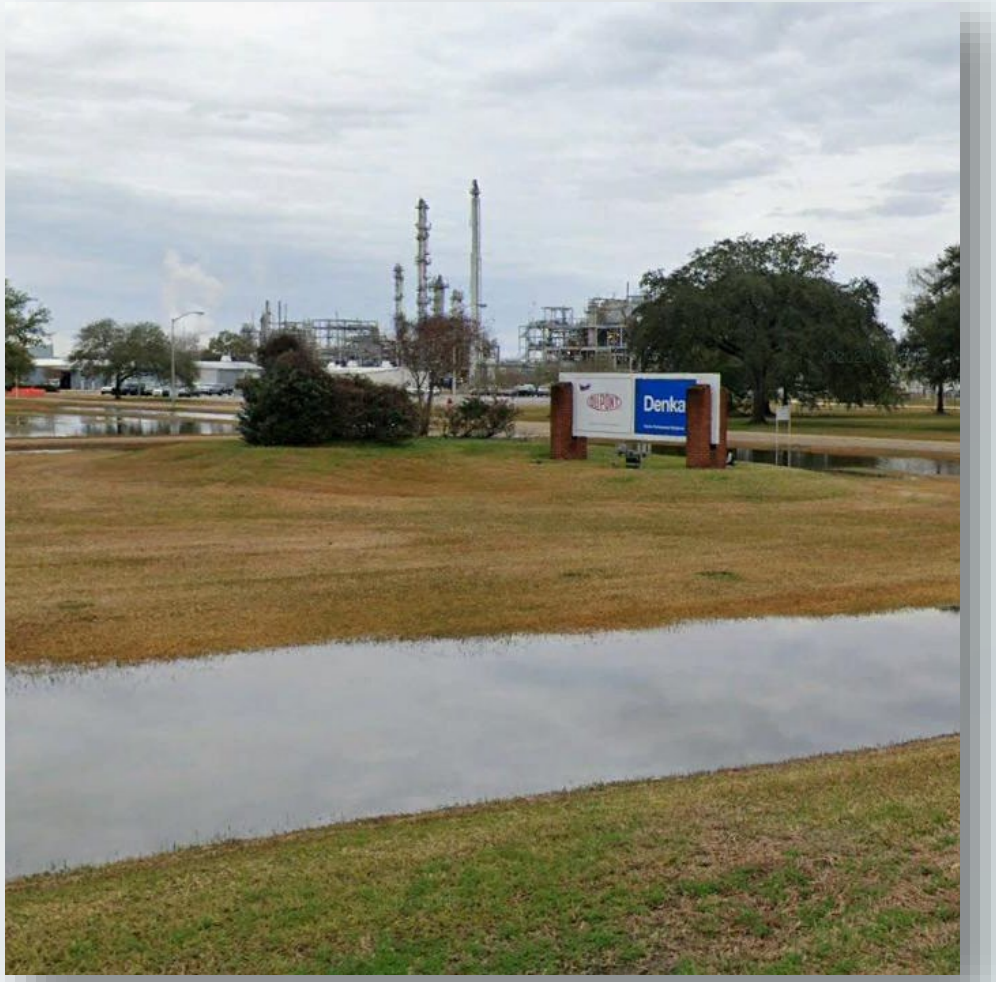
AIR TOXICS: CHLOROPRENE

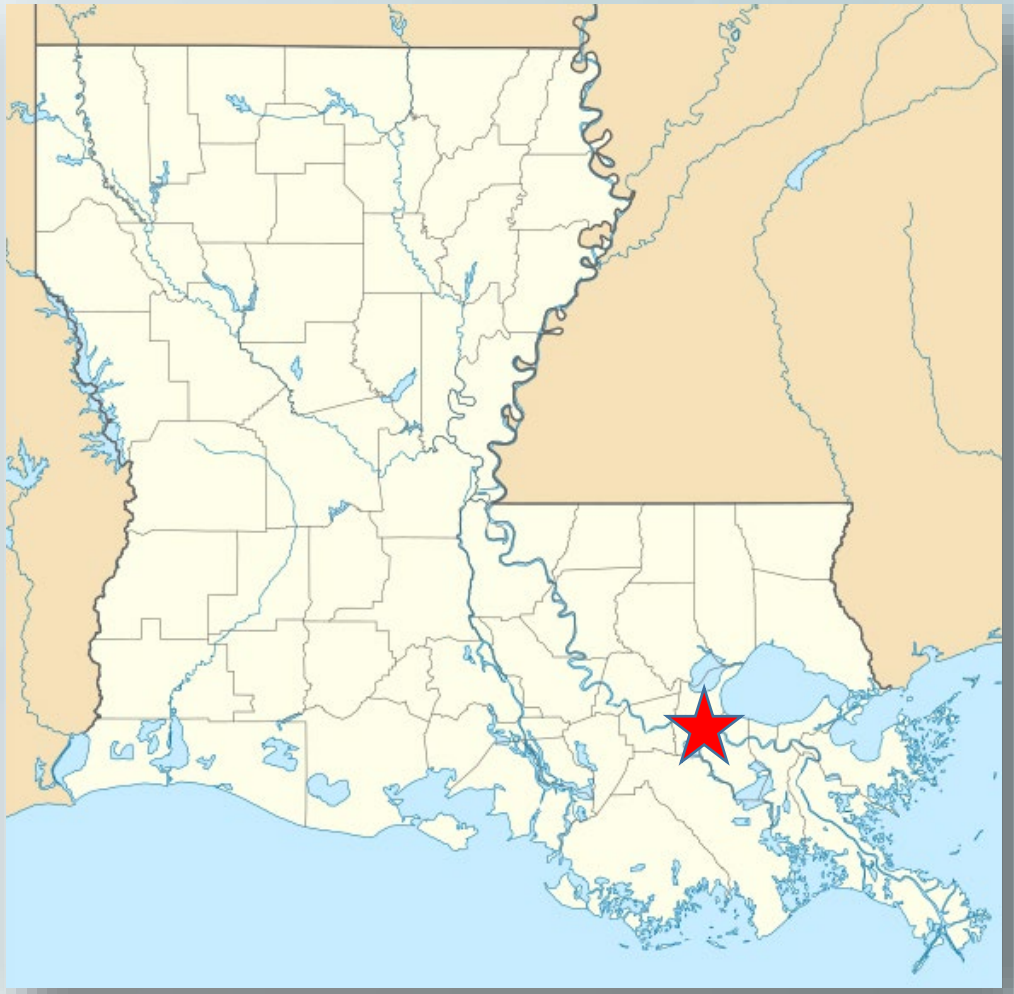
Jason Meyers, P.E.

What is Chloroprene?

- Choloroprene is the chemical building block used to make Neoprene rubber.
- Impossible to make Neoprene without Chloroprene
- Neoprene is used in the manufacture of:
  - Wetsuits
  - Gaskets
  - Hoses
  - Tire sidewalls
  - Adhesives

Denka Performance Elastomer





Background

- Denka Performance Elastomer (DPE) purchased the facility on November 1, 2015.
- On Dec 17, 2015, EPA released the 2011 National Air Toxic Assessment report.
  - In the report, chloroprene was reclassified as a likely carcinogen, indicating an elevated risk for cancer in the area.

Actions Completed

- Summer of 2016, EPA and LDEQ held a joint public meeting about NATA report
- In 2017, Denka voluntarily agreed to take initiatives to reduce plant emissions.
  - LDEQ worked with Denka to craft an Administrative Order on Consent (AOC), an enforceable order of the LDEQ, in which Denka agreed to install a series of new control technology and measures designed to reduce emissions of chloroprene by 85 percent from the facility's 2014 baseline chloroprene emissions.

