



November 2022

# PIPELINE SAFETY

## Fully Implementing Key Practices Could Help Improve Transparency of Enforcement Website

# GAO Highlights

Highlights of [GAO-23-105537](#), a report to congressional committees

## Why GAO Did This Study

Accidents on interstate natural gas and hazardous liquid pipelines can release large amounts of these products, potentially injuring or killing people and damaging the environment. In 2007, PHMSA launched the Enforcement Transparency website to address concerns about the transparency of its pipeline safety enforcement actions.

The Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020 includes a provision for GAO to review information on pipeline enforcement actions that PHMSA makes publicly available on the internet. This report addresses (1) PHMSA's process to record pipeline safety enforcement information, and what information PHMSA makes publicly available, and (2) the extent to which its pipeline enforcement website aligns with key practices for transparently reporting data.

GAO reviewed relevant statutes, regulations, and agency guidance on recording and publishing pipeline safety enforcement information. GAO compared PHMSA's Enforcement Transparency website with leading practices for transparently reporting government data that GAO previously identified, and interviewed PHMSA officials and stakeholders.

## What GAO Recommends

GAO makes three recommendations to improve the transparency and usability of PHMSA's Enforcement Transparency website, specifically to provide complete data in more useful formats, to improve matching with other PHMSA datasets, and to optimize the website's search function. DOT concurred with GAO's recommendations.

View [GAO-23-105537](#). For more information, contact Elizabeth Repko at (202) 512-2384 or [repkoe@gao.gov](mailto:repkoe@gao.gov).

November 2022

## PIPELINE SAFETY

### Fully Implementing Key Practices Could Help Improve Transparency of Enforcement Website

## What GAO Found

Pipeline and Hazardous Materials Safety Administration (PHMSA) officials inspect pipelines and investigate accidents. These officials can issue a range of enforcement actions if they identify unsafe conditions or non-compliance with laws or regulations. PHMSA records enforcement information in an electronic records system, and uploads documents and related data to its public Enforcement Transparency website. GAO found that this website fully met two of five key practices that GAO identified for transparently reporting open government data and partially met another three. (See figure.) Open data can foster accountability and public trust by providing citizens with information on government activities and their outcomes. PHMSA officials stated that they would like to improve the website for users, but are first focusing on improving the electronic records system. Nevertheless, fully implementing these key practices could assist PHMSA with transparently presenting enforcement information and help users find the information they need.

#### Key Practices for Transparently Reporting Open Government Data and the Pipeline and Hazardous Materials Safety Administration's (PHMSA) Enforcement Transparency Website

Key practices	Website characteristics
 <p>Engage with users</p>	<p><b>Met.</b> PHMSA officials discuss the use of the website with users, including pipeline operators and the public, and provide a link on the website for users to submit feedback or questions.</p>
 <p>Fully describe the data</p>	<p><b>Met.</b> PHMSA's website provides labels and descriptions of the enforcement data and tables. Metadata and licensing information for these data are available on a central Department of Transportation website.</p>
 <p>Provide free and unrestricted data</p>	<p><b>Partially met.</b> PHMSA's website and the data it contains are available to the public at no cost. However, PHMSA does not publish complete data on its website. For example, PHMSA's enforcement documents include variables that indicate whether the pipeline involved is interstate or intrastate, but PHMSA does not make these variables available in the enforcement dataset.</p>
 <p>Provide data in useful formats</p>	<p><b>Partially met.</b> PHMSA allows users to view and download disaggregated data on all enforcement activities. However, users are unable to download a bulk dataset of all enforcement activities from 2002 to 2022. Additionally, users cannot easily match records from the enforcement website with records in PHMSA's accident dataset.</p>
 <p>Facilitate data discovery for users</p>	<p><b>Partially met.</b> PHMSA facilitates data discovery by providing users with overviews and definitions of the enforcement information published on the website, and provides national summaries of the data. However, PHMSA does not provide an optimized search tool that allows users to filter by discreet variables, such as the regulation violated.</p>

Source: GAO analysis of PHMSA website and key practices. | [GAO-23-105537](#)

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**Abbreviations**

DOT	Department of Transportation
LNG	liquefied natural gas
PHMSA	Pipeline and Hazardous Materials Safety Administration
PIPES Act of 2020	Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020

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November 14, 2022

The Honorable Maria Cantwell  
Chair  
The Honorable Roger F. Wicker  
Ranking Member  
Committee on Commerce, Science, and Transportation  
United States Senate

The Honorable Frank Pallone, Jr.  
Chair  
The Honorable Cathy McMorris Rodgers  
Republican Leader  
Committee on Energy and Commerce  
House of Representatives

The Honorable Peter A. DeFazio  
Chair  
The Honorable Sam Graves  
Ranking Member  
Committee on Transportation and Infrastructure  
House of Representatives

About 360,000 miles of interstate pipelines transport natural gas, oil, and other products across the United States. Although pipelines are relatively safe when compared to transportation alternatives, such as truck and rail, pipeline accidents can release large amounts of these products that can injure or kill people and damage the environment. Within the U.S. Department of Transportation, the Pipeline and Hazardous Materials Safety Administration (PHMSA) oversees safety for pipelines carrying gas and hazardous liquids.<sup>1</sup> PHMSA's oversight includes setting and enforcing the federal minimum pipeline safety standards for the design, construction, operation, and maintenance of these pipelines.

PHMSA officials inspect pipelines, investigate accidents, and can issue a range of enforcement actions, such as Warning Letters and Notices of Probable Violations, if the officials identify unsafe conditions or non-compliance with pipeline safety laws or regulations. PHMSA uploads information on these actions to its Enforcement Transparency website—

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<sup>1</sup>PHMSA's general authority is under the Pipeline Safety Laws codified at 49 U.S.C. § 60101 et seq., and its regulations are located in 49 C.F.R. Parts 190-199.

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including documents related to enforcement cases and data on the number of cases opened and closed each year. Pipeline safety groups, industry groups, pipeline operators, and members of the public may use this information to monitor PHMSA's enforcement efforts or to identify trends in pipeline safety issues.

The Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020 (PIPES Act of 2020) includes a provision for GAO to review information on pipeline enforcement actions that PHMSA makes publicly available on the internet.<sup>2</sup> This report addresses:

- PHMSA's process to record pipeline safety enforcement information and the information PHMSA makes publicly available, and
- the extent to which PHMSA's pipeline enforcement website aligns with key practices for transparently reporting data.

To describe PHMSA's process to record pipeline safety enforcement information, we reviewed relevant statutes, regulations, and agency guidance. We also reviewed PHMSA's user guides and other documents that describe its electronic records management system, called the Work Management System. Additionally, we interviewed PHMSA officials about their processes to collect and record enforcement information. To describe the enforcement information PHMSA makes publicly available, we reviewed PHMSA's guidance that details which documents it posts on its website and the steps it takes to ensure those documents are posted correctly. We compared this guidance with the statutory requirements for which documents it must make public. We also reviewed PHMSA's website to identify examples of types of documents it makes public. We did not verify that PHMSA has posted every document it is legally required to post for each enforcement case on its website. Rather, we reviewed the website to identify at least one example of all of the document types PHMSA posts according to its guidance.

To determine the extent to which PHMSA's Enforcement Transparency website follows key practices for transparently reporting data, we reviewed this website and the data available on the website, and interviewed agency officials. We compared PHMSA's website to our previous work that identified key practices and actions for transparently reporting data on government websites. Key practices include, for

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<sup>2</sup>Pub. L. No. 116-260, div. R, § 108(a), 134 Stat. 1182, 2221 (2020) (codified at 49 U.S.C. § 60117(b)).

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example, providing data in useful formats and engaging with users.<sup>3</sup> Specifically, an analyst reviewed the website, data, and interviews and assessed whether PHMSA had implemented the key actions associated with each key practice. We documented this analysis, and another analyst reviewed and confirmed the results. Based on whether PHMSA's website addressed key actions, we scored each key action as Fully Met, Partially Met, or Not Met. We also interviewed pipeline stakeholders about their use of PHMSA's pipeline enforcement data and the website, and any related challenges.<sup>4</sup> We selected stakeholders to interview who captured a range of perspectives, including those from industry, safety and environmental organizations, and state governments. Stakeholder views cannot be generalized to represent the views of all stakeholders, but they provide valuable perspectives on PHMSA's Enforcement Transparency website.

