September 30, 2020

The Honorable Ken McQueen
Regional Administrator – R6
1201 Elm St.
Dallas, TX 75270
[HYPERLINK "mailto:McQueen.ken@Epa.gov"]

RE: Urgent Request Related to Removal of Chloroprene Community Air Monitors in Reserve, LA

Dear Administrator McQueen,

The purpose of this letter is to request your reconsideration of the decision to replace the six existing chloroprene Community Air Monitors (existing monitors) installed around the Denka Performance Elastomer Plant (DPE) in Reserve, LA in 2016 with the recently installed SPod "Continuous Air Monitoring" sensors (SPod sensors) at the end of September.

We make this request based or 1) preliminary analytic results of the recently released SPod sensor data which suggests the system failed to meet all EPA stated objectives, 2) the unique characteristics and needs of the residents of St. John the Baptist Parish, and 3) potential unintended negative impacts on a number of current and planned high priority investigations and epidemiologic studies.

Continuous Air Monitoring System Objectives

Your January 15, 2020 letter to Congressional Representative Cedric Richmond stated, "We believe the new monitoring system will provide a better understanding of the frequency and magnitude of chloroprene spikes" and "… this air monitoring effort could help us identify measures that Denka may be able to take to decrease the likelihood of future spikes and further reduce ambient concentrations of chloroprene in the community." In response to multiple questions and expressed concerns during the February 10, 2020 public meeting at Tchoupitoulas Chapel, Deputy Regional Administrator David Gray told participants he expected the new system to take chloroprene readings more frequently and stated, "It sounds kind of smart to me. It sounds like it will provide more information."[1]

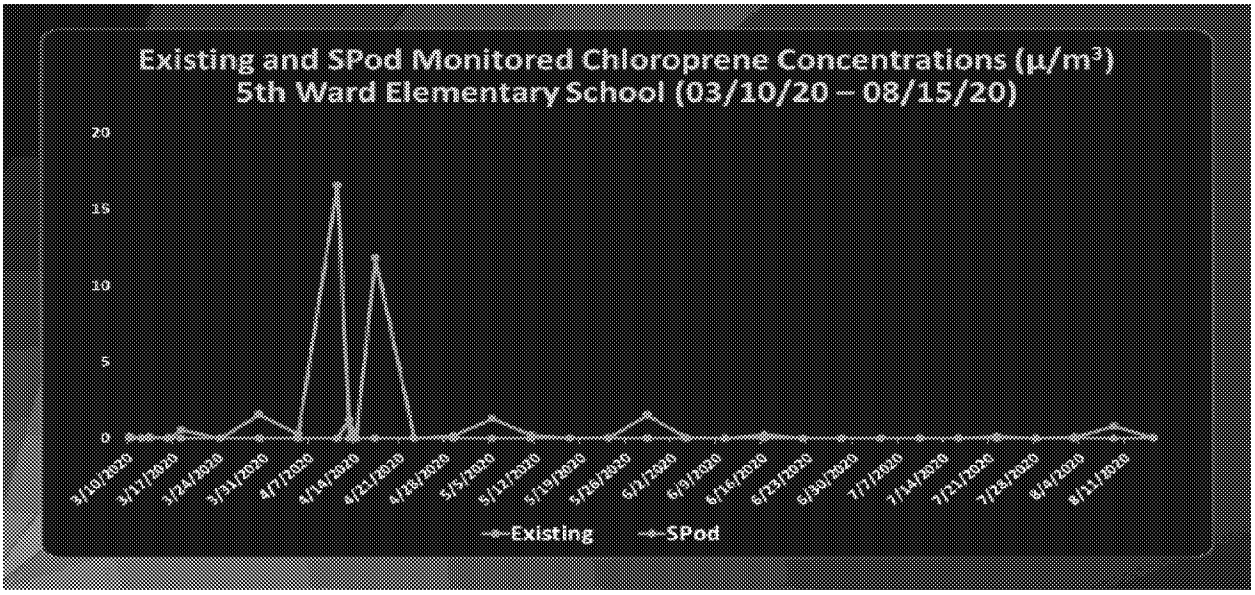
These repeated Senior Official assurances of more frequently collected data potentially leading to additional chloroprene emission reductions and your commitment to publically release the SPod summary data "as soon as it is available" alleviated much of the apprehension we felt when EPA first announced its plan to replace the only trustworthy source of routinely collected measurements of neighborhood-level chloroprene concentrations with a self-described "emerging technology"[2] designed to work "only in near-fenceline applications."[3]

