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LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

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# Air Emissions Inventory and Other Emissions Data

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Air Quality and Assessment Division



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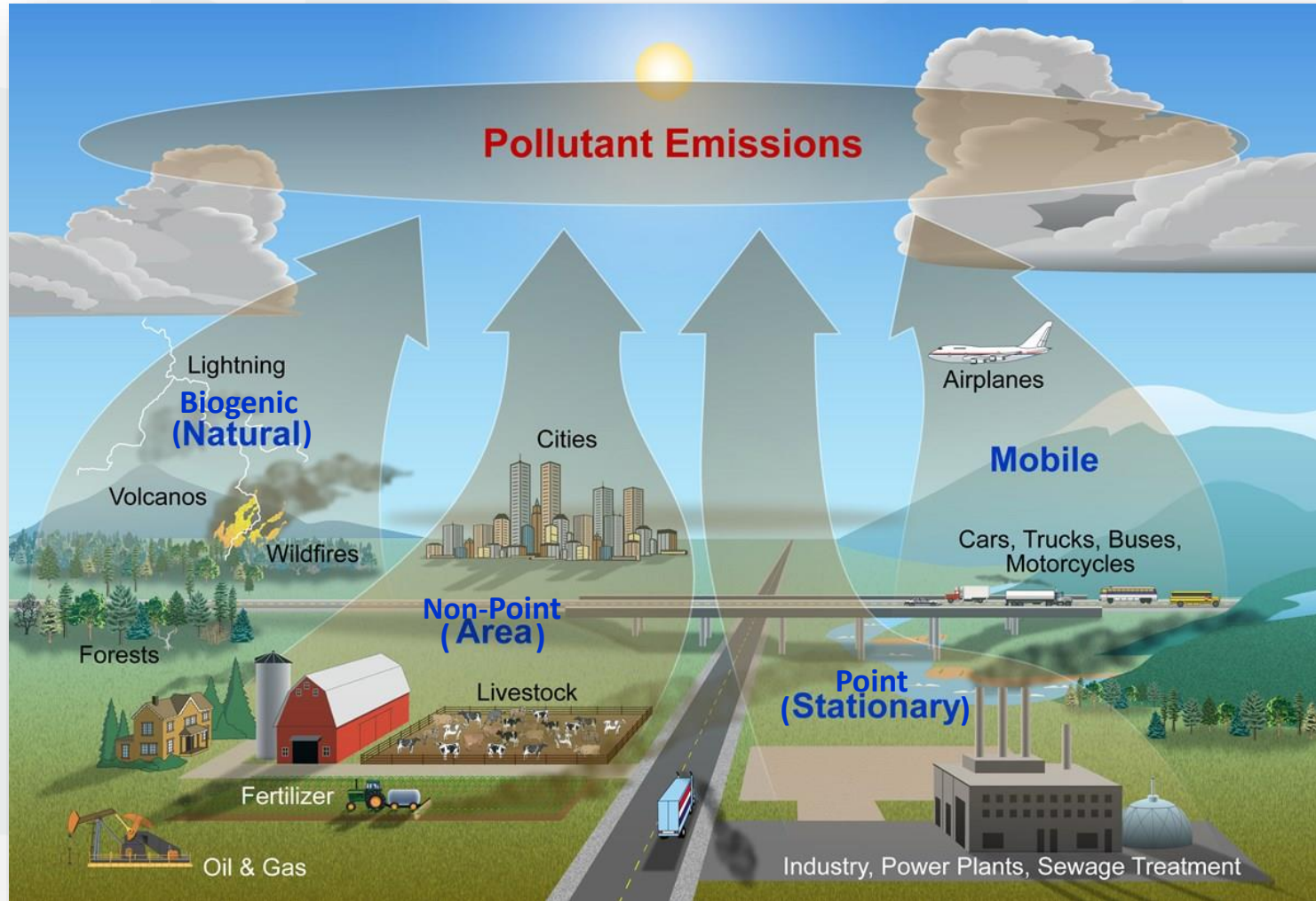
# What Is An Emissions Inventory (EI)?

- A listing of actual air pollutant emissions associated with a specific geographic area for a specific time interval

# Why Do We Need An Emissions Inventory?

- Provides a key portion of general environmental assessment of air quality
- Demonstrates contribution of specific sources to local air quality
- Aids in development of emissions control strategies
- Assists in choosing ambient monitoring sites and monitoring equipment
- When repeated, demonstrates effects of economic development and air regulatory programs on air quality
- Provides state information for the National Emissions Inventory (NEI)

