

Annual Enforcement Report

Fiscal Year 2021



Enforcement Division
Office of Compliance and Enforcement
Texas Commission on Environmental Quality

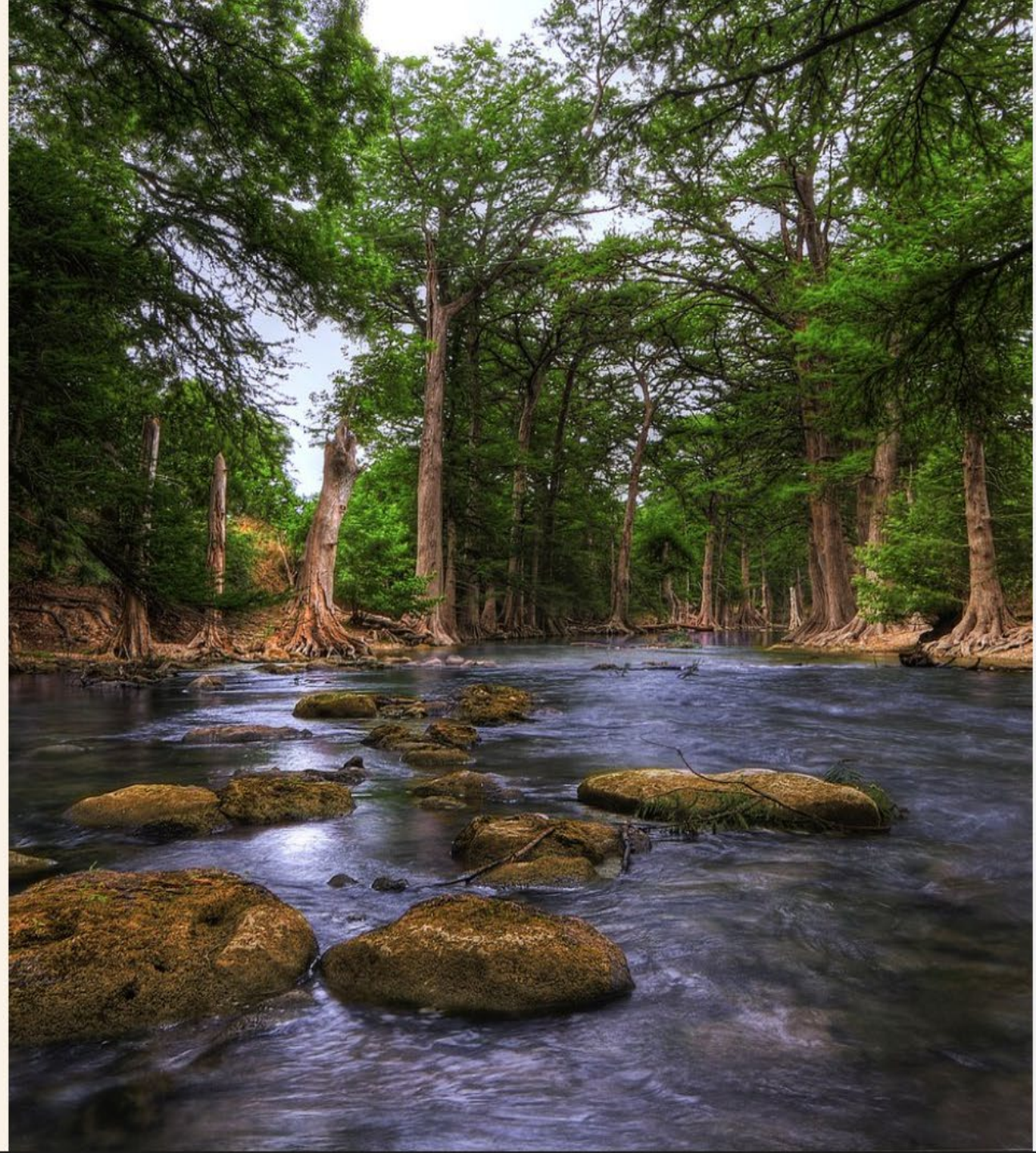
November 2021

The electronic annual enforcement report is available on the TCEQ's Web Page at <https://www.tceq.texas.gov/compliance/enforcement/enforcement-reports/annenfreport.html>

Annual Enforcement Report - Fiscal Year 2021

Clean air, clean water, and the safe management of waste

Office of Compliance and Enforcement Texas Commission on Environmental Quality
November 22, 2021





INTRODUCTION

Texas Commission on Environmental Quality is the State's primary and comprehensive environmental regulatory agency. Its mission is to protect our State's precious human and natural resources consistent with sustainable economic development. The agency regulates over 742,000 public and private facilities and/or individuals in Texas that affect, or have the potential to significantly affect, the environment.

Pursuant to Texas Water Code (TWC) Section 5.1261, the Texas Commission on Environmental Quality (TCEQ or Commission) is required to prepare, by December 1 each year, a report of enforcement actions for each type of regulatory program. The report includes statistical indicators including the number of investigations, number of Notices of Violation (NOVs) issued, number of enforcement actions, type of enforcement actions, amount of penalties assessed, deferred, or collected; and any other information the Commission determines is relevant. The report also includes a comparison of the TCEQ's enforcement actions for each of the preceding five fiscal years.

Additionally, the Commission is required to conduct a comparative analysis of data evaluating the performance, over time, of the Commission and of entities regulated by the Commission, and conduct an assessment of Emissions Events (EEs) and actions taken by the Commission in response to the EEs, the registration and investigation activities of certain Aggregate Production Operations (APOs), and the Texas Tier II Chemical Reporting Program.

This report, the 25th of its kind, includes information from fiscal years 2016-2021.

ENVIRONMENTAL TOOLBOX

The TCEQ approaches enforcement as a tool among many available to protect the environment and people while addressing key environmental issues. The agency pursues strong and vigorous enforcement, used within an overall strategy for achieving maximum compliance. The TCEQ uses a broad range of tools to enable and require businesses and governments, large and small, to comply with environmental rules. These tools include on-site and off-site facility assistance, small business and local government assistance, general education events, regulatory workshops, publications and guidance documents, telephone hotlines, and the agency's expansive internet site, as well as traditional investigations and enforcement.

Event Coordination and Education Activities

The TCEQ also provides educational opportunities and technical assistance through coordinated workshops, seminars, and educational events. However, response to COVID-19 resulted in a nearly complete shutdown of seminars, workshops, and public outreach opportunities during the entirety of FY 2021. The TCEQ was able to transition some events, such as the Public Drinking Water Conference, to a virtual platform as well as develop additional virtual events. Other events, such as the annual Environmental Trade Fair and Conference were canceled. During FY 2021, 26 agency-sponsored seminars provided technical information and assistance to over 3,100 attendees.

TCEQ-Sponsored Seminars

- Emissions Inventory Seminar
- Lunch and Learn Presentations
- Dam Safety Seminar
- Public Drinking Water Conference
- Tier II Chemical Reporting Training

Additionally, TCEQ sponsors the Take Care of Texas program which provides Texans simple actionable tips to conserve water and keep it clean, keep the air clean, and reduce waste. Despite COVID-19, the program garnered more than 3,800 pledges to Take Care of Texas, and the current Public Service Announcement received over 600,000 impressions across social media platforms.

Assistance to Small Businesses and Local Governments

The TCEQ annually reaches at least 66,000 Texas small businesses and local governments, keeping them informed about changes and trends in environmental regulations to help them comply. In FY 2021, this overall figure included 7,018 direct requests for assistance from small business and local government customers. TCEQ staff also presented compliance information to small businesses and/or local governments at webinars with 1,968 attendees. All this assistance focuses on up-to-date information that ultimately helps the regulated community understand environmental rules and how to comply with those rules.

The TCEQ's EnviroMentor program matches participating small businesses and local governments with dedicated environmental professionals who volunteer their time and expertise to help these small entities achieve compliance. In FY 2021, this group tallied 642 volunteer hours and helped 30 small businesses or governments.

During FY 2021, the Site Visit program, utilizing a grant from EPA, conducted 12 comprehensive site assessments at potentially abandoned petroleum storage tank facilities in the counties impacted by Hurricane Harvey to determine whether a release had occurred. Since FY 2019, a total of 43 comprehensive assessments have been conducted, cleanups were initiated at 14 facilities and completed at 10 facilities.

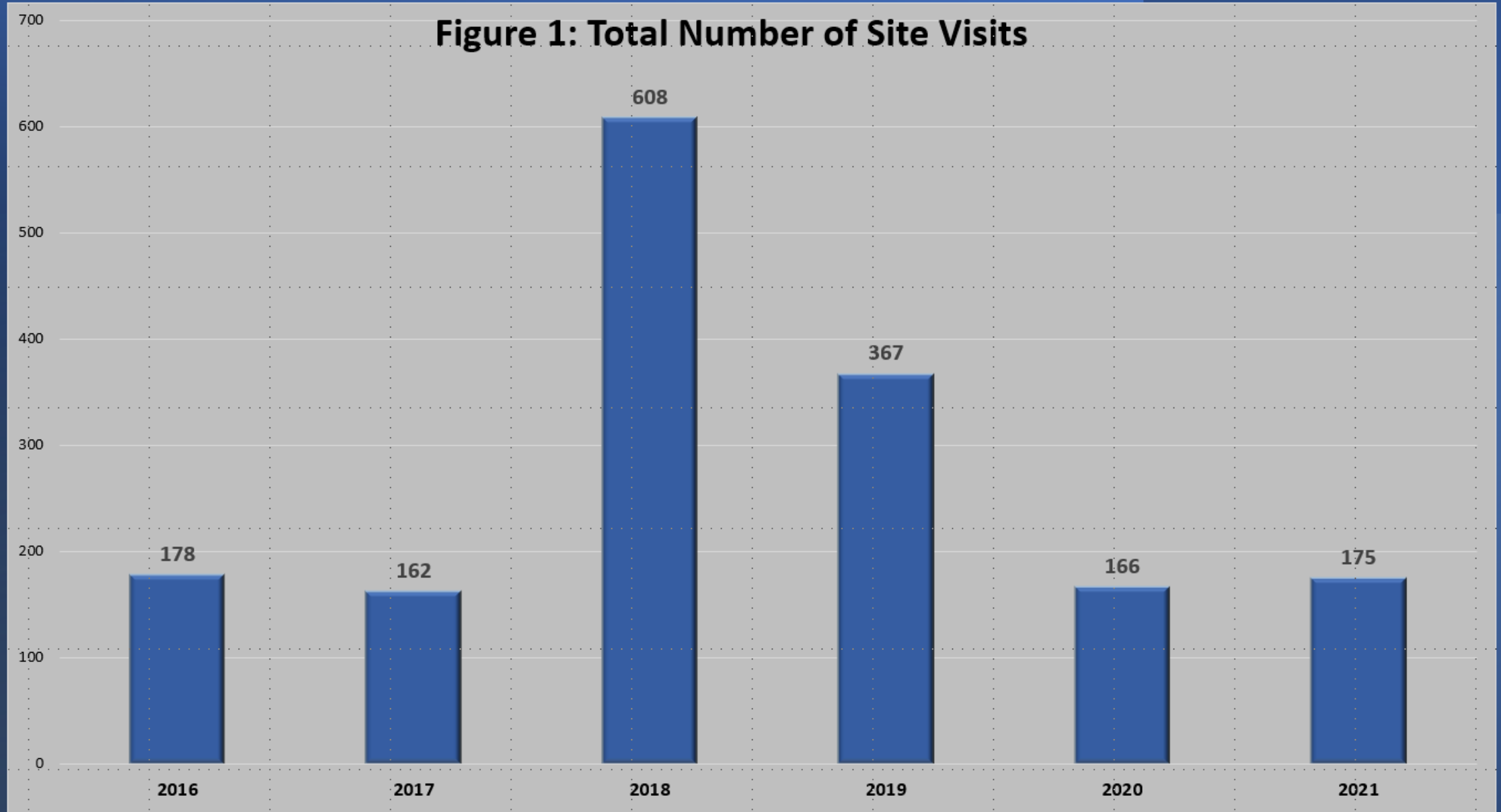
The Site Visit program also continued to support the agency's priority to meet the federal Energy Policy Act (EACT) of 2005 requirements. In FY 2021, the Site Visit program focused resources on EACT Abandoned site visits and conducted 175 site visits at potentially abandoned PST facilities. In FY 2021, the TCEQ used the Abandoned PST Screening process that was developed in FY 2020 to establish when a PST can be considered abandoned and removed from the EACT investigation cycle. This process also provides guidance to other parts of the agency for determining what additional assistance or action may be necessary to mitigate risks that may be presented by these abandoned PSTs.

Table 1 depicts assistance that focused on small businesses and local governments. Figure 1 graphically represents Site Visits (site visits to check compliance with all aspects of environmental regulations—air, water, and waste) over the past six years.

Table 1: Small Business and Local Government Assistance Activities

FY	Requests for Assistance	Site Visits
2016	7,584	178
2017	8,690	162
2018	8,140	608
2019	8,434	367
2020	6,527	166
2021	7,018	175

Figure 1: Total Number of Site Visits



The 2016 and 2017 site visits were PST EACT focused site visits. The 2018 Site Visits were Hurricane Harvey Damage Assessments and PST pilot project site visits. The 2019 Site Visits were Hurricane Harvey Damage Assessments and PST EACT focused site visits. The 2020 and 2021 Site Visits were PST EACT Abandoned site visits. Page 6

Investigations and Enforcement Policy

A strong enforcement program must ensure that enforcement mechanisms are applied and issued in an equitable manner. Equitable treatment means that violators do not come out ahead economically to the disadvantage of those entities that spend substantial resources to comply with the law.

The TCEQ continues to implement the provisions of the Commission's Penalty Policy which was last revised in January 2021. The cornerstone of this policy emphasizes compliance to protect our citizens and the environment from harm, coupled with ensuring consistent, just, and timely enforcement when environmental laws are violated.

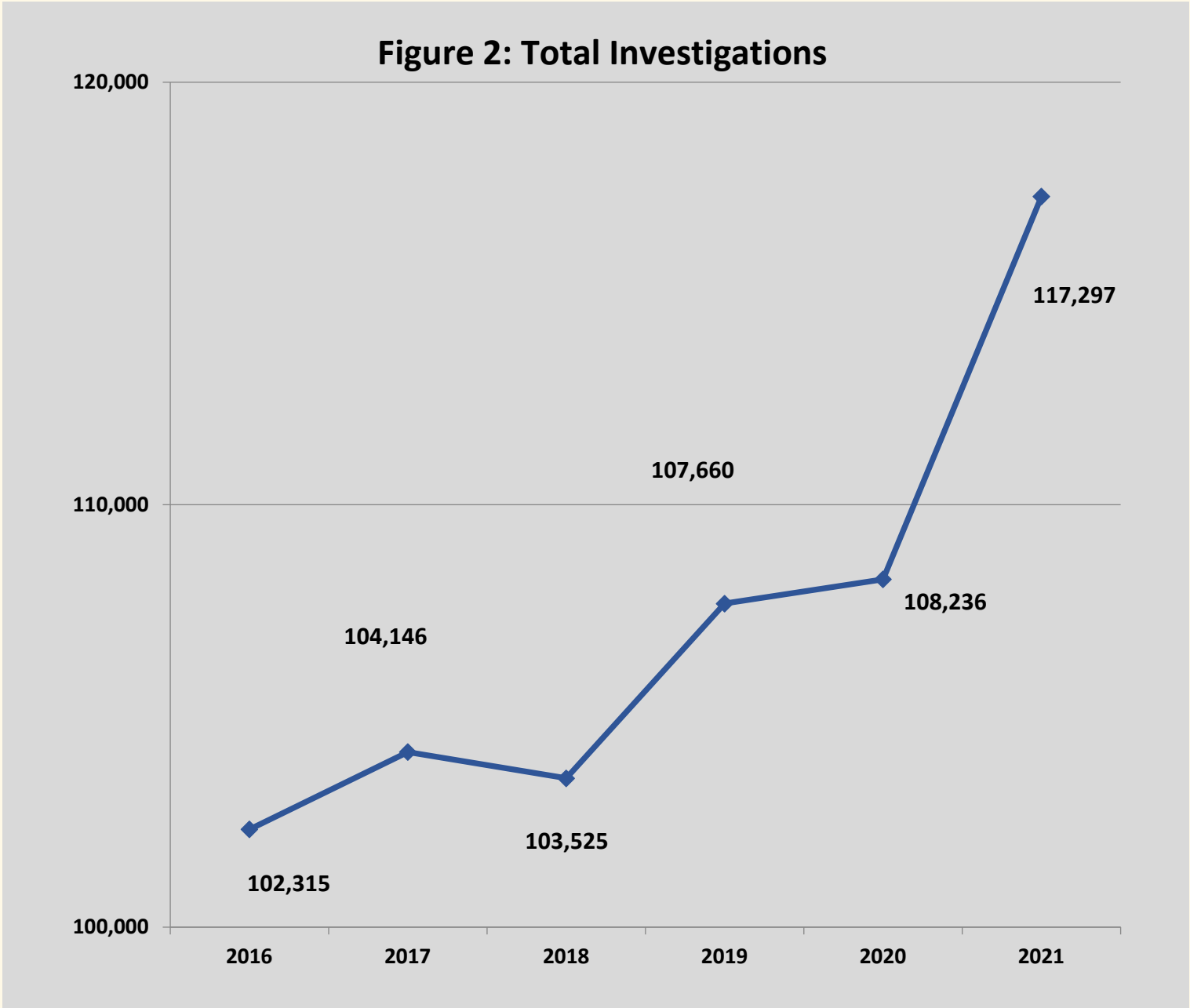
The TCEQ has the authority to levy penalties in 31 environmental program areas. For most penalties authorized under TWC Chapter 7, penalties can be as much as \$25,000 per day, per violation for most administrative cases and \$25,000 per day, per violation for most civil judicial cases. There are specific statutory provisions for certain regulated program activities that authorize different administrative and civil penalty amounts. Some examples of these situations include, but are not limited to:

- Limiting the statutory maximum to \$1,000 for levees;
- Limiting the statutory maximum to \$5,000 (occupational licensees, on-site sewage disposal, public water supplies, public water utilities, used oil and filters, and water rights);
- Application of a minimum penalty of \$2,500 and maximum penalty of \$25,000 per violation (unauthorized discharges from quarries);
- Application of a strict penalty of \$10,000 per day per violation (with an exception), rather than defining a maximum (rock crusher or concrete plants that perform wet batching, dry batching, or central mixing and are operating without a permit);
- Application of a penalty based on the number of years an aggregate production operation operating without being registered, and providing a maximum penalty;
- Providing different maximum penalty amounts based upon the particular violation cited (dry cleaners); and
- Some statutes provide for a particular penalty amount total per violation, rather than per day (dry cleaners, computer equipment manufacturers).
- When determining the penalty amount, the TCEQ considers many factors including: the nature; circumstances; extent; duration and gravity of the violation; the severity of impacts to human health and the environment; compliance history; culpability; good faith efforts to comply; economic benefit; deterrence; and other factors as justice may require.

