

MONITORING AND ENFORCEMENT OF AIR QUALITY

DEPARTMENT OF ENVIRONMENTAL QUALITY



PERFORMANCE AUDIT SERVICES  
ISSUED JANUARY 20, 2021

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LOUISIANA LEGISLATIVE AUDITOR  
DARYL G. PURPERA, CPA, CFE

January 20, 2021

The Honorable Patrick Page Cortez,  
President of the Senate  
The Honorable Clay Schexnayder,  
Speaker of the House of Representatives

Dear Senator Cortez and Representative Schexnayder:

This report provides the results of our audit of the Department of Environmental Quality (DEQ). The purpose of this audit was to evaluate DEQ's monitoring and enforcement of air quality regulations.

Overall, we found DEQ could strengthen its monitoring and enforcement processes by identifying violations and issuing enforcement actions in a timelier manner.

Our analysis of U.S. Environmental Protection Agency (EPA) data found the number of good air quality days in Louisiana has increased by 20.9 percent between 2008 and 2018, while the number of unhealthy days for sensitive groups has decreased 75.1 percent. However, Louisiana has the highest toxic air emissions per square mile of any state, according to the EPA's Toxics Release Inventory, and the EPA's most recent (2014) National Air Toxics Assessment showed parts of Louisiana have high potential cancer risks and/or a high respiratory hazard index.

We found DEQ should strengthen its monitoring process to identify those permitted facilities that fail to submit their required self-monitoring reports and hold them accountable. In addition, DEQ should review these reports in a timely manner so it can identify and address facilities with self-reported violations. Automating and standardizing the submission of these self-monitoring reports could help DEQ improve its monitoring process.

In addition, we found DEQ does not issue enforcement actions in a timely manner to permitted facilities that violate air permit requirements. From fiscal years 2015 through 2019, the time it took DEQ to issue enforcement actions increased by 102.1 percent. Best practices state that effective enforcement includes swift and predictable responses to violations.

DEQ also does not effectively track the penalties it has assessed and whether facilities have paid their penalties. DEQ could improve its settlement process for penalties by developing

The Honorable Patrick Page Cortez,  
President of the Senate  
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Speaker of the House of Representatives  
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deadlines for when facilities must submit their settlement offers and by processing these offers more quickly. We found that, for 46 enforcement actions finalized through settlements between fiscal years 2015 and 2019, it took an average of 4.4 months for DEQ to receive a settlement offer after issuing the enforcement action and an additional 2.1 years on average, to finalize an agreement.

We found as well that DEQ faces challenges related to low staffing levels, high workloads, frequent turnover of staff, and ineffective data systems that make it more difficult to perform its regulatory work. For example, DEQ's positions dedicated to air quality regulation decreased 14.6%, from 247 in fiscal year 2010 to 211 in 2019.

The report contains our findings, conclusions, and recommendations. I hope this report will benefit you in your legislative decision-making process.

We would like to express our appreciation to the Department of Environmental Quality for its assistance during this audit.

Respectfully submitted,



Daryl G. Purpera, CPA, CFE  
Legislative Auditor

DGP/ch

# Louisiana Legislative Auditor

Daryl G. Purpera, CPA, CFE



## Monitoring and Enforcement of Air Quality Department of Environmental Quality

January 2021

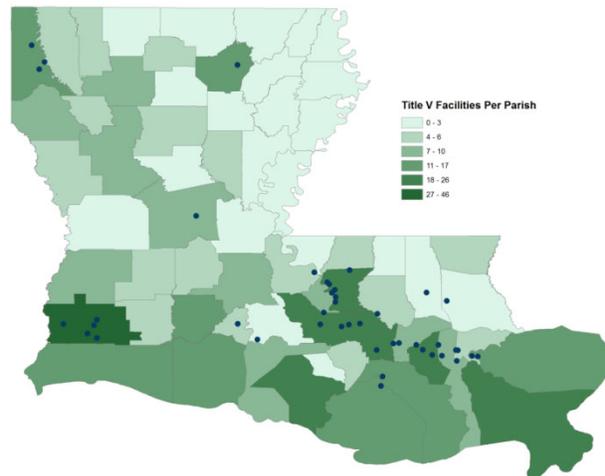
Audit Control # 40200007

### Introduction

We evaluated the Louisiana Department of Environmental Quality’s (DEQ) monitoring and enforcement of air quality regulations. It is important to achieve and maintain clean air to protect public health and the natural environment. We conducted this audit because Louisiana has a high concentration of industrial facilities requiring air permits, as shown in Exhibit 1. In addition, the Environmental Integrity Project compared budgets and staffing for environmental agencies across states and found that between fiscal years 2008 and 2018, Louisiana’s DEQ ranked 4<sup>th</sup> among states in staffing cuts and 3<sup>rd</sup> in budget cuts<sup>1</sup> which may affect its ability to effectively perform its regulatory activities.

DEQ’s **mission** is to provide service to the people of Louisiana through comprehensive environmental protection in order to promote and protect health, safety and welfare while considering sound policies that are consistent with statutory mandates.

**Exhibit 1**  
**Ambient Air Monitors and Major Permitted Facilities**  
**Fiscal Year 2019**



According to state law<sup>2</sup>, DEQ is the primary agency in the state concerned with environmental protection and regulation. State regulations<sup>3</sup> establish DEQ’s Air Quality Program to maintain the purity of air resources in Louisiana consistent with the protection of the health and physical property of the people, maximum employment, and the full industrial development of the state.

**Source:** Prepared by legislative auditor's staff using EPA’s GreenBook data and data provided by DEQ.

DEQ regulates and monitors air quality by issuing air permits, conducting surveillance activities, such as

inspections of permitted facilities, and issuing enforcement actions when permit holders violate permit conditions. DEQ issues various types of air permits depending on the amount of

<sup>1</sup> Environmental Integrity Project. *During a Time of Cutbacks at EPA, 30 States Also Slashed Funding for State Environmental Agencies*. December 5, 2019. <https://environmentalintegrity.org/news/state-funding-for-environmental-programs-slashed/>

<sup>2</sup> Louisiana Revised Statute (LA R.S.) 30:2011

<sup>3</sup> Louisiana Administrative Code (LAC) 33:III:101

pollutants a facility may emit. For example, most large industrial facilities are required to have major (Title V) permits, while smaller facilities, such as concrete plants and crematoriums, are required to have minor permits. From fiscal years 2015 through 2019, there were approximately 750 active major permits and 6,000 to 8,000 active minor permits each year.

DEQ monitors air quality through several activities, including collecting and analyzing ambient air data, inspecting permitted facilities, and reviewing self-monitoring reports submitted by facilities. DEQ and the Environmental Protection Agency (EPA) place ambient air monitors across the state to collect and analyze air samples for certain pollutants, as shown in Exhibit 1. To comply with EPA requirements, DEQ inspects 50% of major air permit holders per year and will conduct inspections of minor air permits in response to environmental incidents, such as unauthorized emission releases or spills, and citizen complaints. DEQ also receives and reviews various self-monitoring reports that facilities are required to submit throughout the year, such as permit deviations and emissions reports. When DEQ identifies permit violations, it may issue enforcement actions that require corrective action and/or monetary penalties. Penalties are often resolved through settlement agreements negotiated with facilities and may include beneficial environmental projects.

The objective of this audit was:

**To evaluate DEQ's monitoring and enforcement of air quality regulations.**

Our results are summarized on the next page and discussed in detail throughout the remainder of the report. Appendix A contains DEQ management's responses to our recommendations, and Appendix B contains our scope and methodology. In addition,

- Appendix C contains descriptions of the six criteria pollutants (i.e., the most common pollutants) designated by the EPA, how each are formed, and the associated health effects.
- Appendix D contains the number and description of air permits issued in fiscal years 2015 through 2019.
- Appendix E contains the numbers of active air permits by parish for fiscal years 2015 through 2019.
- Appendix F includes the top 25 pollutants in Louisiana for calendar year 2018.
- Appendix G contains the total self-reported air emissions in tons by parish.
- Appendix H is a map showing Louisiana's potential cancer risk per million, and Appendix I is a map showing Louisiana's respiratory hazard index.
- Appendix J contains the number of and description of enforcement actions issued in fiscal years 2015 and 2019.

## Objective: To evaluate DEQ's monitoring and enforcement of air quality regulations.

Overall, we found that DEQ could strengthen its monitoring and enforcement processes by identifying violations and issuing enforcement actions more timely. Specifically, we found:

- **Louisiana has seen improvement in air quality since calendar year 2008. However, certain areas of the state are highly industrialized and have high concentrations of air pollution. As a result, it is important for DEQ to have robust monitoring and enforcement processes to protect human and environmental health.** According to our analysis of EPA data, the number of good air quality days in Louisiana has increased by 20.9%, from 191.9 days in calendar year 2008 to 232 days per year in calendar year 2018, while the number of unhealthy days for sensitive groups has decreased 75.1%, from 14.3 days to 3.6 days. However, according to the EPA's Toxics Release Inventory, Louisiana has the highest toxic air emissions per square mile than any other state. In addition, according to the EPA's most recent (2014) National Air Toxics Assessment (NATA), parts of Louisiana have high potential cancer risks and/or a high respiratory hazard index.
- **While DEQ conducted inspections on permitted facilities as required by the EPA, it should strengthen its monitoring process by identifying and holding accountable those facilities that fail to submit required self-monitoring reports. In addition, DEQ should review these reports in a timely manner so it can identify and address those facilities with self-reported violations.** Automating and standardizing the submission of these self-monitoring reports could help DEQ improve its regulation of air quality in Louisiana and decrease the resources needed to review these reports manually.
- **DEQ does not issue enforcement actions in a timely manner to permitted facilities that violate air permit requirements. From fiscal years 2015 through 2019, the time it took DEQ to issue enforcement actions increased by 102.1%, from an average of 289 days to an average of 585 days.** As a result, there is a risk that facilities may have violations that remain uncorrected for years. Best practices state that effective enforcement includes swift and predictable responses to violations. In addition, developing additional reports could assist DEQ in better monitoring the enforcement program overall and help it hold permitted facilities accountable.
- **DEQ does not effectively track the penalties it has assessed and whether facilities have paid their penalties. In addition, DEQ could improve its settlement process by developing deadlines for when facilities must submit settlement offers and by processing these offers more quickly.** DEQ gives facilities the option to submit an initial settlement offer after it issues a notice of potential penalty, which often involves negotiating with facilities regarding the

amount facilities must pay to resolve violations. Of the 46 enforcement actions that were finalized through settlements during fiscal years 2015 through 2019, it took an average of 4.4 months for DEQ to receive a settlement offer after issuing the enforcement action and then an additional 2.1 years on average, to finalize the settlement agreement.

- **DEQ faces challenges in performing its required regulatory duties, including low staffing levels, high workloads, frequent turnover of staff, and ineffective data systems.** Despite Louisiana’s large number of Title V facilities, DEQ’s positions dedicated to air regulation decreased 14.6%, from 247 in fiscal year 2010 to 211 in 2019. These challenges may impact DEQ’s ability to effectively hold facilities accountable for air violations.

Our findings and our recommendations are discussed in more detail in the sections below.

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**Louisiana has seen improvement in air quality since calendar year 2008. However, certain areas of the state are highly industrialized and have high concentrations of air pollution. As a result, it is important for DEQ to have robust monitoring and enforcement processes to protect human and environmental health.**

Nationwide, air quality has improved significantly since the passage of the Clean Air Act of 1970. According to the EPA, cleaner technology and more stringent air regulations contribute to the improvements in air quality.<sup>4</sup> Air pollution in Louisiana comes from a variety of sources, and the potential health risks depend on the type of air pollutant, the concentration of pollutant in the air, and frequency and duration of exposure. Although industrial facilities contribute to air pollution, other sources such as sandblasters, crematoriums, and pollution from driving cars and trucks also impact air quality. According to data from the U.S. Bureau of Labor Statistics,<sup>5</sup> Louisiana has the highest percentage of its jobs in chemical manufacturing and petroleum and coal manufacturing of any state. Louisiana is a desirable state for industry due to it being a major source of raw materials; its access to large amounts of water needed for production; its proximity to the Mississippi River, a major transportation artery; and its tax incentives.<sup>6</sup> However, a byproduct of major industry is air pollution. Louisiana has seen improvement in some aspects of air quality since 2008; however, in highly industrialized areas of the state, higher levels of

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<sup>4</sup> <https://www.epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health> & <https://www.epa.gov/clean-air-act-overview/clean-air-act-solving-air-pollution-problems-science-and-technology>

<sup>5</sup> Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2019, [https://data.bls.gov/cew/apps/table\\_maker/v4/table\\_maker.htm#type=0&year=2019&qtr=A&own=5&ind=325&supp=0](https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=0&year=2019&qtr=A&own=5&ind=325&supp=0) & [https://data.bls.gov/cew/apps/table\\_maker/v4/table\\_maker.htm#type=0&year=2019&qtr=A&own=5&ind=324&supp=0](https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=0&year=2019&qtr=A&own=5&ind=324&supp=0)

<sup>6</sup> “The Economic Impact of the Chemical Industry on the Louisiana Economy: An Update,” Loren C. Scott & Associates, Inc. April 2018

pollution may be present. There are various ways to measure air quality, which are explained in detail below.