Although the continued unavailability of the SPod data five months after the sensors were installed was worrisome***, we are stunned by your decision to proceed with the scheduled removal of the existing monitors given your access to the data documenting failure of the SPod sensors to achieve the stated objectives.***

On the chance this decision to move forward was made absent knowledge of the apparent SPod sensor failure, we are including the results of our preliminary data analysis. Note, because the summary of SPod sensor data was not posted until Sept. 16th, a full analysis was only completed for 4 of the 6 collocated monitor sites. Also, a thorough examination to identify and correct potential data entry or other minor errors has not been conducted.

Preliminary Results Comparing Collocated Chloroprene SPod Sensor and Existing Monitor Summary Data

The following time series graph compares the collection frequency and magnitude of detected chloroprene concentrations in samples analyzed between March 10 and August 16 from the collocated existing monitor and SPod sensors located at the 5th Ward Elementary School.



The following table depicts the dates and values of detected concentrations in samples collected at the 5th Ward Elementary site by the existing monitor and SPod sensor between March 10 and August 16. (See Attachment A, Slides 2-6 for time series graphs and tabulated data from the Chad Baker, Acorn and Hwy 44, and Ochsner Hospital sites.)

5th Ward Elementary Existing and SPod Detected Chloroprene Concentrations (µg/m³) 03/10 – 08/15		
Date	Existing	SPod
03/10/2020	--	0.1520
03/12/2020	ND	--
03/13/2020	--	0.1130
03/16/2020	--	0.0600
03/18/2020	0.566	--
03/30/2020	1.590	--
04/05/2020	0.302	--
04/11/2020	16.600	--
04/13/2020	--	1.294
04/14/2020	--	0.038
04/17/2020	11.800	--
04/29/2020	0.176	--
05/05/2020	1.330	--
05/11/2020	0.220	--
05/23/2020	0.050	--
05/29/2020	1.560	--
06/04/2020	0.082	--
06/16/2020	0.272	--
06/22/2020	0.015	--
07/22/2020	0.145	--
08/03/2020	0.088	--
08/09/2020	0.834	--
08/15/2020	0.057	--
Total Number	17	5
Maximum	16.6	1.294

-- Sample not collected
ND Concentration not detected

Provisional Findings

- ***There is no statistical correlation between concentrations detected in samples collected by existing monitors on the 1-in-6-day schedule and concentrations detected by in samples collected by the collocated continuous SPod sensors.*** For example, for the samples collected by existing monitor and SPod sensor at the 5th Ward Elementary site, Pearson's Correlation Coefficient (r)=-0.074 at a significance (p)=0.55.

- ***The SPod sensors did not provide more "frequently collected chloroprene readings compared to the existing monitors."*** At all 4 sites, the number of detected chloroprene concentrations in samples collected by the existing monitors was greater compared to the number of detected concentrations in samples collected by the collocated SPod sensor. The number of detected concentrations provided by the existing monitor at 5th Ward Elementary site was 3.4 times greater than the number provided by the collocated SPod sensors. The number of existing monitor detected concentrations at the Chad Baker, Acorn and Hwy 55, and Ochsner Hospital sites was 2.6, 1.7, and 3.3 times greater, respectively.

