level. This leads us to two conclusions. Either Forth has no grasp on their actual emissions or APCD doesn't have a grasp on the business's emissions. Both are concerning considering the APCD is the agency who should be working to identify gaps in emissions and holding the business in account to lower them. Considering the past 1-2 years of interactions with APCD and obtained open records, the Shelby Park Neighborhood Association has no confidence in the public agency responsible for improving Louisville's air quality.

In spring/summer 2019 at a Shelby Park neighborhood meeting, an APCD representative verbally said we should not be concerned about the industrial businesses here and that chemicals either on site or being produced on site had no associated health risks. When we asked for that in writing, we were denied. We ask for itemized and quantified HAP emissions and a written letter stating that the quantity and concentration of chemicals Forth keeps on site pose no adverse health risks to its residential neighbors. Forth Technologies is in violation of Kentucky Statutes 77.155.

If you have any questions about this letter, or need additional information, please call me at (731) 676-0195. You may also contact me at abbyl_2008@hotmail.com.

Please respond by close of business on May 13, 2020 informing us if the public meeting request has been approved or denied.

Sincerely,

Abby Long, Maria Gurren, Matt Ruben, & Chip Rogalinski, president

Response:

The regulatory levels and how they are applied may be better answered by APCD; Forth will leave that to them.

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth's customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

If a company desires to utilize Forth Technologies services; questions concerning air pollution permits and wastewater permits are always at the front of conversation and lack of permits or wastewater treatment can stop the new business. If Forth wants to add a new product and if a permit is needed; Forth will work with MSD and APCD to properly permit a new process.

Permits for air and wastewater have been renewed multiple times in the almost 25 years of operation. All applications are prepared by consulting engineers with knowledge of air pollution and water pollution regulatory requirements. Compliance with those permits are routinely checked by MSD and APCD. Sample analysis and recordkeeping is provided to demonstrate compliance.

As a small family owned business, Forth prides itself in meeting the challenge of regulatory and customer oversight. We have always provided full access to our facility to regulatory agencies (EPA, APCD, MSD, DOT, OSHA, Homeland Security) and routinely provide them data about all the chemicals and processes at the facility. The

Forth Technologies Response to Public Comments

hero's from Fire Department Ladder 15 have toured the facility and we support them in every way. Forth has provided the information to these professionals with all transparency. We have a good working relationship.

Unfortunately, out of respect and contractual issues with our customers, Forth cannot always provide information which our customers deem confidential. However, Forth realizes its shortcomings with respect to GermanParistown neighborhood engagement and involvement.

While the company has never been invited, we haven't reached out and should have to the neighborhood. We want to do more in this area and hope you can agree that it will be beneficial for all.

Comment on APCD Proposed Action [#90]:

I would like to oppose the permit based on years of previous incidents and violations from Forth Technologies Inc.

Trisha Torpey

Response:

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

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If a company desires to utilize Forth Technologies services; questions concerning air pollution permits and wastewater permits are always at the front of conversation and lack of permits or wastewater treatment can stop the new business. If Forth wants to add a new product and if a permit is needed; Forth will work with MSD and APCD to properly permit a new process.

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Comment on APCD Proposed Action [#91]:

I and the Shelby Park Neighborhood Association Oppose This Permit

As a resident of Shelby Park and the Secretary of the Shelby Park Neighborhood Association I am very concerned that this business may be contributing to the odor issues in our neighborhood. There seems to be potential health risks as well, which is an even bigger concern. This company has had numerous violations in the past and an open records request revealed that APCD is allowing higher levels of chemicals to be released into our system than Forth even requested. We demand a public hearing to be held virtually in the evening so residents can ask questions and get more information.

Casey Hamm

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of "0", which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated.

Forth Technologies Response to Public Comments

The thirteen years of records review which resulted in the incidents and reports from APCD as referenced in the comments have been resolved. The facility has had some upset conditions, but each were resolved and the incident closed by APCD.

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth's customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

If a company desires to utilize Forth Technologies services; questions concerning air pollution permits and wastewater permits are always at the front of conversation and lack of permits or wastewater treatment can stop the new business. If Forth wants to add a new product and if a permit is needed; Forth will work with MSD and APCD to properly permit a new process.

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Comment on APCD Proposed Action [#92]:

Neighbor in strong opposition due to past performance of Forth Tech. Inc. Forth Technologies history of poor performance, violations, and past incidents coupled with their lack of communication and blatant willingness to hide or obfuscate facts from residents is a clear call for action for this governing body to reevaluate this permit. A public hearing should be scheduled and allow the neighboring residents and businesses to express their concerns.

Michael Hall

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of "0", which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated.