**According to EPA’s Air Quality Index (AQI) data, Louisiana’s overall air quality has improved from calendar year 2008 through 2018.** The EPA's AQI defines how clean or polluted the air is and what associated health effects may be a concern. EPA calculates AQI through data collected from monitoring stations for the criteria pollutants,<sup>7</sup> and the higher the AQI value, the greater the level of air pollution and health concern. As shown in the text box, an AQI from 0 to 50 is considered “good,” whereas an AQI of 301 to 500 is considered “hazardous.” According to our analysis of EPA data, the number of good air quality days in Louisiana has increased by 20.9%, from 191.9 days in calendar year 2008 to 232 days per year in calendar year 2018, while the number of unhealthy days for sensitive groups has decreased 75.1%, from 14.3 days to 3.6 days.

EPA’s Air Quality Index Ranges	
0-50	= Good
51-100	= Moderate
101-150	= Unhealthy for Sensitive Groups
151-200	= Unhealthy
201-300	= Very Unhealthy
301-500	= Hazardous

**Louisiana has more parishes in attainment status than previous years.** The EPA designates areas that do not meet National Ambient Air Quality Standards (NAAQS)<sup>8</sup> as non-attainment areas, and states must develop plans to reduce air pollution for those areas in order to comply with NAAQS. Currently, Louisiana has two non-attainment areas for sulfur dioxide, one in St. Bernard Parish and one in Evangeline Parish.<sup>9</sup> This is an improvement from calendar year 2016 when Ascension, East Baton Rouge, Iberville, Livingston, and West Baton Rouge were also in non-attainment for ozone. According to DEQ, it is working with facilities in St. Bernard and Evangeline Parish to gain attainment status within the next couple of years.

**According to DEQ’s Emissions Reporting and Inventory Center (ERIC),<sup>10</sup> overall self-reported emissions from permitted facilities have decreased 27.5%, from 689,188 tons in calendar year 2008 to 499,399 tons in calendar year 2018.** Emissions of the six criteria pollutants [Carbon Monoxide (CO), Lead, Nitrogen Dioxide (NO<sub>2</sub>), Ozone (O<sub>3</sub>), Particulate Matter (PM<sub>2.5</sub> and PM<sub>10</sub>), and Sulfur Dioxide (SO<sub>2</sub>)] have decreased 29% during this same period, from 663,752 tons per year in calendar year 2008 to 471,204. See Appendix C for how each criteria pollutant is formed and the associated health effects. Emissions from toxic air pollutants<sup>11</sup> increased by 10.8%, from 25,436 tons in calendar year 2008 to 28,195 tons in

<sup>7</sup> Criteria pollutants are regulated under Title I of the Clean Air Act, which sets a national health standard for each pollutant. The burden is on the state to set up monitoring networks, monitor the air continuously for each pollutant, and report the data to EPA. States must also submit emission summaries and control plans for each pollutant, which demonstrate to EPA that state controls and regulations will both achieve and maintain the standard.

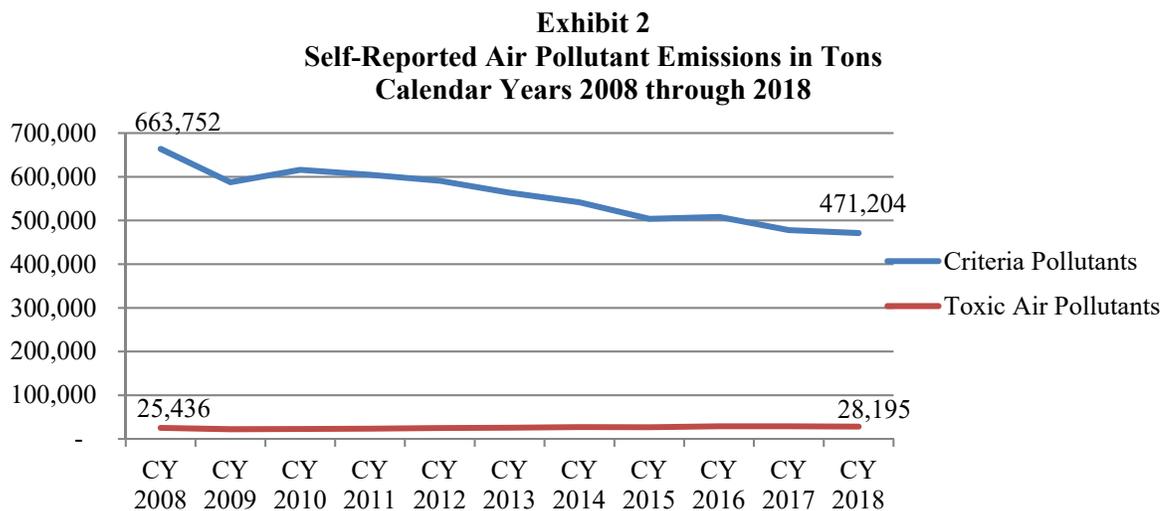
<sup>8</sup> NAAQS designations are for criteria pollutants only.

<sup>9</sup> Based on analysis of EPA’s Green Book Data <https://www.epa.gov/green-book/green-book-data-download>

<sup>10</sup> ERIC contains self-reported data that is estimated and then aggregated into the inventory. All major sources, some minor sources, and some facilities in non-attainment areas must report their emissions to ERIC by April 30th of each year.

<sup>11</sup> Toxic Air Pollutants (TAPs) are regulated under Title III of the Clean Air Act. TAP regulations focus on the air emissions from targeted industries, and the control technology used to limit those emissions. In general, the burden is on industries to report emissions of TAPs, and to demonstrate to the state agency that the control technology in place meets standards. In Louisiana, industries must also comply with the state regulation for toxic air pollutants.

calendar year 2018. Exhibit 2 shows the total tons in criteria and toxic air pollutants from calendar years 2008 through 2018.



**Source:** Prepared by legislative auditor's staff using self-reported facility data provided by DEQ.

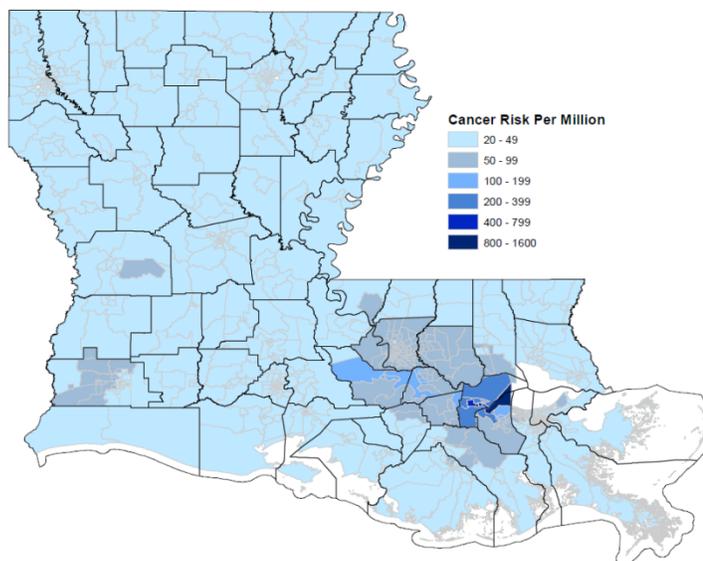
While emissions have decreased, some areas have higher concentrations of emissions and permitted facilities than other areas in Louisiana. For example, Calcasieu Parish and East Baton Rouge Parish made up more than 20% of the state’s total emissions. Exhibit 3 shows the top 10 parishes with the highest emissions during calendar year 2018 and the number of major and minor permits in those parishes. See Appendix G for the emissions for all parishes for calendar years 2015 through 2018.

<b>Exhibit 3</b> <b>Top 10 Parish Emissions in Tons</b> <b>Calendar Year 2018</b>				
<b>Parish</b>	<b>Total Emissions*</b>	<b>Percent of State Total Emissions</b>	<b>Major Permits</b>	<b>Minor Permits</b>
Calcasieu	70,970	14.2%	89	198
East Baton Rouge	42,678	8.5%	56	85
St. Mary	37,006	7.4%	21	105
St. Charles	34,733	7.0%	54	49
Pointe Coupee	26,040	5.2%	5	63
Ascension	25,302	5.1%	67	50
DeSoto	22,644	4.5%	9	822
Rapides	18,402	3.7%	9	56
Iberville	17,308	3.5%	55	81
Evangeline	16,701	3.3%	6	121
<b>Top 10 Parishes Total</b>	<b>311,784</b>	<b>62.4%</b>	<b>371</b>	<b>1,630</b>
<b>All Other Parishes Total</b>	<b>187,614</b>	<b>37.6%</b>	<b>353</b>	<b>5,008</b>
<b>State Total</b>	<b>499,398</b>	<b>100.0%</b>	<b>724</b>	<b>6,638</b>

\*Emissions do not include emissions from all permits as not all permitted facilities are required to submit emission reports.  
**Source:** Prepared by legislative auditor’s staff using self-reported emissions data from DEQ.

**According to the EPA's 2014 National Air Toxics Assessment (NATA),<sup>12</sup> parts of Louisiana have high potential cancer risks and/or a high respiratory hazard index.** The EPA developed NATA as a tool to help states identify which pollutants, emission sources, and places they may wish to study further to better understand the potential risks to public health from air toxics.<sup>13</sup> NATA estimates health risks from a single year's emissions data by assuming a person breathes these emissions over a period of 70 years (e.g., a lifetime). According to this tool, St. John the Baptist Parish has the highest estimated potential cancer risk nationwide. Exhibit 4 shows the potential cancer risk for Louisiana by census tract. In addition, Louisiana has the second highest respiratory hazard index out of all the states. This indicates potential non-cancer risk for the respiratory system. See Appendices H and I for maps of cancer risk and respiratory hazard index information for Louisiana.

**Exhibit 4  
Potential Cancer Risk Per Million  
By US Census Tract  
2014 EPA National Air Toxics Assessment Data**



**According to the EPA's 2018 Toxics Release Inventory (TRI),<sup>14</sup> Louisiana has the highest toxic air releases per square mile than any other state.** TRI calculates that Louisiana has 1,238.7 pounds of toxic air releases per square mile.

Ohio, the second highest state, by comparison, has 898.9 pounds per square mile. TRI tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. It is important to note that the TRI does not reveal whether the public is exposed to toxic chemicals; however, in conjunction with other information it can be used as a starting point to evaluate the potential risks of exposure to these releases.

<sup>12</sup> This is the most recent assessment. NATA can be used to learn where to expand the toxics monitoring networks, help target reduction activities, and better understand risk from air toxics; however, it should not be used to pinpoint specific risk values in small areas such as census tract, characterize or compare risks between states, or examine trends from one NATA year to another.

<sup>13</sup> The EPA compiles the information in NATA using the National Emissions Inventory, which is released every three years based upon self-reported data provided by air agencies. The EPA then estimates the ambient concentrations of air toxics across the United States and estimates the population exposures to determine the potential public health risks.

<sup>14</sup> TRI annually tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. TRI is a mandatory program managed by the EPA but does not include all chemicals or all permitted facilities.

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**While DEQ conducted inspections on permitted facilities as required by the EPA, it should strengthen its monitoring process by identifying and holding accountable those facilities that fail to submit required self-monitoring reports. In addition, DEQ should review these reports in a timely manner so it can identify and address those facilities with self-reported violations.**

DEQ's Surveillance Division Compliance Monitoring Strategy requires that it inspect 50% of the approximately 500 facilities with Title V permits annually, which translates to an inspection every other year. Each year, DEQ management determines which facilities to inspect based on factors such as facility compliance history, potential environmental impact, and the location of the facility. Inspectors then conduct an on-site inspection, checking for compliance with all active permits. After the on-site visit and reviewing any additional information requested, the inspector drafts an inspection report that must receive a technical and supervisory review. The inspection report includes any potential violations identified, called "areas of concern," which are forwarded to the Enforcement Division for further action.

**While DEQ conducted the required number of inspections during fiscal years 2015 through 2019, it could make inspections less predictable and require photographs or other evidence that inspections actually occurred.** State law<sup>15</sup> stresses the importance of unannounced inspections. We found that of 1,146 inspections, 251 (21.9%) were conducted in the same month as the previous inspection. For example, one facility was inspected on December 8, 2014, December 6, 2016, and December 12, 2018. DEQ may want to vary or randomize the months that it conducts compliance inspections each year so companies are not able to prepare for the inspection. According to DEQ, its interpretation of EPA's requirements was that facilities had to be inspected during the same quarter, but in 2017 clarified with the EPA that inspections must be conducted by the end of the second fiscal year, not within the same quarter.