- ***There were no occasions when the SPod sensors triggered the collection of a sample with an elevated chloroprene concentrations (spike) detected in samples collected by the collocated existing monitor. Collection of same-day samples collected by the SPod sensors occurred on only 2 of the 65 (6.2%) dates when concentrations were detected in samples collected by the existing monitors.*** On 6/16 at the Ochsner Hospital site, a concentration of 1.08 $\mu g/m^3$ was detected in the existing monitor sample and a concentration of 0.006 $\mu g/m^3$ (flagged for being below the detection limit) was detected in the SPod sample. On 8/15 at the Chad Baker site, a concentration of 0.029 $\mu g/m^3$ was detected in the existing monitor sample and a concentration of 0.321 $\mu g/m^3$ was detected in the SPod sample. In contrast, no collocated SPod samples were collected on 4/11 and 4/17 when the maximum concentrations of 16.6 $\mu g/m^3$ and 11.8 $\mu g/m^3$ were detected in samples collected at 5th Ward Elementary.

- ***Compared to the existing monitors, the SPod sensors were less effective at capturing chloroprene concentration spikes.*** The maximum detected concentrations in samples collected by SPod sensors were significantly lower than those collected by the collocated existing monitors at 2 sites and there was no significant difference in the detected concentrations at the other 2 sites. The maximum chloroprene concentration in samples collected by the existing monitors at the 5th Ward and Chad Baker sites was 21. 5 and 7.9 times greater respectively than the maximum detected in samples collected by the collocated SPod sensors. There was no significant difference in the maximum concentrations detected in samples collected by the existing monitor and collocated SPod sensors at the Acorn and Hwy 55 and Ochsner Hospital sites.

Public Health Implications of Findings

As you are aware, community air monitoring systems can improve collective knowledge of the sources and health risks of toxic air pollution within a community, improve the quality and dissemination of epidemiologic research, and catalyze targeted actions and policies to reduce exposures and improve health.[4,5]

Removing the existing monitoring system now will negatively impact all three of these beneficial outcomes.

Most urgently, removing the existing monitor will impair the ability of school district officials to make data-driven decisions and take targeted actions currently being deliberated regarding the health and safety of students attending 5th Ward Elementary students.

Further, replacing the routinely collected chloroprene monitoring data with the demonstrated inaccurate SPod sensor data:

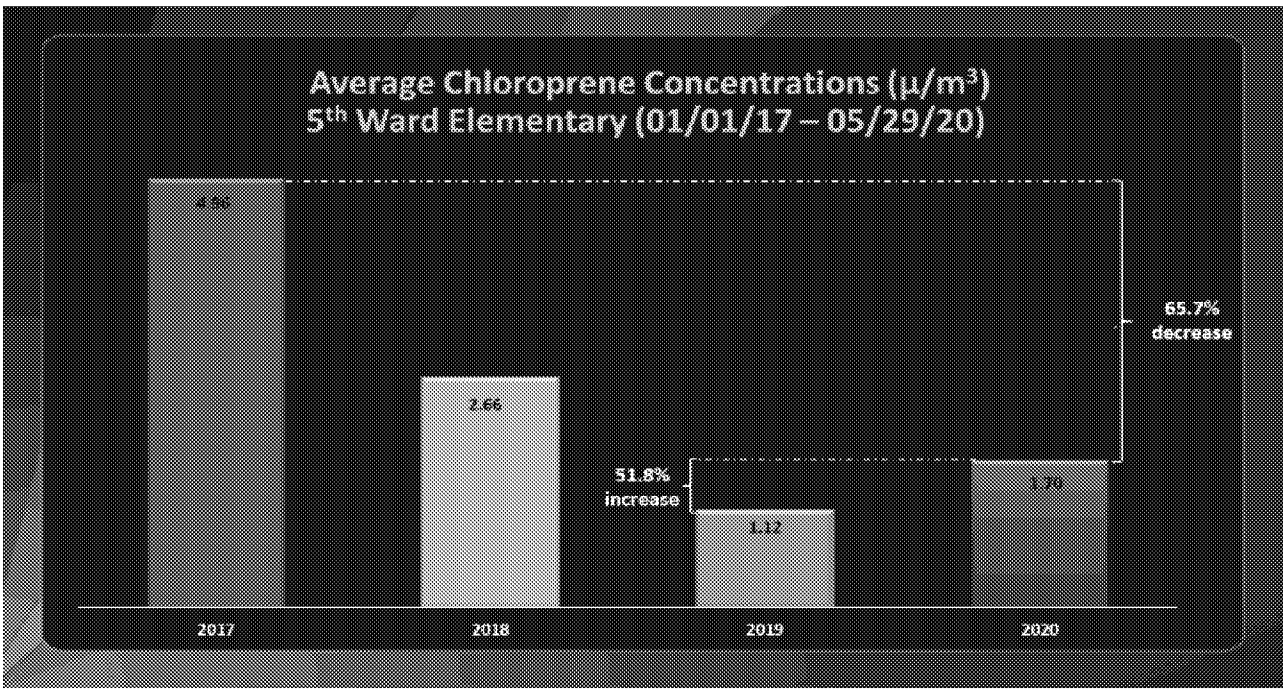
- Will unnecessarily alienate residents and further degrade public trust,
- limit the ability to accurately characterize neighborhood-level exposures and negatively affect the scientific rigor, quality, and findings of on-going and future urgently needed epidemiologic investigations and research.

