From: Dickinson ND <noreply@civicplus.com>
Sent: Wednesday, January 10, 2024 3:14 PM
To: Joshua Skluzacek <Joshua.Skluzacek@dickinsongov.com>
Subject: Webform submission from: Citizen Concern

Submitted on Wed, 01/10/2024 - 3:13 PM

Submitted by: Anonymous

Submitted values are:

Request Type
Zoning Violation

Contact
Lori Sticka
lrsticka@gmail.com

Subject
Project:SUP-001-2024

Message
I ask that this special use permit be denied, if you do your research you will find these produce hazardous fumes, dust(auto fluff), and loud noise and the hammer mills will shake our house as only 300 feet away. We can't live in these circumstances and conditions. Aren't we allowed to live And enjoy our home and yard-would any of you approve of this permit if it were next to your home???? When we purchased our forever home we were in the county with cows in a pasture next to us. Beautiful and peaceful. This auto salvage yard should have never been allowed to be here in first place(no fault of their own) as city allowed it. The city should help this business in moving to a location where there is no homes or businesses near by. I beg you to deny special use permit-it is wrong on so many levels. Where are our rights to live in safe environment. It was when we moved here.

From: Dickinson ND <noreply@civicplus.com>
Sent: Wednesday, January 10, 2024 10:09 AM
To: Sylvia Miller
Subject: Project:SUP-001-2024

Name: Lori Sticka
Email: lrsticka@gmail.com

Message: I have sent via mail supporting evidence of the hazards of a car shredder, noise, fumes and dust(auto fluff). Please read and consider before making a decision. I respectfully ask that you deny the special use permit. Our life's

would be put at risk. Thank you.

From: Dickinson ND <noreply@civicplus.com>
Sent: Tuesday, January 9, 2024 5:49 PM
To: Sylvia Miller
Subject: Project:SUP-001-2024

Name: Lori sticka
Email: lrsticka@gmail.com

Message: We received notice today of public hearing on placing an American pulverizer car shredder within 300 feet of our home. I have done research on this and have found the noise level and dust(fluff) produced from this operation is hazardous. There are currently lawsuits in Chicago and Pittsburgh about these hazards. The EPA has stepped in. In the researched it has shown if these machines are put inside buildings with noise reducing panels and proper capture of the dust it is recommended. I would ask that this permit be denied as we are getting up there in age and spend the majority of our time at our home. With this noise level and dust, it would make it inhabitants. We often have grandchildren at our home and I wouldn't want them exposed to the noise and hazardous fumes,dust etc. Please consider our health and concerns with this project. If it is approved please enforce a noise reduction fence and fumes are properly contained and regulations are followed. I have contacted the ND EPA department to get their input. I have articles,etc. That I can

forward to your board. Please decline this special use permit.

Lori Sticka
2691 East Villard Street
Dickenson, ND 58601
January 10, 2024

Dickenson Planning + Zoning Commission
38 1st Street West
Dickenson, ND 58601

I am writing in regards to project SUP-001-2024 as I won't be able to attend public meeting due to medical issue.
I would ask that this special use permit be denied due to the hazardous fumes, dust (auto fluff) + noise + the close proximity to our home.
As I have told the city many times before, when we were annexed back in the 80's we were assured by Art Baumgartner nothing but storage or in + out business would be allowed.
When we purchased our "forever home" we were in the country - we had cows next door.
I don't know how a heavy metal salvage yard was ever allowed to move in, but to no fault of Robertson's - they have a business to run - but we live here 24/7. As homeowners don't we have a right to enjoy our home + yard. As it is there are days we can't be outside or open

windows due to noise & smell.
I have done research on these car shredders & they are loud, cause alot of fumes & dust (auto fluff). They are considered hazardous & have been known to cause heart & health issues.
Please read attached articles - as I have complained to city many times that they should help relocate this business to an out of town location. Bpenta workers are outside alot & I would think it would also affect them.

I respectfully ask that this special use permit be declined. I feel we have a right to enjoy our home - please ask yourselves would you want this next to your home that you have invested your life savings in.