# Sources Of Emissions



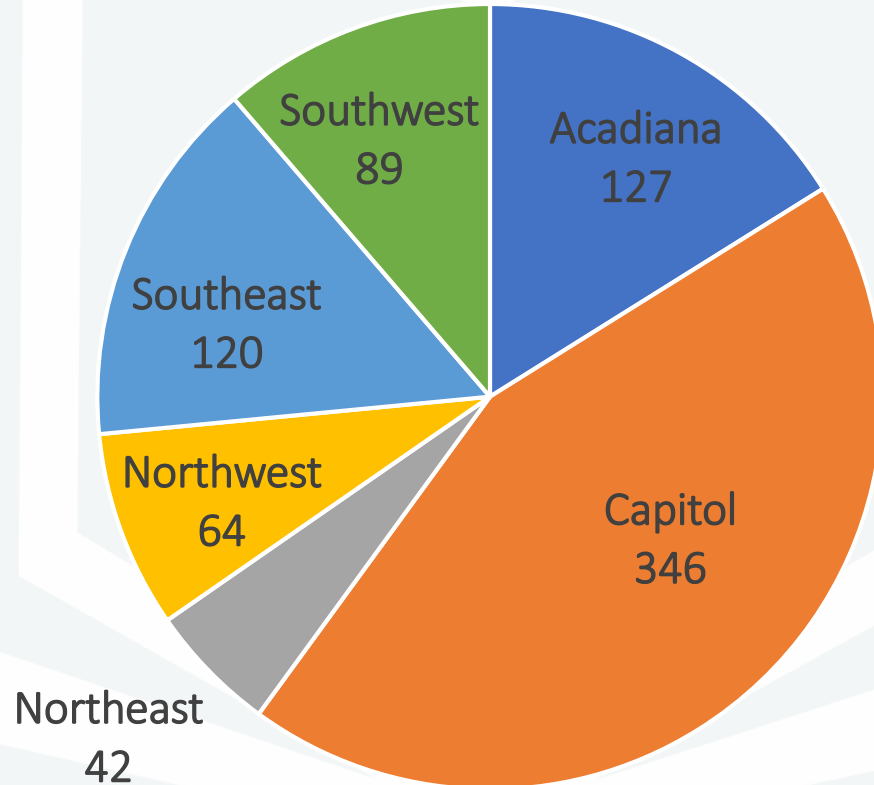
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# Point (Stationary) Sources

- Large, stationary (non-mobile), identifiable sources of emissions that release pollutants into the atmosphere
  - Examples – refineries, oil and gas facilities, chemical plants, etc.
  - 2020 point source inventory for LA includes 788 facilities

# 2020 Point Sources By Region



# Nonpoint (Area) Sources

- Collectively represent individual sources that have not been inventoried as specific point or mobile sources.
  - Typically too small, numerous, or difficult to inventory using the methods for the other classes of sources
  - Examples - small oil and gas wells, dry cleaning, bakeries, lawn mowers, painting





# Mobile Sources

- **Onroad** – motor vehicles that is any self-propelled vehicle used to carry people or property on a street or highway
  - Examples – cars, trucks, vans
- **Nonroad** – vehicles that are run by a nonroad engine and that is not a motor vehicle or a vehicle only used for competition
  - Examples – railroad locomotives, aircraft, commercial marine vessels, farm equipment, recreational boating, and lawn and garden equipment

# Biogenic (Natural) Sources

- Biogenic emissions are emissions that are not caused or produced by humans
  - Examples – trees and vegetation, oil & gas seeps, microbial activity

# Types Of Emissions In Inventories

- Criteria Pollutants
  - Established through EPA's National Ambient Air Quality Standards (NAAQS)
- Toxic Air Pollutants
  - Louisiana's regulations include 14 pollutants in addition to EPA's list of Hazardous Air Pollutants (HAPs)

# National Ambient Air Quality Standards (NAAQS)

- EPA establishes NAAQS which sets in motion a series of actions aimed at ensuring that air quality throughout the country meets those standards.
- A geographic area that meets or does better than the NAAQS is called an **attainment area**; an area that doesn't meet this standard is called a **nonattainment area**

# NAAQS

NAAQS	El Pollutant(s)
Carbon Monoxide	Carbon Monoxide (CO)
Lead	Lead (Pb)
Nitrogen Oxides	Nitrogen Oxides (NO <sub>x</sub> )
Particulate Matter	Particulates 10 micrometers and smaller (PM <sub>10</sub> )
	Particulates 2.5 micrometers and smaller (PM <sub>2.5</sub> )
	Ammonia (NH <sub>3</sub> )
Ozone	Nitrogen Oxides (NO <sub>x</sub> )
	Volatile Organic Carbon (VOC)
Sulfur Oxides	Sulfur Dioxide (SO <sub>2</sub> )

# Criteria Pollutants

- **Carbon Monoxide (CO)** - colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels
- **Lead (Pb)** - toxic metal emitted by motor vehicles and industrial sources
- **Nitrogen Oxides (NO<sub>x</sub>)** - primarily from the burning of fuel. Important precursor to both ozone and acid rain formation
- **Particulate Matter (PM)**- includes dust, dirt, soot, smoke, and liquid droplets
  - **PM<sub>10</sub>** - Particulates 10 micrometers and smaller
  - **PM<sub>2.5</sub>** - Particulates 2.5 micrometers and smaller

# Criteria Pollutants

- **Volatile Organic Compounds (VOC)** – Not directly regulated through a NAAQS, but is an important precursor to ground level ozone formation
- **Ammonia (NH<sub>3</sub>)** - colorless, pungent, suffocating, highly water-soluble, gaseous compound - reacts with nitric and sulfuric acids in the atmosphere to form fine particulate matter

# Toxic Air Pollutants (TAPs)

- Pollutants that are hazardous to human health or the environment
- List of 198 TAPs can be found in LAC 33:III.5112
- Louisiana's regulations include 14 pollutants in addition to EPA's list of Hazardous Air Pollutants (HAPs)
- LA classifies TAPs as:
  - Class I – known and probable human carcinogens
  - Class II – suspected human carcinogens and known, or suspected, human reproductive toxins
  - Class III – acute and chronic non-carcinogenic toxins