The thirteen years of records review which resulted in the incidents and reports from APCD as referenced in the comments have been resolved. The facility has had some upset conditions, but each were resolved and the incident closed by APCD.

The permitting and oversight by APCD and MSD does work. Permits control amounts of pollution by requiring recordkeeping, reporting, maintenance on equipment, emission inventories, testing, and inspections. Routine inspections by MSD and APCD provide oversight of the facility operations. Odor issues are difficult to evaluate; the science and lack of analytical capability to see compounds down to the part per trillion or below; creates an extended project time to get the answer. The cat urine odor cause has been identified and corrected by Forth Technologies.

In Forth Technologies main business we produce non-hazardous pigment type products for such industries as automotive paint colors and cosmetics.

Forth Technologies Response to Public Comments

As a small family owned business, Forth prides itself in meeting the challenge of regulatory and customer oversight. We have always provided full access to our facility to regulatory agencies (EPA, APCD, MSD, DOT, OSHA, Homeland Security) and routinely provide them data about all the chemicals and processes at the facility. The hero's from Fire Department Ladder 15 have toured the facility and we support them in every way. Forth has provided the information to these professionals with all transparency. We have a good working relationship.

Unfortunately, out of respect and contractual issues with our customers, Forth cannot always provide information which our customers deem confidential. However, Forth realizes its short comings with respect to Shelby Park neighborhood engagement and involvement.

While the company has never been invited, we haven't reached out and should have to the neighborhood. We want to do more in this area and hope you can agree that it will be beneficial for all.

Comment on APCD Proposed Action [#93]:

Please deny the current permit request due to past non-compliance and the continuing odor problem and I request the scheduling of a public hearing.

Donna Trabue

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#94]:

Please deny a permit and have a public hearing on this matter

Dan Trabue

Response:

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Forth Technologies Response to Public Comments

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Comment on APCD Proposed Action [#95]:

This permit must not be granted and a public hearing needs to be held.
Sarah Trabue

Response:

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Comment on APCD Proposed Action [#96]:

I implore you to deny this permit and hold a public hearing.
Mary Helton

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of "0", which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Forth Technologies Response to Public Comments

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Comment on APCD Proposed Action [#97]:

This must be opposed and a public hearing held for the consideration of neighborhood residents and their quality of life!

Mary Trabue

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#98]:

I oppose permit based off years of violations and incidents from open records

Forth Technologies Response to Public Comments

This foul chemical smell has been driving people out of the Shelby park neighborhood for years. No one should have to live with this noxious chemical in the air close to their home.

Years and years of violations and incidents where they have not done what they should have done, why would they in the future if residents don't patrol it. Residents shouldn't have to. They should be able to live here without worrying about this.

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#99]:

Deny Permit inconsistency in reporting and measuring

These inconsistencies lead me to think they may not have a true grasp on how much emissions are getting into the air. Please deny this permit.

Response:

The emission of HAPs are based on actual raw material usage and product production. Through the permitting process, "emission factors" are developed and agreed upon with the company and APCD. The emissions are calculated using these factors and multiplying by product/material usage. The permit limits are based on current APCD regulations. APCD limits are based on the classification of the facility.

The "emission factors" are based on engineering calculations, stack testing by the company (or others), EPA published emission factors based on similar operations, or data from other similar operations. These "factors" are reviewed by APCD and the company and each are incorporated in the reporting.

Comment on APCD Proposed Action [#100]:

Oppose Permit O-1232-20-F

Please oppose permit O-1232-20-F due to hazardous air pollutants not being itemized individually with listed quantities.

Forth Technologies Response to Public Comments

Response:

The emission of HAPs are based on actual raw material usage and product production. Through the permitting process, “emission factors” are developed and agreed upon with the company and APCD. The emissions are calculated using these factors and multiplying by product/material usage. The permit limits are based on current APCD regulations. APCD limits are based on the classification of the facility.

The “emission factors” are based on engineering calculations, stack testing by the company (or others), EPA published emission factors based on similar operations, or data from other similar operations. These “factors” are reviewed by APCD and the company and each are incorporated in the reporting.

Comment on APCD Proposed Action [#101]:

Opposition to Forth Tech Permit

Please oppose permit O-1231-20-F based on years of violations and incident reports obtained from open records.
Darcee Rogers

Response:

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

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Comment on APCD Proposed Action [#102]:

See Attached document 20-COR-0514A

Patrick Segers

Response:

No comment.

Comment on APCD Proposed Action [#103]:

Due to the odors that this company created in our neighborhood with little to no resolution from public agencies.

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Forth Technologies Response to Public Comments

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Permits for air and wastewater have been renewed multiple times in the almost 25 years of operation. All applications are prepared by consulting engineers with knowledge of air pollution and water pollution regulatory requirements. Compliance with those permits are routinely checked by MSD and APCD. Sample analysis and recordkeeping is provided to demonstrate compliance.