It is important to note that the TCEQ's enforcement activities originate primarily from Regional Office investigations as well as from record reviews done at the Commission's Austin headquarters. Scientific, technical, and environmental specialists in the agency's 16 regional offices are responsible for the majority of both investigations conducted and complaints investigated.

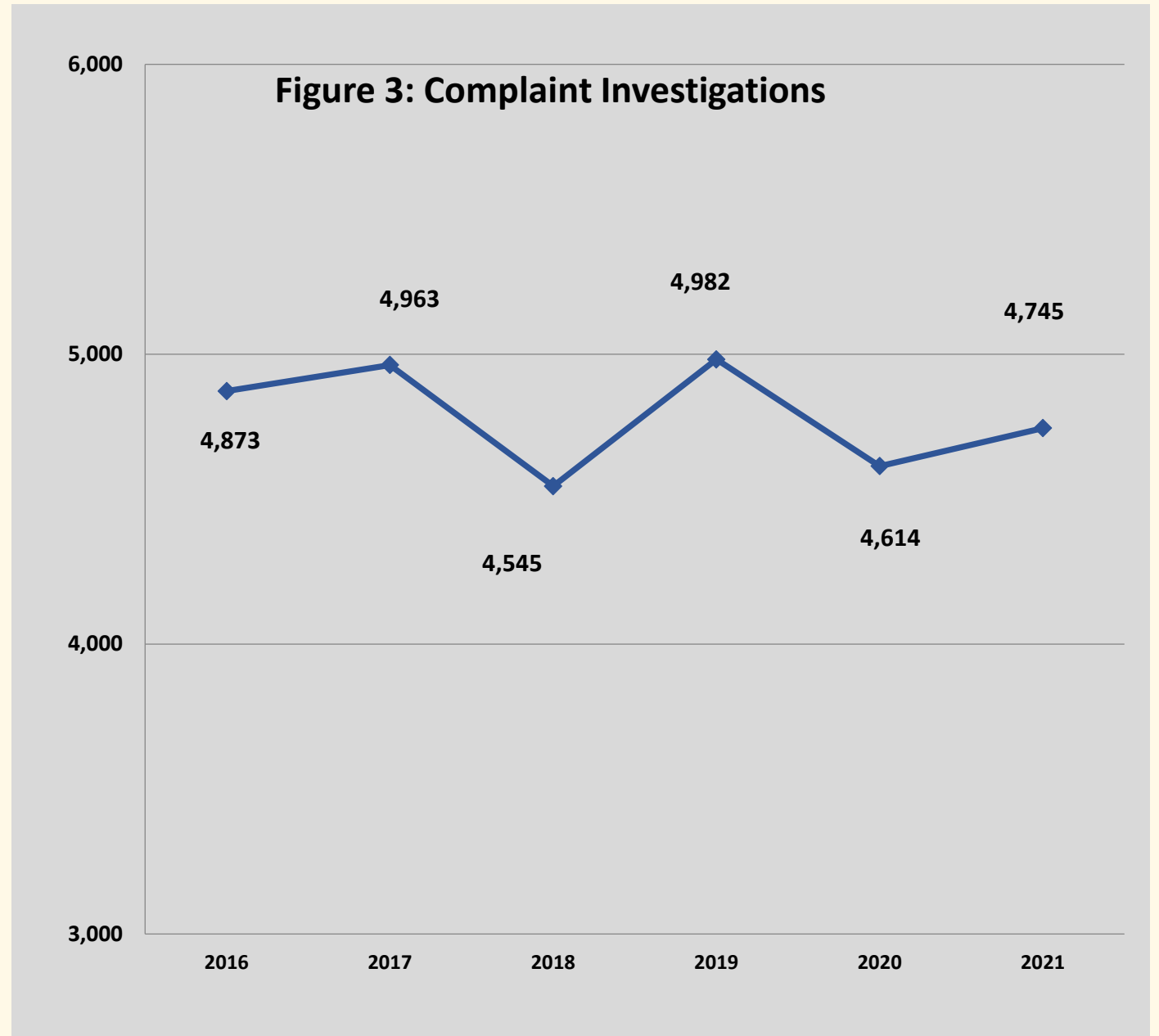
In FY 2021, the TCEQ conducted over 117,000 investigations, as depicted in Figure 2: Total Investigations, of which over 64,000 were on-site investigations.

Note: There was an increase in total investigations for FY 2021. Due to COVID-19 restrictions, investigators conducted more off-site and virtual investigations, substituting for on-site investigations. This allowed investigators to conduct more investigations with the same resources.



Overall, the number of complaint investigations saw a slight increase to 4,745 in FY 2021, as shown in Figure 3: Complaint Investigations.

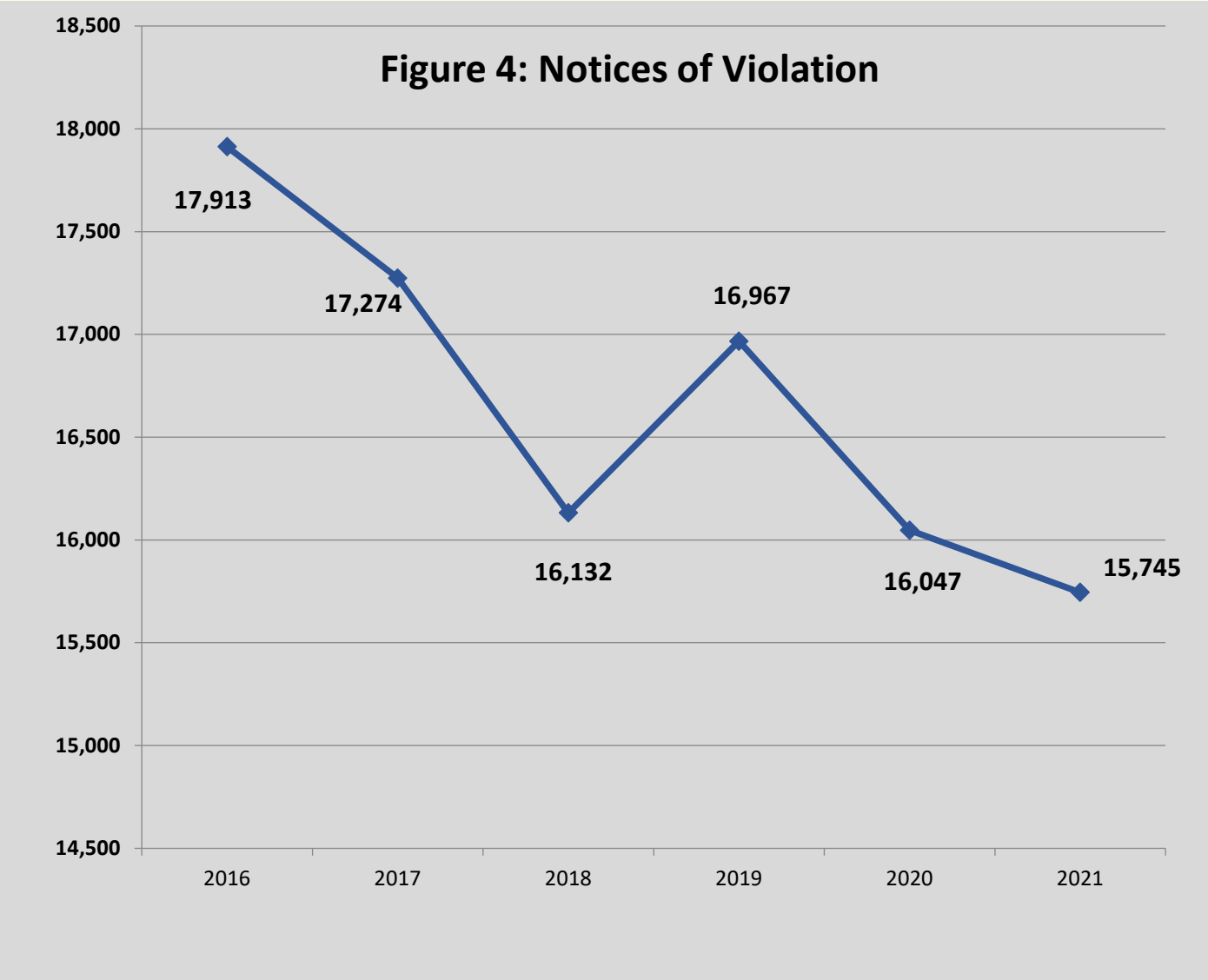
Advance notification of routine compliance investigations ensures that proper personnel and records will be available at the time of the investigation. The agency provided advance notice for 17,323 on-site investigations and conducted 55,710 unannounced on-site investigations. Please note that a single notice may be given for an investigation that includes multiple activities that contribute to the total investigation count. Investigations that do not receive advance notification include those that are complaint related, enforcement follow-up investigations, or otherwise warrant an unannounced investigation.



The most common tool used by the TCEQ to require compliance with environmental laws is the NOV. An NOV is sent to an entity when it is determined that an environmental violation may have occurred. The NOV is a multi-purpose, flexible tool that is used thousands of times each year. In many cases it is enough to compel compliance, thereby avoiding possible damage to the environment.

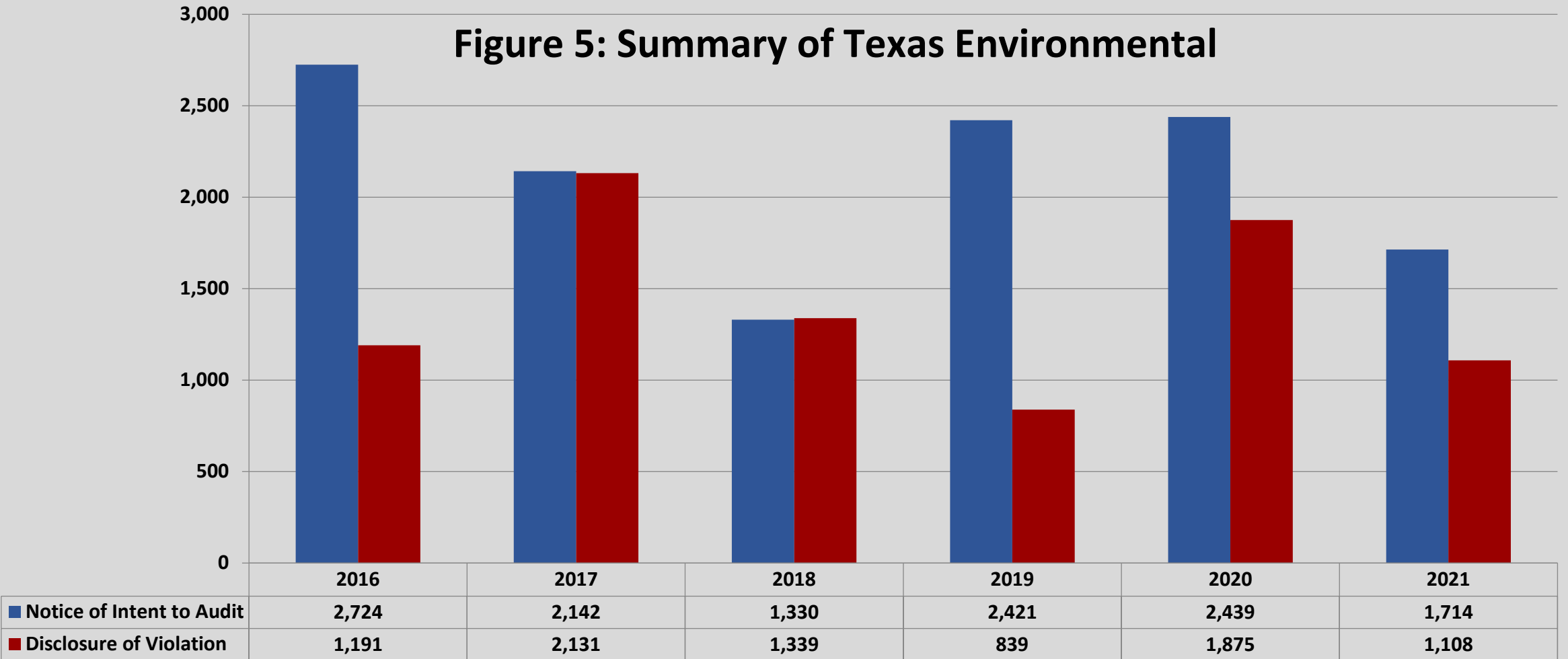
In other cases, it can be the first step in a process that ultimately can result in administrative enforcement, civil enforcement, and/or possible criminal charges for violation of environmental laws. As depicted in Figure 4: Notices of Violation, the TCEQ issued 15,745 NOVs from both the Regional Offices and Central Office in FY 2021. The decrease in NOVs from FY 2016 to FY 2021 is primarily attributable to higher compliance rates with the Revised Total Coliform and Lead and Copper rules and PST rules.

The TCEQ’s drinking water program has implemented several new approaches to address public water system non-compliance through extensive outreach, education, training, and technical assistance activities which has resulted in an overall decrease in violations.



The TCEQ’s traditional enforcement efforts have been enhanced by voluntary environmental self-audits conducted at facilities under the Texas Environmental, Health, and Safety Audit Privilege Act (“Audit Act”). This law encourages businesses and governments subject to environmental regulation to perform comprehensive assessments of compliance with environmental laws, regulations, and permits for their own facilities. Organizations who participate in the Audit Act are required to notify the TCEQ of their intent to self-audit and then fully disclose and resolve violations resulting from the audit. The TCEQ ensures that all violations disclosed under this program are corrected, and, provided that certain conditions of the Audit Act are complied with, the participants in this program may not be subject to civil and administrative penalties. Figure 5 depicts a summary of the Notices of Audit and Disclosures of Violation that have been received by the TCEQ from FY 2016 through FY 2021.

Figure 5: Summary of Texas Environmental



The success of TCEQ's regulatory assistance and investigation/enforcement programs is revealed in the high percentages of compliance documented following investigations conducted by the TCEQ. Table 2 depicts the compliance rates of facilities inspected from FY 2016 through FY 2021.

Table 2: Percent of Facilities Inspected in Compliance

	2016	2017	2018	2019	2020	2021
Percent of inspected air facilities in compliance	98%	97%	98%	97%	96%	94%
Percent of inspected water facilities in compliance	99%	99%	99%	99%	99%	99%
Percent of inspected waste facilities in compliance	94%	95%	96%	97%	97%	97%

Note: Compliance indicates that enforcement orders, referrals to another agency (OAG, Texas Railroad Commission, etc.) or program (Superfund or criminal investigations, etc.) or compliance agreements were not required following an investigation. Some minor violations may have been noted in the investigations; however, they were corrected within a reasonable period of time, and therefore did not require further enforcement.

Enforcement Actions and Penalties

One of the most familiar indicators for the enforcement activities of a regulatory agency is penalties: How much money did the agency order to be paid in penalties? While familiar, this is not necessarily an indication that the agency has been successful. The number of administrative orders issued by the TCEQ varies each year and is dependent upon the violator's willingness to settle a case. If a violator refuses to settle a case, and requests a hearing, the TCEQ must try the case through the administrative hearing process. This legal process is similar to trying a case in court and may extend the time it takes to obtain an order.

The TCEQ issued 1,006 administrative orders in FY 2021 (see Figure 6). The number of administrative orders issued varies, depending on the enforcement referrals received, as well as the violators' willingness to settle a case. Additionally, issued orders were generally lower in FY 2021 due to COVID-19 impacts in negotiating cases with regulated entities.

The 1,006 administrative orders issued in FY 2021 required payments of \$7,511,772 in penalties and an additional \$2,383,549 was required to be paid for SEPs.