# Louisiana's Emissions Inventory

- Annual inventory of point sources
  - Data collected directly from facilities
  - All emissions from each facility for the calendar year
- Triannual inventory for Area, Mobile, and Biogenic sources based primarily upon emissions estimates and emissions modeling developed by the EPA with LDEQ input

# Which Facilities Have To Report?

- Criteria Pollutant Reporting
  - Any facility that has the potential to emit >100 tons of any criteria pollutant
  - Any facility in a nonattainment area with a potential to emit above a specified threshold (LAC 33:III.918 lists the thresholds)
  - Any major source of Toxic Air Pollutants
- Toxic Air Pollutant Reporting
  - Any major source of TAPs
  - Any facility that emits >10 tons of any single TAP or >25 tons of any combination of TAPs

# What Data Is Reported?

- All facilities meeting eligibility must report all criteria pollutant emissions
- Facilities that have a toxics reporting requirement must **ALSO** report all TAPs
- Emissions are either:
  - actual measured emissions using continuous emissions monitoring system (CEMS) data or stack test data
  - estimated using approved methodologies such as emission factors, emission models, engineering judgment, mass balance, etc.

# Ozone Nonattainment Area Requirement

- Ozone season average daily emissions (in pounds/day) of CO, NO<sub>x</sub>, VOC, ethylene, and propylene
- Average ozone season throughput
- Ozone season average heat content (in MMBtu/ozone season)
- Ozone season estimation method for emissions of CO, NO<sub>x</sub>, VOC, ethylene, and propylene.

# Reporting Deadline

- April 30<sup>th</sup> of the following year
  - Reporting Year = Calendar Year
  - 2020 calendar year emissions were due April 30, 2021
- Both a signed certification statement and electronic data must be submitted by April 30 (LAC 33:III.919.F.1.d)

# Data Certification

- Certification Statement

“I certify, under penalty of perjury, that the emissions data provided are accurate to the best of my knowledge, information, and belief, and I understand that submitting false or misleading information will expose me to prosecution under federal and/or state regulations.”

- Signed by a Responsible Official (RO) for the facility
- Holds the RO liable for criminal prosecution for knowingly submitting false and/or misleading information in the criteria pollutant EI
- Facilities submitting false or misleading information are still subject to civil prosecution (enforcement actions) for both criteria and toxic

# EI Fees

- Reported emissions are invoiced every year
  - amount varies on type of pollutant and class of toxic air pollutant
    - LAC 33:III.919.F for criteria pollutants
    - LAC 33:III.211.B.14 for toxic air pollutants
- Emissions are rounded to the nearest whole ton and assessed the appropriate fee found in LAC 33:III.223.

# EI Fees

- Criteria pollutants are invoiced \$13.91 per whole ton, not to exceed 4000 tons per pollutant
  - PM2.5 is a subset of PM10, therefore not invoiced to avoid invoicing same emissions twice
  - Lead and ammonia are invoiced through toxic air pollutant fees
- Toxic air pollutants fees are based on the class of pollutant, capped at 4000 tons per single TAP:
  - Class I = \$156.82 per whole ton
  - Class II = \$78.41 per whole ton
  - Class III = \$39.20 per whole ton



# Federal Regulations

- Clean Air Act (CAA) – Section 183 requires a criteria pollutant EI every 3 years for areas of ozone nonattainment
- 40 CFR Part 51 Subpart A – Air Emissions Reporting Requirements (AERR) – requires annual EI for point sources of criteria pollutants and EI for nonpoint and mobile sources every 3 years for entire state
- Data is submitted by LA to EPA annually
- State data is incorporated by EPA into the National Emissions Inventory (NEI)

# State Regulations

- LAC 33:III.918 & 919 – requires all point sources in the state to submit a criteria pollutant EI annually
- LAC 33:III.5107 – requires all point sources in the state to submit a toxic air pollutant EI annually

# What is ERIC?

(Emissions Reporting and Inventory Center)

- Online emissions inventory reporting tool
- Accepts both criteria and toxic pollutant emissions inventory data
- Requires a detailed accounting of all emissions down to individual pieces of equipment
- Required by the regulations

[www.deq.la.gov/ERIC](http://www.deq.la.gov/ERIC)

Air Emissions Inventory | x

deq.louisiana.gov/page/EmissionsInventory

Apps Bookmarks Sheet Music ERIC DEQ EPA craft ideas Buy a house fitness WorkPeople AA Notepad Other bookmarks

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LOUISIANA

ABOUT LDEQ AIR LAND WATER EMERGENCY RESPONSE

LDEQ > Air > Air Emissions Inventory

# AIR


AIR

- PERMITS
- PERMITS ISSUED BY CALENDAR QUARTER
- ENFORCEMENT
- SURVEILLANCE
- MONITORING
- PROGRAMS
- RESOURCES
- FORMS
- FAQ

## Air Emissions Inventory

The telephone number provided for the 2017 Reporting Year Webinars in the opening email was incomplete. The complete contact information is 504-388-808-6929.