Please decline special use permit
SUP-001-2024

Respectfully,

Lori Sticka
Ronald Sticka

Cahill says iron dust, which auto shredders produce a lot of, is **highly toxic and can cause breathing and heart problems.**

Oct 17, 2018

https://www.nrdc.org › stories › cru...

Crushing Cars Is a Loud, Smelly Business That's Terrible for Air Quality

Is auto shredder fluff hazardous?

Tiny particles of metal from the shredder and dust from the facility are also concerns from an air quality and public health perspective. In addition, **processing of auto shredder residue produces "auto fluff," a material that can qualify for treatment as a hazardous waste**. Aug 2, 2018

https://www.nrdc.org › bio › whats-...

What's the Problem with a Facility that

Noise Control for a Metal Shredder and Recycling System

Luke A. Saxelby, j.c. brennan & associates, Inc., Auburn, California

This article examines the performance of a building enclosure for controlling community noise associated with a metal shredder and recycling system. The building enclosure was found to exceed expected performance. Additionally, community response is positive regarding the noise control performance of the enclosure.

Environmental noise control measures were implemented for a large metal recycling system. The shredder is capable of processing up to 60-inch-widewide objects for crushing and recycling, such as appliances, engine blocks, and various scrap metal. The shredder is powered by a 1,000-HP electric motor and has an hourly capacity of 20 tons of material.

Background

The proposed shredder consisted of a 60 × 60 American Pulverizer Shredding System. The shredder is capable of accepting material up to 60 inches wide and is equipped with a 1,000-HP electric motor. The shredder receives raw material into the shredding hopper via a conveyor system. Shredded material is sorted using a system of magnets and Eddy-current separators. Sorted material is placed in stockpiles around the shredder through a conveyor system. Figures 1 and 2 show the proposed shredder system before construction of the noise enclosure building.

The proposed shredder was to be located within approximately 500 feet of the nearest noise-sensitive residential area and would operate continuously during daytime (7 a.m. to 5 p.m.) work hours, up to six days per week. Figure 3 shows the location of the shredder and sensitive receptors located around the project site.

Under the local noise ordinances, the shredder cannot exceed an hourly L_{eq} of 55 dBA at the property line of the residential area.

Evaluating Shredder Noise Levels

To assess noise levels from the proposed shredder, reference data were collected for a similar American Pulverizer shredder. The shredder was slightly larger, with a material capacity of up to 85 inches. The data indicated that the shredder would generate noise levels up to 82 dBA L_{eq} at a distance of 180 - 200 feet. The reference data also indicated that the noise source was fairly broadband across the 250 - 2,000-Hertz octave spectrum. Figure 4 shows the measured shredder noise level spectrum at 180 - 200 feet.

Based on a paper presented at Noise-Con 2011, INCE 25th Annual Conference, Portland, OR, July 2011.

Figure 1. Shredder system (left side).

The reference noise level data were used with Equation 1 to evaluate the shredder noise levels at the nearest property line

$$L_2 = L_1 - 20 \times Log\left(\frac{d_2}{d_1}\right) \quad (1)$$

where:

L_1 = Reference sound pressure level, dBA
L_2 = Sound pressure level at residential property line (500 feet)
d_1 = Distance from source to L_1 (200 feet)
d_2 = Distance from source to L_2 (500 feet)

Based on this formula and the reference sound level at 200 feet, the proposed equipment could reach 74 dBA L_{eq} at the adjacent residential property line. Therefore, noise control measures were needed to reduce shredder noise levels by a minimum of 19 dBA to comply with the local noise ordinance. An analysis of a building enclosure was performed to achieve the required 19 dBA noise level reduction.

Evaluatiing Shredder Noise Control Measures

As noted above, shredder noise levels were predicted to ex-

Table 1. Environmental noise model input.