Implications for the Decisions Related to 5th Ward Elementary School Students

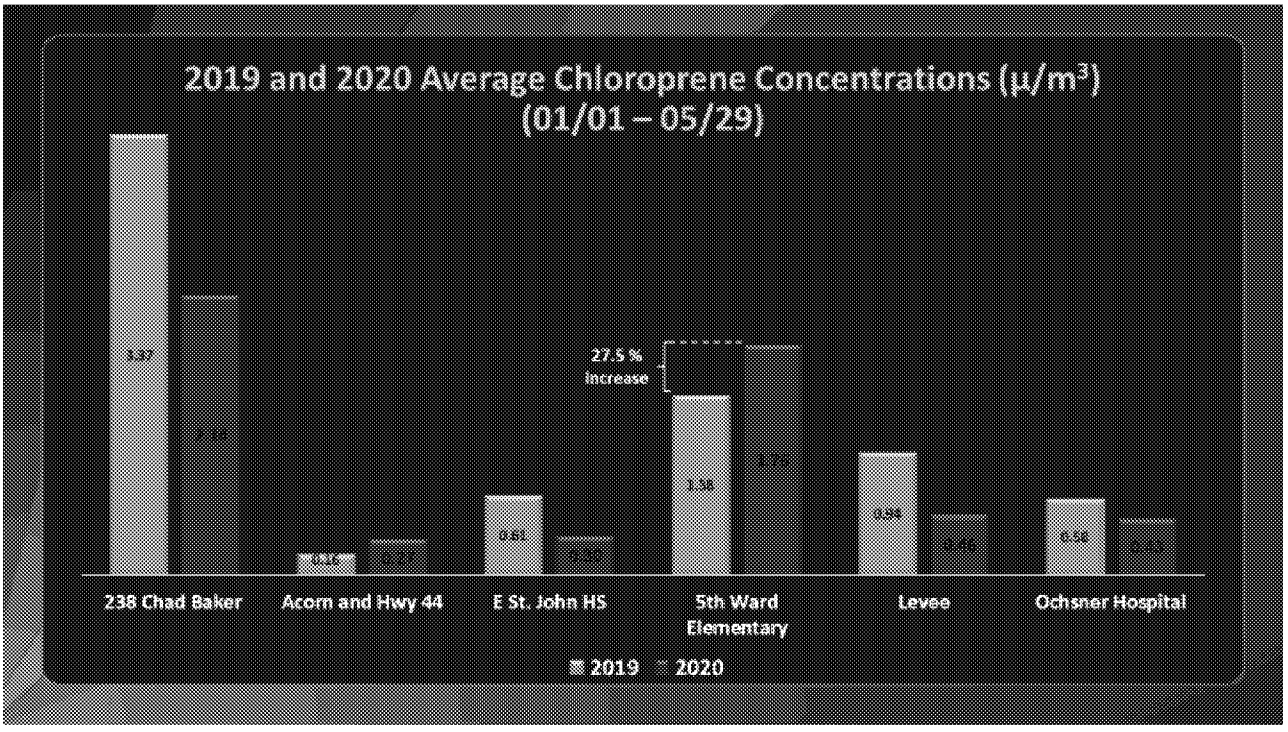
Despite the 85% reduction in Denka's reported chloroprene emissions, average overall concentrations measured across all six monitoring sites combined declined by only 73.5% between 2017 and 2020. Relative reductions levels at each of the individual monitoring sites varied significantly (See Attachment A, Slides 7 - 13 for complete results).