In addition, to strengthen its inspection process, DEQ should require additional evidence that inspections occurred, such as photographs. In January 2019, DEQ notified the EPA's Inspector General and the Louisiana Legislative Auditor that a former employee had falsified at least three compliance inspections. DEQ staff identified that the inspections were falsified after the inspector had separated from the agency. According to DEQ, this was an isolated incident where an inspector and supervisor did not follow defined procedures. The department addressed the situation by meeting with managers and supervisors and reviewing standard operating procedures. DEQ concluded that its standard operating procedures were appropriate, and DEQ procedures uncovered the falsified inspections. However, to strengthen the inspection process, DEQ management should require additional evidence as part of inspection reports, as inspectors are not currently required to submit photographs or other types of secondary evidence to demonstrate that inspections did, in fact, occur.

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<sup>15</sup> LA R.S. 30:2002(3)

**DEQ does not identify whether a company fails to submit required self-monitoring reports or if a facility self-reported violations until its routine inspection or file review, which could take years.** According to federal law,<sup>16</sup> facilities are required to submit semi-annual self-monitoring reports once every six months to DEQ that lists all of the emission permit deviations. Facilities are also required to submit an annual compliance certification that shows how the facility addressed these deviations and the actual compliance status from any emission deviations. According to state law,<sup>17</sup> DEQ should use these monitoring reports as part of its strategy to evaluate a facility's compliance with its permit conditions. According to DEQ management, when it receives reports, enforcement staff perform a cursory review to identify any potential high priority violations.<sup>18</sup> However, staff does not address any other violations at the time of this cursory review, such as submitting the report late or emissions that exceed permit limits. Instead, DEQ staff will review these reports in depth, including whether a facility failed to submit a required report, at the next compliance inspection or other file review, which could be years later. As a result, there is often a delay between when DEQ issues a violation or potential penalty to a facility for not submitting required self-monitoring reports and when those reports were due.

Of the 50 enforcement cases we reviewed,<sup>19</sup> eight (16%) included 18 instances where the facility did not submit or did not timely submit the required self-monitoring report. Of the eight enforcement actions that included issues with the submitting of self-monitoring reports, it took DEQ an average of 522 days, or almost 1.5 years, to identify if the facility was deficient in submitting the required reports. For one semiannual report, DEQ did not identify that the facility failed to submit it for 2,255 days, or approximately six years. It is important that DEQ identify and regulate facilities using these reports because air quality regulation relies heavily on self-monitoring and these reports provide DEQ with important information between routine inspections.

In addition, based on the data reliability testing we performed, some of the information DEQ collects regarding self-monitoring reports, such as postmark date and review date, is incomplete. As a result, DEQ cannot accurately query the database to determine whether facilities submitted required reports.<sup>20</sup> Facilities mail required reports to DEQ and staff manually scans the reports and inputs the reports' postmark dates into its database, Advantage RM.<sup>21</sup> Manually entering the information into the database increases the risk that information may be incomplete. According to DEQ management, it has queried the database as a starting point to identify facilities that may not have submitted self-monitoring reports and is further investigating whether these facilities submitted reports as required.

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<sup>16</sup> 40 CFR 70.6(c)(5)

<sup>17</sup> LA R.S. 30:2012(D)(1)

<sup>18</sup> High Priority Violations (HPVs) are a subset of Clean Air Act regulations violations that warrant additional scrutiny to ensure that enforcement agencies respond to such violations in an appropriate manner and receive federal assistance. The EPA monitors HPVs; therefore, we did not include them in our scope.

<sup>19</sup> We selected 50 enforcement actions, which incorporated a range of how long it took DEQ to issue the enforcement action.

<sup>20</sup> For example, according to Advantage RM data, 872 (10.5%) of 8,318 reports were not submitted. However, we concluded that this data field was incomplete as some of these reports were actually submitted.

<sup>21</sup> Advantage RM is DEQ's data system. It was formerly known as TEMPO.

Of the nine other states we surveyed,<sup>22</sup> eight have or are moving to electronic report submission capabilities. According to DEQ management, it is exploring the possibility of an option to submit reports electronically so that deviations can be automatically flagged by DEQ. Electronic submissions may help DEQ quickly identify facilities that have not submitted required self-monitoring reports and reduce human error, increasing the reliability of the database. In addition, receiving reports electronically would reduce the workload of enforcement staff because they would not have to process paper reports. If DEQ receives reports electronically, it could also begin to automate enforcement actions for late report submissions where the system could flag permit holders who did not submit required reports or even automatically draft an enforcement action.

**Recommendation 1:** DEQ should vary when it inspects facilities so that they are less predictable as state law stresses the importance of unannounced inspections.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that during the later years of the audit timeframe (2017), approval was obtained from the United States Environmental Protection Agency-Region 6 to implement an Alternate Compliance Monitoring Strategy for scheduling and performing inspections of permitted facilities which has increased the variability of inspection dates. See Appendix A for management's full response.

**Recommendation 2:** DEQ should require secondary evidence, such as photographs, to ensure that inspections actually occurred.

**Summary of Management's Response:** DEQ disagrees with this recommendation and states that in the isolated case in the audit report, a Field Interview Form was not completed, signed, or left at the facilities as the inspector did not visit the facilities as required by DEQ's existing Standard Operation Procedures (SOP). DEQ also notes that this isolated incident was voluntarily reported to the LLA prior to the audit. See Appendix A for management's full response.

**Recommendation 3:** DEQ should review required self-monitoring reports timely to monitor and regulate air quality in Louisiana.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that current staffing levels and the volume of reports received impedes the Enforcement Division staff from performing a thorough review upon receipt of every report and from immediately initiating a formal enforcement for every violation reported in either of the aforementioned reports. In addition, the Enforcement Division has been working to improve the quality of its historical data for the Semiannual Monitoring and Deviation reports and Annual Compliance Certifications, and as this data is improved, it will utilize this information to quickly pursue permittees/respondents who failed to submit the required Title V Reports. Queries of this data will be run at least twice per

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<sup>22</sup> Arkansas, Arizona, Colorado, Maryland, New Jersey, New Mexico, New York, Texas, Washington. Texas is the only state that receives paper-based reports only.

year to determine if any permittees failed to submit its reports. See Appendix A for management's full response.

**Recommendation 4:** DEQ should continue to pursue electronic report submissions like other states.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that it began researching and developing plans for electronic submission of Title V and other Air quality reports prior to this audit. An initial request for a developmental quote was submitted to a contractor in November 2020 to help better determine the cost of providing an electronic reporting submission option. In addition, the development and implementation of any the electronic submission option will be dependent upon securing sufficient funding and adequate allocation of Office of Technology (OTS) resources. DEQ is actively researching potential grants and other alternate sources of funding for this project. See Appendix A for management's full response.

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**DEQ does not issue enforcement actions in a timely manner to permitted facilities that violate air permit requirements. From fiscal years 2015 through 2019, the time it took DEQ to issue enforcement actions increased by 102.1%, from an average of 289 days to an average of 585 days. As a result, there is a risk that facilities may have violations that remain uncorrected for years.**

According to the International Network for Environmental Compliance and Enforcement, enforcement is the backbone of environmental compliance, and for enforcement programs to be effective at deterrence there must be swift and predictable responses to violations.<sup>23</sup> DEQ does not have a timeline requirement in policy specifying how long it should take to issue enforcement actions, except for issuing an enforcement action within 90 days from the receipt of a referral that originated from a citizen complaint. According to DEQ, it has an informal goal of issuing an enforcement action within 180 days; however, according to our analysis, 463 (69.6%) of 665 enforcement actions issued during fiscal years 2015 through 2019 took more than 180 days. According to state law,<sup>24</sup> DEQ has five years from the date a violation is first reported to DEQ to commence an assessment or enforcement of any civil penalty or fine. After five years, DEQ loses the right to take action regarding the violation.

DEQ's Enforcement Division receives referrals of areas of concern identified from multiple sources, such as during inspections and from a review of emissions inventory reports. Once the Enforcement Division receives a referral, management assigns it to an environmental

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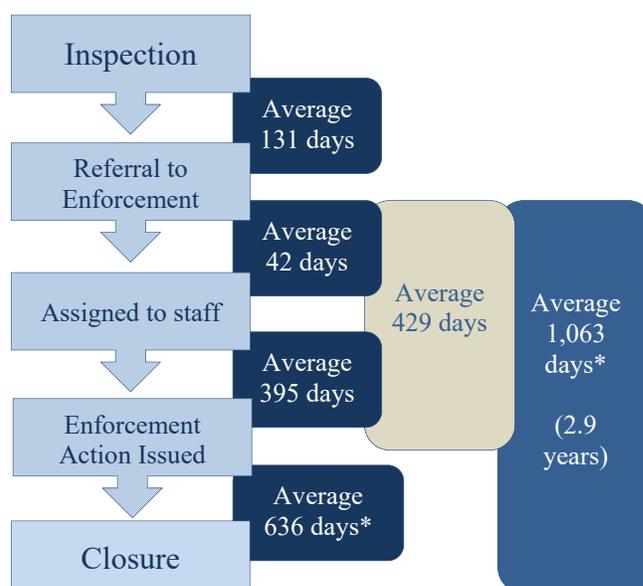
<sup>23</sup> "Principles of Environmental Compliance and Enforcement Handbook," International Network for Environmental Compliance and Enforcement, April 2009.

<sup>24</sup> LA R.S. 30:2025(H)

scientist. If enforcement staff determines that a violation(s) occurred, they may then issue one of several enforcement actions depending on the severity of the violations, such as a compliance order, notice of potential penalty, or a penalty assessment. DEQ’s legal division reviews each enforcement action prior to issuance. Enforcement actions may also include corrective action requirements for the facility. From fiscal years 2015 through 2019, 284 (34.1%) of 833 enforcement actions<sup>25</sup> were expedited penalty agreements and 243 (29.2%) were compliance orders/notice of potential penalties. See Appendix J for descriptions of enforcement actions and how many were issued in fiscal years 2015 and 2019. Once DEQ issues an enforcement action, facilities have several avenues to closure, such as settlement negotiations, appealing the violations, or paying the assessed penalty.

**From fiscal years 2015 through 2019, the overall time it took DEQ to issue enforcement actions increased by 102.1%, from 289 days on average to 585 days. In addition, of the 69 enforcement actions issued in this time period from a citizen complaint, 42 (60.9%) were not issued within DEQ’s goal of 90 days.** According to the nine states we surveyed,<sup>26</sup> seven (77.8%) typically issue enforcement actions within six months of discovering a violation or receiving an enforcement referral. Exhibit 5 shows steps in the enforcement process and the average number of days between each step. From fiscal years 2015 through 2019, DEQ has shown improvement in the timeliness of all of the steps, except for the time it took to issue enforcement actions:

**Exhibit 5  
Enforcement Process Timeliness  
Fiscal Years 2015 through 2019**



- **Inspection to Referral** – *Decreased 35.5%*, from 161 days to 104 days
- **Referral to Staff Assignment** – *Decreased 73.4%*, from 50 days to 13 days
- **Staff Assignment to Issuing Enforcement Action** – *Increased 126.5%*, from 249 days to 563 days
- **Issuing Enforcement Action to Closure** – *Decreased 58.2%*, from 852 days to 356 days

\*Includes 262 (39.3%) of 666 cases that were still open as of 7/31/2020.

Source: Prepared by legislative auditor’s staff using DEQ’s Advantage RM data.

<sup>25</sup> These figures only include air and multimedia (including air) enforcement actions. It does not include asbestos enforcement actions.

<sup>26</sup> Arizona, Arkansas, Colorado, Maryland, New Jersey, New Mexico, New York, Texas, Washington

In addition, DEQ also monitors air quality through citizen complaints. Of the 69 enforcement actions issued from fiscal years 2015 through 2019 from a citizen complaint, 42 (60.9%) were not issued within DEQ's goal of 90 days, which also contributed to the amount of time it took DEQ to issue enforcement actions. DEQ has a single point of contact hotline that citizens can call to make a complaint. After receiving a complaint, DEQ forwards the complaint to the Surveillance Division, who responds by initiating a compliance inspection, traveling to the location in the complaint, or contacting responsible parties by phone. The most common types of complaints are odor, open burning, and dust/particulates/sandblasting.

**We also found that DEQ does not always address violations until years after the violation occurred, which further delays enforcement.**

We reviewed a targeted selection of 50 enforcement action files to determine what violations were included in the enforcement action and found that it took DEQ an average of 2.2 years to identify a violation after it occurred. Then, it took an additional 1.6 years on average to issue enforcement actions based on those violations. Of the 211 violations contained in these 50 files, 48 (22.7%) violations had occurred more than five years prior to DEQ issuing the enforcement action, and 33 (15.6%) were self-reported by the facility. These violations included emissions that exceeded permit limits, unauthorized operations, and noncompliance with monitoring requirements. In addition, taking so long to identify a violation increases the risk that DEQ will not have enough time to issue an enforcement action within the five-year deadline in law.<sup>27</sup>

One enforcement action issued on December 6, 2018, included an inspection from June 11, 2013, and four file reviews. The oldest violation included in this enforcement action was from February 26, 2010, and some of the violations were self-reported by the facility. In this example, it took 3.3 years for DEQ to discover the oldest violation and then, overall, 8.8 years from the date of violation to the issuance of the enforcement action.