Figure 6: Administrative Orders

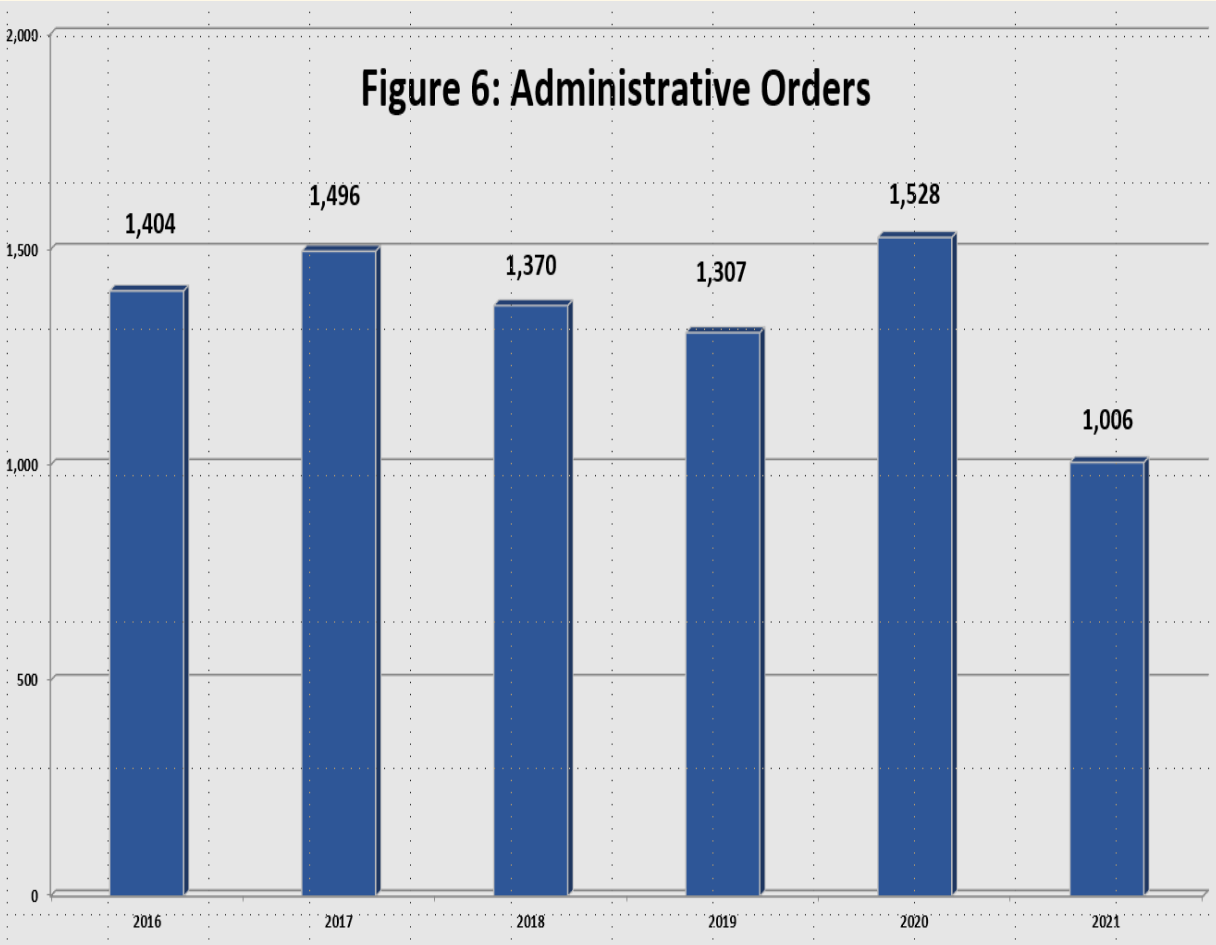


Figure 7: Administrative Orders Issued by Media

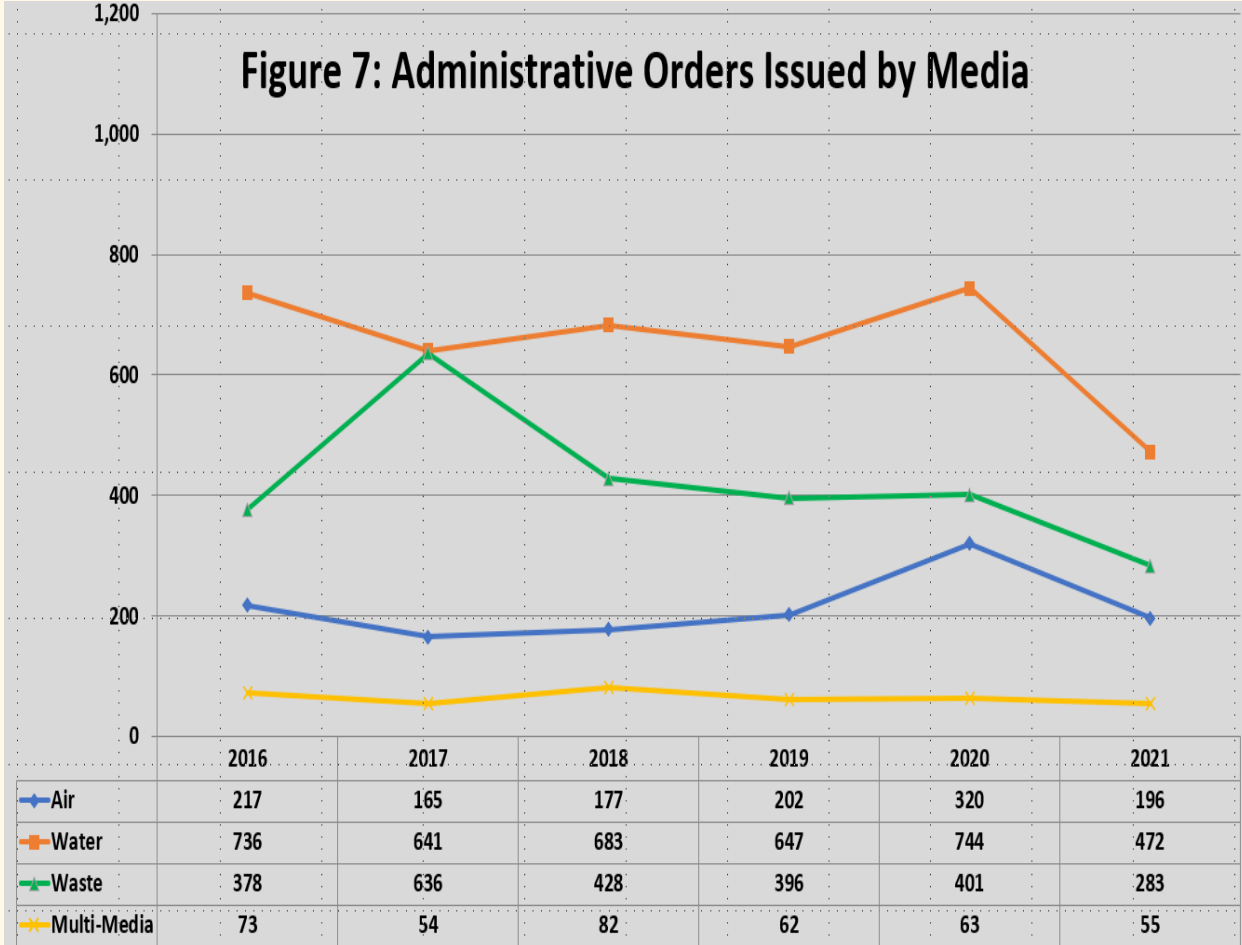
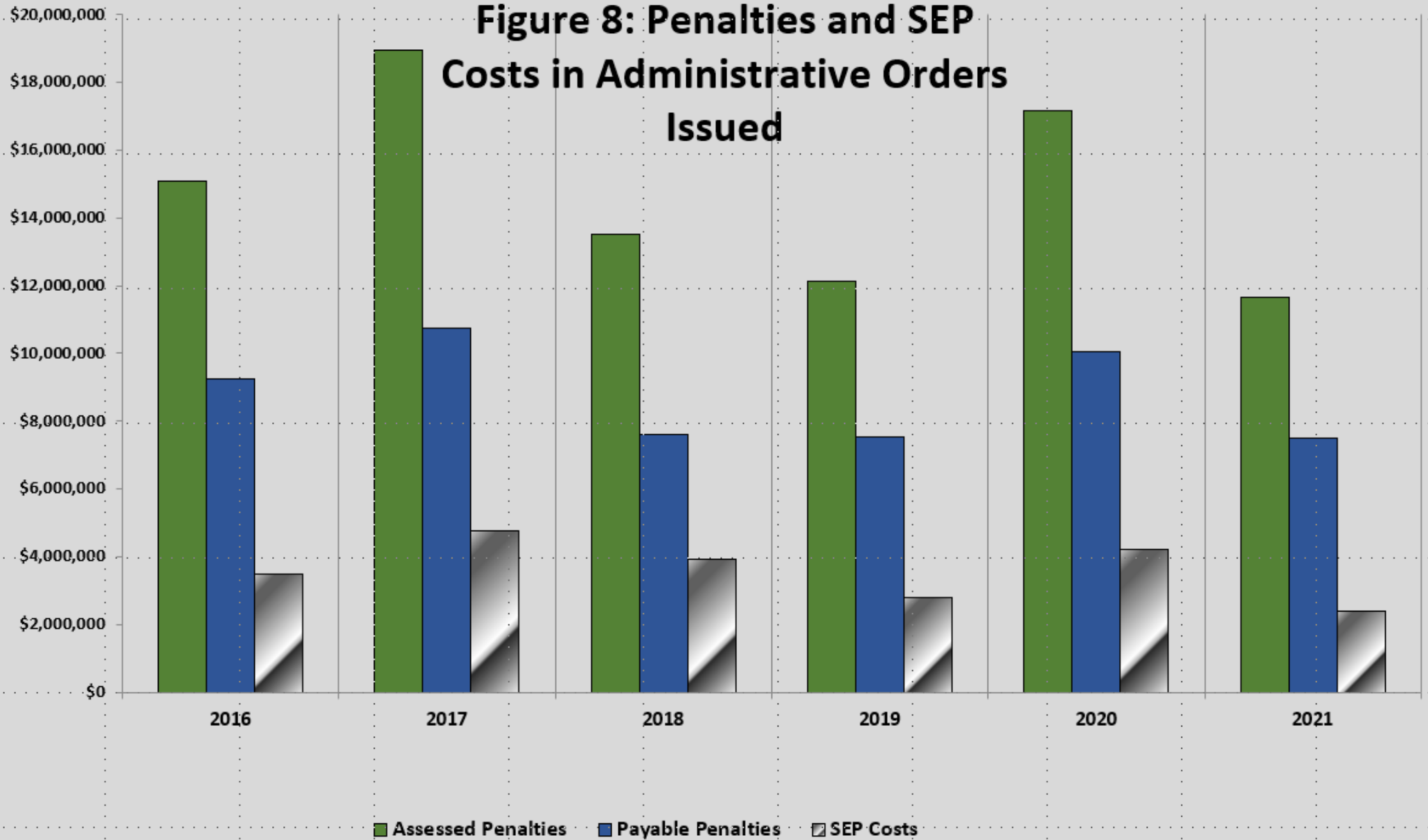


Table 3: Summary of Administrative Penalty Amounts and SEPs by FY

Fiscal Year	Assessed Penalties	Deferred Penalties	Payable Penalties	SEP Costs	Number of Orders with SEPs
2016	\$15,075,693	\$2,331,572	\$9,261,563	\$3,482,558	177
2017	\$18,941,687	\$3,065,484	\$10,931,597	\$4,944,366	166
2018	\$13,520,045	\$1,935,846	\$7,593,779	\$3,990,420	169
2019	\$12,123,643	\$1,805,296	\$7,535,227	\$2,783,120	153
2020	\$17,166,396	\$2,893,417	\$10,055,406	\$4,217,573	196
2021	\$11,662,395	\$1,767,074	\$7,511,772	\$2,383,549	139

**Figure 8: Penalties and SEP
Costs in Administrative Orders
Issued**



SEPs are projects approved by the Commission to benefit the local Texas communities where environmental laws and regulations have been violated. Violators are allowed to put a portion of their penalty dollars to work to benefit the environment in the community affected by the violations, rather than paying the entire penalty to the State’s General Revenue Fund. In addition, TWC Section 7.067 allows certain local governments in an enforcement action to perform a SEP to come into compliance with environmental laws or to remediate the harm caused by those violations.

SEPs that have been approved include the following:

- repair on structures or equipment that may be the cause of the violation;
- cleanups of abandoned illegal dump sites;
- community household hazardous waste and tire collections;
- air and water quality monitoring networks;
- wetlands and habitat restoration;
- establishment of nature preserves;
- erosion control;
- placement of ozone air monitoring equipment in schools and local communities;
- installing and/or repairing on-site sewage facilities, municipal sewer lines, and potable water service for low-income households;
- retrofitting of diesel buses to “clean-technology” for school districts;
- energy efficient upgrades and/or retrofits for public buildings or low-income homeowners;
- purchasing alternative fueled equipment to replace diesel and gasoline powered equipment; and
- cleanups of bays and watersheds.

If administrative orders and penalties issued by the TCEQ do not achieve environmental compliance, or in instances where more immediate action is required, such as an emergency event, the agency may refer the matter to the OAG for civil enforcement. Under Section 7.105 of TWC, the TCEQ has discretion to refer any matter to the OAG for civil enforcement. During FY 2021, the OAG obtained 24 judgments in cases referred from the TCEQ and for which the TCEQ was a necessary and indispensable party to enforcement initiated by another entity. These civil judgments resulted in \$16,555,128 required to be paid in penalties, including the judgment against KMCO with \$10 million in civil penalties. Table 4 is a summary of the judgments that have been issued for the past six years.

Table 4: Civil Judgment Penalty Amounts by FY

Fiscal Year	Number of Civil Judgments	Civil Penalties Required to be Paid
2016	31	\$1,257,980
2017	22	\$1,329,315
2018	34	\$3,816,814
2019	30	\$3,081,387
2020	18	\$2,314,630
2021	24	\$16,555,128

A successful enforcement program, combined with a strong regulatory assistance program, ensures that the public and the environment receive the benefits of the protections embodied in environmental statutes, regulations, and permits.

The Criminal Element

Texas Environmental Enforcement Task Force

Texas is a leader and national model in the investigation and prosecution of environmental crime. Created in 1991, the Task Force has included participants from more than 25 local, state, and federal agencies. The TCEQ, and particularly the Environmental Crimes Unit (ECU), play a key investigative role and head the task force. Members of the Task Force include the TCEQ, the Governor's Office, the Texas Parks and Wildlife Department, the OAG, the Railroad Commission of Texas, and the General Land Office. These agencies coordinate activities with the U.S. Environmental Protection Agency's Criminal Investigation Division, the U.S. Attorney's Office, the Federal Bureau of Investigations, and local district and county attorneys. Numerous other federal, state, and local agencies also participate in Task Force investigations. The TCEQ Environmental Crimes Unit, with assistance from other members of the Task Force, also conducts environmental crimes enforcement training for local law enforcement officers.

Criminal Investigations

The agency participated in seven search warrants and finalized seven cases with convictions against six individuals and two corporations during FY 2021 (see Table 5). The finalized cases included one felony count and seven misdemeanor counts. These cases consist of three unauthorized discharges, two criminal violations related to the handling of solid waste, and two criminal violations for tampering with governmental records. The case resolutions resulted in a total of \$26,500 in criminal fines, five years of deferred adjudication/disposition, and 120 days of probation.

It should be noted that during this entire fiscal year most state and federal judicial systems were affected to varying degrees by closures during the COVID-19 pandemic. The TCEQ ECU continued working as safely as possible, conducting surveillance, interviewing witnesses, participating in search warrants, and filing cases with state prosecutors. Cases previously filed with state prosecutors were often continued during this fiscal year, which resulted in a crowded docket for many courts. Many courts are prioritizing higher level felonies on their dockets.

The [FY 2021 Criminal Conviction Chart](#) lists the details of the cases that the ECU worked on this year.

Table 5: Summary of Criminal Investigation Information by FY

FY	Number of Search Warrants	Number of Cases Resulting in Convictions	Number of Convictions Against Individuals	Number of Convictions Against Corporations	Total Number of Convictions	Number of Felony Counts	Number of Misdemeanor Counts
2016	7	19	22	5	27	28	22
2017	6	21	15	12	27	9	17
2018	7	18	19	5	24	18	17
2019	3	11	12	3	15	9	14
2020	6	9	10	3	13	9	8
2021	7	7	6	2	8	1	7

Comparative Analysis

Section 5.756 of the Texas Water Code requires that TCEQ. evaluate the performance, over time, of the Commission and of entities regulated by the Commission. This section of the report addresses the comparison of entities regulated by the Commission. An analysis has been performed on the types of businesses for all of the orders issued, orders issued to regulated entities with prior orders, orders issued to regulated entities with the same or similar violations, the violations included in the orders (including classification of the severity of the violations), and the size of businesses or municipalities that had orders issued during the Fiscal Year.

Comparison of Orders Issued by Media Type

In FY 2021, the TCEQ issued 1,006 administrative orders and assisted the OAG in obtaining 24 civil judgments. Figure 4-1 displays the percentage of orders issued during FY 2021 by media type (air, waste, water, and multi-media).

Comparison of Orders Issued by Industry Type

Figure 4-2 depicts the percent of regulated entities with orders issued for FY 2021 based upon the NAICS. The industry types with the highest percentage of administrative orders and civil judgments issued in FY 2021 were Gasoline Stations with Convenience Stores, Water Supply and Irrigation Systems, and Sewage Treatment Facilities (see Figure 10 for the entire summary). Thirty-eight percent of the regulated entities with orders issued represented NAICS categories of less than one percent.