ERIC has been opened for the 2017 Reporting Year. Please visit the **ERIC Training** page for information about training opportunities for the 2017 reporting year.



### About the Emissions Inventory Program

The Emissions Inventory Unit of the Air Permits Division is responsible for developing comprehensive criteria and toxic pollutant emissions inventories for the State of Louisiana. The emissions data are used for a variety of planning, regulatory and reporting purposes. The staff works closely with the regulated community, trade groups, and other state and federal agencies to develop and maintain high quality and current emissions data.

# New ERIC Users

- After creating an account in the LDEQ Business Site, users must request access to specific facility accounts within ERIC
- Associates user accounts with specific facilities
- Access to accounts is granted through:
  - Existing Account Administrator – request is completed in ERIC for administrator to approve in ERIC
  - Pre-registration Code – LDEQ provides code for facilities that have never submitted to ERIC or no longer have an active account administrator

# ERIC User Roles

- Reader – Read-only access to your ERIC data
- Manager – Provides editing privileges for ERIC data
  - Edit data, upload inventory data in Excel format, create new inventories, edit existing inventories, and revise old inventories, submit completed inventories
  - Most often the role assigned to consultants
- Administrator – Authority to grant or reject access requests and, if granted, what level of access/role is allowed (most often facility contacts)

Account Home

Test AI #1 Production Test (AI# 83609), Acme Building Brands

**Current Inventories:**

[Start New Inventory](#)

Inventory ID	Reporting Year Revision	Type Date Started	Start Date End Date	Submitted Date Submitted By	Cert Recd Date Cert Recd By	
1328796	2020 1	Criteria and Toxic 4/27/2021	1/1/2020 12/31/2020	11/16/2021 Haasbeek, John	11/16/2021 Haasbeek, John	<a href="#">View</a> <a href="#">Download</a> <a href="#">Revise</a> <a href="#">Summary</a>
1325413	2020 0	Criteria and Toxic 1/19/2021	1/1/2020 12/31/2020	4/21/2021 Petersen, Kelly		<a href="#">View</a> <a href="#">Download</a> <a href="#">Summary</a>
1323208	2018 1	Criteria and Toxic 7/18/2019	1/1/2018 12/31/2018	4/20/2020 Petersen, Kelly	4/20/2020 Petersen, Kelly	<a href="#">View</a> <a href="#">Download</a> <a href="#">Revise</a> <a href="#">Summary</a>
1321198	2018 0	Criteria and Toxic 5/16/2019	1/1/2018 12/31/2018	7/15/2019 Petersen, Kelly	7/15/2019 Petersen, Kelly	<a href="#">View</a> <a href="#">Download</a> <a href="#">Summary</a>
1321988	2016 2	Criteria and Toxic 2/20/2018	1/1/2016 12/31/2016	3/6/2020 Ducote, Maureen	3/6/2020 Ducote, Maureen	<a href="#">View</a> <a href="#">Download</a> <a href="#">Revise</a> <a href="#">Summary</a>
1313594	2016 1	Criteria and Toxic 2/15/2018	1/1/2016 12/31/2016	2/15/2018 Holman, Mark	2/20/2018 Ducote, Maureen	<a href="#">View</a> <a href="#">Download</a> <a href="#">Summary</a>
1313417	2016 0	Criteria and Toxic 2/14/2017	1/1/2016 12/31/2016	1/29/2018 Petersen, Kelly	1/29/2018 Petersen, Kelly	<a href="#">View</a> <a href="#">Download</a> <a href="#">Summary</a>
1309502	2015 1	Criteria and Toxic 1/12/2017	1/1/2015 12/31/2015	2/15/2018 Wingo, Wesley		<a href="#">View</a> <a href="#">Download</a> <a href="#">Revise</a> <a href="#">Summary</a>



# Inventory Status

Inventories are color coded

Key:

Uploading

Validating

Editing

Submitted

Revised

Certified

- Uploading – upload of inventory spreadsheet is in progress
- Validating – validation of inventory is in progress
- Editing – the inventory is in progress and is only on the ERIC site (not submitted to the department)
- Submitted – the inventory can only be viewed or brought forward for creating a revised inventory
- Revised – a more recent revision has been submitted for a particular inventory (only the most current version can be revised)
- Certified – the department has received the signed certification statement and updated ERIC to reflect the certified date