While air enforcement cases are often technically complex and may include many violations, developing time frame goals could help DEQ better manage cases. According to DEQ management, it has been working to clear a backlog of enforcement cases. In addition, according to management, enforcement staff workloads are high, air regulation is a highly technical and complex area, and many staff are new, less experienced employees, which also makes it more difficult to issue enforcement actions timely. While some cases may take longer to process thoroughly, DEQ should work towards addressing violations in a timely manner to effectively deter noncompliance and to hold facilities accountable with their permits.

**Developing additional reports could assist DEQ in better monitoring the enforcement program overall and to help it hold permitted facilities accountable.**

Developing more comprehensive reports and other tools could help management ensure that all enforcement cases are addressed and could help reduce staff workloads. While enforcement management can run some reports on enforcement information, available reports are limited. For example, DEQ management can run reports to show the last action for enforcement cases and whether cases have been closed. However, DEQ has not developed reports to gauge timeliness of enforcement actions or to link enforcement cases to settlements and other activities. In addition, the department cannot accurately link all inspections to enforcement actions to determine whether all inspections with potential violations resulted in an enforcement action. Enforcement staff cannot run reports to assist in managing their workloads, and they manually track their own

<sup>27</sup> LA R.S. 30:2025(H)

enforcement cases, such as when to follow up on enforcement actions. According to DEQ, it is developing a proof of concept for a dashboard that would allow staff to run more comprehensive reports for enforcement activity data.

**Recommendation 5:** DEQ should develop formal time frame goals for how long it should take to issue enforcement actions and monitor its performance based on the time frame goals.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that the Enforcement Division-Air Enforcement Section has made a substantial effort to address backlog referrals in recent years. This process resulted in actions issued in the later years of the audit period, including fiscal year 2019, with an increase in time from referral assignment to action issued date. While addressing of backlog referrals is continuing, processes are in place to improve this timeline. Notably, the time from referral assignment to action issuance decreased by 38.9% from fiscal year 2019 to fiscal year 2020 (average 344 days). See Appendix A for management's full response.

**Recommendation 6:** DEQ should develop additional reporting capabilities for enforcement staff and management to use to better monitor the enforcement process.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that it has been developing software which will allow management and staff to develop and run more sophisticated reports to improve efficiency in tracking activities. This software will also have the capability to run automated reports which can be used as reminders or triggers for staff. DEQ will continue pursuing development and implementation of this useful tool. See Appendix A for management's full response.

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**DEQ does not effectively track the penalties it has assessed and whether facilities have paid their penalties. In addition, DEQ could improve its settlement process by developing deadlines for when facilities must submit settlement offers and by processing these offers more quickly.**

DEQ addresses violations using various enforcement actions including issuing penalties or negotiating the penalty through a settlement agreement. State law<sup>28</sup> requires DEQ to notify a facility of a potential penalty at least 10 days prior to assessing a penalty. These notices of potential penalty include descriptions of the violations but *do not* define a penalty amount. After receiving a notice of potential penalty, facilities may submit a settlement offer and enter into settlement negotiations. In addition, for certain types of violations, such as failing to submit

**Expedited Penalties:**

As outlined in LA R.S. 30:2025, DEQ may issue expedited penalties. This is meant to expedite penalty assessments for minor or moderate violations, which are defined in La. Admin Code. tit. 33, Pt I, § 705.

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<sup>28</sup> LA R.S. 30:2050.3 C

required reports, DEQ may provide a voluntary option of paying an expedited penalty. If facilities fail to respond to notices of potential penalties with a settlement offer or do not pay an expedited penalty, DEQ may assess a formal penalty.

DEQ has a penalty matrix and a list of nine factors to consider when developing a penalty amount. Once DEQ assesses a penalty, a facility may request an adjudicatory hearing within 30 days to appeal the violations. At any point in the penalty process, the facility may enter into settlement negotiations, as allowed for in state law.<sup>29</sup> Settlements may also include beneficial environmental projects, which are projects that provide for environmental mitigation. During fiscal years 2015 through 2019, DEQ assessed \$8,465,533 for 171 settlement agreements and beneficial environmental projects.<sup>30</sup> Exhibit 6 shows the number and amount of penalty actions DEQ has issued or finalized during the audit scope.

Exhibit 6 Number and Amount of Penalty Actions Fiscal Years 2015 through 2019							
Action	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Grand Total	Total Assessed
Expedited penalty	51	37	67	78	51	284	\$292,350**
Finalized settlement	57	39	25	25	25	171	8,465,533*
Penalty assessment	10	9	2	2	4	27	1,249,971**
Demand letter for failure to pay a penalty	1	0	1	0	0	2	150,098
<b>Total</b>	<b>119</b>	<b>85</b>	<b>95</b>	<b>105</b>	<b>80</b>	<b>484</b>	<b>\$10,157,952</b>
*Includes \$3,861,036 in beneficial environmental projects.							
**According to unaudited information provided by DEQ. Penalty figures only include air and multimedia (containing air) enforcement actions. It does not include asbestos or lead enforcement actions.							
<b>Source:</b> Prepared by legislative auditor's staff using data from DEQ.							

**While DEQ knows how much in settlements it has assessed and collected, DEQ does not effectively track the penalties it has assessed and whether facilities have paid the assessed amounts.** DEQ management does not currently have reports that can easily identify how much it has assessed in penalties and what penalties are outstanding or have been paid. DEQ has a monthly list that includes penalties it assessed; however, this list does not roll over from month to month. As a result, DEQ cannot effectively track which facilities currently owe payments. We requested penalty and payment information on March 24, 2020, and DEQ was eventually able to provide information on December 3, 2020, but it had to manually create a spreadsheet and we found that this spreadsheet was missing some penalties.

In January 2017, DEQ issued a \$1,500 expedited penalty for three instances of failing to submit the annual criteria pollutant emissions inventory report. Expedited penalties are voluntary and if facilities want to participate and pay the penalty, they have 30 days to respond with payment. However, DEQ did not send a failure to respond letter until April 2018 and as of October 2020, the facility still has not paid.

<sup>29</sup> LA R.S. 30:2050.7 A

<sup>30</sup> This can include putting money into an escrow account for the purchase of a Mobile Air Monitoring Lab (MAML) for DEQ, fund the maintenance of an air monitoring station, perform upgrades to existing ambient air monitoring networks, etc.

According to DEQ, the data contained in the Advantage RM database is not always accurate due to inconsistencies in the information enforcement staff have been required to input at various times. In addition, Advantage RM does not integrate with the data system used by DEQ's Financial Services Division. As a result, DEQ cannot easily connect payments to enforcement actions to ensure that they have been paid. In addition, the Financial Services Division has a manual process to link payments to enforcement actions once payments have cleared; however, this process is not always timely. We found that during fiscal years 2017 through 2020,<sup>31</sup> it took DEQ more than two weeks to process 549 (45.9%) of 1,197 checks. In addition, once DEQ received the payment, it took the Financial Services Division an average of 41.5 days to communicate to the Enforcement Division that a company had paid its enforcement action penalty. Not tracking penalty assessments and payments in a timely manner increases the risk that unpaid penalties may go unnoticed.

**In addition, DEQ gives facilities the option to submit an initial settlement offer after issuing a notice of potential penalty.** Unlike other states,<sup>32</sup> Louisiana is unique in that the facility initiates the settlement instead of DEQ specifying a penalty amount. DEQ attaches a settlement request form with enforcement actions and may meet with the facilities regarding the settlement. According to DEQ, it uses this process to obtain additional information such as mitigating circumstances, monetary benefits of noncompliance, and the duration of violations, which helps in calculating the penalty amount. Facilities must have completed all required corrective action for DEQ to finalize a settlement agreement. However, DEQ should consider developing deadlines for receiving settlement offers so that enforcement cases do not remain open for long periods of time. Of the 46 enforcement actions that were issued and then finalized through settlements during fiscal years 2015 through 2019, it took an average of 4.4 months for DEQ to receive a settlement offer after issuing the enforcement action. However, 11 (23.9%) of the 46 enforcement actions took more than six months before DEQ received an initial settlement offer. Furthermore, it took at least an additional two years (24.7 months) for DEQ to finalize the settlements. Exhibit 7 illustrates the average time frames within the settlement process. According to DEQ, it may take a while to receive a settlement offer because a facility may choose to appeal their cited violations or request meetings with the agency. As noted previously, the time it takes to issue enforcement actions has increased over the past four fiscal years; therefore, it may be beneficial to require facilities to submit acceptable settlement offers within a determined time frame to better ensure that enforcement cases are closed in a timely manner.

**Exhibit 7**  
**Settlement Process**  
**Fiscal Years 2015 through 2019**



**Source:** Prepared by legislative auditor's staff using data from DEQ.

<sup>31</sup> The check logging and linking process began in fiscal year 2017.

<sup>32</sup> Arizona, Maryland, New Jersey, New Mexico, New York, Texas

According to industry stakeholders, DEQ needs to improve its process for finalizing settlements, as it is often slow. We also identified three settlements that had no DEQ activity for more than three years. For example, one \$10,000 settlement has had no activity since 2009, when the settlement offer was sent to the Attorney General for approval as required by state law.<sup>33</sup> However, state law also allows DEQ to finalize the settlement if the Attorney General does not reject the offer within 90 days. In this case, the settlement was never finalized. According to DEQ, delays in processing these settlements were due to turnover, which generally results in a lack of resources and familiarity with the settlement process.

In July 2015, DEQ issued an enforcement action, but DEQ records show no indication of a hearing or meeting request, and it did not receive the initial settlement offer of \$4,113 until October 2016. The settlement offer was finalized more than a year later, in December 2017, for \$8,000.

**Recommendation 7:** DEQ should streamline the process for receiving and processing facility penalty and settlement payments. DEQ should effectively track all penalties it assesses and ensure that facilities pay the penalties.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that it acknowledges that there may be room for improvement in the processes and/or manner by which the Financial Services Division and the Enforcement Division communicate on payments received for final Penalty Assessments and Settlement Agreements. However, to state that DEQ does not effectively track penalties it has assessed and whether facilities have paid the assessed amounts is somewhat misleading. Penalty assessments and all other issued actions are tracked by Enforcement Division management utilizing a database query. In addition, the timeframe by which DEQ processes payments will be further reviewed and changes will be immediately implemented for areas identified as needing improvement. See Appendix A for management's full response.

**LLA Additional Comments:** As stated in the report, while DEQ has monthly listings of penalties and has some reporting capabilities in regards to penalty amounts and payments, it was unable to easily or timely provide accurate, comprehensive data on what penalties it assessed and what had been paid.

**Recommendation 8:** DEQ should develop reports that can integrate payment data from the fiscal division, as well as capture information from DEQ's legal division, in order to easily identify what penalties and settlements have been paid.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that it is currently reviewing all processes and procedures in place for penalty and settlement payment processing and will implement any improvements, as appropriate. See Appendix A for management's full response.

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<sup>33</sup> LA R.S. 30:2050.7 E(2)(a) and (d)

**Recommendation 9:** DEQ should establish a process that requires facilities to submit acceptable settlement offers within a certain time frame, such as six months, and draft a penalty amount for those who do not comply.

**Summary of Management’s Response:** DEQ agrees with this recommendation and states that some of the complexities of the enforcement process are not fully detailed in the report. For instance, Compliance Orders and Notices of Potential Penalty are subject to appeal. DEQ may grant or deny the hearing request or may enter into Informal Dispute Resolution. In addition, facilities may require compliance schedules to return to compliance or provide additional information for discussion/consideration. For these reasons, a standard deadline to submit a settlement offer is not appropriate for all facilities. See Appendix A for management’s full response.

### **DEQ faces challenges in performing its required regulatory duties, including low staffing levels, high workloads, frequent turnover of staff, and ineffective data systems.**

According to DEQ management and program staff, DEQ faces a variety of challenges. These challenges range from budget cuts, to staffing shortages, to worker turnover, and ineffective data systems, which impact DEQ’s ability to ensure the environmental protection of the state.

**Despite Louisiana’s large number of Title V facilities, DEQ’s positions dedicated to air regulation decreased 14.6%,<sup>34</sup> from 247 in fiscal year 2010 to 211 in fiscal year 2019, which presents a challenge for staff in performing their responsibilities.** Turnover during this time averaged 10.9% and was due to high numbers of resignations, retirements, and voluntary transfers. According to DEQ management, air regulation is complex and staff experience high workloads on top of its complexity. For example, enforcement has approximately 10 staff and handles all enforcement actions for all 500 major facilities plus any other type of facility, such as minor facilities, that receive a violation. Exhibit 8 shows the number of air regulation employees assigned to enforcement functions versus permitting and surveillance duties. Enforcement actions for large facilities are also often highly complex and as a result are very time consuming. DEQ management has also stated that retention of qualified staff is a significant problem, with some staff leaving for opportunities in the private sector after DEQ has invested the time and money to train them.

The Environmental Integrity Project found that between 2008 and 2018, Louisiana cut its funding to environmental protection programs by 35% (ranking 3<sup>rd</sup>) and reduced its staffing by 30% (ranking 4<sup>th</sup>).

**Source:** “The Thin Green Line.” Environmental Integrity Project. December 5, 2019.

<b>Exhibit 8 Number of Air Staff Fiscal Year 2019</b>	
<b>DEQ Function</b>	<b>Number of Staff</b>
Air Permitting	43
Air Surveillance	27
Air Enforcement	10
<b>Source:</b> Prepared by legislative auditor’s staff using information from DEQ and Business Objects.	