**Figure 9: Percent
of Orders Issued
by Media Type in
FY 2021**

- Air
- Waste
- Water
- Multi-Media

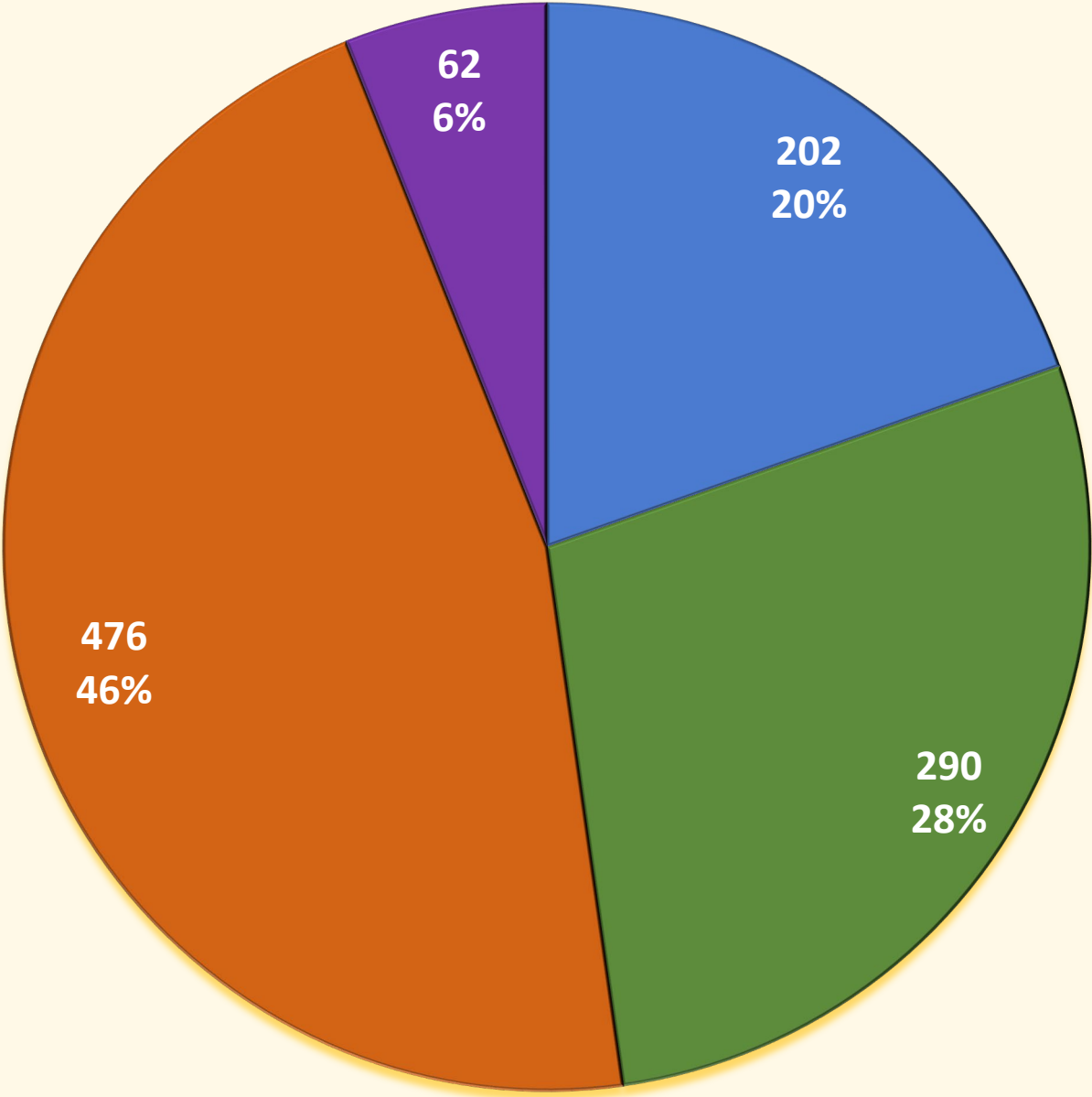
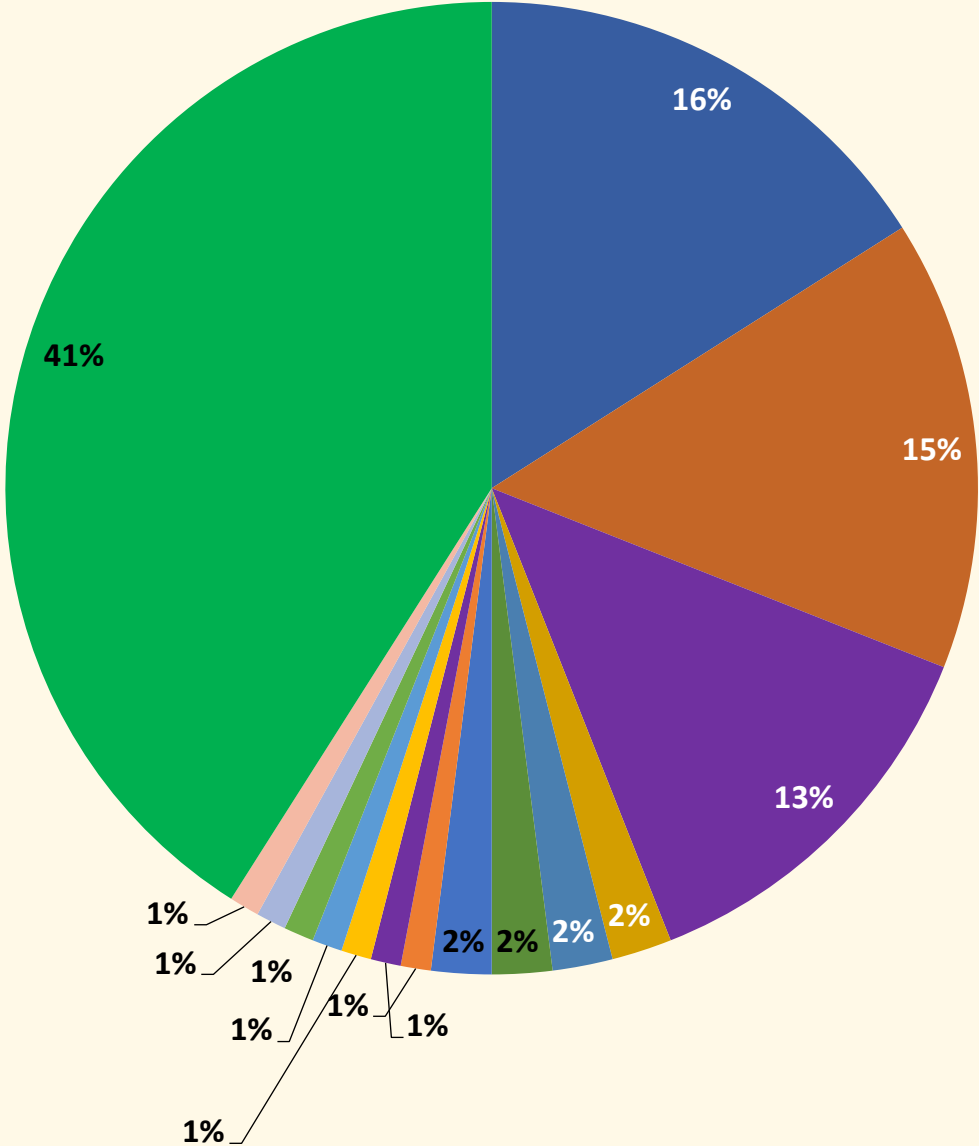


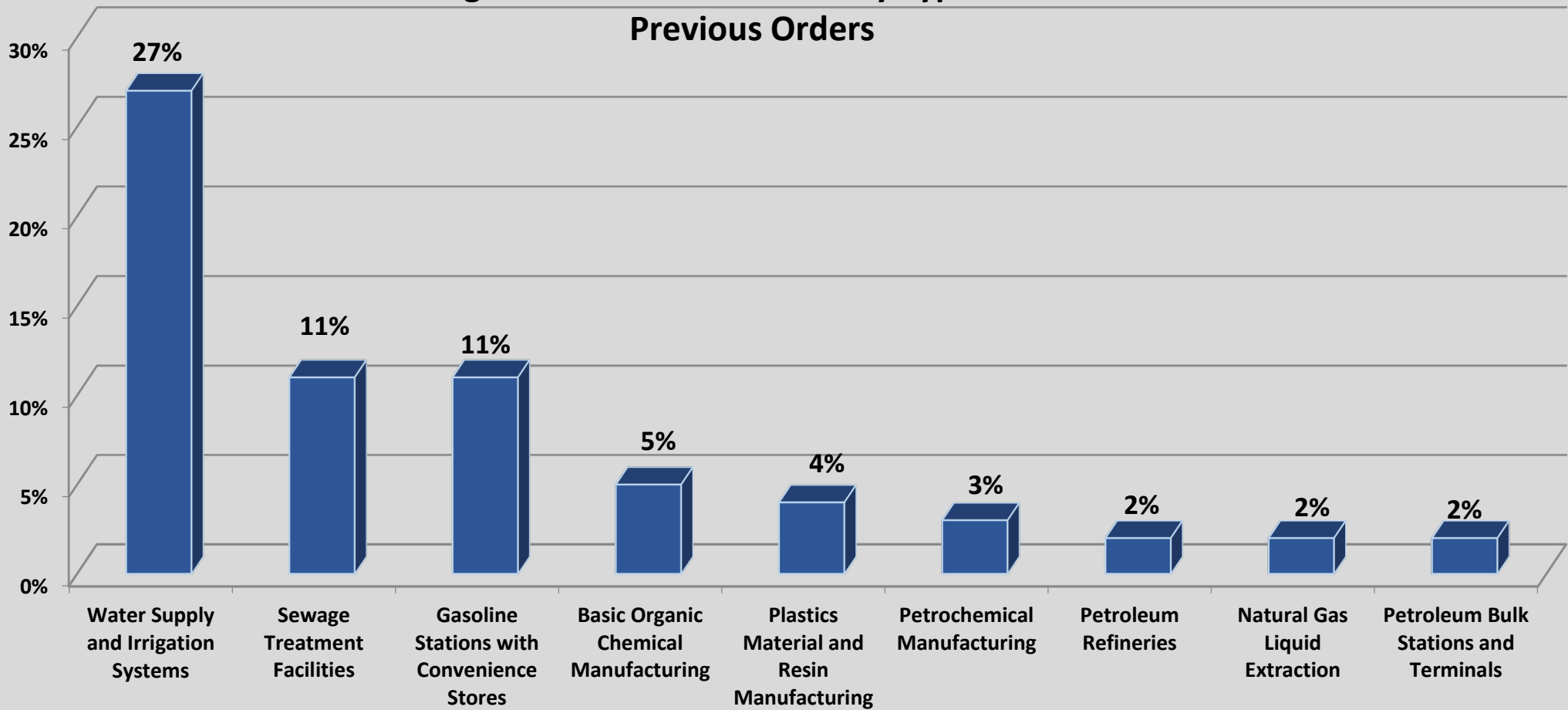
Figure 10: Percent of Industry Types with Orders Issued in FY 2021



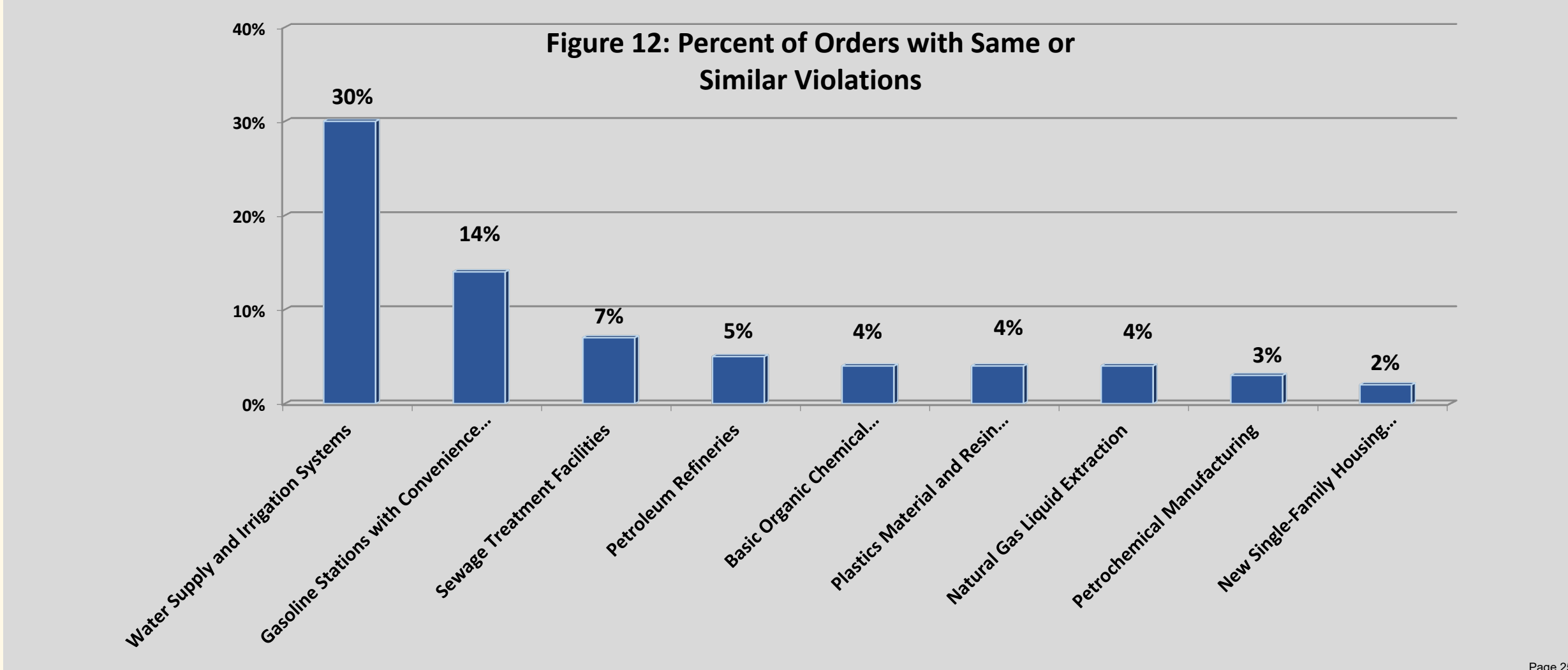
- Gasoline Stations with Convenience Stores 16%
- Water Supply and Irrigation Systems 15%
- Sewage Treatment Facilities 13%
- Solid Waste Landfill 2%
- Basic Organic Chemical Manufacturing 2%
- New Single-Family Housing Construction 2%
- Crude Petroleum and Natural Gas Extraction 2%
- Remediation Services 1%
- Land Subdivision 1%
- Plumbing, Heating, and Air-Conditioning Contractors 1%
- Recreational Vehicle Parks and Campgrounds 1%
- Construction Sand and Gravel Mining 1%
- Lessors of Other Real Estate Property 1%
- Other Gasoline Stations 1%
- Other <1% 41%

Of the 1,053 regulated entities that were issued civil judicial and administrative orders, 249 regulated entities (24%) had previous enforcement orders and 294 regulated entities (28%) were issued addressing violations that were the same or similar to violations included in prior orders issued to those entities over the past five years. The highest percentage of industry types with previous orders issued included Water Supply and Irrigation Systems, Sewage Treatment Facilities, Gasoline Stations with Convenience Stores, Basic Organic Chemical Manufacturing, Plastics Material and Resin Manufacturing, Petrochemical Manufacturing, Petroleum Refineries, Natural Gas Liquid Extraction, and Petroleum Bulk Stations and Terminals. (see Figure 11).

Figure 11: Percent of Industry Types with Previous Orders

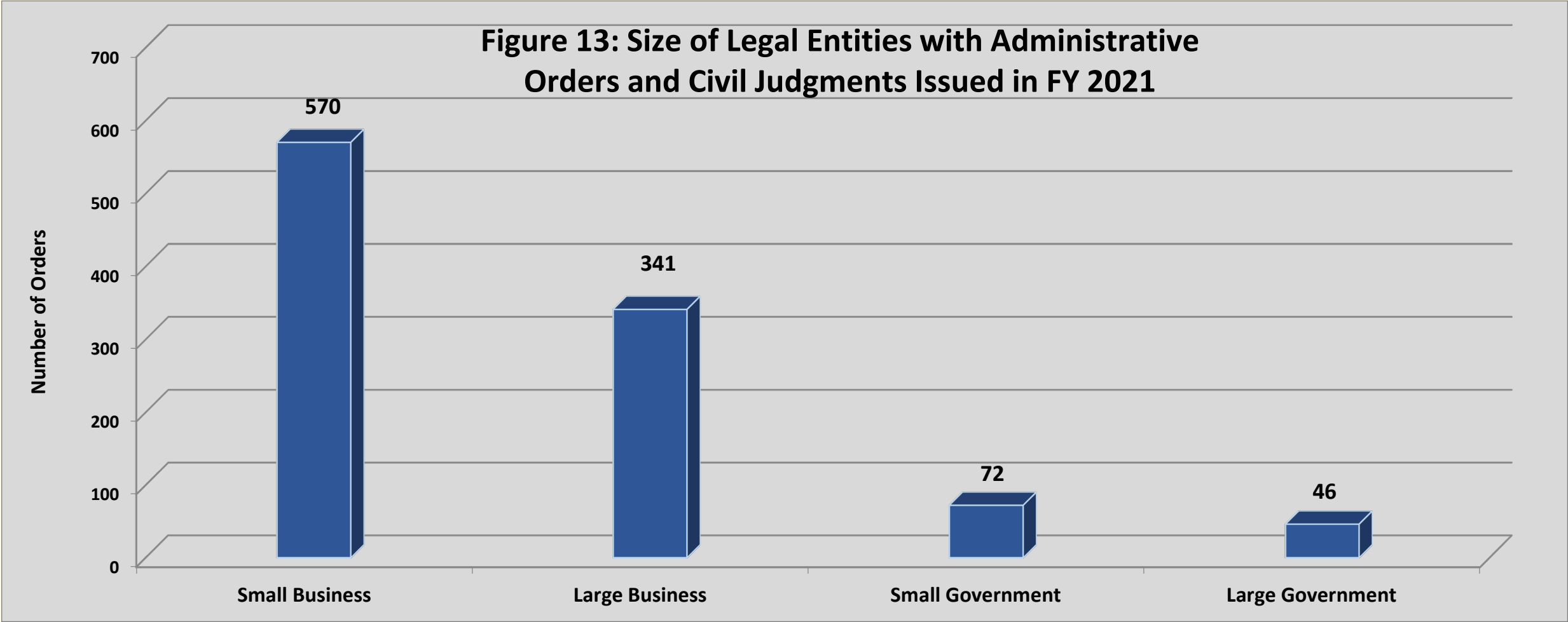


The highest percentage of industry types for regulated entities with same or similar violations included in prior enforcement orders were Water Supply and Irrigation Systems, Sewage Treatment Facilities, Basic Organic Chemical Manufacturing, Gasoline Stations with Convenience Stores, Petroleum Refineries, Plastics Material and Resin Manufacturing, Natural Gas Liquid Extraction, Crude Petroleum and Natural Gas Extractions, Petrochemical Manufacturing, Lessors of Other Real Estate Property, and Pipeline Transportation of Refined Petroleum Products. (see Figure 12).



Comparison of Orders Issued by Legal Entity Size

Enforcement orders are issued to legal entities of varying sizes. For civil judicial and administrative orders issued in FY 2021, 55% were issued to small businesses, 33% were issued to large businesses, 7% were issued to small governments, and 4% were issued to large governments. Figure 13 depicts the breakdown of the size of business or local government with orders issued during FY 2021.

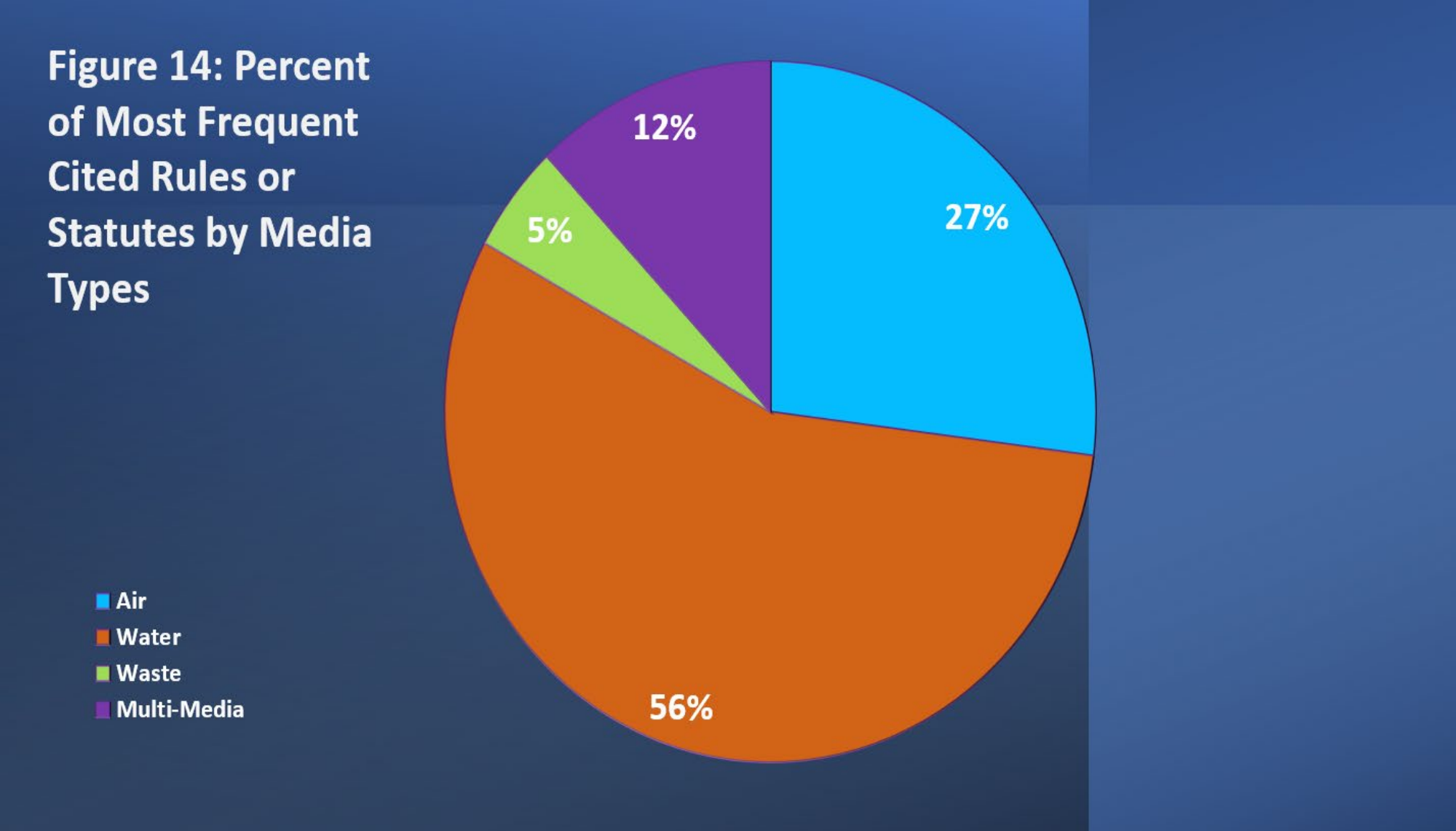


A small business is defined as any person, firm, or business that employs fewer than 100 full-time employees. A small government is defined as a city with a population of less than 5,000 or a county with a population of less than 25,000.