Additionally, we analyzed PHMSA data to describe the number and type of enforcement cases that PHMSA initiated from 2010 to 2020. See appendix 1 for information on the steps we took to determine that the data were reliable for our purposes and on the methodology and results of this analysis.

We conducted this performance audit from November 2021 to November 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

PHMSA is responsible for setting and enforcing the federal minimum safety standards for gas and hazardous liquid pipelines, including

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<sup>3</sup>GAO, *Open Data: Treasury Could Better Align USAspending.gov with Key Practices and Search Requirements*. [GAO-19-72](#) (Washington, D.C.: Dec. 13, 2018). We developed these key practices by systematically evaluating and synthesizing information from literature on open data, as well as interviews with open data experts and good governance groups.

<sup>4</sup>We conducted interviews with nine stakeholder groups, including two federal agencies, one state association, three industry associations, one pipeline safety association, and two pipeline safety researchers.

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standards for pipeline design, construction, operation, and maintenance.<sup>5</sup> As part of this responsibility, PHMSA officials from offices in five regions and three districts periodically inspect interstate and some intrastate pipelines to oversee pipeline operators' compliance with federal requirements. PHMSA can issue enforcement actions when an inspector identifies probable violations of pipeline safety laws or regulations, or of a PHMSA order issued under those laws and regulations.<sup>6</sup> PHMSA may also issue enforcement actions in the course of investigating an identified safety issue or a pipeline accident.<sup>7</sup> According to PHMSA officials, the Agency's Office of Pipeline Safety has 170 authorized inspector positions whose responsibilities include inspecting 559 companies that operate about 377,000 miles of pipelines.

PHMSA has broad discretion in deciding what enforcement action, if any, to take against a particular pipeline operator to promote safety and ensure compliance with federal safety requirements.

- *Warning Letters* notify operators when PHMSA inspections or other oversight activities reveal less serious violations or program deficiencies.<sup>8</sup> Warning Letters direct the operator to correct the issues or be subject to potential future enforcement actions.
- *Notices of Amendment* allege inadequacies in the operator's plans and procedures to ensure safe operation of the pipeline, propose

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<sup>5</sup>These standards apply to both interstate and intrastate pipelines. Interstate pipelines typically transport gas or hazardous liquid across state borders, while intrastate pipelines typically transport these products within a single state. States may assume regulatory, inspection, and enforcement responsibilities for intrastate pipelines, provided that they certify to PHMSA that they have adopted and are enforcing the federal minimum safety standards. These states may also adopt additional or more stringent requirements, so long as they are compatible with federal requirements. States with certifications may also enter into agreements with PHMSA to participate in inspections of interstate pipelines as interstate "agents" of PHMSA. Interstate agents can identify and must report to PHMSA any violations or probable violations of the Pipeline Safety Laws or Regulations during inspections of interstate pipelines, but PHMSA retains enforcement authority over these pipelines.

<sup>6</sup>Regulations governing PHMSA's enforcement of these laws, regulations, and orders are located in 49 C.F.R. Part 190.

<sup>7</sup>PHMSA officials also set and enforce the federal minimum safety standards for and inspect liquefied natural gas and underground natural gas storage facilities. However, this report is focused on PHMSA's pipeline enforcement actions.

<sup>8</sup>See 49 C.F.R. § 190.205.

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revisions to the plans or procedures, and instruct the operator as to how to respond to the allegations.<sup>9</sup>

- *Notices of Probable Violation* allege the existence of one or more probable violations of pipeline safety laws, regulations, or related orders.<sup>10</sup> These notices are accompanied by either a proposed compliance order identifying the remedial actions PHMSA proposes the operator to take or proposed civil monetary penalties, or both.<sup>11</sup> Notices of probable violation are the only type of enforcement action that may include proposed civil monetary penalties. If PHMSA finds that an operator committed a violation, then it issues a Final Order, which includes the compliance order requiring the operator to take remedial action or the assessment of civil monetary penalties, or both, as applicable.<sup>12</sup>

Concerns about the transparency of PHMSA's enforcement actions against pipeline operators—including that the lack of transparency resulted in an incomplete accounting of the fines and penalties proposed and collected—led to the inclusion of a provision in the Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006 (PIPES Act of 2006) to promote enforcement transparency.<sup>13</sup> Among other things, this provision required PHMSA to electronically post a monthly updated summary to the public of all of its open enforcement actions and include in each summary certain information such as the operator, alleged violation, and monetary penalties proposed and assessed.<sup>14</sup> In response to this requirement, PHMSA created its Enforcement Transparency

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<sup>9</sup>See 49 C.F.R. § 190.206.

<sup>10</sup>See 49 C.F.R. § 190.207.

<sup>11</sup>These enforcement actions must contain the options available to the operator for responding to the notice. The options include but are not limited to submitting written responses contesting the allegations, requesting mitigation or elimination of the proposed civil penalty, objecting to the compliance order, and requesting a hearing. Failure to respond constitutes a waiver of a right to contest the allegations.

<sup>12</sup>49 C.F.R. § 190.213.

<sup>13</sup>Pub. L. No. 109-468, 120 Stat. 3486 (2006); H.R. Rep. 109-717, Part 2, at 8 (Dec. 5, 2006) (report of the House Committee on Energy and Commerce accompanying the PIPES Act of 2006).

<sup>14</sup>PIPES Act of 2006 § 6(a) (codified at 49 U.S.C. § 60135). According to the House Committee on Energy and Commerce, one purpose of this requirement was to provide timely and accurate information on pipeline safety enforcement cases to all interested parties. H.R. Rep. 109-717, Part 2, at 8.

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website, which it launched in May 2007. The website provides public access to information on and documents from individual cases and various reports and data describing enforcement trends. The PIPES Act of 2020 later required PHMSA to make certain documents from each of its enforcement cases publicly available on its website, such as the operator's written responses to the allegations in the enforcement action.<sup>15</sup> According to PHMSA officials, the agency had been making these documents available on its website prior to the enactment of the PIPES Act of 2020.

Our prior work has identified key practices that can improve the transparency of such government websites and make data more accessible to users. Specifically, we have previously identified five key practices for transparently reporting open government data.<sup>16</sup> These key practices and associated key actions can assist managers of open government data programs, such as PHMSA, in the transparent presentation of their data and can help users find the information they need. See table 1 for the full list of key practices and associated actions.

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<sup>15</sup>PIPES Act of 2020 § 108(a) (codified at 49 U.S.C. § 60117(b)).

<sup>16</sup>[GAO-19-72](#). Open government data are information that can be freely used or modified or shared by anyone for any purpose.

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**Table 1: Key Practices and Associated Key Actions for Transparently Reporting Open Government Data**

<b>Key practice</b>	<b>Key actions</b>
Engage with users	Identify data users and their needs
	Solicit and be responsive to user feedback
	Reach out to potential users to encourage data use
Fully describe the data	Disclose known data quality issues and limitations
	Disclose data sources and timeliness
	Clearly label the data and provide accompanying metadata
	Publish data under an open license and communicate licensing information to users
Provide free and unrestricted data	Do not charge users for access to the data
	Make government data open by default, while protecting sensitive or restricted information
Provide data in useful formats	Provide users with detailed and disaggregated data
	Provide data downloads in a non-proprietary format
	Provide machine-readable data that can be downloaded in bulk and in selected subsets
	Make the data interoperable with other datasets
Facilitate data discovery for all users	Provide an interface that enables intuitive navigation and ensure that the most important information is visible
	Provide users with appropriate interpretations of the data, such as visualizations or summaries
	Ensure that the website's content is written in plain language
	Use central data repositories and catalogues to help users easily find the data they are looking for
	Provide a search function that is optimized for easy and efficient use

Source: GAO. | GAO-23-105537

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**PHMSA Has a  
Standardized Process  
to Record  
Enforcement  
Information and  
Makes  
Correspondence  
Publicly Available**