# Data Entry Options

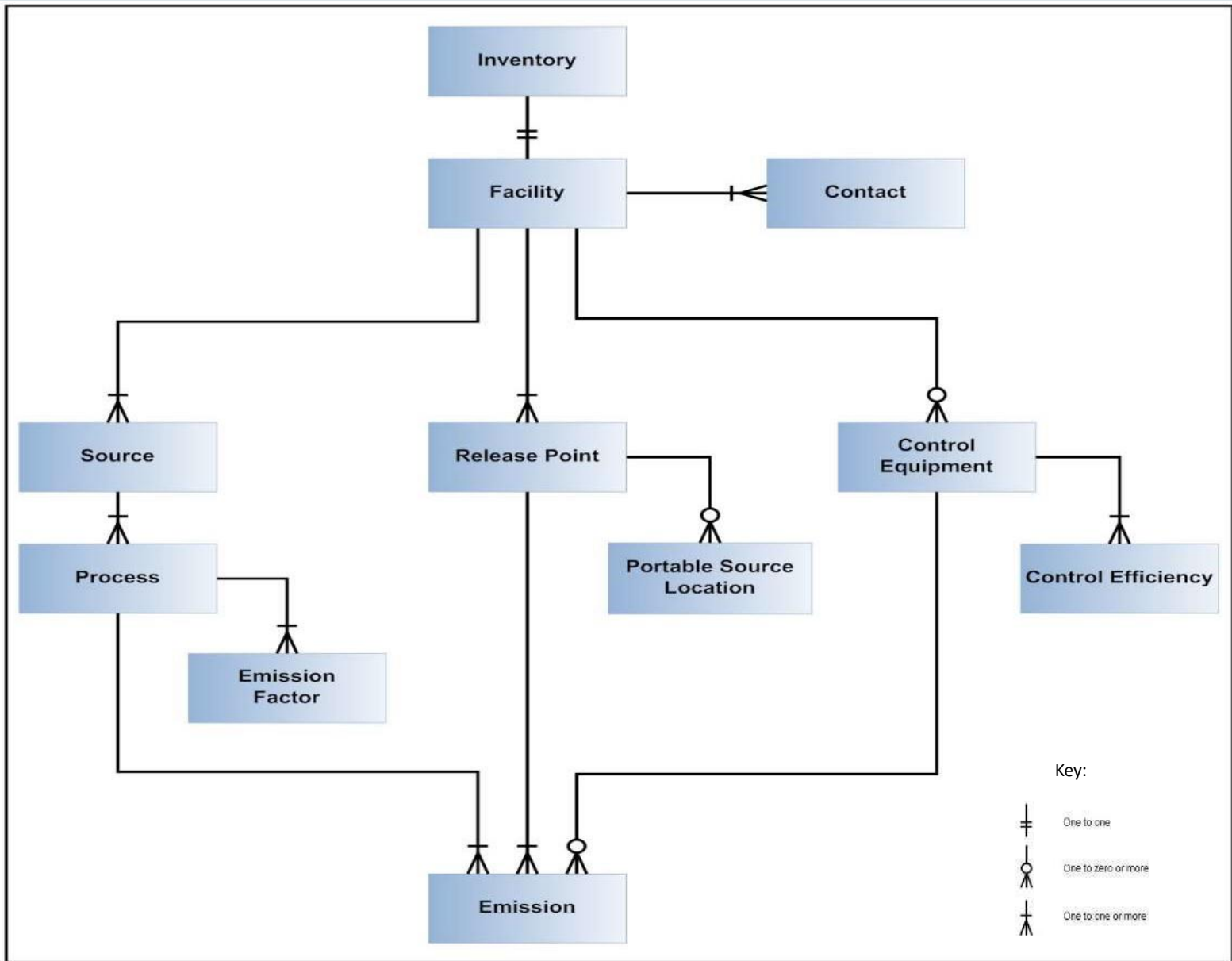
- On-screen entry – enter data directly into web-based application
- Spreadsheet upload – upload formatted spreadsheet using Microsoft Excel via downloadable template

# Data Collection

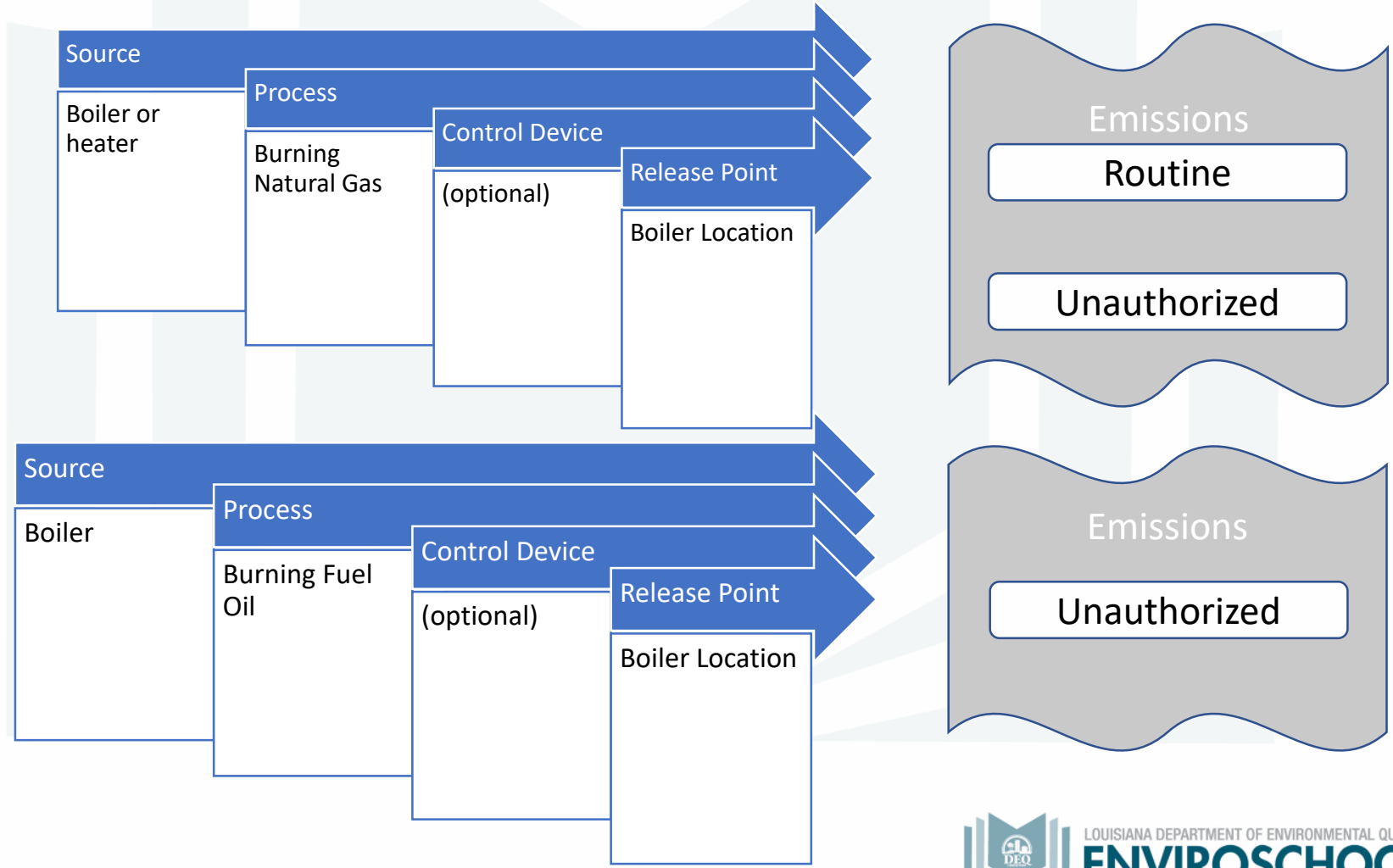
- Source - equipment or unit that generates emissions, i.e., boiler, tank, incinerator, internal combustion engines
- Process - description of the operational mode and material throughput of a source generating emissions - includes material throughput
- Release Point - physical location of release of pollutants to atmosphere - UTM coordinates, lat/longs
- Control System - equipment through which emissions are routed for control, e.g., flares, scrubbers, filters, etc.