Most concerningly, the analysis results suggest the 500 students attending 5th Ward Elementary are likely being exposed to significantly higher concentrations in 2020 compared to 2019 exposure levels.

As shown in the following graph, between January 1, 2017 and May 29th, 2020 average concentrations at 5th Ward Elementary School only declined overall by 65.7%. During the first 5 months of 2020, <u>average concentrations actually increased by 51.8%</u> to 1.70 µg/m³, which is approximately 8.5 times higher than the 0.2 µg/m³EPA RfC.[6]

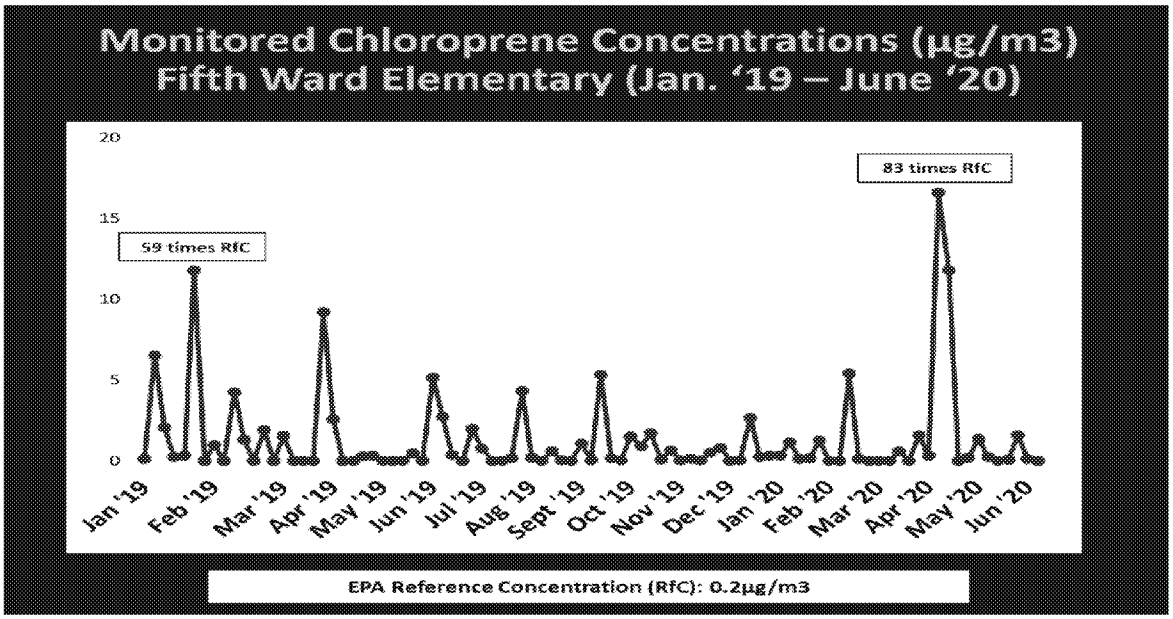


A comparison of average monitored concentration during the same 5-month timeframes in 2019 and 2010 average concentrations documented a 27.5 increase at the 5th Ward Elementary School.