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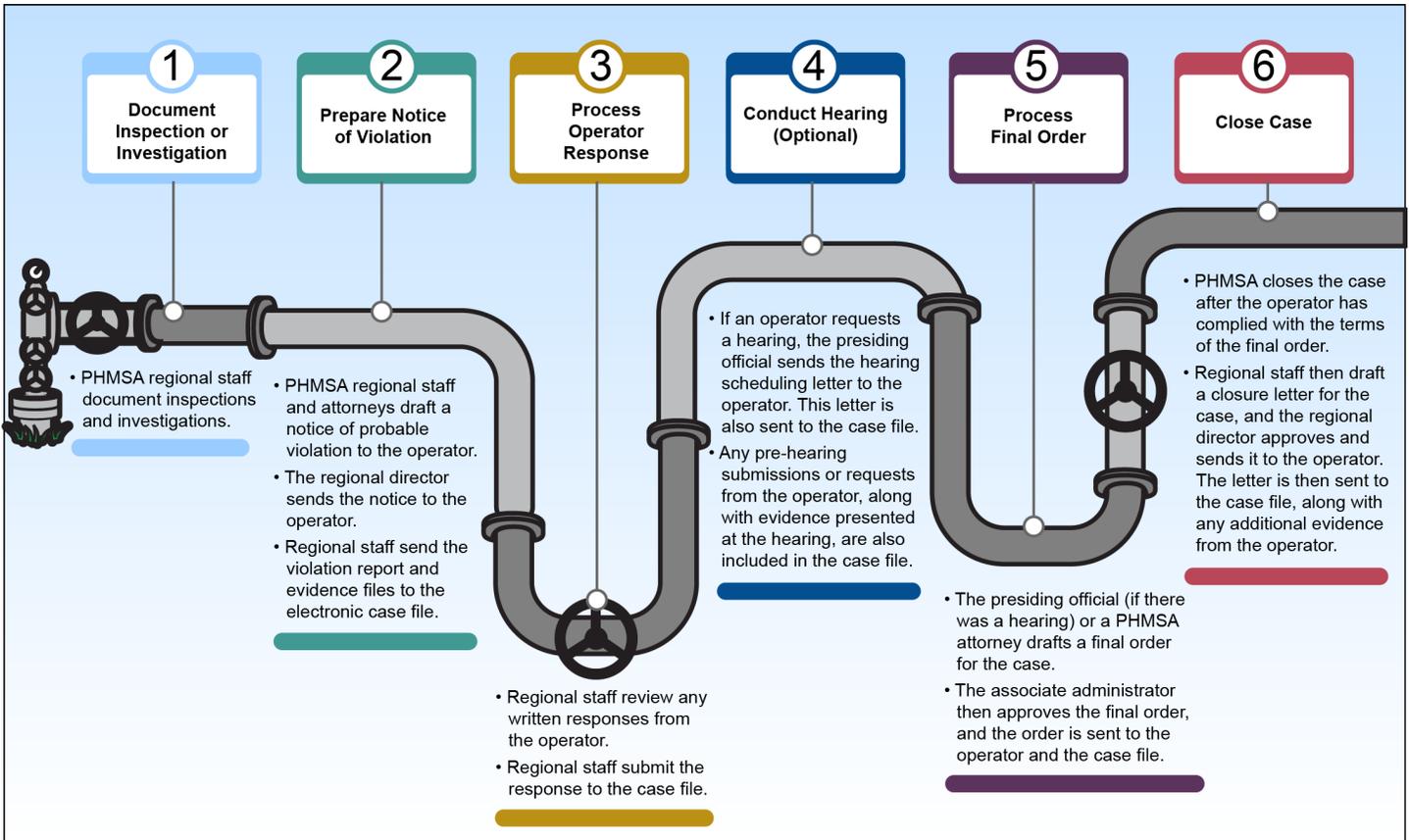
**PHMSA Records Pipeline  
Enforcement Information  
Using a Standardized  
Process**

PHMSA's regional and headquarters staff have a standardized process to record and maintain enforcement information in an electronic case file for pipeline safety enforcement cases. Specifically, throughout an enforcement case, PHMSA regional staff conduct inspections and investigations, collect evidence, and correspond with pipeline operators. To record the information they collect, regional staff upload documents and other information to an electronic case file. Within headquarters, PHMSA's Enforcement Division is responsible for maintaining this information in the case file and validating and correcting, if needed, the enforcement information. According to officials from this division, they also provide support to PHMSA regional staff as they enter information into the system. PHMSA attorneys in headquarters also draft some enforcement documents for the case file. See figure 1 for an example of PHMSA's process to record enforcement information for a case involving a notice of probable violation.<sup>17</sup>

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<sup>17</sup>Other types of enforcement actions have different steps in PHMSA's standardized process. For example, PHMSA does not conduct hearings or issue Final Orders for pipeline enforcement cases that include only Warning Letters. See 49 C.F.R. § 190.205.

**Figure 1: The Pipeline and Hazardous Materials Safety Administration’s (PHMSA) Process to Record Enforcement Information for a Case Involving a Notice of Probable Violation**



Source: GAO analysis of PHMSA guidance. | GAO-23-105537

Note: Other types of enforcement actions require different steps in PHMSA’s standardized process.

PHMSA’s regulations specify what documents officials should include in the case file, which varies based on the type of enforcement action.<sup>18</sup> Generally, the case file should include correspondence between PHMSA regional officials, PHMSA’s Office of Chief Counsel, and operators. The file also is to include other documents such as violation reports, including evidence such as maps or drawings, and additional documents needed for evidence. According to PHMSA guidance, draft documents and documents not needed to adequately document the case are not to be included in the case file. PHMSA officials reported that this includes items such as inspection checklists, inspector notes, and draft documents.

<sup>18</sup>See 49 C.F.R. § 190.209.

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Since 2020, PHMSA has recorded and maintained these case files through a centralized electronic system called the Work Management System. The Work Management System allows PHMSA regional officials to upload enforcement documents directly to the system. Under PHMSA's previous system, regional officials would email documents to a coordinator in headquarters, who would then upload them. PHMSA headquarters officials said they are continuing to improve the new Work Management System to address technical issues and increase the ease of use for regional staff. For example, officials reported that they are working with the developer to fix bugs that can result in missing data. PHMSA officials said they have a development plan to fix these issues and are taking several steps to ensure data accuracy and reliability as they work to resolve technical issues in the system. For example, PHMSA holds daily quality control meetings to review the previous day's data entries and runs monthly quality control scripts to detect data errors.

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### PHMSA Makes Correspondence and Other Information Publicly Available on Its Website

PHMSA is required by statute to make certain types of enforcement documents and information from the electronic case file available to the public. PHMSA does so by uploading such documents to its Enforcement Transparency website.<sup>19</sup> Generally, these documents include correspondence between PHMSA and the operator, such as notice letters and the operator's written response, if any. PHMSA also is required to upload other correspondence that describes the outcome of the enforcement case (e.g., Final Order, which includes details such as PHMSA's final decision on whether there was a violation and the assessed civil penalty amount or compliance order, or both, as applicable.) According to its guidance, PHMSA also uploads documents beyond what is required, specifically case closure letters and post-hearing submissions from operators to the website. Finally, PHMSA officials reported that in addition to these case documents, they also upload referrals to the Department of Justice and court enforcement actions along with documents explaining the circumstances related to unpaid penalty cases, such as bankruptcy.

PHMSA generally does not make the evidence in the case file public on its Enforcement Transparency website and is not statutorily required to do

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<sup>19</sup>GAO reviewed PHMSA's guidance to determine which documents the agency is to post to the Enforcement Transparency website. We confirmed that PHMSA posted at least one of each of the types of documents—including those it is statutorily required to make public—and reviewed PHMSA guidance describing the steps it takes to ensure it posts the required documents. We did not verify that PHMSA has posted every document it is legally required to post for each enforcement case on its Enforcement Transparency website.

so. This evidence includes items such as the violation report, along with maps or drawings. PHMSA officials reported that these documents can contain proprietary or security-restricted information and that consulting with operators to redact each document would be resource intensive and slow the enforcement process. Officials noted, however, that members of the public could request these documents through a Freedom of Information Act request; in which case, PHMSA would review and redact the documents as needed.<sup>20</sup> See table 2 for a list of enforcement documents that could be contained in the electronic case file, and which of those documents PHMSA is required to make public on its enforcement website.