# Emission Types

- **Routine** – Emissions emitted under normal operating conditions. Not restricted to permit limited emissions; e.g., fugitive and area source emissions. Also includes emissions from regulatory permitted activities
- **Variance** – Emissions emitted through the operations approved by a variance
- **Authorized Non-routine** – Emissions allowed by rule, statute, variance, or order that are not routine
- **Startup/Shutdown** – Emissions emitted during startup/shutdown of the emissions path
- **Unauthorized Discharge** – All other emissions that are not routine, variance, authorized non-routine, or startup/shutdown



# Emissions Path Examples



# Public Reports

- No ERIC account needed
- Radius Search
  - Actual Emissions
  - Permitted Emissions
- Emissions Totals by Parish
- Prior Years Data Set(s)



## Emissions Reporting and Inventory Center

[ERIC Resources Page](#)

### Public Access to Emissions Inventory Data

Please log in to the portal to access your ERIC account, or to request access to an ERIC Account

- [Request access to a Facility \(EI submitters, responsible officials, or designated consultants only\)](#)
  - [Job Monitor](#)
  - [Fix Stuck Jobs](#)
  - [Enter Administration Mode](#)
  - [EIMPO Transmittals](#)
  - [Public Reports](#)
  - [Show Help Topics](#)
  - [Update Reference Tables](#)
  - [App Settings](#)
- ERIC Version 10.1.0

## Emissions Reporting and Inventory Center

### Emissions Inventory Reports

 [Home](#)

Radius Search

*Extract actual or permitted emissions for release points located using a center point and radius.*

Emissions by Parish

*Extract actual emissions summarized by parish.*

[Prepared Data Files](#)

*Download prepared Emissions Inventory Data Set files.*





# Radius Search

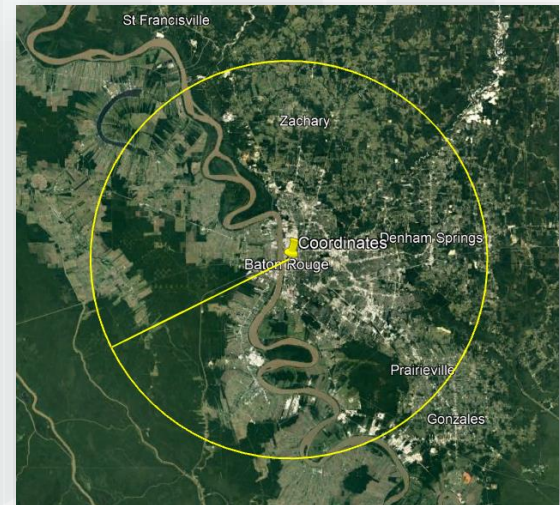
## Permitted/Actual Emissions By Radius Report

[Home](#)

[Click here to read important Limitations of the Actual and Permitted Emissions Reports.](#)

- Actual Emissions Report  
 Permitted Emissions Report  
 Both Reports (each report on a separate Excel tab)

Reporting Year:	2020
Pollutant:	Choose One...
<b>Coordinates of Center Point for Radius Search</b>	
<input checked="" type="radio"/> Latitude/Longitude <input type="radio"/> UTM	
Latitude (decimal degrees):	<input type="text"/>
Longitude (decimal degrees):	<input type="text"/>
Radius (meters):	<input type="text"/>
<input type="button" value="Run Report"/> <input type="button" value="Reset"/> <input type="button" value="Close"/>	