		Octave Bands, Hz							
Input Description	**Size**	**31.5**	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**
Source Sound Power Levels, dBA	NA	79	101	112	119	121	123	123	119
Sound Transmission Loss Values:									
North Wall	2,048 ft²	7	10	13	17	22	21	23	25
South Wall	2,048 ft²	7	10	13	17	22	21	23	25
West Wall	1,728 ft²	7	10	13	17	22	21	23	25
East Wall	1,728 ft²	7	10	13	17	22	21	23	25
Roof	3,456 ft²	7	10	13	17	22	21	23	25
North Wall Opening (Conveyer Belt)	120 ft²	0	0	0	0	0	0	0	0
East Wall Opening (Conveyer Belt)	7.7 ft²	0	0	0	0	0	0	0	0
South Wall Opening (Conveyer Belt)	25 ft²	0	0	0	0	0	0	0	0
Absorption Coefficients:									
North Wall	2,048 ft²	0.2	0.2	0.64	1.14	1.09	0.99	1.00	1.21
South Wall	2,048 ft²	0.2	0.2	0.64	1.14	1.09	0.99	1.00	1.21
West Wall	1,728 ft²	0.2	0.2	0.64	1.14	1.09	0.99	1.00	1.21
East Wall	1,728 ft²	0.2	0.2	0.64	1.14	1.09	0.99	1.00	1.21
Roof	3,456 ft²	0.2	0.2	0.64	1.14	1.09	0.99	1.00	1.21
North Wall Opening (Conveyer Belt)	120 ft²	1	1	1	1	1	1	1	1
East Wall Opening (Conveyer Belt)	7.7 ft²	1	1	1	1	1	1	1	1
South Wall Opening (Conveyer Belt)	25 ft²	1	1	1	1	1	1	1	1

Figure 2. Shredder system conveyor.

Figure 3. Aerial photo of shredder site.

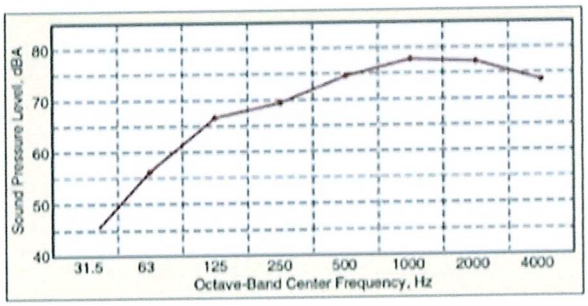


Figure 4. Shredder sound spectrum (180 - 200 feet).

ceed the local noise ordinance hourly criteria of 55 dBA L_{eq} by approximately 19 dBA (74 dBA L_{eq}). To obtain a 19 dBA L_{eq} noise reduction and compliance with the local noise ordinance, the environmental noise model (ENM) [1] was used to estimate the noise reduction that could be achieved by enclosing the proposed shredder.

Input to the ENM model included source sound power levels, size and location of walls and roof, estimated sound transmission loss values for each façade and absorption coefficients of fiberglass batts lining the interior of the building.

Sound transmission loss values for the 22-gauge, steel-sided building were estimated by use of the Insul [2] acoustical prediction model. Absorption coefficients for the Fiberglass lining were obtained from Owens Corning.

Table 1 shows the input values for each of the modeled building components. Figure 5 shows the estimated shredder noise levels with and without the building enclosure at the nearest residential property line.

Field Evaluation of Noise Control Measures

Field measurements were conducted to evaluate recommended noise control measures for the metal shredder and recycling system. The measurements indicated that the shredder generated noise levels of 48 dBA L_{eq} at the closest residential property line.

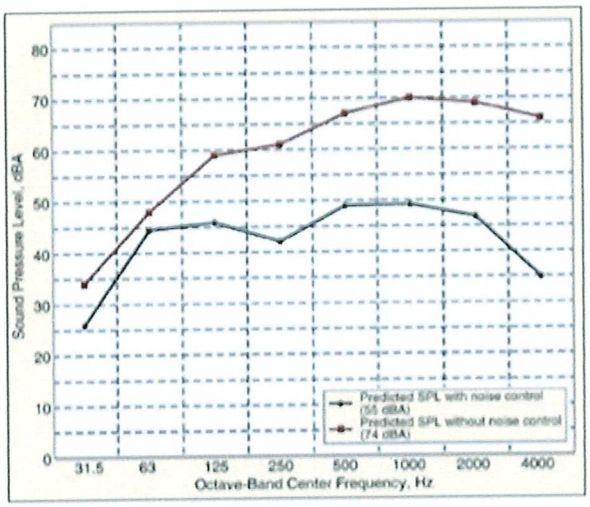


Figure 5. Predicted SPL with and without noise control measures.