**Table 2: List of Documents from Enforcement Case Files That the Pipeline and Hazardous Materials Safety Administration (PHMSA) Is Legally Required to Make Public and Makes Available on Its Website**

Type of enforcement documents included in case file	Legally required to make public <sup>a</sup>	Available on PHMSA's website <sup>b</sup>
Correspondence from PHMSA		
Notice Letter	Yes	Yes
Warning Letter	Yes	Yes
Letter of Concern	No	No
Request for Specific Information letter	No	No
Withdrawal of Notice Letter or Warning Letter	Yes	Yes
Withdrawal of Letter of Concern	No	No
Response to operator's request for hearing	No	No
Response to operator's request for time extension	No	No
Region recommendation (for final action based on operator's written responses)	No	No
Final Order (and amendments)	Yes	Yes
Corrective Action Order (and amendments) <sup>c</sup>	Yes	Yes
Decision on Corrective Action Order	Yes	Yes
Order Directing Amendment of Operating Plans and Procedures (and amendments)	Yes	Yes
Decision on Petition for Reconsideration	Yes	Yes
Safety Order (and amendments)	Yes	Yes
Consent Agreement and Order	Yes	Yes
Closure Letter	No	Yes
Hearing Scheduling Letter	Yes	Yes

<sup>20</sup>Under the Freedom of Information Act (FOIA), codified as amended at 5 U.S.C. § 552, federal agencies are generally required to disclose any information requested under FOIA, unless it falls under one of nine exemptions.

Correspondence from Operator		
Response to Notice Letter	Yes	Yes
Response to a Warning Letter or Letter of Concern	No	No
Response to Request for Specific Information letter	No	No
Operator's amended operating plans and procedures	No	No
Request for time extension	No	No
Request for hearing	Yes	Yes
Post-hearing submissions	No	Yes
Response to an Order Directing Amendment	No	No
Response to a Final Order	No	No
Response to a Corrective Action Order	No	No
Response to a Safety Order	No	No
Petition for Reconsideration	Yes	Yes
Other Documents		
Violation Report (including evidence such as maps, drawings, respondent record forms, etc.)	No	No
Additional documents needed to document the case or evidence	No	No

Source: GAO analysis of PHMSA guidance. | GAO-23-105537

<sup>a</sup>These legal requirements only apply to PHMSA. See Protecting Our Infrastructure of Pipelines and Enhancing Safety Act of 2020, Pub. L. 116-260, div. R, § 108(a), 134 Stat. 1182, 2221 (2020) (codified at 49 U.S.C. § 60117(b)); Pipeline Inspection, Protection, Enforcement and Safety Act of 2006, Pub. L. No. 109-468, § 6(a), 120 Stat. 3486, 3491 (2006) (codified at 49 U.S.C. § 60135). We did not include other legal requirements to make certain agency records and information publicly available that apply more broadly to all federal agencies. See, e.g., Freedom of Information Act, 5 U.S.C. § 552.

<sup>b</sup>These are the documents that PHMSA is to upload to its website per PHMSA guidance. This guidance also outlines its quality assurance process to ensure the documents are posted as required. GAO confirmed that PHMSA posted at least one of each of these types of documents, including those that it is statutorily required to make public. We did not verify whether PHMSA has posted every document that it is legally required to post for each enforcement case on its Enforcement Transparency website.

<sup>c</sup>Decisions on Corrective Action Orders are only issued in response to an operator contesting an order and affirms the need for the order, with or without amendments, or withdraws the order. See 49 C.F.R. § 190.233(c)(5).

In addition to these documents from the case file, PHMSA makes enforcement information available online in other forms. For example, PHMSA creates a summary page for each case, which displays selected information contained in the enforcement documents posted on the website. This summary page includes details such as the operator; date the case was opened, case status (open or closed); and the proposed, assessed and collected civil penalties (if any.) Additionally, PHMSA has an electronic reading room, which provides links to Final Orders and other enforcement documents, along with frequently requested enforcement

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## PHMSA's Pipeline Enforcement Website Does Not Fully Align with Key Practices for Transparently Reporting Data

records.<sup>21</sup> PHMSA also posts information that describes its enforcement processes on its website. For example, PHMSA posts a "Civil Penalty Summary" that describes factors PHMSA considers when setting a proposed civil penalty, and guidance documents that describe PHMSA's enforcement process.

In a 2018 report, we identified five key practices for transparently reporting on open government data, including 18 specific actions agencies should take to align with these practices.<sup>22</sup> Open data can foster accountability and public trust by providing citizens with information on government activities and their outcomes.

Our analysis of PHMSA's Enforcement Transparency website found it met 14 of the 18 specific actions, resulting in the website fully aligning with two, and partially aligning with three, of the five key practices for transparently reporting on open government data. Specifically, we found that PHMSA fully engages with users and fully describes its data, but does not fully (1) provide free and unrestricted data, (2) provide data in useful formats, or (3) facilitate data discovery for all users. Figure 2 provides our assessment of the alignment of PHMSA's Enforcement Transparency website with each key practice and related actions.

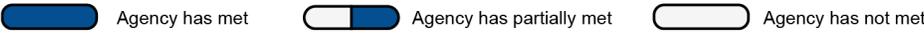
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<sup>21</sup>PHMSA created this electronic reading room in order to comply with FOIA requirements.

<sup>22</sup>[GAO-19-72](#).

**Figure 2: Alignment of the Pipeline and Hazardous Materials Safety Administration’s (PHMSA) Enforcement Transparency Website with Key Practices and Actions for Transparently Reporting on Open Government Data**

Key practices	Key actions	
<b>Engage with users</b> 	Identify data users and their needs .....	
	Solicit and be responsive to user feedback .....	
	Reach out to potential users to encourage data use .....	
<b>Fully describe the data</b> 	Disclose known data quality issues and limitations .....	
	Disclose data sources and timeliness .....	
	Clearly label the data and provide accompanying metadata .....	
	Publish data under an open license and communicate licensing information to users .....	
<b>Provide free and unrestricted data</b> 	Do not charge users for access to the data .....	
	Make government data open by default, while protecting sensitive or restricted information .....	
<b>Provide data in useful formats</b> 	Provide users with detailed and disaggregated data .....	
	Provide data downloads in a non-proprietary format .....	
	Provide machine-readable data that can be downloaded in bulk and in selected subsets .....	
	Make the data interoperable with other datasets .....	
<b>Facilitate data discovery for all users</b> 	Provide an interface that enables intuitive navigation and ensure that the most important information is visible .....	
	Provide users with appropriate interpretations of the data, such as visualizations or summaries .....	
	Ensure that the website’s content is written in plain language .....	
	Use central data repositories and catalogues to help users easily find the data they are looking for .....	
	Provide a search function that is optimized for easy and efficient use .....	



Source: GAO analysis of PHMSA’s Enforcement Transparency website and key practices. | GAO-23-105537

**Key Practice 1: PHMSA Engages with Users to Identify Needs and Solicit Feedback.**

Following the key practice of engaging with users to identify their needs and solicit feedback helps to ensure that their needs are met. We found PHMSA met all three actions associated with this key practice.

- **Action: identify data users and their needs.** PHMSA officials stated that users of the Enforcement Transparency website include operators, state partners, members of Congress and their staff, the public, emergency responders, local officials, and other PHMSA staff. According to these officials, PHMSA discusses the use of the website with these stakeholders and receives feedback

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to identify users' needs through meetings, conferences, and other communications. PHMSA officials also reported that they track the number of hits they receive on the Enforcement Transparency website. By identifying who is using the data and what content or features are important to them, data providers can better prioritize their efforts to present information to data consumers.

- **Action: solicit and be responsive to user feedback.** PHMSA provides a hyperlink on the Enforcement Transparency website that redirects users to a general contact page where they can submit feedback or questions about the website. PHMSA officials stated that they consider the feedback in considering changes to improve the website; for example, staff began posting hearing schedules in 2019 because of inquiries received through the website. Officials also explained that they receive feedback during conferences with stakeholders. Soliciting and being responsive to user feedback can help ensure that the website meets users' needs.
- **Action: reach out to potential users to encourage data use.** PHMSA officials stated that they reach out to potential users of the Enforcement Transparency website through conversations with stakeholders and in meetings with members of Congress. For example, PHMSA officials reported that they presented an overview of the Enforcement Transparency website at various industry conferences in the past. Actively engaging potential users can provide an opportunity to educate them on how the data can be appropriately used and encourage innovation.

#### Key Practice 2: PHMSA Provides Information on its Enforcement Data

The key practice of providing information about a dataset allows users to determine whether it is suitable for their intended purpose, and make informed decisions about whether and how to use it. We found that PHMSA met all four key actions associated with this key practice.