Comment on APCD Proposed Action [#104]:

I oppose permit O-1232-20-F due to hazardous air pollutants not being itemized individually with listed quantities. Furthermore, the calculated emission limit by Forth and the limit that the APCD is allowing is much higher leading me to question whether the company or APCD have a grasp of actual emissions. This is an identified gap that requires answers, resolution, and clarification.

Response:

The emission of HAPs are based on actual raw material usage and product production. Through the permitting process, "emission factors" are developed and agreed upon with the company and APCD. The emissions are calculated using these factors and multiplying by product/material usage. The permit limits are based on current APCD regulations. APCD limits are based on the classification of the facility.

The "emission factors" are based on engineering calculations, stack testing by the company (or others), EPA published emission factors based on similar operations, or data from other similar operations. These "factors" are reviewed by APCD and the company and each are incorporated in the reporting.

Comment on APCD Proposed Action [#105]:

Please no!

As a resident affected by the STRONG ODOR Forth Technologies has generated INSIDE MY HOME for years, I implore you to reject this proposal for the benefit of me, my family, and my neighbors. Please care about our air quality, because we care about it every single day.

Response:

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of "0", which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Forth Technologies Response to Public Comments

Comment on APCD Proposed Action [#106]:

Smell

The smell coming from this place is not only unpleasant but not good for us. Please take their permit away.

Cheri Lamaster

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#108]:

Please deny Forth Technologies permit for operation and have a public hearing. Polluting the community's air should not be acceptable for any company in operation.

Jennifer Chappell

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#109]:

Please deny this permit in our community and investigate to see what is going on at this company. Our community deserves to be safe and clean!

Julianne Thomas

Forth Technologies Response to Public Comments

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of “0”, which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and Forth has been located on Bergman Street since 1996 and during that time permit applications (both new and renewals) have occurred.

As such, Forth is under high scrutiny by its customers and regulatory agencies. Forth’s customers routinely audit the facility for quality assurance, product quality, and regulatory compliance. Likewise, regulatory agencies routinely inspect the facility for compliance. If Forth does not achieve benchmarks in all these areas corrective actions are taken to correct any issues.

If a company desires to utilize Forth Technologies services; questions concerning air pollution permits and wastewater permits are always at the front of conversation and lack of permits or wastewater treatment can stop the new business. If Forth wants to add a new product and if a permit is needed; Forth will work with MSD and APCD to properly permit a new process.

Permits for air and wastewater have been renewed multiple times in the almost 25 years of operation. All applications are prepared by consulting engineers with knowledge of air pollution and water pollution regulatory requirements. Compliance with those permits are routinely checked by MSD and APCD. Sample analysis and recordkeeping is provided to demonstrate compliance.

Comment on APCD Proposed Action [#110]:

Please deny this permit. This company has already caused noxious odors in the area and never really took responsibility. It is effecting the quality of life in our neighborhood.
Suzanne Bernert

Response:

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Forth Technologies Response to Public Comments

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Comment on APCD Proposed Action [#111]:

I am tired of “the smell”!

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Comment on APCD Proposed Action [#112]:

OPPOSE This Permit

As a resident in the area, there are multiple concerns regarding health and air quality surrounding this company and its permit. Environmental impact studies by multiple agencies that determine health impacts should be required before any further permits are allowed.

Cassie Auxier

Response:

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Comment on APCD Proposed Action [#113]:

Due to noxious prevelant noxious odors possibly coming from Forth Technologies I urge the APCB to deny Forth Technologies permit and schedule a public hearing on the matter, either live or virtual. The health and quality of life of citizens in the neighborhood it at stake.

Kathy Sandman

Response:

The compound which has caused the “cat urine” smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit

Forth Technologies Response to Public Comments

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The Safety Data Sheet (M&U International) on the substances describes the material as a skin and eye irritant at high concentration and the vapors of the pure substance can be flammable. It received a NFPA Health Rating of "0", which means it has a low health effect on individuals. It is not listed as a carcinogen. Forth Technologies has completed an odor evaluation which demonstrates how it is generated. Based on available information, the odor compound at the levels of detectable smell have a low health risk on individuals.

Forth Technologies Response to Public Comments

Dear APCD & Louisville councilpersons,

We are writing today regarding Proposed FEDOOP Operating Permit O-1231-20-F with Forth Technologies, Inc. in District 4. The neighborhood in which this business operates is opposed to the renewal of its operating permit. While hazardous air pollutants and particulate matter <10 microns emissions in a 12 month limit are within EPA guidelines. Current emissions testing is monitored and recorded by Forth Technologies. We have reason to doubt their numbers are valid and/or accurate based open records dating back to 2006.