Table 6: Percent of Citations in Orders Issued in FY 2021

Media	Section of Rule Cited	Percent
Multi-Media	30 TAC §305.125 – Consolidated Permits: Standard Permit Conditions	8%
Air	5C THSC §382.085 - Unauthorized Emissions Prohibited	8%
Water	30 TAC §290.46 – Minimum Acceptable Operating Practices for Public Drinking Water Systems	7%
Water	TWC §26.3475 – Release Detection Requirements; Spill and Overfill Prevention; Corrosion Protection	5%
Air	30 TAC §116.115 – General and Special Conditions of New Source Review Permits	5%
Air	30 TAC §122.143 – General Terms and Conditions of Permits	4%
Water	TWC §26.121 – Unauthorized Discharges Prohibited	4%
Water	30 TAC §290.122 - Public Notification	4%
Water	THSC §341.0315 – Public Drinking Water Supply System Requirements	4%
Waste	30 TAC §334.50 - Release Detection	4%
Water	30 TAC §290.110 – Disinfectant Residuals	3%
Water	30 TAC §290.117 – Regulation of Lead and Copper	2%
Water	30 TAC §290.115 - Stage 2 Disinfection Byproducts (TTHM and HAA5)	2%
Water	30 TAC §290.106 - Inorganic Contaminants	2%
Air	30 TAC §101.20 - General Air Quality Rules	1%
Water	30 TAC §290.42 - Water Treatment	1%
Water	30 TAC §290.45 - Minimum Water System Capacity Requirements	1%
Water	30 TAC §290.111 - Public Drinking Water	1%
Water	30 TAC §290.41 - Water Sources	1%
Additional citations of less than 1% frequency are not included in this table.		

Of the 1,030 civil judgments and administrative orders issued in FY 2021, there were 3,110 violations alleged with 7,584 citations of rules, statutes, permits, or orders. Of all the citations documented, 83% were for violations of rules or statutes, 16% were for violations of permit provisions, and 1% was for violations of orders previously issued. Table 6 lists the highest percentage of rule or statutory citations included in orders issued in FY 2021. Figure 14 depicts the most frequently cited rules or statutes by Media Type.



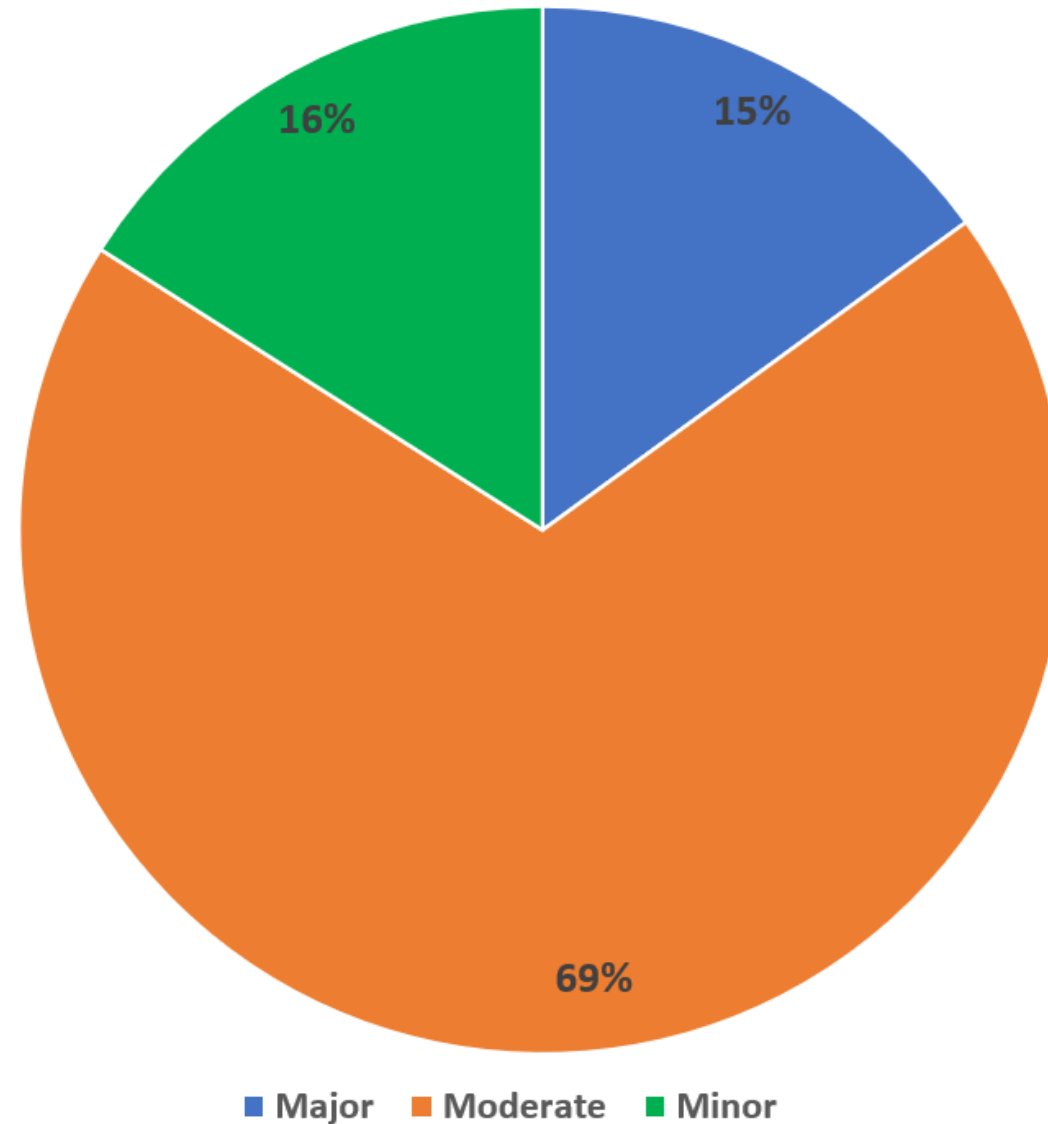
Compliance History Program

HB 2912, 77th Legislative Session, 2001, required the Commission to "develop a uniform standard for evaluating compliance history." This legislation requires the TCEQ to track and consider the compliance history of businesses and industries.

Each regulated entity along with the owner or operator are classified using a three-tiered rating system. "High" performers are those with an above-average compliance record. "Satisfactory" performers have generally complied with environmental regulations, and "Unsatisfactory" performers have a below-average record.

The Compliance History program sets up a point system for various violations, criminal convictions, and federal orders. These points may be offset by mitigating factors, such as implementation of a voluntary pollution-reduction program or voluntary disclosure of violations. The point system is based on several factors, including whether a documented violation of an applicable legal requirement is of major, moderate, or minor significance. The Commission's rationale for categorizing the violations as either major, moderate, or minor, as defined in 30 TAC Section 60.2(d), is based on its experience in evaluating the severity of various violations and their impacts, or potential impacts, to human health and the environment.

Figure 15:
Severity of
Violations
Included in
Orders Issued in
FY 2021



As defined in 30 TAC Section 60.2(d)

ASSESSMENT OF EMISSION EVENTS

The regulatory requirements relating to EEs, excess opacity events, and scheduled MSS (Maintenance, Startup, and Shutdown) activities are contained in 30 TAC Chapter 101 Subchapter F. This rule incorporates the statutory requirements of Texas Health and Safety Code (THSC) Sections 382.0215 and 382.0216. EEs are upset events or unscheduled MSS activities from a common cause that result in unauthorized emissions of air contaminants. Scheduled MSS activities are those activities performed by the regulated entity owner or operator that require prior notice and a final report per TCEQ rules. Excess opacity events occur when an opacity reading is equal to or exceeds 15% above an applicability opacity limit averaged over a 6-minute period.

Total Number of Reported Incidents

The overall number of incidents, including EE (upsets and unscheduled MSS), scheduled MSS, and excess opacity events reported under 30 TAC Chapter 101, Subchapter F decreased by 17% from 4,257 in FY 2020 to 3,538 in FY 2021. There was a 20% increase in the number of reported Excess Emissions Events but was still lower than the 10-year average of 189 events/years, as shown in Figure 16. See Table 7 for the complete set of data by TCEQ regions related to the total number of reported incidents for FY 2021.

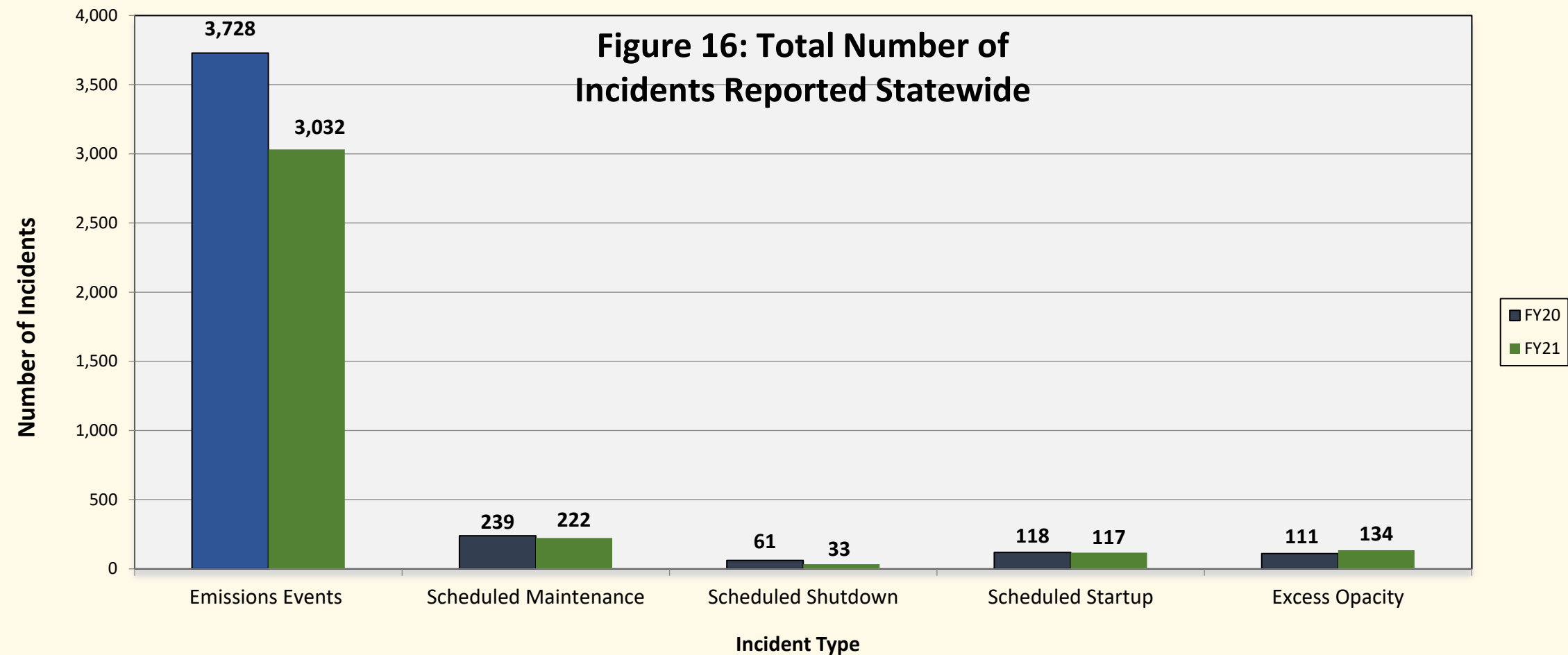


Table 7: Total Number of Incidents Reported Statewide

Region	Emissions Events	Scheduled Maintenance	Scheduled Startup	Scheduled Shutdown	Excess Opacity	Total
Region 01 - Amarillo	91	3	2	1	4	101
Region 02 - Lubbock	208	7	0	0	1	216
Region 03 - Abilene	58	5	0	0	1	64
Region 04 - DFW Metroplex	25	111	0	0	8	144
Region 05 - Tyler	48	7	1	2	47	105
Region 06 - El Paso	13	1	0	0	0	14
Region 07 - Midland	1,752	36	5	24	3	1,820
Region 08 - San Angelo	52	2	0	0	0	54
Region 09 - Waco	15	13	0	1	20	49
Region 10 - Beaumont	132	0	1	13	16	162
Region 11 - Austin	21	0	0	0	2	23
Region 12 - Houston	437	7	5	29	19	497
Region 13 - San Antonio	16	1	0	0	12	29
Region 14 - Corpus Christi	125	25	19	47	1	217
Region 15 - Harlingen	5	0	0	0	0	5
Region 16 - Laredo	34	4	0	0	0	38
Total	3,032	222	33	117	134	3,538

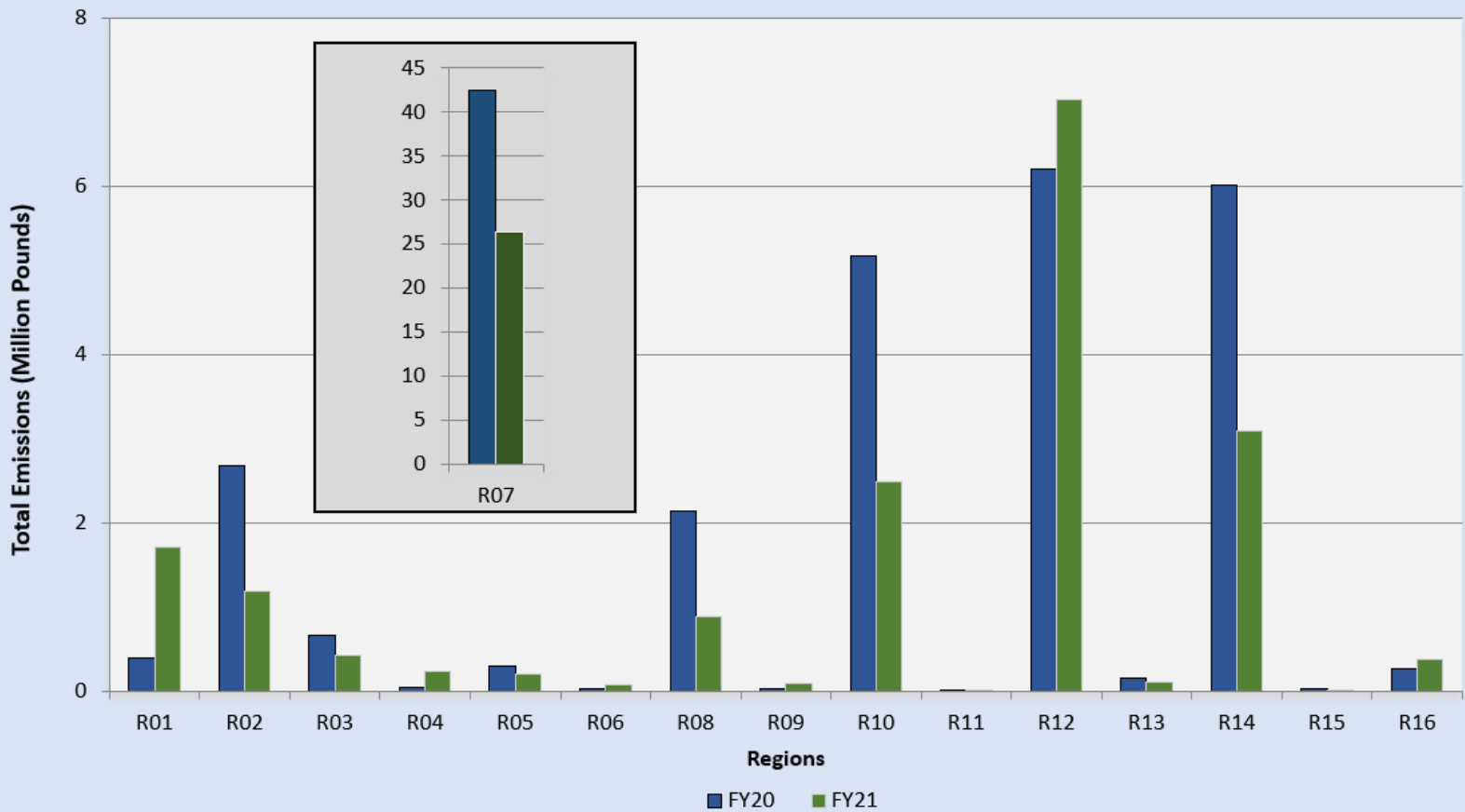
Total Quantity of Emissions

The total quantity of reported emissions from emissions events and scheduled MSS decreased from 66.6 MM lbs in FY 2020 to 44.2MM lbs in FY 2021. In FY 2021, TCEQ had a “Find It and Fix It” initiative for oil and gas operations in the Permian Basin. A total of 23 companies representing 329 facilities participated in the initiative which required identification and correction of issues related to permitting, method of operations, or physical equipment. Additionally, the TCEQ conducted a series of four online workshops for the oil and gas industry covering emissions events, air permitting options for oil and gas, and the Texas Environmental, Health, and Safety Audit Privilege Act with the Permian Basin “Find It and Fix It” initiative, that helped increase compliance rates. Total attendance for all the workshops was 581. Decreases in FY 2021 can also be attributed to the COVID-19 pandemic that resulted in a reduction in oil and gas operations and general downturn in economic activity.

There were some major events which contributed to emissions events in FY 2021, including Winter Storm Uri. This resulted in an overall increase in either the number of emissions events or quantities of emissions in some regions.

See Figure 17 and Table 8 for the complete set of data related to pounds of contaminants emitted from regulated entities in each TCEQ region for FY 2021. It should be noted that final reported quantities of emissions are included in the totals, where available. Initial reported quantities are included where final reports were not available at the time this report was prepared.