<sup>34</sup> Turnover numbers include all inspectors as they cross media types.

The large workload combined with new staff and training creates lags in work. In addition, the workload is often coordinated among multiple divisions, like the fiscal and legal divisions within DEQ. While DEQ implemented an expedited permit program in 2007 to reduce the backlog of permit applications, high workloads still exist including the enforcement and legal sections experiencing backlogs in issuing enforcement actions. Exhibit 9 shows the turnover of air regulation employees from fiscal years 2010 to 2019.

**DEQ management should improve its use of data to better monitor air quality in Louisiana.**

DEQ relies on coordination of paper-based systems among several divisions. Information is often walked from department to department and entered into its data system, Advantage RM, or scanned into a separate system for documentation. According to DEQ management, they are working on drafting regulations

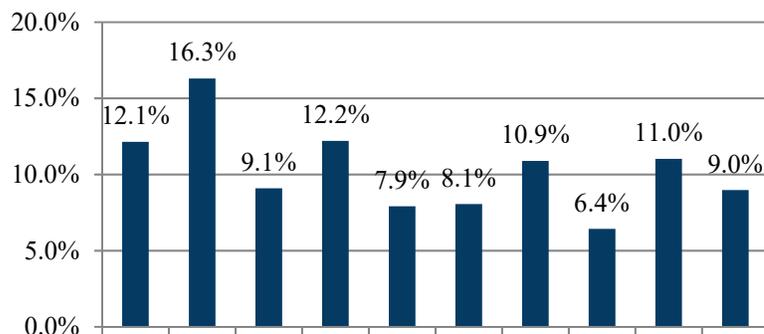
for electronic reporting so that facilities would not be required to physically mail in the numerous reports they are required to submit, and DEQ staff will not be responsible for scanning in each one as they currently do for self-monitoring reports. Electronic methods of delivery within the department and with the facilities they regulate may decrease the time spent on regulation activities for all divisions within DEQ.

Additional data issues exist, including accuracy and completeness, which limit the ability of DEQ management to use Advantage RM to monitor performance and compliance with required activities. DEQ management does not currently have reports that can readily identify how much it has assessed in penalties and what penalties are outstanding or have been paid. DEQ could not easily provide us this information. Not tracking penalty assessments and payments increases the risk that unpaid penalties may go unnoticed. Furthermore, according to DEQ staff, there are only a few employees that have the knowledge to pull reports from Advantage RM.

**Recommendation 10:** DEQ management should determine whether staffing levels are sufficient to provide quality services, and if not, request funding to hire additional staff.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that it will analyze positions within the department and consider moving staff in the most appropriate divisions to meet the requirements of the agency. See Appendix A for management's full response.

**Exhibit 9**  
**DEQ Air Regulation Turnover**  
**Fiscal Years 2010 through 2019**



Source: Prepared by legislative auditor's staff using data from Business Objects.

**Recommendation 11:** DEQ management should continue to work towards the development and implementation of a comprehensive data system that can provide adequate management reporting.

**Summary of Management's Response:** DEQ agrees with this recommendation and states that its current data system, Advantage RM, is capable of tracking the Department's activities; however, the number of employees who are able to use the tools/software required to develop and run reports from the data contained in Advantage RM is limited. DEQ is in the process of developing software which will allow additional Enforcement Division and Legal Affairs Division staff to develop and run reports to ensure referrals are addressed in a timely and efficient manner. This software is currently under development with the DEQ's IT Division. See Appendix A for management's full response.

## **APPENDIX A: MANAGEMENT'S RESPONSE**





State of Louisiana  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF THE SECRETARY

January 6, 2021

Mr. Daryl G. Purpera, CPA, CFE  
Office of the Legislative Auditor  
Post Office Box 94397  
Baton Rouge, LA 70804-9397

Dear Mr. Purpera:

This is the Department of Environmental Quality's (DEQ) response to the reportable findings and recommendations presented in the Louisiana Legislative Auditor (LLA) Performance Audit Services report titled "**Monitoring and Enforcement of Air Quality**".

DEQ takes its responsibility to promote and protect public health through sound environmental policy very seriously and appreciates the opportunity to respond to the observations within your report. After reviewing the findings and recommendations, DEQ offers the following responses.

**Finding 1:** Louisiana has seen improvement in air quality since calendar year 2008. However, certain areas of the state are highly industrialized and have high concentrations of air pollution.

**Response:** As noted in the report, DEQ has achieved and maintained substantial improvements in air quality over the last ten years despite facing some of the largest state environmental regulatory agency budget and staffing cuts in the nation. The comprehensive and robust air quality monitoring and enforcement activities executed by the department have contributed to a substantial decrease (75.1%) in the number of unhealthy air quality days for Louisiana citizens in sensitive groups.

DEQ currently operates over 40 ambient air monitoring sites throughout the state to monitor air quality. Most of the ambient air monitoring sites are in the "highly industrialized" zones referenced in the report (Exhibit 1). DEQ collected over 1300 air quality samples during the 2019 calendar year to test for a subset of the toxic pollutants noted and explained in Appendix C. It should be noted that none of these pollutants were detected in 2019 ambient air concentrations that exceeded the Louisiana Toxic Air Pollutant Ambient Air Standards.

**Finding 2; Recommendation 1:** DEQ should vary when they inspect facilities so that they are less predictable as state law stresses the importance of unannounced inspections.

**Response:** DEQ agrees with this recommendation, and notes that during the later years of the audit timeframe (2017), approval was obtained from the United States Environmental Protection Agency-Region 6 (USEPA-R6) to implement an Alternate Compliance Monitoring Strategy (ACMS) for scheduling and performing inspections of permitted facilities. The ACMS was successfully implemented two (2) years ago and has increased the variability of inspection dates.

**Finding 2; Recommendation 2:** DEQ should require secondary evidence, such as photographs, to ensure that inspections actually occurred.

*Response:* DEQ disagrees with this recommendation, and offers the following information related to the inspection process. DEQ's Standard Operating Procedure (SOP) requires staff (i.e., inspectors) to leave a completed Field Interview Form (FIF) at each facility inspected, which is signed by a facility representative at the conclusion of the inspection. In the isolated case contained in the audit report, a FIF was not completed, signed, or left at the facilities as the inspector did not visit the facilities as required by existing SOP. DEQ notes that this isolated incident of SOP circumvention was voluntarily reported to your office prior to this incident being discovered during the audit and was used as the basis that formed this recommendation.

**Finding 2; Recommendation 3:** DEQ should review required self-monitoring reports timely to monitor and regulate air quality in Louisiana.

*Response:* DEQ agrees with this recommendation, and offers the following additional details related to the self-monitoring report review process. DEQ's Enforcement Division receives Semiannual Monitoring and Deviation reports and Annual Compliance Certifications for the approximately 500 Title V permitted facilities in Louisiana. Once these reports are received, key data points are entered into Advantage RM and an Environmental Scientist (ES) reviews any reported deviations to determine if High Priority Violations (HPVs) or other violations which pose significant threat to human health or the environment are reported. If any of the reported deviations fall into one of these categories, the ES will initiate preparing an addressing enforcement action. Reports which do not contain violations of this nature are submitted to DEQ's Electronic Data Management System (EDMS) and are thoroughly reviewed during the next routine inspection or file review. Current staffing levels and the volume of reports received impedes the Enforcement Division staff from performing a thorough review upon receipt of every report and from immediately initiating a formal enforcement for every violation reported in either of the aforementioned reports. As suggested in Recommendation 10, DEQ management will review current staffing levels related to self-monitoring report review and may request additional funding to hire additional staff.

It should also be noted that any permittee who fails to submit a Title V semiannual or annual report is currently being identified during its routine inspection or any other file review. For the past several months, the Enforcement Division has been working to improve the quality of historical data in Advantage RM for the Semiannual Monitoring and Deviation reports and Annual Compliance Certifications. As this data is improved, the Enforcement Division will utilize this information to quickly pursue permittees/respondents who failed to submit the required Title V Reports. Queries of this data will be run at least twice per year following the report submission due dates (March 31 and September 30) to determine if any permittees failed to submit its reports. Additionally, as discussed in more detail is the response to Recommendation 4, DEQ is actively pursuing a mechanism for electronic reporting of Semiannual Monitoring and Deviation reports and Annual Compliance Certifications which should result in improved data quality, automated processing of reports into Advantage RM and EDMS, and more efficient review of reported deviations.

**Finding 3; Recommendation 4:** DEQ should continue to pursue electronic report submissions like other states.

*Response:* DEQ agrees with this recommendation. DEQ began researching and developing plans for electronic submission of Title V and other Air quality reports prior to this audit. An internal workgroup was formed and has had regular development meetings. An initial request for a developmental quote was submitted to a contractor in November 2020 to help better determine the cost of providing an electronic reporting submission option. Enforcement Division staff are currently working with the contractor to determine DEQ's exact needs so an accurate quote can be obtained. DEQ will continue pursuing electronic submission of Title V and certain other Air quality reports, as it is anticipated this method will reduce workload on staff for processing mail, reduce data errors in Title V Report tracking, improve timeliness of reports being available in the EDMS, and improve the Department's ability to query and manipulate relevant data, including reported deviations. However, it should be noted, that development and implementation of any the electronic submission option that is currently being explored will be dependent upon securing sufficient funding and adequate allocation of Office of Technology (OTS) resources. DEQ is actively researching potential grants and other alternate sources of funding for this project.

**Finding 3; Recommendation 5:** DEQ should develop formal timeframe goals for how long it should take to issue enforcement actions and monitor its performance based on the timeframe goals.

*Response:* DEQ agrees with this recommendation, and offers the following additional information related to the enforcement process. The Enforcement Division-Air Enforcement Section has made a substantial effort to address backlog referrals in recent years. This process resulted in actions issued in the later years of the audit period, including FY19, with an increase in time from referral assignment to action issued date. While addressing of backlog referrals is continuing, processes are in place to improve this timeline. Notably, the time from referral assignment to action issuance decreased by 38.9% from FY19 to FY20 (average 344 days).

In addition, all of the activities performed by Enforcement Division staff from the time a referral is assigned until an addressing enforcement action is issued are not fully outlined in the report. More specifically, when inspection referrals are received by the Enforcement Division, a Warning Letter, which is an informal enforcement action, is issued to the facility which encourages a written response to be submitted. In response to the Warning Letter, respondents often request meetings with DEQ or submit information which require further review and consideration to determine valid violations. This information may indicate violations have been corrected, provide additional clarification of the circumstances, or provide documentation that the areas of concern were not violations. These activities, which are important parts to the process, often add to the time it takes to issue an enforcement action. Additionally, many of the states surveyed by the auditor(s) do not have the same quantity or complexity of air quality facilities that are regulated by DEQ. Therefore, it may be inaccurate to compare DEQ to states with less permitted or regulated facilities and/or facilities with less complex operations. However, DEQ does recognize the importance of timely enforcement actions. The Enforcement Division will evaluate the volume and complexity of air enforcement referrals received, all duties and responsibilities involved in preparing addressing actions (as well as post issuance activities, especially the statutory and regulatory requirements respondents are entitled to) and will determine and establish timeliness goals, as appropriate.

**Finding 3; Recommendation 6:** DEQ should develop additional reporting capabilities for enforcement staff and management to use to better monitor the enforcement process.

*Response:* DEQ agrees with the recommendation, and offers the following additional information related to the enforcement process. The Enforcement Division-Air Enforcement Section currently runs multiple reports to track and monitor referrals received. These reports contain imperative information which is used to monitor the status of referrals received, issued enforcement actions, settlement offers received and/or settlement agreements. These reports also provide information such as inspection date, referral received and assigned date, and action issued date, which are used to determine timeliness of addressing these cases and identify cases in need of progress. It should be noted the audit report states that DEQ's management can run reports to show the "last action for enforcement cases." However, the reports run include all actions issued and the last task entered into Advantage RM for each action. Although the reports do not currently include information indicating which referrals or actions are already being addressed by a Settlement Agreement or Penalty Assessment, development of this type of report using data systems currently available is in progress. Separate reports are run on a routine basis to monitor the status of cases for which a settlement offer has been received as well as the status of all settlement offers.

The audit report states that the Enforcement Division cannot accurately link all inspections to enforcement actions to determine whether all inspections with violations resulted in an enforcement action. However, when inspection referrals are received by the Enforcement Division, they are immediately assigned an enforcement tracking number within Advantage RM. Once this tracking number is assigned, it remains on the reports Enforcement Division runs and utilizes until the referral is closed with an addressing enforcement action and/or other activity. After which, the violations are deemed addressed in the inspection reports in Advantage RM. This is how inspection referrals are tracked by the Enforcement Division. DEQ has been developing software which will allow management and staff to develop and run more sophisticated reports to improve efficiency in tracking activities. This software will also have the capability to run automated reports which can be used as reminders or triggers for staff. DEQ will continue pursuing development and implementation of this useful tool.