- **Action: disclose known data quality issues and limitations.** PHMSA officials described the data entry procedures and quality control processes they use to ensure the information collected by inspectors is accurate and complete. Further, officials stated that they continue to review the Work Management System processes to identify any potential data quality issues. In the meantime, they have implemented additional data procedures and quality control measures and checks to ensure potential issues would not affect the enforcement data. As a result, PHMSA officials reported that

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there are no known data quality issues or limitations to disclose on the Enforcement Transparency website.<sup>23</sup>

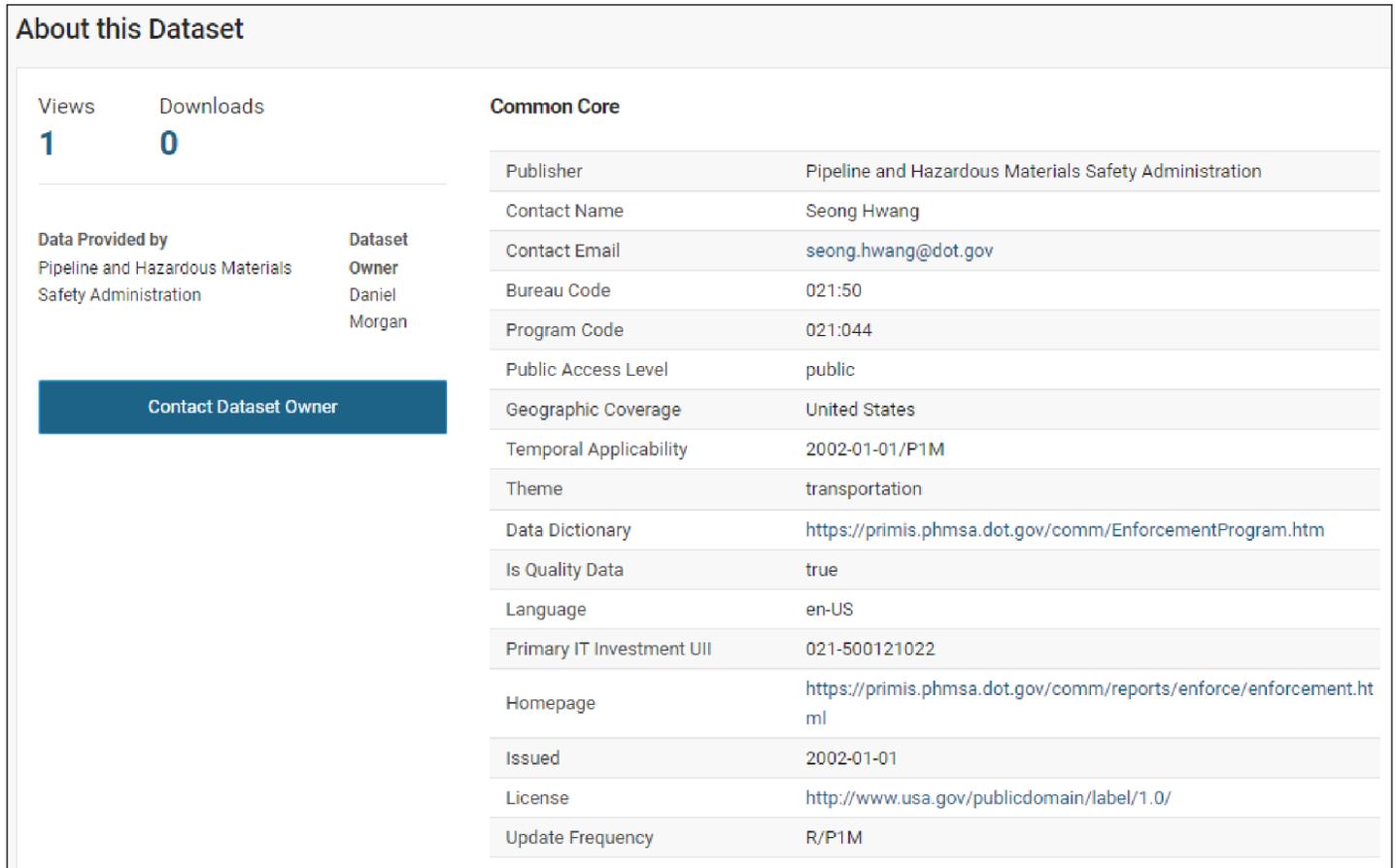
- **Action: disclose data sources and timeliness.** PHMSA's Enforcement Transparency Website includes a source line that states that the data published are from its Safety Monitoring and Reporting Tool and the Work Management System, and that they are updated monthly as additional cases are initiated and other cases are resolved.<sup>24</sup> PHMSA officials told us that this generally occurs in the first two weeks of each month. Disclosing where the data come from and how frequently they are updated provides context that helps users judge their quality and determine whether they can be appropriately used for the intended purpose.
- **Action: clearly label the data and provide accompanying metadata.** PHMSA labels all of the data in tables and summaries on the Enforcement Transparency Website and provides descriptions of each of these. Additionally, the Department of Transportation (DOT) publishes a data inventory website that includes metadata for PHMSA's Enforcement Transparency website. (See fig. 3.) Metadata are structured information that describe, explain, locate, or otherwise make it easier to retrieve, use, or manage datasets. Metadata can include attributes such as the date the data were created or modified, the license used, or the name and contact information for the owner of the dataset. Clearly labeling data allows users to easily find information about a dataset, and making metadata machine readable greatly increases their utility.
- **Action: publish data under an open license and communicate licensing information to users.** PHMSA publishes data to the Enforcement Transparency website under an open license, which means that there are few to no restrictions on how the data can be used. The data inventory website published by DOT provides information on the license that applies to PHMSA's enforcement data. Documenting licensing information for a dataset provides users with information about how they may use the data, including whether there are any restrictions, such as copyrights.

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<sup>23</sup>Additionally, we reviewed PHMSA's data validation processes and guidance and also found them to be sufficiently reliable.

<sup>24</sup>Prior to the implementation of the Work Management System, PHMSA used the Safety Monitoring and Reporting Tool to maintain records of each enforcement action's case file.

**Figure 3: Metadata for the Pipeline and Hazardous Materials Safety Administration’s (PHMSA) Enforcement Transparency Website Provided on the Department of Transportation’s (DOT) Open Data Catalog**



Source: DOT's Open Data Catalog. | GAO-23-105537

**Key Practice 3: PHMSA Provides Enforcement Data for Free but Does Not Publish All Data Collected.**

Under this key practice, open data should be freely and equally available to users without restrictions. We found that PHMSA met the first action associated with this key practice but did not meet the second.

- Action: do not charge users for access to the data.** PHMSA’s Enforcement Transparency Website and the data it contains on enforcement activities are available to view or download by the public at no cost. Additionally, users of the website are not required to register for an account to view or download the data and case information. Providing data for free can help ensure equitable access to users regardless of their ability to pay.

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- **Action: make government data open by default while protecting sensitive or restricted information.** PHMSA collects and records data on over 200 variables that describe each enforcement case. However, the data are not open by default as not all variables are published in the dataset on the Enforcement Transparency website. For example, PHMSA collects and records variables that indicate whether the case involves intrastate or interstate pipelines and onshore or offshore pipelines, as well as variables that describe the proposed violations and relevant regulations. These variables are not all sensitive or restricted (the information can be found in the documents published within each case file). However, PHMSA does not include them in the enforcement dataset.

Key practices suggest that making government data open by default can minimize the burden on agencies of responding to information requests. Additionally, providing complete, open data ensures the data are equally open to all types of users. In contrast, when government information is available by request, it may favor citizens with greater information about and access to government institutions. For example, one stakeholder noted that to use the enforcement data for analyses, a team member must go in to each case file to find the regulation that was violated and other important data fields, which requires them to read many documents included in each case. However, members of the public may not have the ability or knowledge of how to access this information. The stakeholder also noted that additional variables could be useful, such as the regulation that was violated and the incident that occurred, which would allow users to retrieve the information they need from a complete dataset without locating and reviewing the documents for each case.

Key Practice 4: PHMSA's Enforcement Data Are Detailed and in Standardized Formats but Lack Full Usability.

This key practice notes that data are most useful when they are provided in formats that allow a variety of analyses. We found that PHMSA met two of the four actions associated with this key practice.