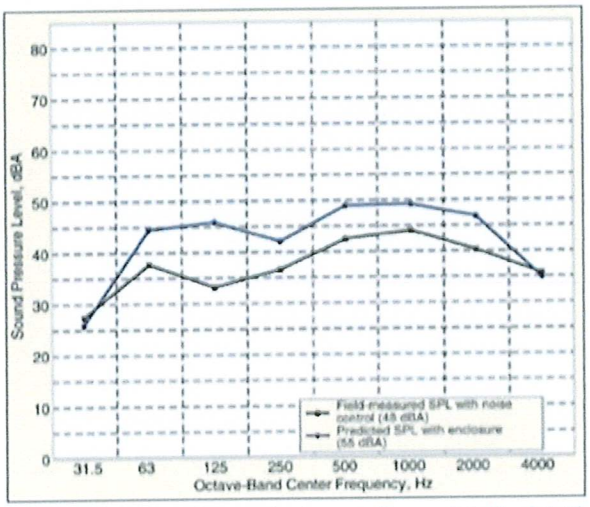


Figure 6. Field-measured SPL (with noise control) vs. predicted levels (with noise control).

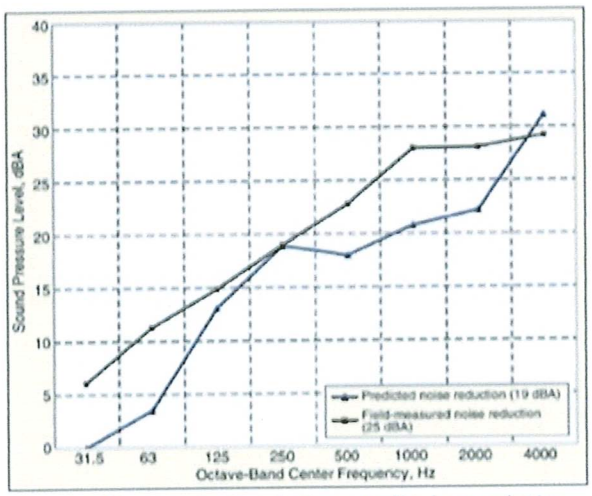


Figure 7. Field-measured noise reduction vs. predicted noise reduction.

Based on this noise level measurement, shredder noise levels were 26 dBA less than the predicted noise level of 74 dBA L_{eq} (no noise control). Field observations indicated that the shredder was barely audible over existing ambient noise levels. Figure 6 shows the measured shredder noise levels with the enclosure. Figure 7

Figure 8. Shredder system enclosed (right side).

shows the predicted noise reduction (NR) values, and measured NR after building construction. Figures 8 and 9 show the shredder building enclosure.

Conclusions

Based on the field-measured noise reduction of approximately 26 dBA, the building noise enclosure is performing approximately 7 dBA better than predicted through the ENM modeling process. And based on field observations, the differences between predicted and field-measured values of SPL and NR are most likely due to:

- The three shredder enclosure openings required for conveyor access were smaller than assumed in the enclosure analysis.
- Sound pressure levels were collected for a larger shredding system than the one used for this project.

The noise enclosure building proved to be an excellent solution for controlling excessive noise from the metal shredding system.

Figure 9. Shredder conveyor opening.

Responses from both the project applicant and local jurisdiction have been extremely favorable.

Acknowledgements

J.C. Brennan & Associates would like to thank Daly-Standlee & Associates, Inc. for its assistance in collecting reference level data on this project.

References

1. Environmental Noise Model (ENM), RTA Technology PTY, LTD, Version 3.06.
2. Insul Sound Insulation Prediction Software, Marshall Day Acoustics 2007, Version 6.2.