Figure 17: Total Quantity of Emissions (in pounds) Reported Statewide



*R07 has been broken out to show more detail for regions with lower emissions

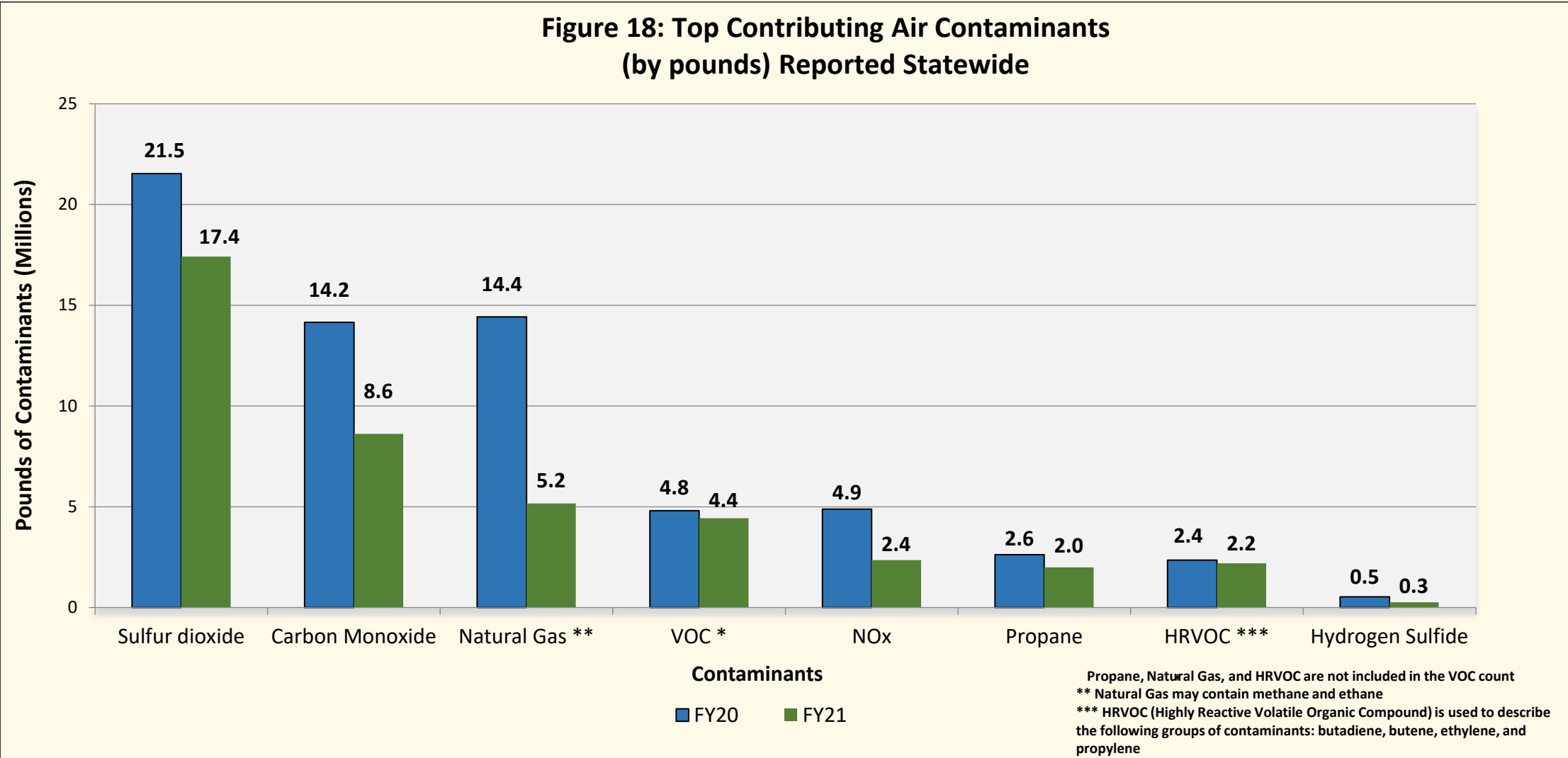
**Table 8: Total Quantity of Emissions Reported Statewide under 30 TAC Chapter 101,
Subchapter F**

Region	Emissions Events	Scheduled Maintenance	Scheduled Startup	Scheduled Shutdown	Total
Region 01 - Amarillo	1,692,835	21,071	0	1,293	1,715,199
Region 02 - Lubbock	1,170,404	10,126	0	0	1,180,530
Region 03 - Abilene	420,287	525	0	0	420,812
Region 04 - DFW Metroplex	234,093	1,569	0	0	235,662
Region 05 - Tyler	172,662	17,386	6,212	0	196,260
Region 06 - El Paso	78,173	443	0	0	78,616
Region 07 - Midland	24,838,083	1,126,082	255,906	97,485	26,317,556
Region 08 - San Angelo	884,509	0	0	0	884,509
Region 09 - Waco	80,189	8,734	10,312	0	99,235
Region 10 - Beaumont	1,787,816	0	694,376	0	2,482,192
Region 11 - Austin	11,040	0	0	0	11,040
Region 12 - Houston	5,977,527	634,172	404,192	17,426	7,033,317
Region 13 - San Antonio	101,125	4,736	0	0	105,861
Region 14 - Corpus Christi	1,563,437	10,903	1,510,758	445	3,085,543
Region 15 - Harlingen	95	0	0	0	95
Region 16 - Laredo	367,735	10,369	0	0	378,104
Total	39,380,010	1,846,116	2,881,756	116,649	44,224,531

Note: The quantities of emissions are rounded to the nearest pound. Opacity events are not included as opacity is reported as a percentage.

Top Contributing Air Contaminants

Figure 18 displays the quantity of emissions by contaminant group. Sulfur dioxide (SO2) had the highest reported quantity of the contaminants reported under 30 TAC Chapter 101, Subchapter F for FY 2021, with 17.4 million pounds, followed by carbon monoxide (CO) at 8.6 million pounds. It should be noted that final reported quantities of emissions are included in the totals, where available. Initial reported quantities are included where final reports were not available at the time this report was prepared.



Note: FY 2020 quantities were revised to reflect final reportable emissions.

Table 9: Total Quantity of Air Contaminants Reported Statewide

Contaminant Reported	Emissions Events	Scheduled Maintenance	Scheduled Startup	Scheduled Shutdown	Total
Sulfur dioxide	16,640,021	511,651	259,751	1,323	17,412,746
Carbon monoxide	6,274,337	448,241	1,851,132	50,527	8,624,237
VOC	4,136,886	172,153	98,739	25,598	4,433,376
Natural Gas	5,086,889	63,745	16,498	593	5,167,725
Nitrogen oxides (NOx)	1,962,268	107,320	264,827	17,738	2,352,153
Propane	1,853,791	23,186	70,540	19,013	1,966,530
Hydrogen sulfide	259,494	5,509	3,047	15	268,065

HRVOCs	Emissions Events	Scheduled Maintenance	Scheduled Startup	Scheduled Shutdown	Total
1,3-Butadienes	16,640,021	511,651	259,751	1,323	69,471
Butene	6,274,337	448,241	1,851,132	50,527	193,856
Ethylene	4,136,886	172,153	98,739	25,598	1,437,569
Propylene	5,086,889	63,745	16,498	593	495,898
HRVOC Total	1,766,598	162,064	266,758	1,374	2,196,794

Note: the quantities of emissions are rounded to the nearest pound

Emissions Event by Industry Classification

Figure 19 displays the total quantity of emissions reported according to the NAICS of the regulated entity. The top source category for reported contaminants statewide in FY 2021 was Crude Petroleum and Natural Gas Liquid Extraction at 12,302,143 pounds, which is 28% of the total air contaminants reported. The second largest quantity of reported contaminants was from Natural Gas Liquid Extraction at 11,467,807 pounds and was approximately 26% of the total air contaminants reported. Petroleum Refineries reported the third highest quantity at 6,364,437 pounds and 14% of the total air contaminants reported. See Table 10 for the incidents reported according to the NAICS of the facility. These ten Industry Classifications reported the most incidents during FY 2021.

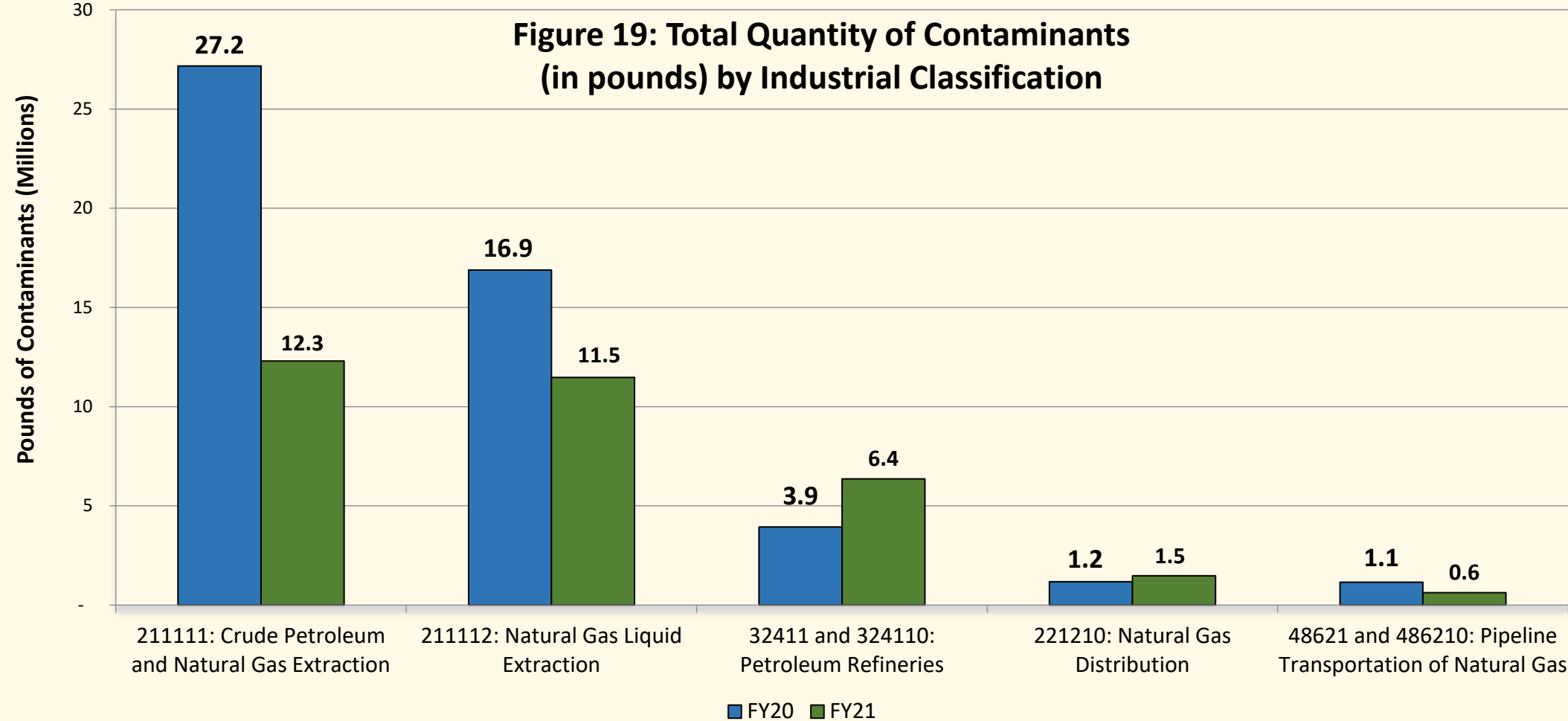


Table 10: Total Number of Incidents by Industrial Classification

Industry Type	Emissions Events	Scheduled Maintenance	Scheduled Startup	Scheduled Shutdown	Excess Opacity	Total
211111: Crude Petroleum and Natural Gas Extraction	1,180	11	14	2	2	1,209
211112: Natural Gas Liquid Extraction	585	19	14	4	0	622
325199: Basic Organic Chemical Manufacturing	193	23	42	19	2	279
32411 and 324110: Petroleum Refineries	204	5	18	4	7	238
324122: Asphalt Shingle and Coatings Manufacturing	1	109	0	0	0	110
211120: Crude Petroleum Extraction	76	0	0	0	0	76
221112: Fossil Fuel Electric Power Generation	16	9	0	0	49	74
221210: Natural Gas Distribution	45	3	21	1	0	70
325211: Plastics Material and Resin Manufacturing	51	1	0	1	6	59
48621 and 486210: Pipeline Transportation of Natural Gas	51	6	0	0	0	57

Table 10 displays the air incidents reported according to the NAICS of the facility. These ten industry classification types reported the most air incidents during FY 2021.

Table 11: Total Quantity of Contaminants by Industrial Classification

Industry Type	Emissions Events	Scheduled Maintenance	Scheduled Shutdown	Scheduled Startup	Total (lbs)
211111: Crude Petroleum and Natural Gas Extraction	11,974,834	42,258	95,265	189,786	12,302,143
211112: Natural Gas Liquid Extraction	11,097,474	342,555	863	26,915	11,467,807
32411 and 324110: Petroleum Refineries	5,110,222	751,843	10,057	492,315	6,364,437
221210: Natural Gas Distribution	220,200	5,233	1,856	1,245,928	1,473,217
48621 and 486210: Pipeline Transportation of Natural Gas	608,310	10,352	-	-	618,662

Table 11 displays the Industrial Classifications that reported the highest quantity of contaminants during FY 2021.

Note: the quantities of emissions are rounded to the nearest pound. Opacity events are not included (opacity is reported as a percentage).

Air Incident Investigations

Emissions event investigations are on-demand activities. Staff review every reported incident; however, investigations are not conducted until after the final report for the emissions event is submitted, which in some instances may occur in the following fiscal year. Some investigations include multiple incidents. Those incidents where emissions exceeded the regulatory reportable quantity are investigated further. Incidents that are determined not to have exceeded a regulatory reportable quantity are closed after review.

The total number of EE investigations increased from 4,622 in FY 2020 to 5,362 in FY 2021. Since most EE investigations are conducted in-house as record reviews or could be conducted virtually, investigations could be conducted even with COVID-19 restrictions. There was also a continued effort to reduce the EE backlog events, primarily in Regions 7 and 12. See Figure 20 and Table 12 below for the complete set of FY 2021 data related to EE investigations.

Figure 20: EE Investigations by Region

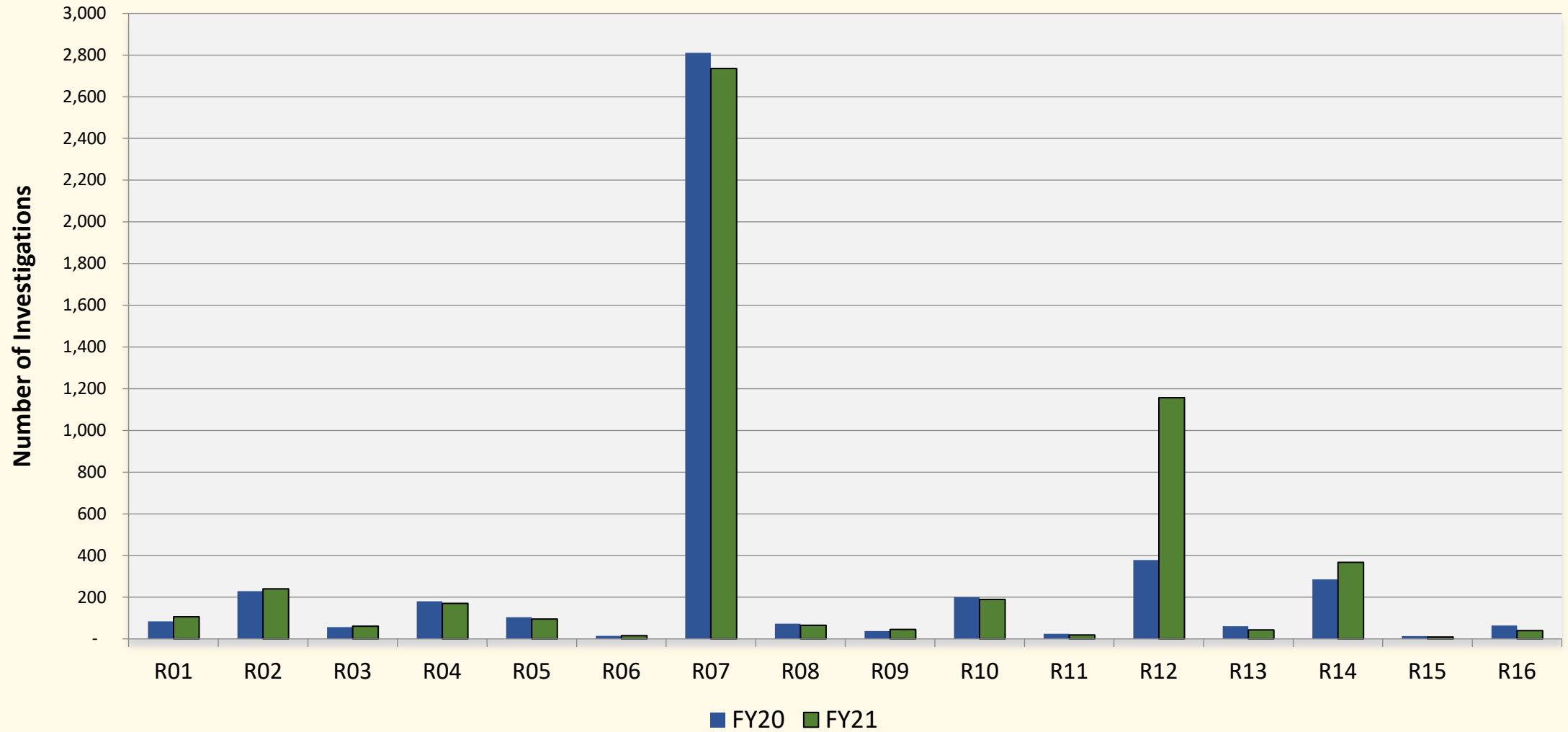


Table 12: EE Investigations by Region

Region	Emissions Events	Scheduled Maintenance	Scheduled Shutdown	Scheduled Startup	Excess Opacity	Total
Region 01 - Amarillo	92	4	4	2	5	107
Region 02 - Lubbock	232	7	0	0	1	240
Region 03 - Abilene	56	4	0	0	1	61
Region 04 - DFW Metroplex	31	132	0	0	8	171
Region 05 - Tyler	58	12	3	5	17	95
Region 06 - El Paso	15	1	0	0	0	16
Region 07 - Midland	2,616	61	13	32	13	2,735
Region 08 - San Angelo	64	2	0	0	0	66
Region 09 - Waco	15	12	0	2	17	46
Region 10 - Beaumont	151	1	6	16	15	189
Region 11 - Austin	17	0	0	0	2	19
Region 12 - Houston	998	31	19	57	52	1,157
Region 13 - San Antonio	28	1	0	0	15	44
Region 14 - Corpus Christi	235	34	23	69	6	367
Region 15 - Harlingen	6	3	0	0	0	9
Region 16 - Laredo	36	4	0	0	0	40
Total	4,650	309	68	183	152	5,362

Of these investigations, the number of NOV's increased from 242 in FY 2020 (305 total violations) to 323 in FY 2021 (456 total violations) and the number of NOEs increased from 229 in FY 2020 (344 total violations) to 553 in FY 2021 (790 total violations). See Figure 21 below for the complete set of data related to investigations without violations, NOV's, and NOEs in response to Scheduled Maintenance, Scheduled Shutdown, Scheduled Startup, EEs, and Excess Opacity for FY 2021.