**Finding 4; Recommendation 7:** DEQ should streamline the process for receiving and processing facility penalty and settlement payments. DEQ should effectively track all penalties it assesses and ensure that facilities pay the penalties.

*Response:* DEQ agrees with the recommendation and offers the following additional information related to the settlement processes. DEQ acknowledges that there may be room for improvement in the processes and/or manner by which the Financial Services Division (FSD) and the Enforcement Division communicate on payments received for final Penalty Assessments and Settlement Agreements. However, to state that DEQ does not effectively track penalties it has assessed and whether facilities have paid the assessed amounts is somewhat misleading. Penalty assessments and all other issued actions are tracked by Enforcement Division management utilizing the "Issued Action" query in Advantage RM. Additionally, this information is manually verified monthly before being posted to the DEQ's website and is also compiled and reported annually to the Louisiana Legislature.

DEQ issues two types of penalties, Penalty Assessments (PAs) and Expedited Penalty Agreements & Notices of Potential Penalties (XPs), both of which are combined under the term "penalty" in the audit report. PAs are formal enforcement actions which can be appealed, delaying the payment or closure process through hearings or Informal Dispute Resolution (IDR).

XPs are part of a voluntary expedited penalty program, and have other requirements in addition to payment in order to comply. By regulation, facilities are not in compliance with an XP until both payment and the signed XP form certifying compliance are returned to DEQ. Additionally, some XPs also require reports, such as emission inventories, be submitted before the action can be closed. In isolated cases, both XPs and PAs, may also be closed without payment (i.e., Respondent demonstrates an inability to pay or Respondent is insolvent, etc.). Since DEQ-Enforcement Division's primary goal is to obtain compliance, Air Enforcement management tracks PAs and XPs from issuance to closure to ensure all steps of the process, not just payment, are completed.

DEQ will continue tracking PAs and XPs to ensure payments are timely submitted and/or compliance is achieved in the required timeframe. The timeframe by which the FSD processes payments received for penalties and/or XPs and notifies the Enforcement Division of such will be further reviewed and changes will be immediately implemented for areas identified as needing improvement. FSD will continue to work toward faster depositing, classification, and posting of penalty payments to customer accounts and Advantage RM. It is important to note that there are often delays in receiving these payments (mail delays, mail routed to other divisions, identifying information not included, etc.). FSD will continue to work with the Enforcement Division to ensure it is kept informed of any delays in posting payments.

**Finding 4; Recommendation 8:** DEQ should develop reports that can integrate payment data from the fiscal division, as well as capture information from DEQ's legal division, in order to easily identify what penalties and settlements have been paid.

*Response:* DEQ agrees with this recommendation. DEQ is currently reviewing all processes and procedures in place for penalty and settlement payment processing and will implement any improvements, as appropriate.

**Finding 4; Recommendation 9:** DEQ should establish a process that requires facilities to submit acceptable settlement offers within a certain timeframe, such as six months, and draft a penalty amount for those who do not comply.

*Response:* DEQ agrees with this recommendation, and offers the following information related to the settlement process. Some of the complexities of the enforcement process or not fully detailed in the report. For instance, Compliance Orders and Notices of Potential Penalty (CONOPPs) are subject to appeal. DEQ may grant or deny the hearing request or may enter into Informal Dispute Resolution (IDR). In addition, facilities may require compliance schedules to return to compliance or provide additional information for discussion/consideration. For these reasons, a standard deadline to submit a settlement offer is not appropriate for all facilities. It should also be noted that DEQ has existing procedures to facilitate timely settlement offers such as the "REQUEST TO SETTLE" form and Settlement Agreement Brochure which are attached to all CONOPPs and Notices of Potential Penalty (NOPPs) that are issued by DEQ. DEQ agrees revising the "REQUEST TO SETTLE" form to include a recommended timeframe to submit a settlement offer may improve the existing process.

**Finding 5; Recommendation 10:** DEQ management should determine whether staffing levels are sufficient to provide quality services, and if not, request funding to hire additional staff.

*Response:* DEQ agrees with this recommendation. DEQ will analyze positions within the department and consider moving staff in the most appropriate divisions to meet the requirements of the agency. While we appreciate the recommendation to request additional positions for the

agency, given the current funding position of the agency and the state, the ability to obtain more positions may not be feasible at this time.

**Finding 5; Recommendation 11:** DEQ management should continue to work towards the development and implementation of a comprehensive data system that can provide adequate management reporting.

**Response:** DEQ agrees with this recommendation. DEQ's current data system, Advantage RM, is capable of tracking the Department's activities; however, the number of employees who are able to use the tools/software required to develop and run reports from the data contained in Advantage RM is limited. DEQ is in the process of developing software which will allow additional Enforcement Division and Legal Affairs Division staff to develop and run reports to ensure referrals are addressed in a timely and efficient manner. This software is currently under development with the DEQ's IT Division.

The Legal Affairs Division would like to clarify that regulations are not currently being drafted to allow/require electronic reporting for Title V and/or other air quality reports. However, DEQ is in the process of drafting regulations regarding improving Title V reporting, and is also in the process of pursuing development of a system which will allow facilities to electronically file Title V and/or other Air quality reports. This system will be integrated with Advantage RM and will automate and improve many functions related to reviewing and processing the reports.

Furthermore, and as previously discussed in the responses to Recommendations 3 and 7, certain issues with data accuracy and completeness have already been identified by DEQ. Efforts to resolve these issues and implement processes to ensure data accuracy are underway. The new software under development will allow Enforcement Division management to more frequently monitor the completeness and accuracy of this data entry. DEQ will continue pursuing the development and implementation of software to provide improved reporting and tracking.

As always, we appreciate the assistance of the LLA and will continue to look for ways to optimize DEQ's air quality monitoring and enforcement processes to provide for a better environment for current and future citizens of Louisiana. We look forward to your continued assistance in this endeavor.

Sincerely,



Chuck Carr Brown, Ph.D.  
Secretary

## APPENDIX B: SCOPE AND METHODOLOGY

This report provides the results of our performance audit of the Louisiana Department of Environmental Quality (DEQ). We conducted this performance audit under the provisions of Title 24 of the Louisiana Revised Statutes of 1950, as amended. This audit covered DEQ's monitoring and enforcement of air quality regulations during fiscal years 2015 through 2019. Our audit objective was:

### **To evaluate DEQ's monitoring and enforcement of air quality regulations.**

Because this audit began at the onset of the COVID-19 pandemic, we could not perform typical audit procedures such as obtaining physical evidence by participating in an air inspection, conducting extensive in-person interviews, observing the complaint procedures, etc. As a result, our audit scope was limited to DEQ's monitoring and enforcement of air quality regulations. We conducted this performance audit in accordance with generally-accepted *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. To answer our objective, we reviewed internal controls relevant to the audit objective and performed the following audit steps:

- Researched and reviewed relevant state and federal statutes and regulations to identify criteria relating to DEQ's responsibilities for the monitoring and enforcement air quality regulations.
- Obtained self-reported ERIC emissions data from permitted facilities for calendar years 2008 through 2018. Documented air quality trends by parishes and pollutants. Researched pollutants that pose a threat to air quality and the public health issues related to pollution. Because the ERIC data provided information only, we did not test the accuracy and completeness of this data set, but noted in our charts that the information is self-reported from companies.
- Researched past air quality related audits in Louisiana and other states, as well as recommended best practices from studies conducted by local and national environmental organizations.
- Interviewed relevant staff from DEQ to understand processes related to air quality and management of DEQ databases. We met with stakeholders including environmental advocacy groups, legislative staff, and industry lobbyists. From these agency and stakeholder interviews, we identified nine other states with similar industry characteristics we compared to DEQ's monitoring and

enforcement policies. These states include Arkansas, Arizona, Colorado, Maryland, New Jersey, New Mexico, New York, Texas, and Washington.

- Obtained and reviewed any policies and procedures on monitoring and enforcing air quality regulations. This included obtaining policies on air permitting, surveillance, enforcement, and public engagement.
- Obtained information regarding a former DEQ employee who falsified inspections. Followed up with DEQ management on how they responded to the incident.
- Reviewed DEQ's monitoring and enforcement efforts compared to what is required in law and best practices. This included evaluating DEQ's monitoring and enforcement action procedures, including how it uses self-monitoring reports, the timeliness of its enforcement process from the inspections, referrals to enforcement, the assignment of penalties to staff, the enforcement action issued, and how long it took to close an enforcement action. We also reviewed the settlement process and obtained all pending and finalized settlements that occurred within the scope. We calculated the amounts to be collected from pending and finalized settlements and assessed the reasons for delays found in the settlement process. We then reviewed the penalty payment process and obtained the check log of penalty payments to determine if penalties were paid and processed in a timely manner.
- Obtained enforcement action data to determine facilities' overall permit compliance. We categorized similar violations together and then performed various analyses to identify amounts of violations issued and the most common types of violations.
- Conducted a file review of 50 enforcement actions to determine specific information of the violation type, how long it took DEQ to identify the violation, how long it took DEQ to issue a corrective action, and the corrective action. For the section of the 50 enforcement actions, we incorporated a range of how long it took DEQ to issue the enforcement action.
- Obtained and analyzed multiple processes from DEQ's database, Advantage RM, including (1) determining the number of permits, (2) the number of variances granted on permits, (3) performing cursory testing to determine if permits were renewed in a timely manner, (4) determining the frequency and timing of semi-annual inspections, (5) frequency of various compliance status resulting full-compliance inspections, (6) the average length of time it took to forward inspection violations to the enforcement division, and (7) calculate the number of working days it took to issue an enforcement action following the receipt of a referral, as well as the days to close the enforcement action following the issuance.

- To assess the completeness and accuracy of key data fields in Advantage RM, tested key fields in key data tables against DEQ's Electronic Document Management System. Overall, we found these fields to be generally complete and reliable for the purposes of answering our audit objectives, except for data regarding semi-annual and annual self-monitoring fields relevant to our analysis. We found Advantage RM to be incomplete for this data and therefore unreliable to determine whether facilities submitted required reports. As a result, this issue was identified in report.
- Obtained submitted Title V Annual Compliance Certification reports and Semi-Annual certification reports and compared them to the entire list of Title V companies to determine how many companies had not submitted required self-monitoring reports. Even though this field was deemed unreliable in Advantage RM, we recommended that DEQ use this as a starting point when identifying companies that did not submit their required reports.
- Reviewed statute and regulations related to environmental justice. We conducted a file review to find any complaints related to environmental justice, as well as a review of commitments DEQ took in regard to environmental justice. We researched and reviewed other states best practices regarding environmental justice to compare them to DEQ's efforts.
- Obtained logs of activity from the public participation group to test if public notice, public meetings, and public hearings were conducted at the appropriate times according to statute.
- Obtained environmental incident and complaint data in order to identify if incidents and complaints were followed up on within the prescribed timeline.
- Obtained state business objects reports to analyze staffing levels and turnover of DEQ from fiscal years 2010 through 2019.
- Provided our results to DEQ to review for accuracy and reasonableness.



## APPENDIX C: CRITERIA POLLUTANTS

<b>Pollutant</b>	<b>How It Forms</b>	<b>Health Effects</b>
<b>Carbon Monoxide (CO)</b>	Burning of fossil fuels, such as in cars, trucks and other vehicles or machinery.	Headache, dizziness, vomiting, and nausea while elevated levels over long periods of time may result in angina.
<b>Lead</b>	Ore and metal processing and piston-engine aircraft operating on leaded aviation fuel; waste incinerators, utilities, and lead-acid battery manufacturers.	Affects the nervous system, kidney function, immune system, reproductive and development systems, and the cardiovascular system, in addition to the oxygen carrying capacity of blood. Infants and young children are sensitive to low levels, which contribute to behavioral problems, learning deficits, and lowered IQ.
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>	Emissions created from the burning of fuel from cars, trucks and buses, power plants, and off-road equipment.	Short-term exposure may aggravate respiratory diseases including asthma, leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Long-term exposure to elevated levels may contribute to the development of asthma and may increase the susceptibility to respiratory infections.
<b>Ozone (O<sub>3</sub>)</b>	Chemical reactions between nitrogen oxides, such as NO <sub>2</sub> , and other volatile organic compounds (VOC) when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and others chemically react in the presence of sunlight.	Chest pain, throat irritation, and airway inflammation; reduced lung function; damage to lung tissue; aggravate bronchitis, emphysema, asthma, and other lung diseases; increase the frequency of asthma attacks; and cause chronic obstructive pulmonary disease (COPD). Those at most risk are people with asthma, children, older adults, and people who are active outdoors.
<b>Particulate Matter (PM<sub>2.5</sub> and PM<sub>10</sub>)</b>	Result of reactions of other chemicals polluted from power plants, industries, automobiles, construction sites, unpaved roads, fields, smoke stacks, or fires.	Premature death in people with heart or lung disease; non-fatal heart attacks; irregular heartbeat; irritation of the airways leading to coughing or difficulty breathing, aggravated asthma, and decreased lung function.
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>	Burning of fossil fuels by power plants and other industrial facilities, locomotives, ships and other vehicles and heavy equipment that burn fuel with high sulfur content.	Short-term exposure can harm the respiratory system, making breathing difficult. People with asthma, especially children, are most sensitive.