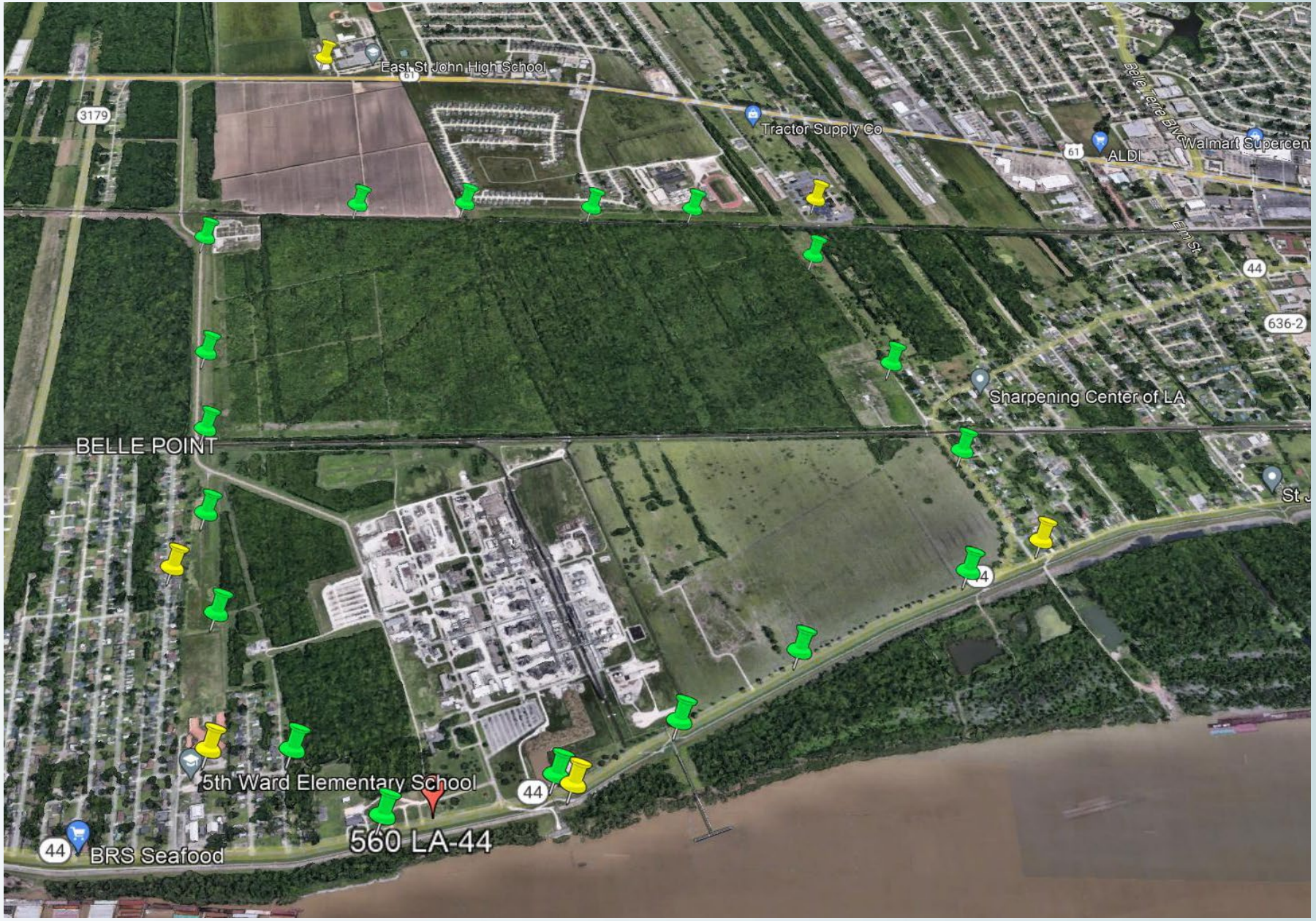
Actions Completed

- Dec 2017, DPE installed a Regenerative Thermal Oxidizer (RTO)
- March 2018, RTO was fully operational and running at steady state
- June 2018- LDH issued a Report on Evaluation of Potential Health Risks for Elementary School Students
  - The LDH assessment concluded, “Based on data limited to the March-May 2018 sampling results, transferring children from the current Fifth Ward Elementary School location to another location within the community would not greatly decrease their theoretical risks of developing excess cancers from exposure to chloroprene.”

Chloroprene Monitoring

- LDEQ has worked with the EPA to gather actual monitoring data.
- And LDEQ receives data from both EPA and Denka monitoring.
- The monitoring around the site has changed over time.
- Currently:
  - EPA maintains 6 monitors in areas adjacent and near the plant
  - DPE also maintains 18 sampling sites in and around the site