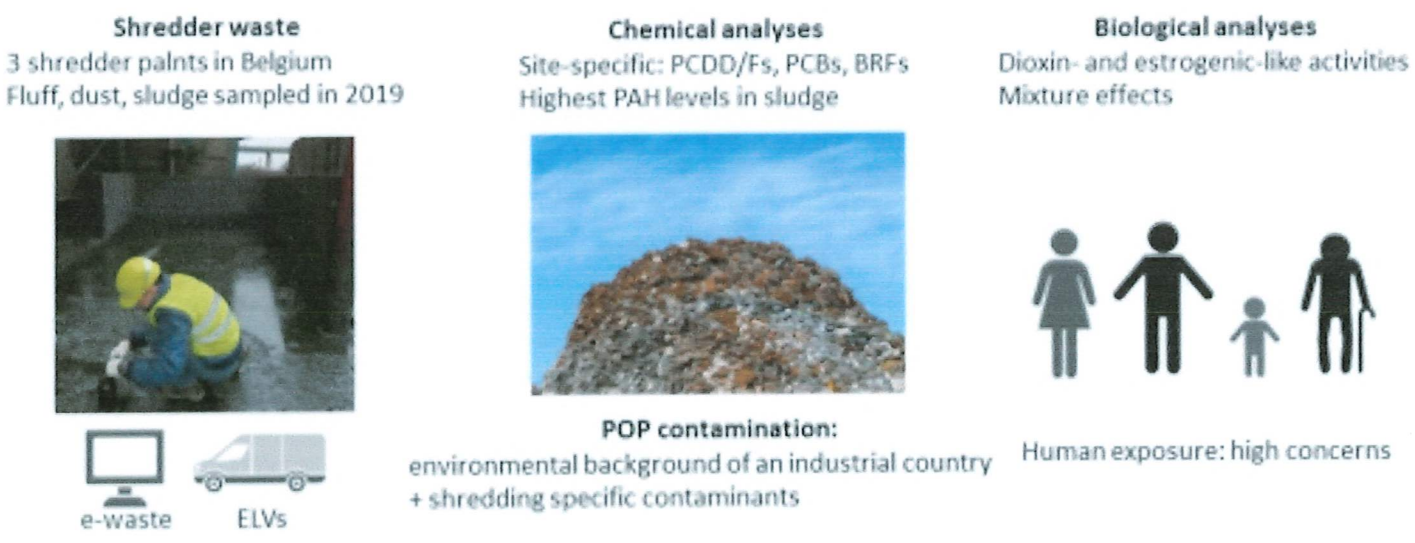
The author can be reached at: lsaxelby@jcbrennanassoc.com.

Abstract

End-of-life vehicles and e-waste contain several hazardous substances that can contaminate the environment during treatment processes. Occurrences and adverse effects of toxic organic pollutants emitted from 3 shredder plants located in Wallonia, Belgium, were investigated by chemical and biological analyses of fluff, dust, and scrubbing sludge sampled in 2019. Site 1 showed the highest concentrations of chlorinated compounds in sludge with 7.5 ng/g polychlorinated dibenzo-dioxins/furans and 84.5 µg/g estimated total polychlorinated biphenyls, while site 3 led the brominated flame retardant levels in dust (53.4 µg/g). The level of polycyclic aromatic hydrocarbons was highest in the sludge samples, 78 and 71 µg/g for sites 2 and 3, respectively. The samples induced significant dioxin-like activities in murine and human cells at concentrations of around 0.01–0.1 and 0.5–1 ng (sample) per ml (medium), respectively, with the efficacy similar to 2,3,7,8-tetrachlorodibenzodioxin and EC_{50} values of around 1 and 10 ng/ml. The samples also displayed high estrogenic

activities, already at 1 ng/ml, and several induced a response as efficient as 17β-estradiol, albeit a low androgenic activity. Shredder workers were estimated to be highly exposed to dioxin-like compounds through dust ingestion and dermal absorption, which is of concern.

Graphical Abstract



The benefits of shredding in the recycling process are numerous, but operating shredders also comes with side effects, including dust and noise, that must be carefully considered. The noise factor is hard to miss, yet some shredder owners can find themselves subject to inspection agency fines, the complaints of neighbors and employee lawsuits because they failed to take sufficient measures to turn down the volume.