## APPENDIX D: PERMIT ACTION DESCRIPTIONS FISCAL YEARS 2015, 2019

Permit Actions	Description	FY 2015	FY 2019
Minor Initial Permits	The first version of a permit resulting from the initial application of a permit from a business seeking to emit air pollutants.	461	248
Title V Initial Permits		25	16
Authorization to Construct	DEQ's grant of approval for a facility to begin building the affected source following the completion of the initial permit.	18	18
Minor Administrative Amendments	Revisions to a permit for any change that would not violate any applicable requirement or standard (ex. ownership changes).	56	9
Title V Administrative Amendments		52	15
Minor Source Modifications	Modifications to a minor (state) permit.	420	277
Title V Minor Modifications	Any modification to a major source permit that would not violate any federally applicable requirement or standard. These modifications require a public participation time frame.	163	178
Title V Major Modification	Any physical change, or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any regulated pollutant.	21	17
Variance	Variances are granted when DEQ finds that by reason of exceptional circumstances strict conformity with some provisions of their permit would cause undue hardship to the owner. These may not authorize a danger to public health.	191	160
Minor Renewal (10 years)	A request for the continuation of a permit upon expiration of the current permit's term.	0	0
Title V Renewal (5 years)		133	122
Exemptions	Sources that do not require permits (ex. pesticides, mobile sources, controlled burning).	24	5
Acid Rain Permits	Puts a cap on emissions of SO <sub>2</sub> and NO <sub>X</sub> , the primary causes of acid rain. It is incorporated with the Title V permit.	6	13
Letters	Occasionally an applicant may require clarification on a permit or seek affirmation that an activity does not require formal authorization. These responses are called Letters of Response or of No Objection.	370	621
<b>Total</b>		<b>1,940</b>	<b>1,699</b>
<b>Source:</b> Prepared by legislative auditor's staff using DEQ's permitting data.			



## APPENDIX E: COUNT OF ACTIVE AIR PERMITS BY PARISH FISCAL YEARS 2015 THROUGH 2019

Parish	FY 15		FY 16		FY 17		FY 18		FY 19	
	Major Permits	Minor Permits								
Acadia	12	117	12	125	12	111	12	106	13	107
Allen	3	50	3	55	3	53	4	52	5	49
Ascension	72	47	71	49	67	45	67	50	67	52
Assumption	9	28	7	29	6	28	6	27	7	25
Avoyelles	1	15	1	16	1	15	1	16	2	17
Beauregard	8	129	8	129	8	128	8	127	9	123
Bienville	9	798	9	756	8	729	8	657	9	299
Bossier	9	445	7	443	7	445	7	357	6	333
Caddo	11	580	11	572	11	549	10	463	12	293
Calcasieu	89	210	90	205	92	199	89	198	94	184
Caldwell	1	22	1	21	1	16	1	9	2	7
Cameron	17	134	18	133	19	128	17	118	17	113
Catahoula	0	11	0	11	0	10	0	7	0	7
Claiborne	2	306	2	309	2	309	2	288	3	287
Concordia	1	11	1	18	1	17	0	20	0	20
DeSoto	11	1180	9	1193	8	1188	9	822	11	354
East Baton Rouge	62	90	58	88	57	84	56	85	59	87

Parish	FY 15		FY 16		FY 17		FY 18		FY 19	
	Major Permits	Minor Permits								
East Carroll	1	3	1	3	1	3	1	4	2	4
East Feliciana	4	13	4	11	4	13	4	12	5	11
Evangeline	6	129	6	128	5	123	6	121	7	117
Franklin	1	5	1	6	1	5	1	5	2	6
Grant	2	6	2	6	3	4	3	3	4	3
Iberia	8	95	7	89	7	83	8	81	9	78
Iberville	55	86	55	89	54	83	55	81	55	83
Jackson	3	378	3	376	2	364	2	364	3	56
Jefferson	12	112	12	112	10	107	10	97	11	100
Jefferson Davis	5	75	4	71	3	71	4	66	5	67
Lafayette	5	66	5	66	5	60	5	57	5	55
Lafourche	13	184	12	187	11	172	11	160	13	159
LaSalle	4	95	4	89	4	77	5	76	6	75
Lincoln	5	327	5	334	5	324	5	329	6	385
Livingston	4	27	4	27	4	25	4	23	5	21
Madison	2	10	2	9	2	9	2	9	3	9
Morehouse	2	5	2	5	2	5	2	5	3	5
Natchitoches	7	27	7	23	7	21	7	21	8	22
Orleans	6	60	6	61	6	55	6	55	7	52
Ouachita	22	91	22	85	22	72	20	59	20	58
Plaquemines	39	224	38	225	36	211	37	201	37	194
Pointe Coupee	5	71	5	69	5	63	5	63	6	63
Rapides	11	60	10	62	10	63	9	56	9	54

Parish	FY 15		FY 16		FY 17		FY 18		FY 19	
	Major Permits	Minor Permits								
Red River	10	184	4	186	4	185	4	101	5	65
Richland	4	9	4	11	3	11	3	13	4	15
Sabine	2	96	2	96	3	94	3	17	5	19
St. Bernard	21	25	21	24	22	22	22	21	23	21
St. Charles	62	48	63	54	61	49	54	49	57	51
St. Helena	2	20	2	19	2	22	2	20	3	21
St. James	21	34	21	34	20	35	21	34	23	34
St. John the Baptist	13	29	13	32	14	29	14	25	15	24
St. Landry	7	54	7	60	7	58	7	54	8	57
St. Martin	2	69	3	74	3	68	3	68	4	69
St. Mary	24	137	22	132	21	113	21	105	22	101
St. Tammany	1	24	1	24	1	20	1	17	2	14
Tangipahoa	2	24	2	24	2	21	2	21	3	22
Tensas	1	7	1	23	1	23	1	23	2	25
Terrebonne	13	211	13	199	13	183	12	175	13	168
Union	2	31	2	32	2	32	2	30	3	27
Vermilion	13	164	13	159	13	151	12	146	13	145
Vernon	2	77	2	79	2	73	2	46	3	44
Washington	5	12	5	12	5	10	6	9	7	9
Webster	9	287	9	287	8	283	7	249	7	193
West Baton Rouge	10	48	9	46	9	45	9	51	10	53
West Carroll	1	3	1	3	1	3	1	3	2	3
West Feliciana	2	11	2	10	2	9	2	6	3	8

Parish	FY 15		FY 16		FY 17		FY 18		FY 19	
	Major Permits	Minor Permits								
Winn	4	10	4	9	4	7	4	5	6	5
<p>*Major source permits are permits subject to Title V of the Clean Air Act. Minor source permit include portable source permits, general small source permits regulatory permits, state permits, synthetic minor permits, and state oil and gas permits.  <b>Source:</b> Prepared by legislative auditor’s staff using data from DEQ’s permitting data.</p>										

## APPENDIX F: TOP 25 POLLUTANTS CALENDAR YEARS 2008 AND 2018

Pollutant	Tons per Year 2008	Tons per Year 2018	Percent Change
Nitrogen Oxides	185,114.2	138,414.5	-25.2%
Sulfur Dioxide	227,380.0	129,663.2	-43.0%
Carbon Monoxide	135,132.6	97,512.6	-27.8%
VOC's	68,408.0	57,252.7	-16.3%
Particulate matter (10 microns or less)	29,345.0	29,905.4	1.9%
Particulate matter (2.5 microns or less)	18,365.2	18,456.1	0.5%
Ammonia	7,078.7	10,462.1	47.8%
Methanol	5,700.7	5,655.9	-0.8%
n-Hexane	1,899.4	1,994.6	5.0%
Ethylene	1,221.6	1,000.9	-18.1%
Sulfuric Acid	1,232.1	968.8	-21.4%
Hydrochloric Acid	800.5	786.5	-1.8%
Hydrogen Cyanide	39.6	771.7	1847.8%
Hydrogen Sulfide	903.9	725.1	-19.8%
Propylene	510.9	703.3	37.7%
Toluene	828.3	451.6	-45.5%
Formaldehyde	322.0	428.6	33.1%
Xylene (mixed isomers)	574.8	363.6	-36.7%
Acetaldehyde	402.1	341.3	-15.1%
Nitric Acid	26.6	276.8	941.2%
Methyl Ethyl Ketone	339.9	258.2	-24.1%
Benzene	332.9	256.2	-23.0%
Styrene	255.7	239.6	-6.3%
Carbon Disulfide	199.8	208.7	4.5%
Chlorine	113.8	182.9	60.8%

\*ERIC data is self-reported data that is estimated and then aggregated into the inventory. All major sources, some minor sources, and some facilities in non-attainment areas are required to report. Due to COVID-19 DEQ extended the due date of annual ERIC emission reports from April 30, 2020, to May 30, 2020. As of 9/21/20, only 33 permitted facilities had submitted their reports.

**Source:** Prepared by legislative auditor's staff using DEQ's ERIC data.



## APPENDIX G: SELF-REPORTED EMISSIONS BY PARISH CALENDAR YEARS 2016 THROUGH 2018

Parish	CY 16		CY 17		CY 18		Percent Change	
	Toxic Air Pollutants	Criteria Pollutants						
Acadia	77.7	4,538.9	80.8	4,302.1	79.2	5,275.5	1.9%	16.2%
Allen	70.7	3,143.9	63.7	2,870.0	59.1	2,741.3	-16.5%	-12.8%
Ascension	6,617.6	18,768.1	7,012.2	18,127.2	7,032.6	18,269.3	6.3%	-2.7%
Assumption	14.4	2,008.7	18.3	1,984.1	12.3	2,029.0	-14.5%	1.0%
Avoyelles	-	465.3	-	510.6	-	648.1	-	39.3%
Beauregard	310.4	40,414.7	335.8	6,470.4	326.7	6,550.0	5.2%	-83.8%
Bienville	0.7	3,151.3	5.1	2,771.8	22.9	2,519.4	3284.6%	-20.1%
Bossier	-	1,248.5	-	1,278.3	-	1,249.0	-	0.0%
Caddo	152.8	4,167.9	160.8	4,369.2	143.3	3,876.6	-6.2%	-7.0%
Calcasieu	3,055.3	61,870.2	2,488.1	65,408.5	1,953.1	69,016.6	-36.1%	11.6%
Caldwell	0.2	72.8	0.2	461.4	0.2	715.8	0.0%	883.1%
Cameron	21.5	3,057.4	35.4	5,671.2	42.8	6,657.0	99.0%	117.7%
Claiborne	0.2	416.6	0.2	299.8	0.2	410.9	0.0%	-1.4%
DeSoto	2,137.3	31,611.8	2,188.5	22,637.0	2,167.6	20,476.3	1.4%	-35.2%
East Baton Rouge	2,346.5	40,632.1	2,041.3	49,769.3	2,244.5	40,433.3	-4.3%	-0.5%
East Carroll	-	11.0	-	28.0	-	28.8	-	163.1%
East Feliciana	25.9	913.0	24.5	656.4	26.6	841.0	2.5%	-7.9%
Evangeline	107.4	12,862.6	131.4	16,183.9	146.5	16,554.0	36.5%	28.7%

Parish	CY 16		CY 17		CY 18		Percent Change	
	Toxic Air Pollutants	Criteria Pollutants						
Franklin	-	17.0	-	25.3	-	258.7	-	1422.9%
Grant	32.2	876.9	41.7	926.2	40.9	951.4	26.9%	8.5%
Iberia	53.4	3,564.0	18.1	3,394.5	17.4	3,768.2	-67.4%	5.7%
Iberville	2,373.3	14,662.5	2,803.3	13,960.8	2,722.4	14,585.9	14.7%	-0.5%
Jackson	342.7	3,899.7	492.9	4,860.8	513.6	5,423.8	49.9%	39.1%
Jefferson	381.4	16,773.3	476.6	11,956.4	513.6	11,143.3	34.7%	-33.6%
Jefferson Davis	1.3	432.8	1.2	457.2	1.1	869.5	-14.1%	100.9%
Lafayette	0.7	1,229.5	0.7	1,431.4	0.7	1,359.6	0.0%	10.6%
Lafourche	32.3	3,384.4	45.1	3,348.9	25.1	3,381.9	-22.2%	-0.1%
LaSalle	9.2	425.8	2.0	261.4	1.3	766.7	-86.1%	80.1%
Lincoln	66.3	2,708.0	67.4	2,734.8	65.5	2,686.9	-1.2%	-0.8%
Livingston	49.8	1,286.2	74.5	1,393.0	64.9	1,470.5	30.2%	14.3%
Madison	-	125.3	-	123.5	-	132.2	-	5.5%
Morehouse	13.5	708.7	17.8	1,279.0	0.4	2,090.4	-96.8%	195.0%
Natchitoches	584.2	5,462.0	574.0	4,759.9	531.1	4,631.5	-9.1%	-15.2%
Orleans	4.0	1,543.1	3.8	1,265.3	5.7	1,443.2	43.0%	-6.5%
Ouachita	1,641.8	11,407.7	1,548.8	10,978.4	1,665.0	11,825.5	1.4%	3.7%
Plaquemines	193.5	8,303.1	231.0	7,682.8	215.1	7,479.1	11.1%	-9.9%
Pointe Coupee	351.3	30,502.9	485.3	33,005.3	356.2	25,684.1	1.4%	-15.8%
Rapides	154.0	15,391.4	150.7	13,727.6	168.9	18,232.8	9.7%	18.5%
Red River	36.9	10,182.9	32.8	8,943.5	34.7	8,323.4	-5.8%	-18.3%
Richland	11.6	1,023.8	11.8	1,029.6	19.6	1,354.5	69.7%	32.3%
Sabine	100.5	1,188.6	102.3	1,226.7	118.3	1,284.4	17.7%	8.1%
St. Bernard	291.7	9,285.2	296.9	7,760.1	253.2	7,474.7	-13.2%	-19.5%
St. Charles	1,847.9	36,297.7	1,711.7	32,947.7	1,877.2	32,856.1	1.6%	-9.5%
St. Helena	-	301.8	-	322.6	-	338.2	-	12.1%