- **Action: provide users with detailed and disaggregated data.** PHMSA allows users to view and download disaggregated enforcement data on all enforcement activities. Disaggregated data are those that are provided in as much granularity as possible. PHMSA's enforcement data give users information at an individual case level, with variables for the case number assigned

by PHMSA; the pipeline operator’s name; the PHMSA region overseeing the case; the case status (open or closed); and relevant dates. Additionally, Notice of Probable Violation data detail the amount of civil penalties proposed. Users can view and download these case-level data one year at a time. See figure 4 for an example of disaggregated data at the enforcement case level displayed on the Enforcement Transparency website. Key practices suggest that data are most useful when they are provided in a disaggregated format so users can analyze the data in a variety of ways.

**Figure 4: Selected Enforcement Cases Initiated by the Pipeline and Hazardous Materials Safety Administration (PHMSA)**

## Listing of Cases Initiated

**Nationwide**

This report lists all of the enforcement cases initiated by PHMSA in a given year, beginning in 2002. The yearly tables include the date the case was opened, the name of the operator involved, the PHMSA Region initiating the enforcement action(s), the corresponding date on which the case was closed (if applicable), the current status of the case, and PHMSA's unique case number. Separate reports provide a listing of cases based on the type of enforcement action involved.

2022 YTD | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008

**Cases Initiated: 2020 <sup>(1)</sup>**

Date Opened	Operator	Region	Date Closed	Status	Case Number
01/02/20	NATURAL GAS PIPELINE CO OF AMERICA (KMI)	Eastern	02/07/20	CLOSED	120201006M
01/02/20	COLUMBIA GAS TRANSMISSION, LLC	Eastern	07/16/20	CLOSED	120201005M
01/02/20	TEXAS EASTERN TRANSMISSION, LP (SPECTRA ENERGY PARTNERS, LP)	Eastern	01/02/20	CLOSED	120201001W
01/02/20	ANR PIPELINE CO	Eastern	01/02/20	CLOSED	120201004W
01/02/20	COLUMBIA GAS TRANSMISSION, LLC	Eastern	01/02/20	CLOSED	120201003W
01/02/20	DTE GAS COMPANY	Eastern	01/02/20	CLOSED	120201002W
01/08/20	VALERO PARTNERS OPERATING CO. LLC	Southwest	10/01/20	CLOSED	420205001
01/08/20	CHENIERE CORPUS CHRISTI PIPELINE	Southwest	02/10/20	CLOSED	420201003M
01/09/20	WILLIAMS OIL GATHERING, LLC	Southwest	01/09/20	CLOSED	420207001W
01/13/20	CHEVRON PIPE LINE CO	Southwest	01/13/20	CLOSED	420205003W
01/13/20	WILLIAMS OIL GATHERING, LLC	Southwest	02/24/20	CLOSED	420205002M
01/13/20	NATURAL GAS PIPELINE CO OF AMERICA (KMI)	Eastern	01/13/20	CLOSED	120201007W
01/14/20	CHEVRON PIPE LINE CO	Southwest	03/05/20	CLOSED	420205004M
01/21/20	BUCKEYE PARTNERS, LP	Eastern	04/10/20	CLOSED	120206001
01/22/20	ENABLE GAS TRANSMISSION, LLC	Southwest	02/01/21	CLOSED	420201004
01/23/20	GULFSTREAM MANAGEMENT & OPERATING SERVICES, LLC	Southern	04/09/20	CLOSED	220201001
01/27/20	FREEMPORT LNG DEVELOPMENT, L.P.	Southwest	04/15/20	CLOSED	420201001M
01/27/20	DTE GAS COMPANY	Central	08/04/20	CLOSED	320201002M

Source: PHMSA's Enforcement Transparency website. | GAO-23-105537

- **Action: provide data downloads in a non-proprietary format.** PHMSA provides data on the Enforcement Transparency website in a non-proprietary format that does not require a specific commercial software to access. By selecting “export table” at the bottom of each table, users are able to download the data and

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open the file using any software available to them. To ensure broad and equitable access, data downloads should be available in formats that do not exclude users that do not have access to specific commercial software.

We found that PHMSA did not meet two of the actions associated with this key practice.

- **Action: provide machine-readable data that can be downloaded in bulk and in selected subsets.** Users of PHMSA's Enforcement Transparency website cannot download a bulk dataset for all cases opened by PHMSA from 2002 (the first year of data available on the website) through the current year. Additionally, users are unable to obtain a subset of the data by filtering out cases with certain criteria or in a certain time frame. Instead, the data are available for download as summaries (e.g., total number of enforcement cases initiated each year) or disaggregated at the case level for a single year or single enforcement type. As a result, we were unable to download a bulk dataset of enforcement cases from 2010 to 2020 to perform our own analyses of the enforcement data. (See app. 1.) When asked if there were a way to make a bulk dataset available for download, which would also allow users to access subsets of the data, PHMSA officials stated that this was feasible. However, as of September 2022, a bulk dataset is not available for download on PHMSA's Enforcement Transparency website. Making data available to download in bulk allows users who need the full dataset or selected subsets to access that information easily, rather than retrieving it record by record. For example, PHMSA could make a bulk dataset available in a file format such as a comma-separated values file that can be opened using common office software or through an application-programming interface.
- **Action: make the data interoperable with other datasets.** Users cannot easily match records on PHMSA's Enforcement Transparency website with other relevant PHMSA datasets, such as the accident-incident dataset because there is no shared variable between the datasets that would allow them to do so. PHMSA may pursue an enforcement action in response to a pipeline accident. According to PHMSA officials, users could match these enforcement records to the accident dataset by using the operator search function on the Enforcement Transparency Website. To do so, a user could download the accident dataset and identify the operator concerned and the date the accident occurred. Concurrently, the user could use the operator search

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function to identify any enforcement actions taken against that operator in the same year to attempt to match the records. However, if an operator had multiple enforcement actions taken against it or was involved in multiple accidents in the same year, the user may not be able to identify which cases are related to which accidents, as there is not a unique identifier variable common to both datasets. Additionally, it may take PHMSA several months to open an enforcement case after an accident and the resulting investigation occur (e.g., the accident could happen in 2020 and the enforcement case could be initiated in 2021), a lag that could make it more difficult for users attempting to match records between the two datasets. Making the enforcement data interoperable with other datasets, for example by including a unique identifier variable that would allow users to match enforcement case data with accident data, could make them more useful by creating new opportunities for analysis by linking datasets together. For example, one stakeholder we spoke with stated that connecting the enforcement and accident datasets would allow users to understand if an accident resulted in PHMSA taking an enforcement action.

Key Practice 5: PHMSA Makes Enforcement Data Easy to Understand but Does Not Fully Facilitate Data Discovery

According to this practice, data discovery is facilitated by features that enable users to easily explore the data. We found that PHMSA met four of the five actions associated with this key practice.

- **Action: provide an interface that enables intuitive navigation and ensure that the most important information is visible.** PHMSA's Enforcement Transparency website displays an introductory page that provides users with a description of the various ways the enforcement data can be viewed, followed by links to each page. These pages include an overall summary of PHMSA's enforcement activity and breakdowns by enforcement action, enforcement case status, and civil penalty status. Ensuring that the data are provided on a website that is simple and intuitive facilitates data discovery for all users.
- **Action: provide users with appropriate interpretations of the data, such as visualizations and summaries.** PHMSA publishes national summaries of its enforcement activity data. For example, users can view a summary of the total number of cases opened and closed each year for all PHMSA regions, and a breakdown, by year, of the number of cases opened for each enforcement action type. Such summaries can help users explore the data.

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- **Action: ensure that the website’s content is written in plain language.** PHMSA defines enforcement action terms and enforcement topics discussed throughout the Enforcement Transparency website, which provides users with clear and direct language to aid them in understanding the information and data published on the website. Additionally, PHMSA provides a glossary in the sidebar of every page that gives users an overview of basic pipeline and enforcement terms and technical phrases. In cases where it is necessary to use technical language, providing a glossary and defining key terms can help make the information more understandable to users.
  - **Action: use central data repositories and catalogues to help users easily find the data they are looking for.** PHMSA publishes a link to the Enforcement Transparency Website on DATA.gov, a central data catalogue for a variety of U.S. government datasets. PHMSA also includes a description of the enforcement dataset that can help users find data suitable for their purposes. Linking to the enforcement data from centralized data repositories and catalogues such as DATA.gov can facilitate discovery of the enforcement data for users who are interested in pipeline safety but unaware of PHMSA’s Enforcement Transparency website.

We found that PHMSA did not meet one action associated with this key practice.