Auto shredders, powered by motors of up to

Shredders increasingly are being enclosed in sheet metal buildings, which can provide environmental and safety benefits as well as alleviate dust- and noise-related nuisance complaints by neighbors. It is unclear, however, how or whether these buildings might trap more sound in the space surrounding the shredder's operator.

Measurements taken for a 2012 study conducted by California-based J.C. Brennan & Associates showed that a 60-inch-by-60-inch shredder with a 1,000-horsepower electric motor created noise levels of up to 123 dB in the 2,000 octave band.

Another study, published in 2014 for a shredding plant owner in Ireland, did not record decibel levels at source but showed the 85-dB threshold was at times reached or exceeded at the far edges of the shredder's property.

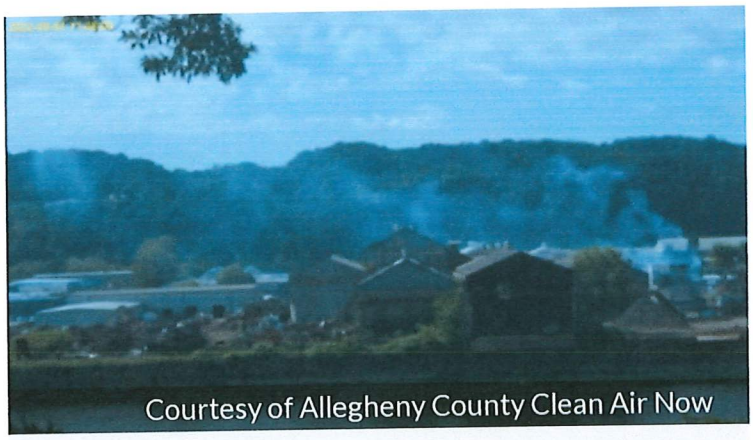
Shredder operators have long provided either ear plugs or earmuffs (or both in combination) to shredder cabin employees. Either can be effective, though a 2009 study by the United Kingdom's Health and Safety

STATEIMPACT PENNSYLVANIA

Pittsburgh-area auto shredder to reduce pollution, fumes and dust after EPA order

Company must reduce hours, remove fuel and batteries before shredding

Reid Frazier



Emissions at Metalico Pittsburgh, September 2021.

FEBRUARY 8, 2023 | 1:18 PM

STATEIMPACT PENNSYLVANIA

FEBRUARY 8, 2023 | 1:18 PM

The EPA has ordered a metal recycler near Pittsburgh to limit its hours of operations and its emissions, after years of complaints about smell, smoke and emissions from the site.

Officials from Metalico Pittsburgh, Inc., which shreds vehicles on Neville Island in the Ohio River, a few miles from Downtown Pittsburgh, signed the order in December. It was finalized in January.

The shredder has been a nuisance for those living nearby, said Angelo Taranto, of Allegheny County Citizens for Clean Air Now, or ACCAN, which has been advocating for the site to be cleaned up for years.

Neighbors have reported periodic explosions and fires at the plant, which

plant, which boasts on its website of shredding 6,000 cars a month.

The shredding can result in fires and smoke because the cars may still have fuel and other flammable material in them, Taranto said. As a result, residents have complained about smoke, sound, and the smell of burning plastic.

"It's been extremely disruptive, particularly for those that are right close to the river," Taranto said. "It makes people sick. They have to close up their houses in the summer. They can't let their children out when the odor and the smoke is heavy."

The EPA consent order limits the company to operating for a maximum of 10 hours per day, or eight hours during an air quality action day, when pollution

levels in the region are forecast to exceed federal health standards.