Parish	CY 16		CY 17		CY 18		Percent Change	
	Toxic Air Pollutants	Criteria Pollutants						
St. James	1,912.3	16,514.7	1,781.1	19,089.5	1,368.5	14,444.4	-28.4%	-12.5%
St. John the Baptist	497.6	9,304.3	472.2	9,941.5	414.2	9,996.4	-16.8%	7.4%
St. Landry	82.5	3,240.8	104.8	3,020.7	105.5	3,054.7	27.9%	-5.7%
St. Martin	17.5	1,932.2	22.1	1,998.5	24.2	1,963.4	37.9%	1.6%
St. Mary	455.6	30,048.9	503.2	33,881.7	522.3	36,483.7	14.6%	21.4%
St. Tammany	-	-	-	-	-	-	-	-
Tangipahoa	-	476.4	0.0	485.7	0.0	462.1	-	-3.0%
Tensas	-	8.5	-	8.4	-	7.6	-	-10.1%
Terrebonne	44.6	1,355.1	50.2	1,122.9	20.6	1,094.3	-53.7%	-19.2%
Union	-	363.8	2.3	396.4	1.5	421.9	-	16.0%
Vermilion	57.3	3,356.1	44.3	2,935.7	54.2	3,269.6	-5.4%	-2.6%
Vernon	1.4	42.8	0.2	40.5	0.2	79.5	-84.5%	85.7%
Washington	1,497.1	9,967.3	1,456.9	10,798.0	1,528.2	11,228.5	2.1%	12.7%
Webster	9.2	2,474.1	9.4	2,217.0	9.1	2,016.7	-0.9%	-18.5%
West Baton Rouge	238.2	12,622.3	270.9	12,209.8	229.2	12,444.1	-3.8%	-1.4%
West Carroll	-	124.2	-	129.0	-	126.0	-	1.4%
West Feliciana	316.1	2,621.9	267.3	2,854.2	311.6	2,931.8	-1.4%	11.8%
Winn	126.7	3,126.4	129.1	3,177.5	135.6	3,069.8	7.0%	-1.8%

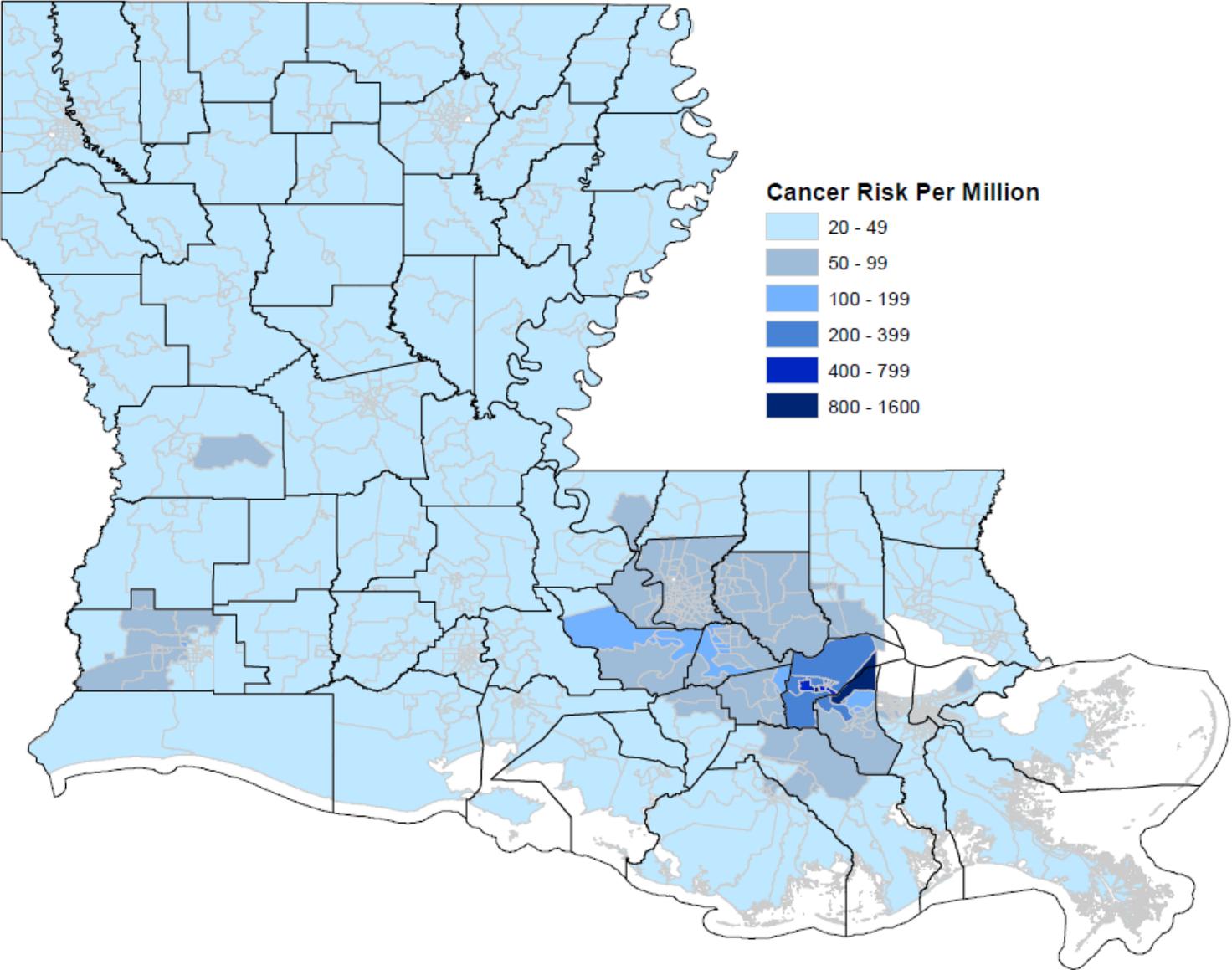
\*ERIC data is self-reported data that is estimated and then aggregated into the inventory. All major sources, some minor sources, and some facilities in non-attainment areas are required to report. Due to COVID-19 DEQ extended the due date of annual ERIC emission reports from April 30, 2020 to May 30, 2020. As of 9/21/20, only 33 permitted facilities had submitted their reports.

**Source:** Prepared by legislative auditor's staff using data from DEQ's emissions inventory data.



# APPENDIX H: POTENTIAL CANCER RISK PER MILLION

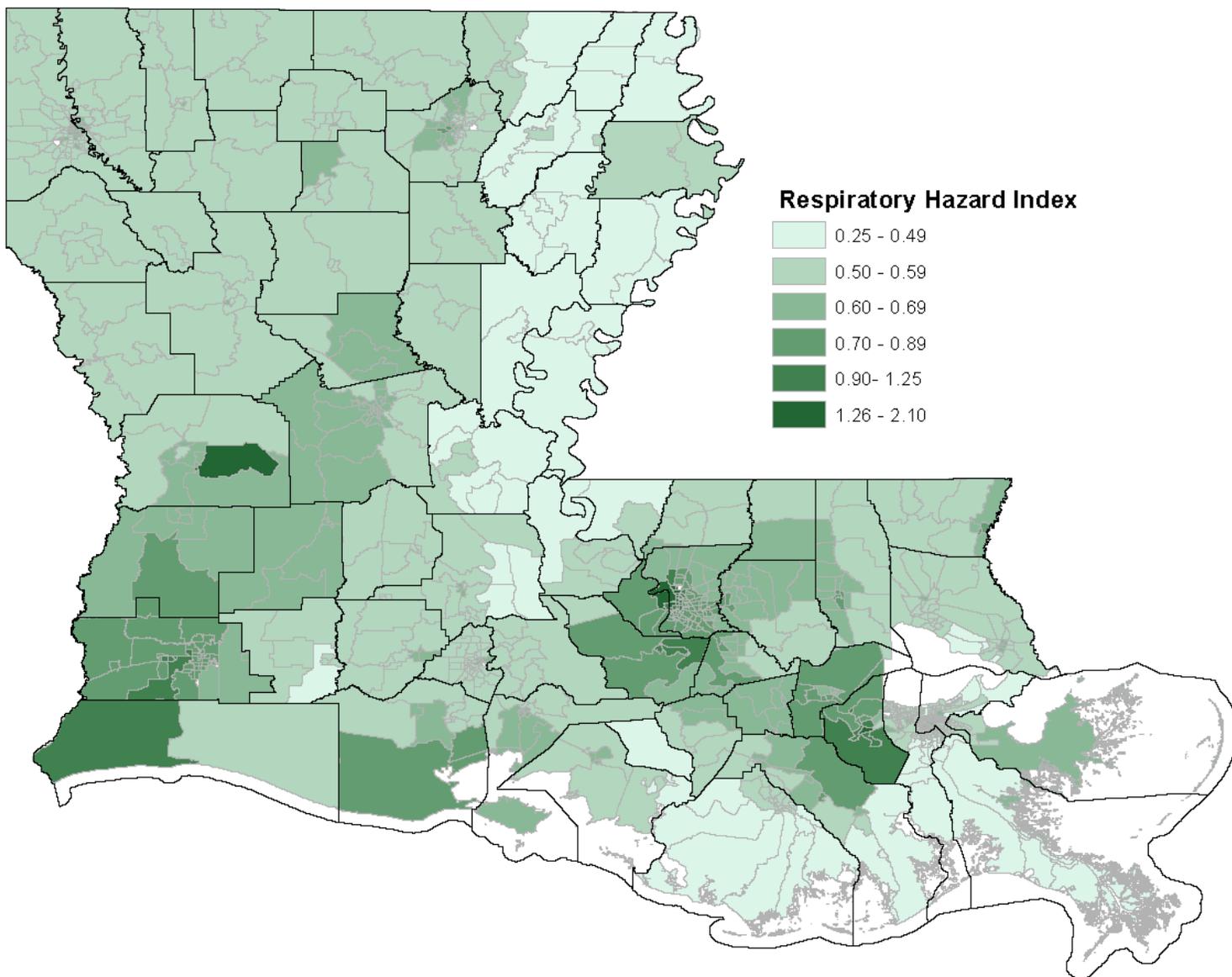
Potential Cancer Risk Per Million  
By US Census Tract  
2014 EPA National Air Toxics Assessment Data





# APPENDIX I: RESPIRATORY HAZARD INDEX

## Respiratory Hazard Index by US Census Tract 2014 EPA National Air Toxics Assessment





## APPENDIX J: ENFORCEMENT ACTION DESCRIPTIONS

Number and Descriptions of Enforcement Actions* Fiscal Years 2015 & 2019			
Types of Enforcement Actions	Description	Actions FY 15	Actions FY 19
Notice of Corrected Violation (NOCV)	Can be drafted when the violation is corrected and it has been verified.	15	5
Notice of Violation (NOV)	Drafted when violations are minor but may not have been corrected timely or verified.	2	23
Compliance Order (CO)	Drafted when further action by the Respondent is needed to mitigate the violations, interim limitations are needed, or a compliance/construction schedule is needed.	4	7
Consolidated Compliance Order and Notice of Potential Penalty (CONOPP)	Drafted when further action is needed by the Respondent to mitigate the violations and that may warrant a penalty.	52	55
Notice of Potential Penalty (NOPP)	Drafted when violation has been corrected or is no longer occurring and it warrants a penalty.	40	52
Penalty Assessment (PA)	May be drafted after issuance of CONOPP or NOPP and consideration of the Nine Factors and a penalty is appropriate.	10	4
Expedited Penalty Agreement and NOPP	Minor or moderate violations are eligible to go through the expedited enforcement program. This program expedites penalties and orders requiring compliance within a specified time period.	51	51
Administrative Order (AO)	Drafted when there is no specific violation but there is an environmental concern and action is needed to correct.	0	0
Administrative Order on Consent	Similar to an AO but becomes final and effective upon signature of the Assistant Secretary and the Respondent.	2	0
<b>Total</b>		<b>176</b>	<b>197</b>
<p>*Only includes air and multimedia (containing air) enforcement actions. It does not include asbestos or lead enforcement actions.  <b>Source:</b> Prepared by legislative auditor's staff using data from DEQ's permitting data.</p>			