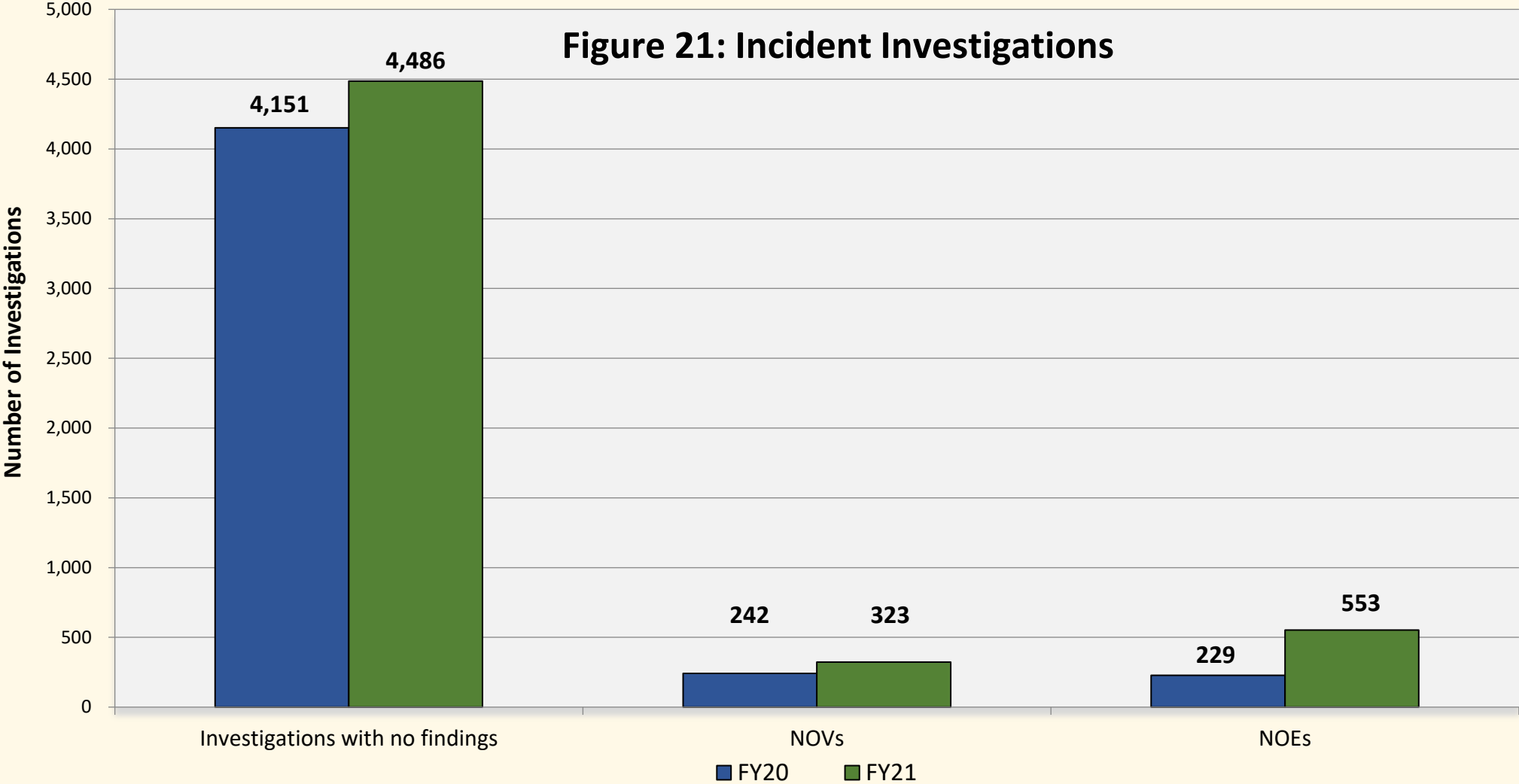


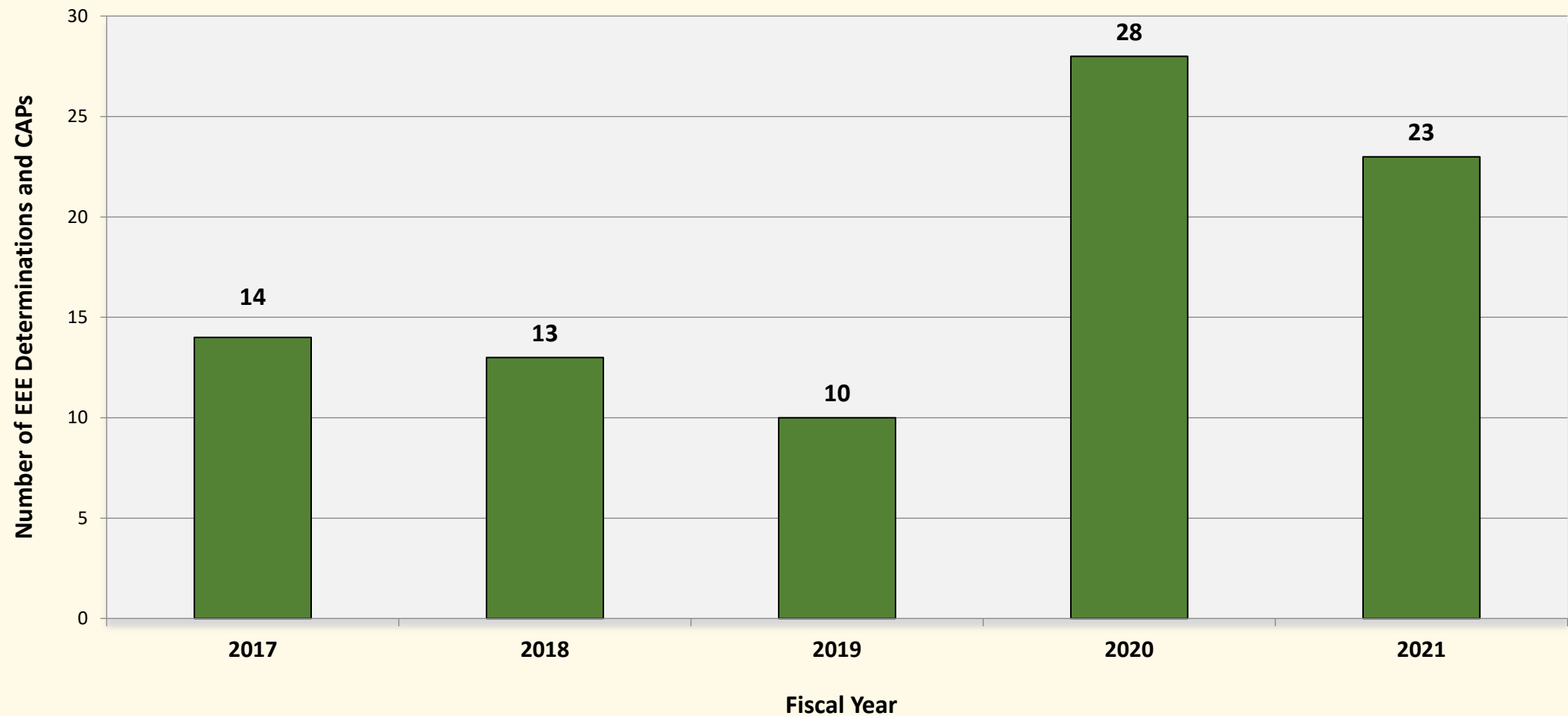
Table 13: EE Investigations by Incident Type

Incident Type	Investigations with no findings	Investigations with NOVs	Investigations with NOEs
Emissions Events	3,812	310	528
Scheduled Maintenance	297	3	9
Excess Opacity	132	10	10
Scheduled Startup	177	0	6
Scheduled Shutdown	68	0	0
Total	4,486	323	553

Excessive Emissions Events

The number of EEE determinations decreased from 28 in FY 2020 to 23 in FY 2021. The total number of EEE determinations continues to be higher than in years prior to FY 2021, reflecting a continued focus on ensuring consistent EEE reviews across all regions.

Figure 22: Excessive Emissions Events (FY17 – FY21)



If an EE is determined to be excessive, the owner or operator must submit a Corrective Action Plans (CAP) within 60-days of receiving notification of the EEE determination. The CAP must identify: (1) the cause or causes of the excessive EE (including all contributing factors that led to the EE); (2) the control devices or other measures that are reasonably designed to prevent or minimize similar EEs in the future; (3) operational changes the owner or operator will take to prevent or minimize similar EEs in the future; and (4) time frames within which the owner or operator will implement the components of the CAP. The number of approved CAPs increased from 15 CAPs in FY 2020 to 19 CAPs in FY 2021 (Table 14). Because owners and operators have 60-days to submit, some of the CAPs received in FY 2021 were related to EEE determinations made in FY 2021.

Table 14: FY 21 EEE Determinations and CAPs

Region	Excessive EE	Approved CAPs
Region 01 - Amarillo	0	0
Region 02 - Lubbock	0	0
Region 03 - Abilene	0	0
Region 04 - DFW Metroplex	0	0
Region 05 - Tyler	2	2
Region 06 - El Paso	0	0
Region 07 - Midland	0	0
Region 08 - San Angelo	0	0
Region 09 - Waco	0	0
Region 10 - Beaumont	2	5
Region 11 - Austin	0	0
Region 12 - Houston	14	11
Region 13 - San Antonio	1	0
Region 14 - Corpus Christi	4	1
Region 15 - Harlingen	0	0
Region 16 - Laredo	0	0
Total	23	19

Aggregate Production Operations

TWC Chapter 28A requires the Commission to conduct an annual survey to identify all active APOs in the state and to ensure each active APO is registered. The Commission is also required to report the results of the survey, the number and general location of the registered APOs, the number of investigators trained in multiple areas related to the investigations, the number of investigations conducted, and the results of the investigations.

Training Program

TWC 28A requires that APO inspections be conducted by investigators trained in all applicable regulatory requirements. The TCEQ has implemented a training curriculum specific to the performance of APO investigations which a total of 124 investigators have completed.

Number and General Location of Registered Facilities

For FY 2021, 1,049 APOs have active registrations with the TCEQ. The number of registered APOs per region is provided in Table 15 below.

Table 15: Registered APOs per Region

Region	Number of Registered APOs
Region 1 - Amarillo	28
Region 2 - Lubbock	19
Region 3 - Abilene	62
Region 4 - Dallas/Fort Worth	135
Region 5 - Tyler	37
Region 6 - El Paso	33
Region 7 - Midland	88
Region 8 - San Angelo	34
Region 9 - Waco	76
Region 10 - Beaumont	61
Region 11 - Austin	97
Region 12 - Houston	167
Region 13 - San Antonio	110
Region 14 - Corpus Christi	65
Region 15 - Harlingen	19
Region 16 - Laredo	18
Total	1,049

Investigations and Results

In FY 2021, agency staff completed a total of 1,221 APO surveys and 370 Comprehensive Compliance Investigations (CCIs). Table 16 shows the breakdown of CCIs by TCEQ Regional Office.

Table 16: APO Comprehensive Compliance Investigations by Region

Region	APO CCIs
Region 1 - Amarillo	8
Region 2 - Lubbock	3
Region 3 - Abilene	24
Region 4 - Dallas/Fort Worth	15
Region 5 - Tyler	31
Region 6 - El Paso	3
Region 7 - Midland	49
Region 8 - San Angelo	18
Region 9 - Waco	46
Region 10 - Beaumont	16
Region 11 - Austin	15
Region 12 - Houston	59
Region 13 - San Antonio	45
Region 14 - Corpus Christi	28
Region 15 - Harlingen	1
Region 16 - Laredo	9
Total	370

In addition, there were 40 complaint investigations, 8 follow-up investigations, and 171 file reviews for a total of 589 APO investigations. These surveys and investigations resulted in issuance of 106 NOV's and 20 NOE's. This includes investigations at APO facilities that resulted in either an NOV or NOE with one or more violations of a rule under TCEQ jurisdiction. However, violations cited may not be directly related to 30 TAC Chapter 342. In addition, 14 administrative orders were issued, including five administrative orders with violations for failure to register or renew an existing registration. There was a total of \$220,339 to be paid as penalties. Table 17 lists surveys, investigations, and enforcement history from previous years.

Table 17: Surveys, Investigations, and Enforcement

FY	Annual Surveys	Investigations	NOV's Issued	NOE's	Administrative Orders Issued
2016	2,861	94	139	54	10
2017	2,341	346	150	22	27
2018	1,264	468	209	19	12
2019	1,443	462	161	35	28
2020	1,288	611	157	24	27
2021	1,221	589	106	20	14

Tier II Chemical Reporting

Texas Tier II Chemical Reporting Program and Local Emergency Planning Committee (LEPC) Grant Program

On September 1, 2015, the Texas Tier II Chemical Reporting Program (Tier II Program) was transferred from the Texas Department of State Health Services to the TCEQ pursuant to House Bill 942, enacted by the 84th Texas Legislature and signed into law by the Governor on June 16, 2015.

The Tier II rules, 30 TAC 325 Hazardous Chemical Right-To-Know, were repealed and new rules were and were effective on November 26, 2020. The purpose of the rulemaking was to repeal and replace existing rules to remove obsolete references, provide consistency with federal rules, provide clarity to definitions, provide consistency with the federal Emergency Planning and Community Right-to-Know Act (EPCRA), add requirements stemming from the new online reporting system, develop clear guidance pertaining to submitting hazardous substances inventories, known as Tier II Reports, and reduce the number of reports that can be consolidated within a submission.

On April 1, 2021, the Tier II Program finished its sixth annual reporting period at the TCEQ with 83,592 chemical inventory reports received from the regulated community and over \$1.7 million in fees collected.

The Tier II Reporting online application was released in 2019 and was used for the third time by the regulated community to submit Tier II Chemical Reports. To further assist the regulated community this year, the Tier II Team implemented multiple improvements in the online reporting system, updated all guidance documents and videos, and conducted webinar trainings including developing a new training refresher course for the regulated community to facilitate reporting. The program continues to have significantly fewer customers needing assistance than previous years. This fiscal year there were approximately 5,100 incoming and outgoing online help forms, calls and emails compared to approximately 6,600 in the 2020 fiscal year and approximately 10,000 in the 2019 fiscal year.

The Tier II Program has reviewed over 45,479 facilities and has initiated compliance actions to correct report deficiencies for 690 reports with 1,542 facilities that either submitted partial or incorrect information. By August 2021, 452 reports had been resubmitted along with 406 reports for the previous year. During FY 2021, the TCEQ conducted 165 on-site Tier II investigations, 16 on-site ammonium nitrate storage facility Tier II investigations, and completed 207 record reviews.

As a part of legislative implementation, the TCEQ also created the Texas LEPC Grant Program to assist LEPCs in fulfilling their responsibilities under the Emergency Planning and Community Right-to-Know Act. The grant program awarded \$4.13 million to 56 Texas LEPCs during its first round in FY 2017 and awarded \$128,768 to 27 Texas LEPCs in its second round in FY 2019. The next grant round will be opened when funds are available in FY 2021 or later.

Results of Enforcement Actions

Since FY 1998, the TCEQ has compiled statistical information to capture the result and environmental benefits of concluded enforcement actions initiated by the TCEQ and from cases referred to the OAG. Once administrative or civil judicial orders are finalized, the Enforcement Division staff review each case and document if the enforcement action involved an impact or potential impact on Human Health Protection, Worker Protection, and Ecosystem Protection. These impacts can include compliance actions that result in evacuations or shelters in place to address risks posed to human health, trainings or updates to operating procedures that reduce and/or eliminate the risk posed to workers, and compliance actions that prevent releases to the environment.

Following EPA's Guide to Calculating Environmental Benefits from EPA Enforcement Cases: 2014 Update and EPA's Case Conclusion Data Sheet Training Booklet: November 2000, staff classify the compliance actions of each enforcement case as actions that result in the reduction or elimination of pollutants, actions that result in preventing future releases of pollutants, and actions that result in work practices that generate an environmental benefit but cannot always be quantified. For compliance actions that result in the reduction or elimination of pollutants, staff document the total quantity and type of pollutants that are reduced or expected to be reduced or eliminated because of the enforcement order. In addition, any Pollution Prevention ("P2") Project completed by the violators that is above and beyond the regulatory requirements is also documented by staff and, if these P2 Projects are part of a Supplemental Environmental Project. Staff also document the estimated cost of compliance for the violators.

It is important to note that an enforcement case can have more than one compliance action and the statistical data represented is not a one-to-one ratio but a compilation of all of the compliance actions for each enforcement case, therefore the total number of compliance actions do not equal the number of administrative orders and civil judgments.

In FY 2021, the statistical data below in Figure 23 indicates that 74% of the enforcement orders involve an impact to Health and Human Protection, 58% of the enforcement orders involve an impact to Ecosystem Protection, and 42% of the enforcement orders involve an impact to Worker Protection. Of these, there were actual impacts documented in 60 enforcement orders for Human Health Protection, 22 for Worker Protection, and 207 for Ecosystem Protection. There were also potential impacts documented in 703 enforcement orders for Human Health Protection, 410 for Worker Protection, and 394 for Ecosystem Protection. The statistical data also indicates that violators spent more than \$84 million to correct violations and in taking steps necessary to protect the environment.