# Radius Search

- Actual Emissions Radius Search
  - Certified emissions data directly from ERIC
  - Last 5 years plus baseline data available
- Permitted Emissions r=Radius search
  - Permitting data from TEMPO
  - Current operating permits only (not pending permit applications)



# Emissions By Parish

## Emissions Reporting and Inventory Center

### Emissions By Parish Report - Reporting Year 2020

[Home](#)

Parish	Sulfur dioxide (SO2) Emissions (tons)
Acadia	28.531759
Allen	57.913652
Ascension	610.601605
Assumption	11.251544
Avoyelles	0.143877
Beauregard	175.746994
	10.716420
	79.457018
	109.780788
	17326.786411
	0.214974

## Emissions Reporting and Inventory Center

### Emissions By Parish Report

[Home](#)

Reporting Year:

Pollutant:



# Prior Years Data Set

[www.deq.louisiana.gov/page/eric-public-reports](http://www.deq.louisiana.gov/page/eric-public-reports)

- Spreadsheet of emissions by facility, year, and pollutant
- Currently a single spreadsheet, but will be split due to size constraints

## ERIC Annual Certified Emissions

The linked spreadsheet below contains both criteria and toxic emissions, arranged by facility and pollutant, for the years 1991 to present. The data set is updated quarterly to reflect revisions of inventory data by facilities and only includes the most recent certified inventory data.

The data is made available to the public for easy accessibility. More detailed information is also available upon request by using a public records request. Information on Public Records can be found at the [DEQ Public Records](#) site.

Annual Certified Emissions Data 1991-present (Updated 6/23/2021)

# Special Inventories

- When necessary, the Department may request emissions data for an alternate geographic area or time period
  - Hourly emissions or process data
  - Parishes/areas under review for NAAQS designation

# Related EPA Programs

- Toxics Release Inventory (TRI)
- National Air Toxics Assessment (NATA)
- Greenhouse Gas Inventory
- Envirofacts Data Warehouse

# Toxics Release Inventory (TRI)

- Publicly available EPA database that contains information on toxic chemical releases and waste management activities reported annually by certain industries as well as federal facilities
- Mandated by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and is part of the Emergency Planning and Community Right-to-Know Act (EPCRA)
- Used to augment NEI point source emissions data

# Difference Between EI And TRI

## Emissions Inventory

- Releases to air only
- Applicability is based on geographical location in addition to emissions
- Once EI regulations apply, there is no minimum amount needed to report
- Criteria and toxic pollutants

## Toxics Release Inventory

- Releases to air, water, land, & injection
- Applicability is not bound by geographical location
- Minimum amount to report
- Only certain industrial facilities report
- Only toxic pollutants



# TRI Contacts

[epa.gov/TRI](http://epa.gov/TRI)

Morton Wakeland  
Toxics Section, Multimedia Planning  
and Permitting Division  
Phone: 214-665-8116  
Email: [wakeland.morton@epa.gov](mailto:wakeland.morton@epa.gov)

[www.lsp.org/esu.html#rtk](http://www.lsp.org/esu.html#rtk)

Louisiana State Police  
Emergency Services Unit (ESU)  
Email: [RTK.Tier2@dps.la.gov](mailto:RTK.Tier2@dps.la.gov)