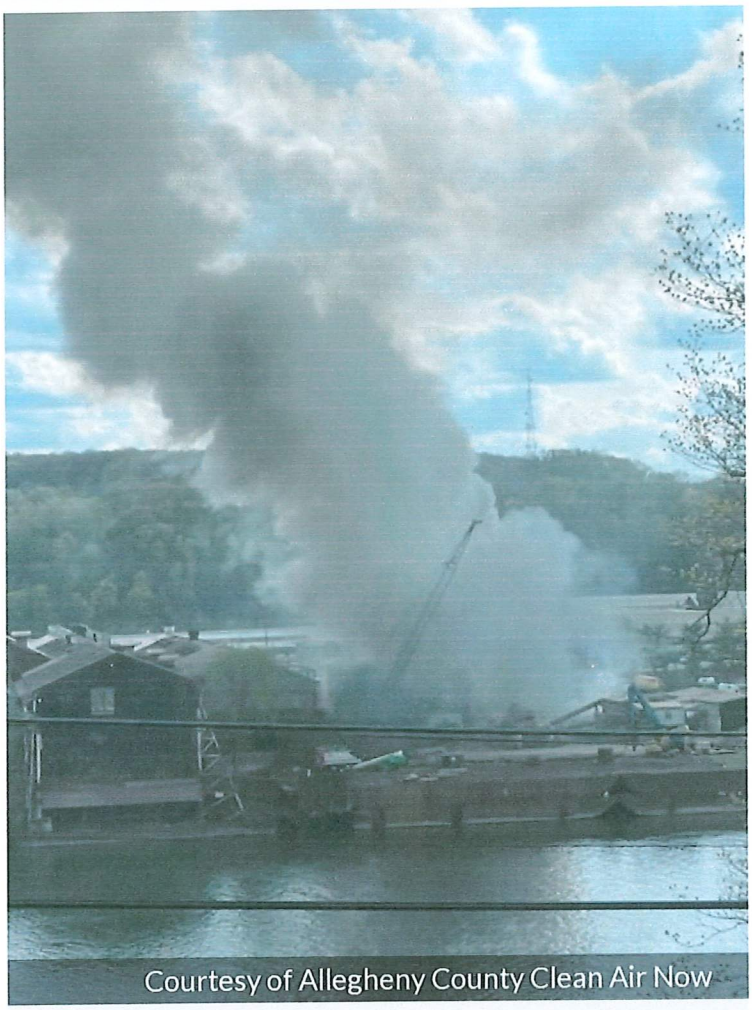
It also sets production limits for the scrap shredding at the plant of no more than 120 tons per hour, or 240,000 tons per year. The order set a limit on air pollution of no more than 50 tons per year of volatile organic compounds, airborne chemicals that form smog. And it sets additional reporting requirements for the plant.

Company officials did not respond to requests for comment.

Virginia Nurk, an EPA spokeswoman, said in an emailed statement the agency was "satisfied" the order "will bring an added level of human health and environmental protections for those living and working near this Allegheny

County facility. EPA will continue to work closely with state and local partners to ensure this matter is fully resolved."

Metalico operates 21 other scrap metal recycling facilities in Pennsylvania, New York, New Jersey, West Virginia, Ohio and Mississippi. It is owned by the Chinese metal recycling firm Ye Chiu Group.



Smoke from a fire coming off Metalico Pittsburgh, April 14, 2021.

Oversight of the plant accelerated after a fire burned for hours in April 2021.

"It burned for over 6 hours, just generating this really horrific, toxic, dark

smoke that blew into (the nearby community of) Emsworth and beyond, forcing people to evacuate their homes. Some people had to stay away overnight," Taranto said.

The consent order mandates the company write a plan to respond to fires. That includes the use of infrared cameras to scan for signs of fire, fire prevention and response training for staff, and the installation of a "'water cannon' or other fire suppression systems" on-site.

The company also remove flammable substances from cars and trucks before crushing them. The order states the company will drain autos of fuels and fluids, remove batteries from electric cars and hybrids, and take out pressurized hazardous liquid containers

before shredding. It must also use dust suppression techniques, like water spraying.

The recent consent order comes afte an October 2021 notice of violation t EPA sent to the company. Using imag from a camera that ACCAN set up ne Metalico, the EPA identified several days when visible emissions swept of the site, in violation of the plant's air pollution permits. The EPA also determined the site had the potential to emit at least 50 tons per year of volatile organic compounds or VOCs. That would make it a 'major' source of VOCs, and subject to more stringent regulation.

EPA based its calculations on emissions data from other, similar-sized metal recyclers with shredders, and the

capacity of Metalico's equipment that shreds flattened cars, appliances, and steel.