Figure 23: Pollution Reduction - Impact Analysis of Administrative Orders and Civil Judgments in FY 2021

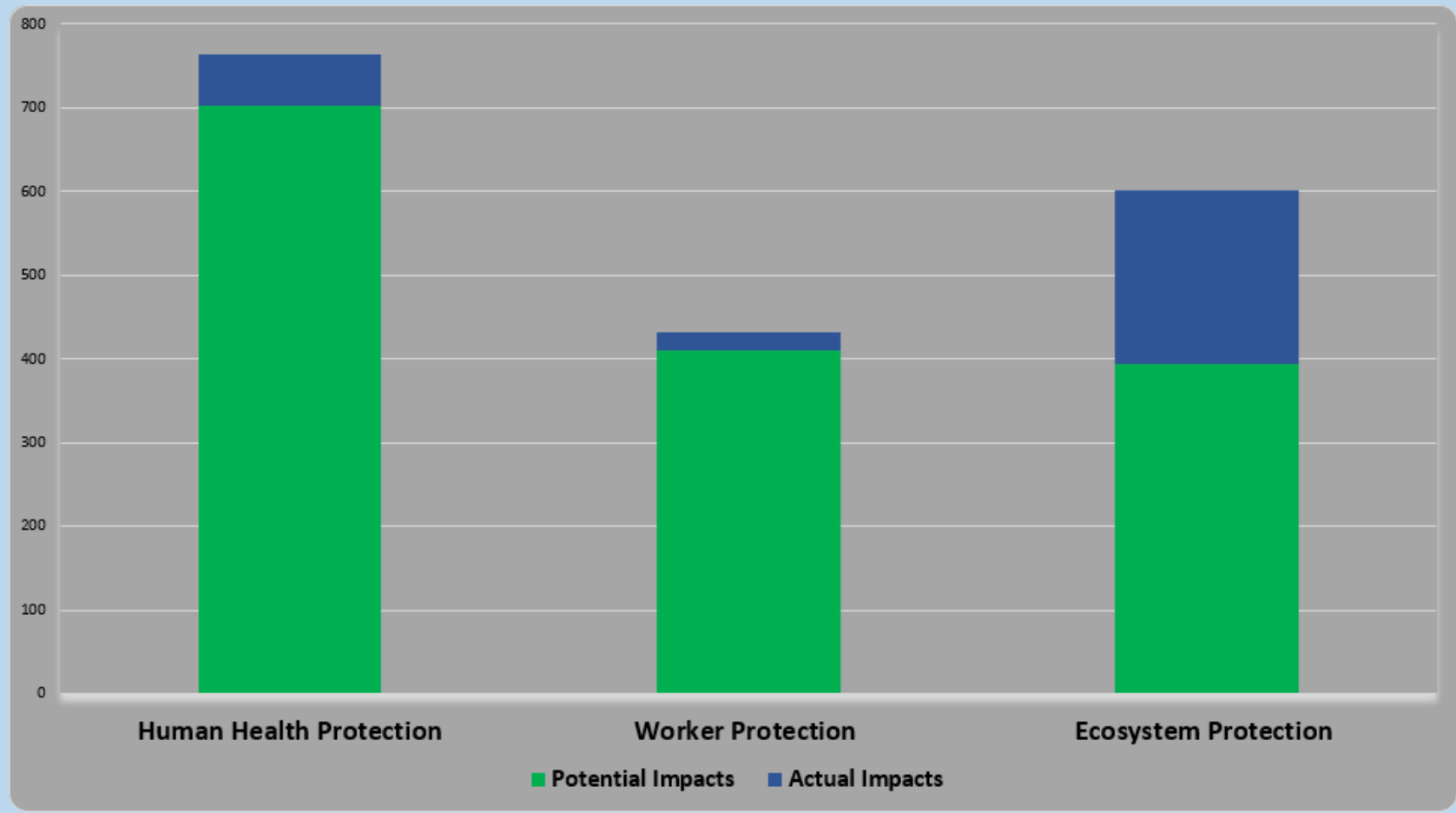


Figure 24 depicts the number of enforcement orders with compliance actions that resulted in pollution reduction: emissions or discharge change; storage or disposal change; removal; remediation; industrial process change; and use reductions.

Figure 24: Pollution Reduction - Impact Analysis of Administrative Orders and Civil Judgments in FY 2021

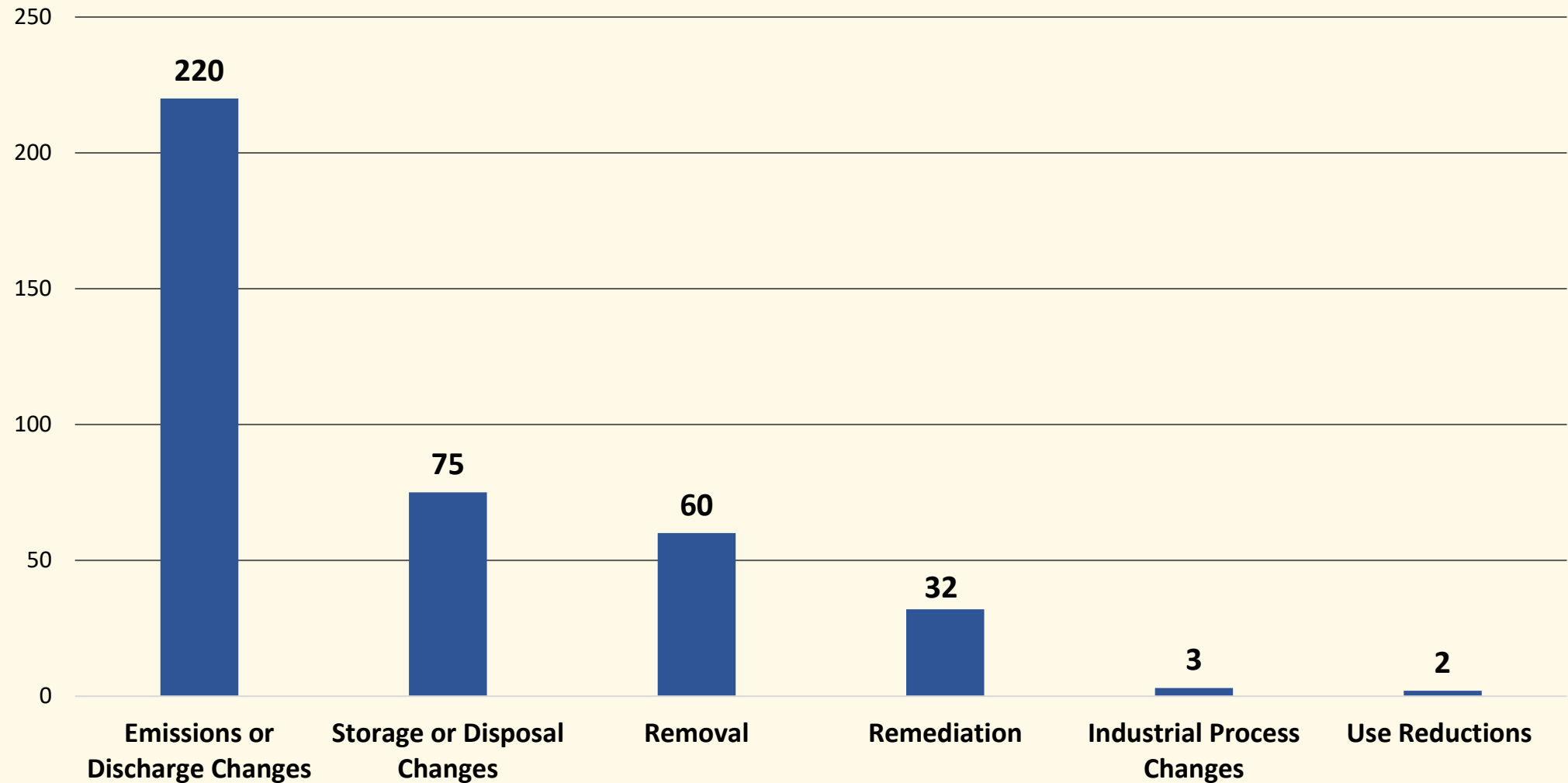


Figure 25 depicts the number of enforcement orders with compliance actions that resulted in pollution prevention: permit application; labeling and/or manifesting; and public health care.

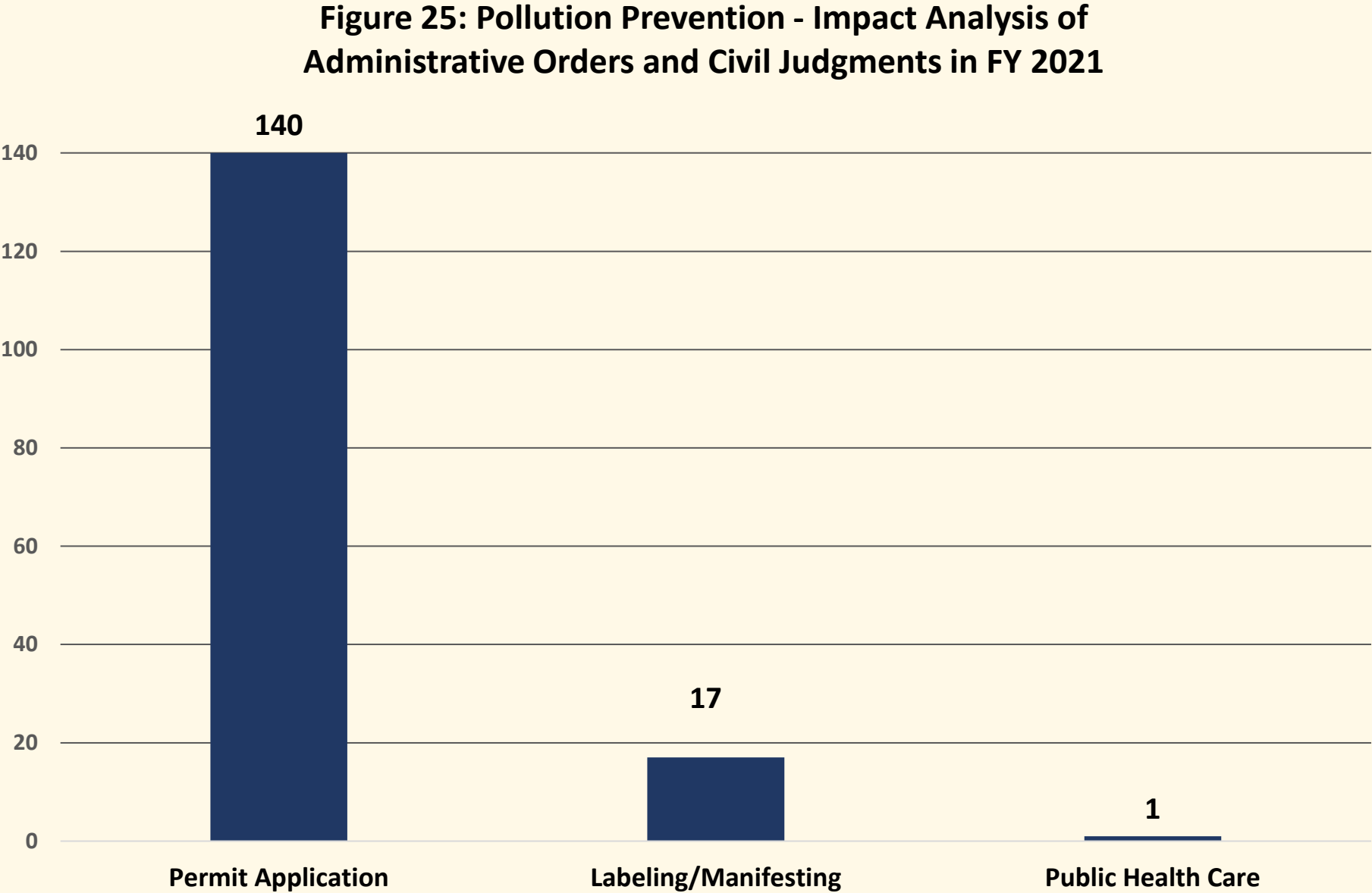


Figure 26 depicted the number of enforcement orders with compliance actions related to work practices: recordkeeping; monitoring and/or sampling; reporting; testing; training; site assessment; restoration; increased public awareness; emergency planning and preparation; environmental compliance promotion; and auditing.

Figure 26: Work Practices - Impact Analysis of Administrative Orders and Civil Judgments in FY 2021

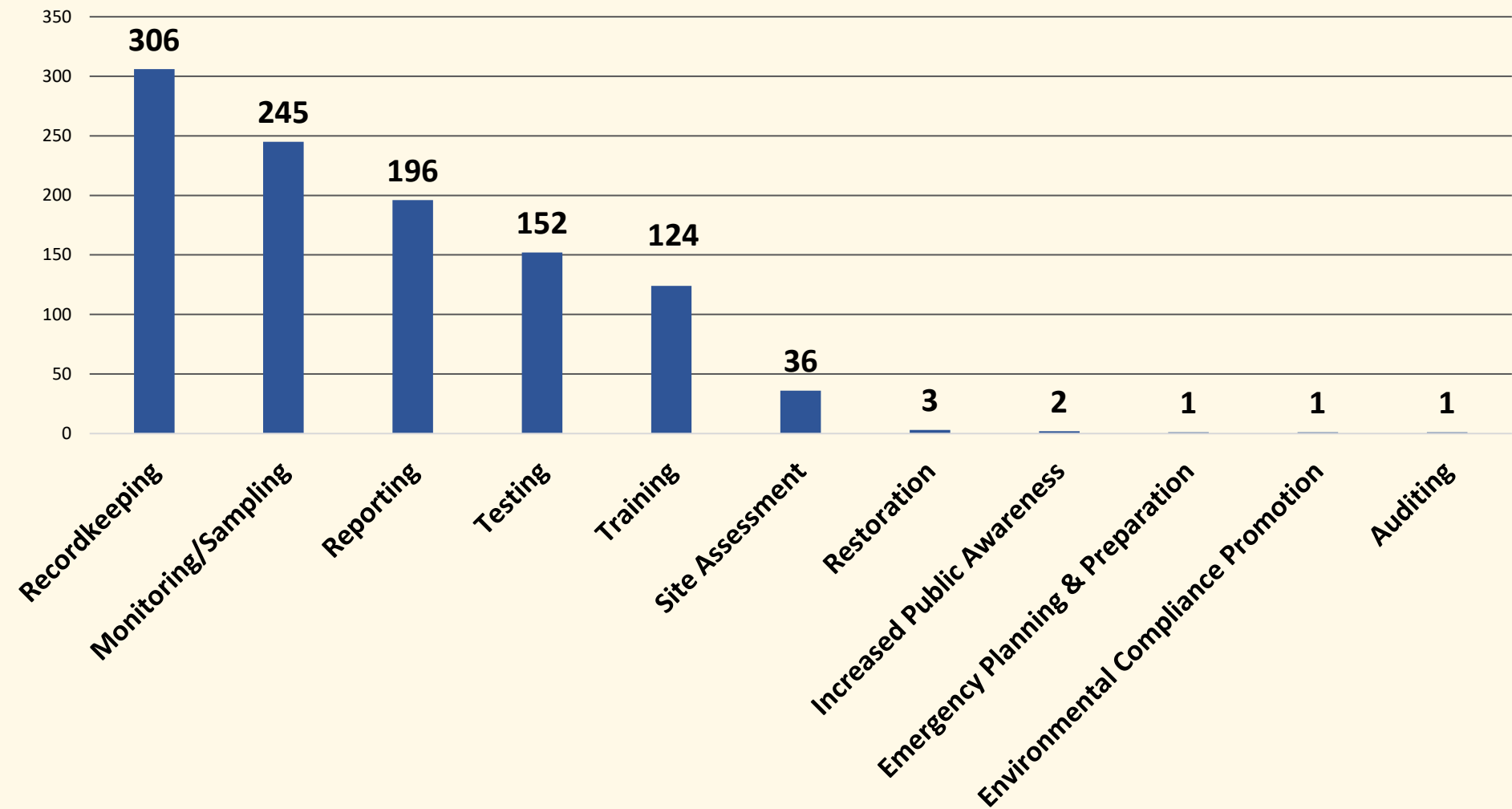


Table 18 depicts the number of enforcement orders that resulted in P2 activities that are above and beyond the regulatory requirements and the number of P2 Projects that are part of a SEP.

Table 18: Pollution Prevention Projects - Impact Analysis of Administrative Orders and Civil Judgments in FY 2021

Projects	Percent of Orders
Pollution Prevention Included in SEP	6
Pollution Prevention Equipment/Technology Modification	3
Pollution Prevention Process/Procedure Modification	3
Pollution Prevention In-Process Recycling	1
Pollution Prevention Product Reformulation/Redesign	1

Table 19 depicts an estimation of the largest amount of pollutant reductions through enforcement actions finalized in FY 2021. Overall, it is estimated that TCEQ final enforcement actions resulted in, or will result in, over 400 million pounds of pollutants eliminated or reduced, or the routes of exposure reduced, in the environment.

Note: Estimations were based upon best educated predictions or knowledge of the technical staff. In those cases where cleanups were not completed yet, estimates of the amount of contaminants to be removed were used. In those cases where emissions or discharges were reduced or eliminated by the enforcement action, the estimation was based upon an assumption that the violations would have continued at least for one year if the TCEQ had not acted.

*Entire pollutant total is attributed to only one or two orders.

Table 19: Top 25 Estimated Pollutant Reductions from Orders Issued

Pollutant Name	Amount Reduced (lbs)	Medium
*Sandblasting Waste	113,687,997	Land
*Asphalt Shingles	107,572,000	Land
Municipal Solid Waste	83,725,890	Air, Land
Tires (Scrap)	35,047,927	Air, Land
Mulch	15,710,800	Land
Wastewater Discharge, Industrial and Municipal	14,239,059	Land, Water
Soil and Dirt	10,001,396	Land, Water
Wood Waste & Tree Trimmings	4,635,487	Land
*Chlorinated Water	3,000,000	Water
Sulfur Dioxide	1,999,990	Air
Sewage	1,650,814	Water
Methyl Acetate	1,582,835	Air
Volatile Organic Compounds	1,358,849	Air
Industrial Waste	1,168,809	Land
Sludge	1,147,810	Land, Water
Wastewater Sludge	1,133,546	Land
Carbon Monoxide	1,097,330	Air
Ammonia	294,120	Air
Total Suspended Solids	259,473	Water
Wastewater Treatment Sludge	200,042	Water
Particulate Matter (unspeciated)	186,527	Air
Natural Gas	157,237	Air
Nitrogen Oxides (NOx)	139,668	Air, Water
Used Oil	105,461	Land
Agricultural Waste	61,700	Land, Water

ADDITIONAL INFORMATION

Supporting Data Tables:

[Total Investigations](#)

[On-Site Investigations](#)

[Complaint Investigations](#)

[Notices of Violation Issued \(Mailed\) Central Office](#)

[Notices of Violation Issued \(Mailed\) Regional](#)

[Summary of Administrative Orders Issued](#)

[Summary of Civil Judicial Orders Issued](#)

Texas Open Data Portal

[Administrative Orders Issued](#)

[Civil Judicial Orders Issued](#)

[Supplemental Environmental Projects](#)

[Glossary of Abbreviations](#)