# National Air Toxics Assessment (NATA)

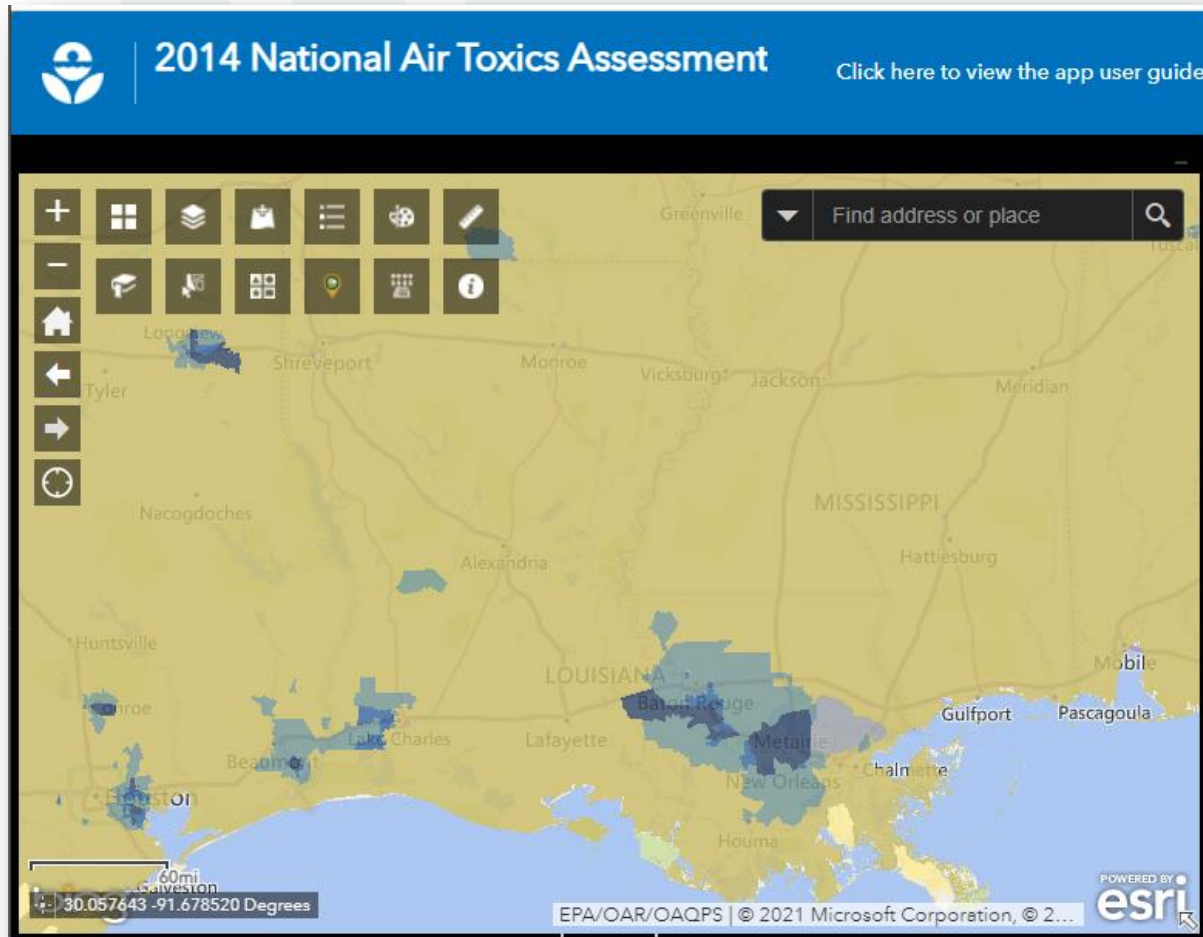
- Estimate ambient concentrations of air toxics across the United States
- Estimate population exposures across the United States
- Characterize potential public health risks due to inhalation of air toxics
- **WHAT NATA IS NOT:**

“To make NATA possible, we must make some assumptions about the air toxics emissions data that go into it. These assumptions mean that NATA can’t give precise exposures and risks for a specific person. Instead, NATA results are best applied to larger areas – counties, states and the nation. Results for smaller areas, such as a census tract, are best used to guide follow-up local studies.” – EPA NATA website

# Access NATA

[gispub.epa.gov/NATA/](https://gispub.epa.gov/NATA/)

The 2014 NATA, released in 2018, is the current version



# Greenhouse Gas Inventory

[www.epa.gov/ghgemissions](http://www.epa.gov/ghgemissions)

- EPA Greenhouse Gas Reporting Rule requires electronic reporting of greenhouse gas (GHG) emissions from large sources and suppliers in the United States.
  - Electronic Greenhouse Gas Reporting Tool (e-GGRT) supports facility reporting for the EPA Greenhouse Gas Reporting Program
  - [ghgreporting.epa.gov/ghg](http://ghgreporting.epa.gov/ghg)
- Inventory of U.S. Greenhouse Gas Emissions and Sinks
  - comprehensive accounting of total greenhouse gas emissions for all man-made sources in the United States
  - Also calculates carbon dioxide removal from the atmosphere by “sinks,” e.g., through the uptake of carbon and storage in forests, vegetation, and soils
  - [cfpub.epa.gov/ghgdata/inventoryexplorer/](http://cfpub.epa.gov/ghgdata/inventoryexplorer/)





## Envirofacts

Your one-stop source for Environmental Information

### Get the EnviroFACTS!

Retrieve information from multiple sources of Envirofacts' System Data for your area of interest.

Enter a location such as address, zip, city, county, waterbody, park name, etc.



[Advanced](#)

### Topic Searches



Air



Waste



Facility



Land



Toxics



Compliance



Water



Radiation



Other

### Envirofacts System Data Searches

BR  
Brownfields-Cleanups  
Cleanups  
ECHO/IDEA  
ICIS-AIR

FRS  
▪ EZ Search  
▪ Organization Search  
Greenhouse Gas  
▪ Customized Search  
ICIS  
ICR

IGMS  
Locational Information  
▪ Locational Search  
NEI  
PCS  
▪ Customized Search

#### Multisystem Search

RadNet  
▪ Customized Search  
RCRAInfo  
SDWIS  
SEMS  
SRS  
TSCA  
UV Index

TRI  
▪ TRI Explorer  
▪ TRI Search  
▪ Form R Search  
▪ Form R & A Download  
▪ EZ Search  
▪ Customized Search  
▪ Pollution Prevention

# Emissions Inventory Staff & Contact Information

Name	Number	Email
<b>Jason Meyers</b> Air Planning and Assessment Division Administrator	225-219-3408	<a href="mailto:Jason.Meyers@la.gov">Jason.Meyers@la.gov</a>
<b>Kelly Petersen</b>	225-219-3397	<a href="mailto:Kelly.Petersen@la.gov">Kelly.Petersen@la.gov</a>
<b>Maureen Ducote</b>	225-219-3591	<a href="mailto:Maureen.Ducote@la.gov">Maureen.Ducote@la.gov</a>

225-219-3397  
[ERIC@la.gov](mailto:ERIC@la.gov)

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