- **Action: provide a search function that is optimized for easy and efficient use.** PHMSA currently allows users to sort the enforcement data by operator name (see fig. 5), but users are unable to search with other key terms or variables. Having such a search function would allow users to find information that is relevant to their interests. For example, one stakeholder noted that a search function that would allow users to search with a specific variable, such as by the regulation violated, would be useful in analyzing civil monetary penalties and outcomes for specific violations. Another stakeholder noted that the ability to search by the regulation violated would allow users to identify all enforcement actions for the particular safety issue with which they are concerned.

Figure 5: The Pipeline and Hazardous Materials Safety Administration’s (PHMSA) Operator Search Function on the Enforcement Transparency Website

Enforcement Information for Specific Operators

Operators Sorted By Name:

--- SELECT AN OPERATOR --- GO

Operators Sorted By Operator ID:

--- SELECT AN OPERATOR --- GO

Source: PHMSA's Enforcement Transparency website. | GAO-23-105537

In discussions with PHMSA officials regarding why the Enforcement Transparency website does not fully align with key practices, they told us it is because PHMSA has limited staff and they are focusing their efforts on addressing issues with the Work Management System. They hope to complete these improvements to the system by the end of 2022. They noted that PHMSA is considering ways to make the Enforcement Transparency website more useful, and acknowledged that they would like to move to a more dynamic website that would facilitate better searching and data views. Nevertheless, they told us they remain focused on other priorities first.

However, aligning the Enforcement Transparency website with all of the key practices would be beneficial. For instance, after the Work Management System is stabilized, a focused effort by PHMSA to update the website would improve the usability and transparency of its enforcement information. If users had access to a complete enforcement data file, they could more efficiently search PHMSA records by filtering data instead of searching individual records. Additionally, a more robust search function would enable users to more easily identify specific cases for their own purposes, such as looking up the enforcement history of pipelines located near their home.

## Conclusions

Although hazardous liquid pipeline accidents are relatively infrequent, leaks and ruptures still occur and can cause fatalities, injuries, and environmental damage. Accordingly, public access to pipeline enforcement information is important for fostering accountability and trust regarding the federal government’s pipeline safety efforts. PHMSA has taken steps to increase public access to pipeline enforcement information through the creation of its Enforcement Transparency website. The website meets two of the key practices and most of the key actions for

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transparently reporting data, such as providing the data on the website for free, engaging the public online and in person, and providing disaggregated data for download.

However, PHMSA could better align its Enforcement Transparency website with other key practices and associated actions, to improve the usefulness and transparency of the website. Specifically, enabling the complete pipeline enforcement dataset to be downloaded in bulk could better enable users to analyze data from multiple years or filter out cases not needed for analyses. In addition, connecting PHMSA's accident-incident and enforcement datasets, for example by adding a unique identifier variable, would help users track a case from pipeline accident through enforcement action. Moreover, although the website currently allows filtering by operator, permitting the enforcement data to be searched by other variables—such as the regulation violation or pipeline type—could better facilitate data analysis and trend identification by the public.

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## Recommendations for Executive Action

We are making three recommendations to PHMSA. Specifically:

The Administrator of PHMSA should update PHMSA's Enforcement Transparency website to provide complete, machine-readable data that can be downloaded in bulk and in selected subsets. (Recommendation 1)

The Administrator of PHMSA should update PHMSA's enforcement data to be interoperable with other relevant datasets, such as PHMSA's accident-incident dataset (e.g., by adding a unique identifier variable.) (Recommendation 2)

The Administrator of PHMSA should update PHMSA's Enforcement Transparency website to provide a search function that allows users to find relevant information, which could include the ability to search by the regulation violated. (Recommendation 3)

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## Agency Comments

We provided DOT with a draft of this report for review and comment. In written comments, reproduced in appendix II, DOT concurred with our recommendations.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Transportation, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

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If you or your staff have any questions about this report, please contact me at (202) 512-2834 or [repkoe@gao.gov](mailto:repkoe@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

A handwritten signature in black ink that reads "Elizabeth Repko". The signature is written in a cursive style and is followed by a long horizontal line that extends to the right.

Elizabeth Repko  
Director, Physical Infrastructure Issues

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# Appendix I: Analysis of Pipeline and Hazardous Materials Safety Administration's (PHMSA) Data on Pipeline Enforcement Actions

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The Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020 (PIPES Act of 2020) includes a provision for GAO to review information on pipeline enforcement actions that PHMSA makes publicly available on the internet.<sup>1</sup> We analyzed PHMSA enforcement data to describe the number and type of enforcement cases that were initiated from 2010 to 2020.

## Methodology

We analyzed enforcement data that PHMSA provided directly to us, rather than data publicly available on the website, because it was more efficient to do so. PHMSA's publicly available data are not available in bulk downloads and cannot be filtered to remove certain cases, such as those dealing with liquefied natural gas (LNG) facilities, which were not relevant to our analysis.

PHMSA provided a file with 35 variables that we selected, one of which was an indicator for an LNG case. Some of these variables have information that would be included in a case file but would not be listed as a value in a data table on the enforcement website. These include variables that indicate whether the case dealt with intrastate or interstate pipelines, onshore or offshore pipelines, and hazardous liquid or gas pipelines or LNG facilities, as well as an indicator for the type of enforcement action (e.g., Corrective Action Order, Notice of Probable Violation), the alleged violations and regulations involved, and the dates PHMSA began and ended the inspection prior to pursuing action.

To ensure that the data were sufficiently reliable for the purposes of this analysis, we reviewed PHMSA's Work Management System data dictionary and user guide to familiarize ourselves with the enforcement activity data. We then reviewed the processes PHMSA described in its data validation report and in interviews. We also manually tested the data for obvious errors, such as inconsistent dates and missing values in key columns. We identified no limitations with the data PHMSA provided and found it to be sufficiently reliable for our purposes.

## Analysis

To conduct this analysis, we summarized the cases PHMSA initiated from the years 2010 to 2020. The summaries displayed in the following table

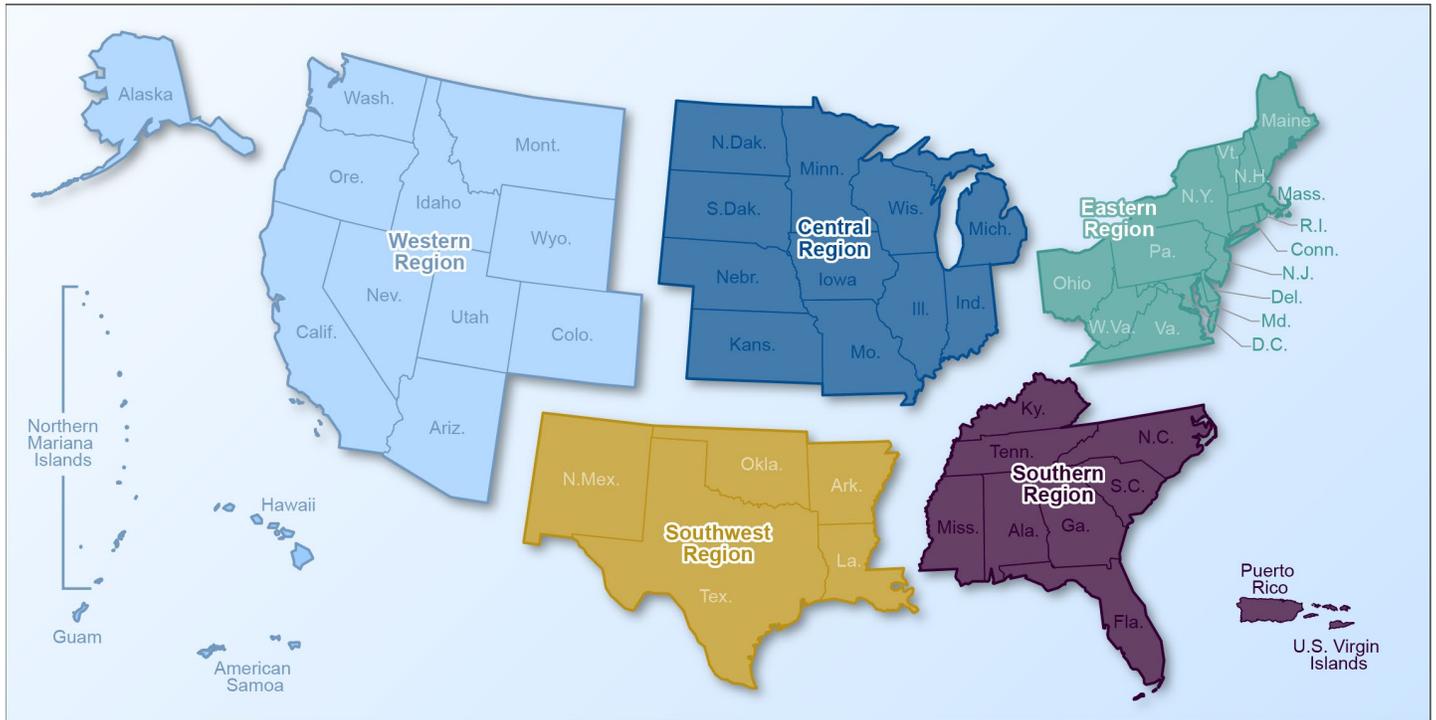
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<sup>1</sup>Pub. L. No. 116-260, div. R, § 108(a), 134 Stat. 1182, 2221 (2020) (codified at 49 U.S.C. § 60117(b)). PHMSA's general authority is under the Pipeline Safety Laws codified at 49 U.S.C. § 60101 et seq., and its regulations are located in 49 C.F.R. Parts 190-199. The regulations governing PHMSA's enforcement of these laws, regulations, and its orders issued under them are specifically located in 49 C.F.R. Part 190.