Note: Summary monitoring data is currently available through August 15, 2020 for the 5th Ward site. However, according to Denka's monthly monitoring report for June 2020 chloroprene production levels declined to 0.0 (100%) and neoprene

declined by 91%. Because the unprecedented and atypical production declines, the June measured concentrations are not considered appropriate for inclusion. (See Slide 14 in Attachment A)



Frequent spikes of chloroprene concentrations up to 83 times the RfC level also continue to be detected at the 5th Ward Elementary site.

For more than four years, parents and residents have petitioned the 5th Ward School Board and other local officials to relocate the 500 5th Ward Elementary students to a safer location. Prior to the start of in-person classes on September 8th, a School District representative reported they were carefully considering the chloroprene monitoring results and that they have been "in contact with both the Concerned Citizens of St. John and Denka regarding this matter and will continue to monitor the situation along with these groups."[7]

Without continued data from the existing monitors, there will be no way to assess whether the 2020 documented increased in spikes and average concentration levels at 5th Ward was an anomaly or an indicator of a disturbing new trend of increasing chloroprene concentrations or to continue to monitor concentrations and make data-driven decisions regarding student health and safety.

Implications for Current and Future Epidemiologic Investigations and Studies

For almost 4 weeks beginning in late March***, St. John had the highest COVID-19 death rates per capita in nation and our parish residents continues to the 2nd highest rate in Louisiana.***[8,9] A 2015 study conducted by Metropolitan Hospital Council of New Orleans using hospitalization data ***found asthma rates among St. John children including 5th Ward Elementary students were higher than rates in 15 other study area parishes and more than two-and-a-half times higher than Louisiana and US rates.***[10]

However, after years of public outcry and numerous local and national press coverage, the "first-ever scientific inquiry into cancer cases around the Denka facility" is currently being conducted by the Louisiana Department of Health (LADOH) and the LSU Health Sciences Center.[11]

Additionally, while a rapidly growing body of research including over 30 published peer-reviewed studies have linked PM2.5 exposures to increased deaths from COVID-19, there is a dearth of urgently needed studies investigating the contribution of individual and multiple air toxics exposures to excess COVID-19 hospitalizations and deaths, particularly among disparately impacted Black and low-income communities.[12,13]

Removing the only reliable source of data characterizing the frequency and magnitude of exposures to elevated levels of chloroprene concentrations is counterproductive given the in-progress effort identifying cancer prevalence around the Denka facility and the urgent need for epidemiological research designed to identify and inform policies and actions to reduce key drivers of preventable COVID-19 deaths and disparities especially among minority and low income populations.

In summary, the SPod sensors Continuous Air Monitoring System failed to achieve EPA's stated objectives. Therefore, replacing the existing monitors with the SPod sensors now will:

- Strip the ability of elected officials including members of the 5th Ward School Board, local public health and healthcare providers, and residents to make data-driven decisions and take targeted actions designed to protect the health and safety of individuals and families living in St. John Parish.

- Impede the ability of public health scientists and epidemiologists to identify and address air pollution exposures driving the high rates of asthma, COVID-19 deaths, and other health outcomes.

- Remove the only independent and objective source of information on actual chloroprene concentrations that residents can use to understand and make informed decision about the health risks to themselves and their families and to hold Denka accountable.

Not only is EPA's decision to continue funding of the documented failed SPod Continuous Air Monitoring System an apparent waste of taxpayer resources, replacing the existing Community Monitoring System most certainly further degrade the already eroding public trust in EPA's ability to protect human health and the environment.[14]

For all the above described reasons, we respectfully request you reconsider the decision in favor of continued funding and operation of the Community Air Monitoring System at all 6 sites, especially at the 5th Ward Elementary School.