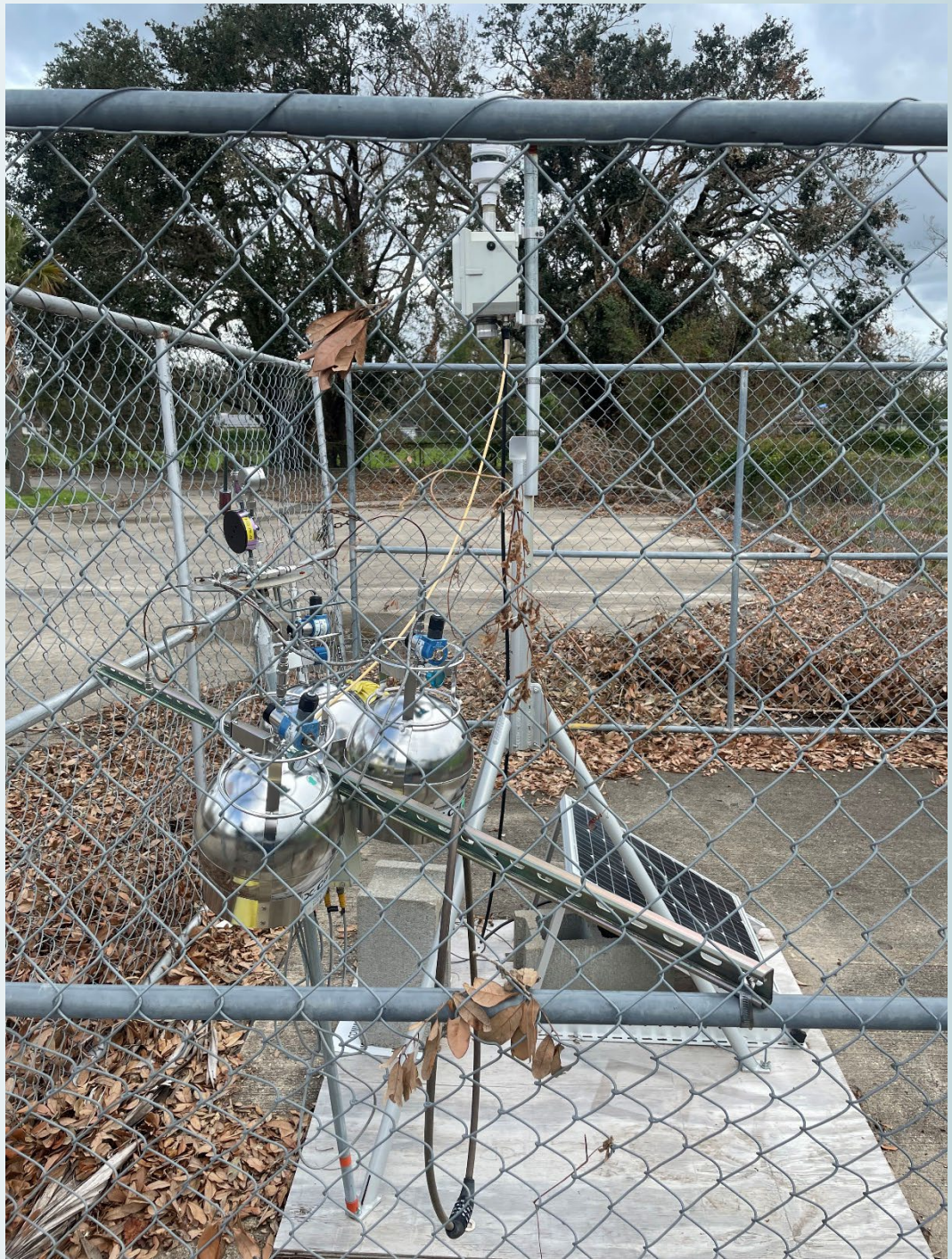
Monitors and Sampling Sites



EPA Chloroprene Monitoring

- EPA maintains six monitors in areas adjacent and near the plant
- Beginning September 2020:
  - EPA has implemented a dynamic triggering approach for collection of air canister samples.
  - This approach allows the VOC trigger-level to change over time, as meteorological patterns naturally change at each sampling location throughout the day.
  - The implementation of a changing dynamic trigger-level allows the continuous monitors to trigger the collection of 24-hour average canister samples that might have been missed using an unchanging static trigger-level.

EPA Sampling



DPE Chloroprene Monitoring

- DPE Maintains 18 sampling sites in and around the site
  - Passive samples are collected over 14 days
    - Sampled in accordance with Method 325A
    - Analyzed in accordance with Method 325B

Chloroprene Review

- June 26, 2017 DPE submitted a Request for Correction (RFC) for toxicological review of chloroprene to EPA under the Information Quality Act
- Jan 24, 2018 EPA denies RFC
- July 23, 2018, DPE submitted Request for Reconsideration on the denial of RFC
- Oct 2018, DPE submitted a Request for Stay of Review for Reconsideration of Denial of Request for Correction
- Nov 2018, EPA grants DPE additional time until Feb 1, 2019 to submit any additional information on RFR
- March 2022: EPA denies DPE's request

Current Status

- DPE has spent more than $30 million to reduce chloroprene emissions.
- Under the 2017 Administrative Order on Consent, Denka agreed to reduce its emissions of chloroprene by 85 percent from its 2014 baseline level.
- LDEQ has confirmed that the company has done just that. The regulatory status of chloroprene is under review by EPA, and the plant continues to work to reduce all emissions.