Metalico currently has a minor source operating permit from the Allegheny County Health Department, making it subject to fewer regulations than it would be if it were a 'major' source.

The EPA's order allows it to remain a minor source, provided it adheres to the terms set out by the agency. Failing to comply with the order could result in fines for the company.

Editor's Picks

CITY OF Dickinson North Dakota | PLANNING

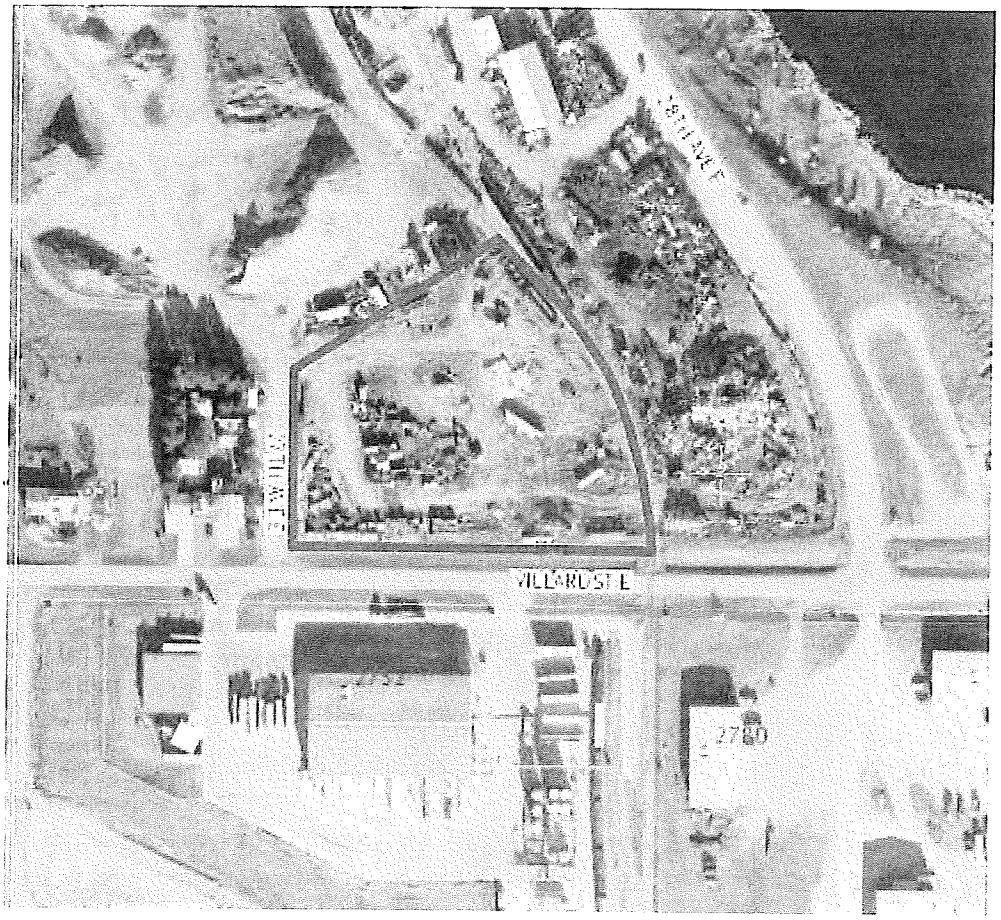
January 5, 2024

Public Notice

RE: Public Hearing before the Planning and Zoning Commission for project: SUP-001-2024

As a property owner within 300 feet of the proposed project you are hereby notified of a public hearing to consider a request for a:

1. **Special Use Permit to allow for a heavy industrial use ("American Pulverizer car shredder") in the General Industrial (GI) zoning district. The property is legally described as Lot 6, Block 2, Energy Center 1st Subdivision City of Dickinson, Stark County, North Dakota. This property is located in the City of Dickinson.**



The meeting is scheduled for **January 17th, 2024 at 7:10am in the City Hall Commission Room located at 38 1st Street W.** This meeting will be live-streamed on www.dickinsongov.com. If you have any questions or comments you can call in to the live meeting at 701-456-7006.