Sincerely,

Robert Taylor, Director
Concerned Citizens of St John the Baptist Parish

Vickie Boothe, Scientific Advisor
Concerned Citizens of St John the Baptist Parish

Enclosure

cc: The Honorable Cedric Richmond, Member of Congress, Louisiana, District 3 (via email to: [HYPERLINK "https://richmond.house.gov/contact-cedric/email-me"])

Jaclyn Hotard, President, St. John the Baptist Parish. (via email to [HYPERLINK "mailto:j.hotard@stjohn-la.gov"])

Dr. Lynett Hookfin, Superintendent, St. John the Baptist Public School District (via email to: [HYPERLINK "https://www.stjohn.k12.la.us/apps/contact/"]

Dr. Chuck Carr Brown, Secretary Louisiana Department of Environmental Quality (via email to: [HYPERLINK "mailto:officesec@la.gov"])

[1] Reimann N. *'I'm watching my neighborhood die': St. John residents decry changes to Denka Plant air monitoring*. The *New* Orleans Advocate and The Times Picayune. Published online Feb. 11, 2020.
[2] U.S. Environmental Protection Agency. Quality Assurance Project Plan for SPod Monitoring at the Denka Performance Elastomer Facility in LaPlace, Louisiana. *QA Category: A / Measurement.* Prepared for
Office of Enforcement and Compliance Assurance (OECA). Prepared by Eastern Research Group, Inc. February, 2020
[3] U.S. Environmental Protection Agency. Office of Research and Development. SPod Progress. EPA SPod Team - July, 2016. NRMRL Fugitive and Area Source Group. Accessed September 20, 2020 from [HYPERLINK "https://cfpub.epa.gov/si/si_public_file_download.cfm?p_download_id=530141&Lab=NRMRL"]
[4] Kelly FJ, Fuller GW, Walton HA, Fussell JC. Monitoring air pollution: use of early warning systems for public health. Respirology. 2012;17(1):7-19. doi:10.1111/j.1440-1843.2011.02065.x
[5] Seto E, Carvlin G, Austin E, et al. Next-Generation Community Air Quality Sensors for Identifying Air Pollution Episodes. Int J Environ Res Public Health. 2019;16(18):3268. Published 2019 Sep 5. doi:10.3390/ijerph16183268
[6] U.S. Environmental Protection Agency. National Center for Environmental Assessment. Chloroprene; CASRN: 126-99-8. Integrated Risk Information System (IRIS). Chemical Assessment Summary. Sept. 30, 2010. [HYPERLINK "https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/1021_summary.pdf" \l "nameddest=rfc"]
[7] Hammer D. Eyewitness Investigator. *New concerns about chloroprene emissions as EPA monitoring ends in Reserve*. Updated September 4, 2020. [HYPERLINK "http://www.wwltv.com/article/news/investigations/new-concerns-about-chloroprene-emissions-as-epa-monitoring-ends-in-reserve/289-5b9f9215-c4a1-4a69-9b3f-732b224d6447"]
[8] New York Times. Coronavirus in the U.S.: Latest Map and Case Count. Hot spots in the United States. Accessed April 10, 2020.
[9] Louisiana Department of Health. [HYPERLINK "http://ldh.la.gov/Coronavirus/"].
[10] Metropolitan Hospital Council of New Orleans (MHCNO). 2015 Community Health Needs Assessment. [HYPERLINK "http://www.stph.org/upload/docs/AboutUs/MHCNO%202015%20Community%20Health%20Needs%20Assessment.pdf"].
[11] Russell G. *Denka-area cancer study to start soon; Louisiana health officials lay out blueprint*. The New Orleans Advocate and The Times Picayune. Published online November 24, 2019
[12] Exposure to air pollution and COVID-19 mortality in the United States. Xiao Wu, Rachel C. Nethery, Benjamin M. Sabath, Danielle Braun, Francesca Dominici. medRxiv 2020.04.05.20054502; doi: [HYPERLINK "https://doi.org/10.1101/2020.04.05.20054502"]
[13] Harvard University Bibliography of Related Work. Accessed July 28, 2020 from [HYPERLINK "https://projects.iq.harvard.edu/covid-pm/home"]
[14] "Citing coronavirus, EPA suspends enforcement of environmental laws." The Los Angeles Times. March 27, 2020. [HYPERLINK "http://www.latimes.com/environment/story/2020-03-27/epa-suspends-enforcement-amid-coronavirus"].