MSD claims to have solved the odor in conjunction with IWD & APCD in February 2020. 1 A Shelby Park business was not named but identified as unknowingly creating acetone by-product. If a business unknowingly creates acetone in its effluent stream, then we definitely have concerns around their known released hazardous air emissions. We have reason to believe that Forth Technologies is the unnamed business in this article. In April 2019, APCD & MSD told Shelby Park Neighborhood Association they planned to investigate Forth Technologies. APCD referenced seasonal production of a product called Lignite that they believed to be producing a noxious smell.

Open records pulled from 2006-2019 show, Forth Technologies has 5 incidents and citation reports of non-compliance and/or deficient testing procedures. In 2009, a complainant stated there was dark blue smoke coming from the business.

Forth claims to have remediated the condition and assured future improvement, but open records show a different story. In 2011, they were cited to have reporting and stack testing deficiencies. In 2013, they were cited for operating equipment that had not had a valid permit since 2008. In 2013, an anonymous call to APCD reported a cloud of yellow smoke coming out of the building.

In 2019, APCD received an anonymous call stating Forth Technologies was emitting toxic chemical fumes. APCD & MSD crews validated that an odor was emanating upon physical site follow up. Shelby Park is a neighborhood on the rise, and we will not tolerate this business further polluting our neighborhood air.

We do not want another situation like 2006 with Antec. We are being proactive in opposing businesses who fail to protect the neighborhood in which it operates.

Please deny their operating permit until Forth has proven to have capable, technical people in place to accurately assess emissions and validated, stringent analytical practices.

We request that a spokesperson attend our monthly neighborhood association meeting to respond to residents' concerns. If you have any questions about this letter, or need additional information, please call me at (731) 676-0195. You may also contact me at abbyl_2008@hotmail.com.

Sincerely, Shelby Park Neighborhood Association board
Maria Gurren, Casey Hamm, Sarah Height, Michelle Kurland, Abby Long, Ryan Reimers, Matt Ruben, & Chip Rogalinski, president

Response:

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Forth Technologies Response to Public Comments

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Permits for air and wastewater have been renewed multiple times in the almost 25 years of operation. All applications are prepared by consulting engineers with knowledge of air pollution and water pollution regulatory requirements. Compliance with those permits are routinely checked by MSD and APCD. Sample analysis and recordkeeping is provided to demonstrate compliance.

In annual emissions inventories submitted to APCD, Forth Technologies provides a detailed accounting of hazardous air pollutants (HAPs) at the facility. Forth customers have requested that the inventories be considered confidential. Without this confidentiality, Forth's customers would withdraw their business, as they are concerned about individuals stealing their formulas and manufacturing methodologies. APCD does see each HAP and the amounts of each HAP every year. The quantity of all HAPs combined have been significantly less than one (1) ton per year.

The emission of HAPs are based on actual raw material usage and product production. Through the permitting process, "emission factors" are developed and agreed upon with the company and APCD. The emissions are calculated using these factors and multiplying by product/material usage. The permit limits are based on current APCD regulations. APCD limits are based on the classification of the facility.

The "emission factors" are based on engineering calculations, stack testing by the company (or others), EPA published emission factors based on similar operations, or data from other similar operations. These "factors" are reviewed by APCD and the company and each are incorporated in the reporting.

Forth would like to correct the statements concerning the acetone in the wastewaters from the facility. First, Forth Technologies does not "dump" any acetone to the sewers. There is acetone generated in wastewaters from a single process at the facility in low concentrations.

The compound which has caused the "cat urine" smell has been identified. The compound is 4-mercapto-4-methyl-2-pentanone, often referred to as MMP or Feline P. It is found in sauvignon wine, beer, green tea, and grapefruit juice. The odor threshold in water is 0.1-5 parts per trillion. (Note: A part per trillion is equivalent to one inch in 16 million miles.)

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Forth would like to correct the referenced seasonal production of a product referred to a Lignite as the source of the odor. The material is a humic acid product used in plant food and is not a product which is discharged to the sewer. This product does not produce wastewater in its production.

The thirteen years of records review which results in the incidents and reports from APCD as referenced in the comments have been resolved. The facility has had some upset conditions, but each were resolved and the incident closed by APCD.

Forth Technologies have been in the Shelby Park area since 1996. Forth has tried to be a good neighbor and show good compliance with their permits through monitoring of throughputs, maintenance, and routine inspections. Has the facility experienced minor upset conditions over the almost 25 years at this location; yes, but the facility has always used external resources, regulatory agency help, and consultants in both the environmental and safety areas to solve the issues