**Appendix I: Analysis of Pipeline and Hazardous Materials Safety Administration's (PHMSA) Data on Pipeline Enforcement Actions**

and figures include enforcement actions that dealt with both interstate and intrastate, onshore and offshore, and gas and hazardous liquid pipelines throughout PHMSA's five regions. These regions (see fig. 5)—the Central, Eastern, Southern, Southwest, and Western—conduct inspections and investigations, collect evidence, and correspond with operators during enforcement cases. PHMSA assigns each pipeline operator to one of the five regions based in part on the location of the operators' pipelines within the boundaries of the regions. Many interstate operators' pipelines are located in multiple regions.

**Figure 6: Map of the Pipeline and Hazardous Materials Safety Administration (PHMSA) Regions**



Source: GAO depiction of PHMSA information. | GAO-23-105537

Table 3 displays a count of total cases initiated by region. The number of enforcement cases initiated by PHMSA fluctuated for each region over the 10-year period.

**Appendix I: Analysis of Pipeline and  
Hazardous Materials Safety Administration's  
(PHMSA) Data on Pipeline Enforcement  
Actions**

**Table 3: Number of Cases the Pipeline and Hazardous Materials Safety Administration (PHMSA) Initiated by Region, from 2010 to 2020**

<b>Year</b>	<b>Central</b>	<b>Eastern</b>	<b>Southern</b>	<b>Southwest</b>	<b>Western</b>	<b>Total Cases per Year</b>
2010	22	26	23	27	55	<b>153</b>
2011	32	31	42	40	69	<b>214</b>
2012	43	57	48	56	82	<b>286</b>
2013	54	81	43	49	45	<b>272</b>
2014	19	21	34	49	36	<b>159</b>
2015	22	64	16	40	59	<b>201</b>
2016	12	33	15	52	62	<b>174</b>
2017	29	57	14	57	99	<b>256</b>
2018	23	64	18	43	49	<b>197</b>
2019	41	56	18	41	62	<b>218</b>
2020	48	61	12	50	24	<b>195</b>
<b>Total Cases per Region</b>	<b>345</b>	<b>551</b>	<b>283</b>	<b>504</b>	<b>642</b>	<b>2325</b>

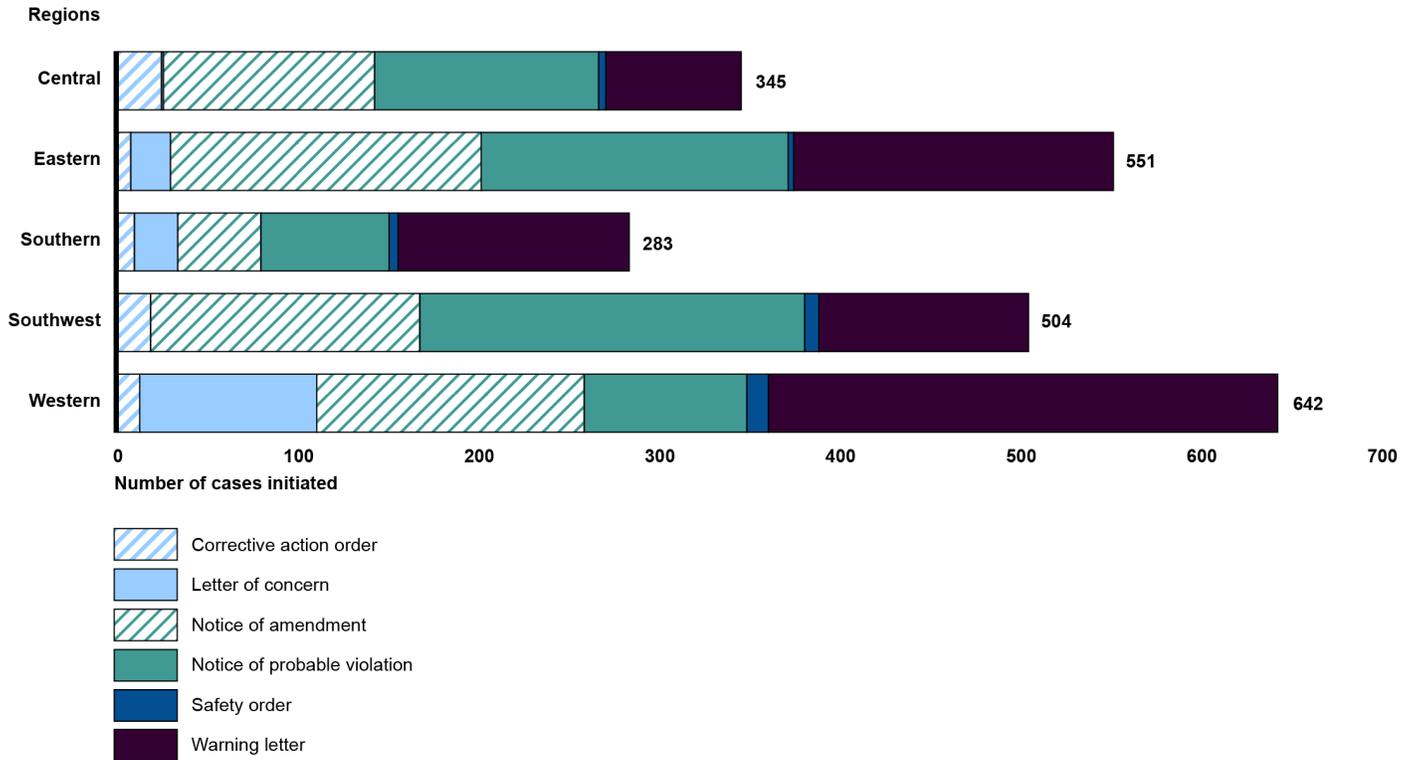
Source: GAO analysis of PHMSA enforcement data. | GAO-23-105537

Note: For this analysis, we excluded cases that dealt with liquefied natural gas (LNG) facilities. The Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020 asked us to look specifically at pipeline enforcement actions. Pub. L. No. 116-260, div. R § 108(a), 134 Stat. 1182, 2221 (2020) (codified at 49 U.S.C. § 60117(b)). LNG is stored in facilities connected to natural gas pipelines but is not transported through them due to its highly volatile nature. We also excluded cases that resulted in an Excavation Notice of Probable Violation from the scope of this analysis. These enforcement cases do not deal with the regulations and safety requirements for operating a pipeline and instead focus on companies that have damaged pipelines while excavating. Additionally, we excluded cases under the purview of the headquarters. In the data file PHMSA provided, there are 50 Warning Letter cases that were opened and closed by the headquarters office on September 7, 2010.

Figure 7 displays a count of total cases initiated by region, by enforcement action type. Generally, PHMSA relied on Notices of Amendment, Notices of Probable Violations, and Warning Letters when pursuing enforcement actions throughout the five regions.

Appendix I: Analysis of Pipeline and Hazardous Materials Safety Administration's (PHMSA) Data on Pipeline Enforcement Actions

Figure 7: Total Number of Cases the Pipeline and Hazardous Materials Safety Administration (PHMSA) Initiated by Region and Enforcement Action Type, from 2010 to 2020



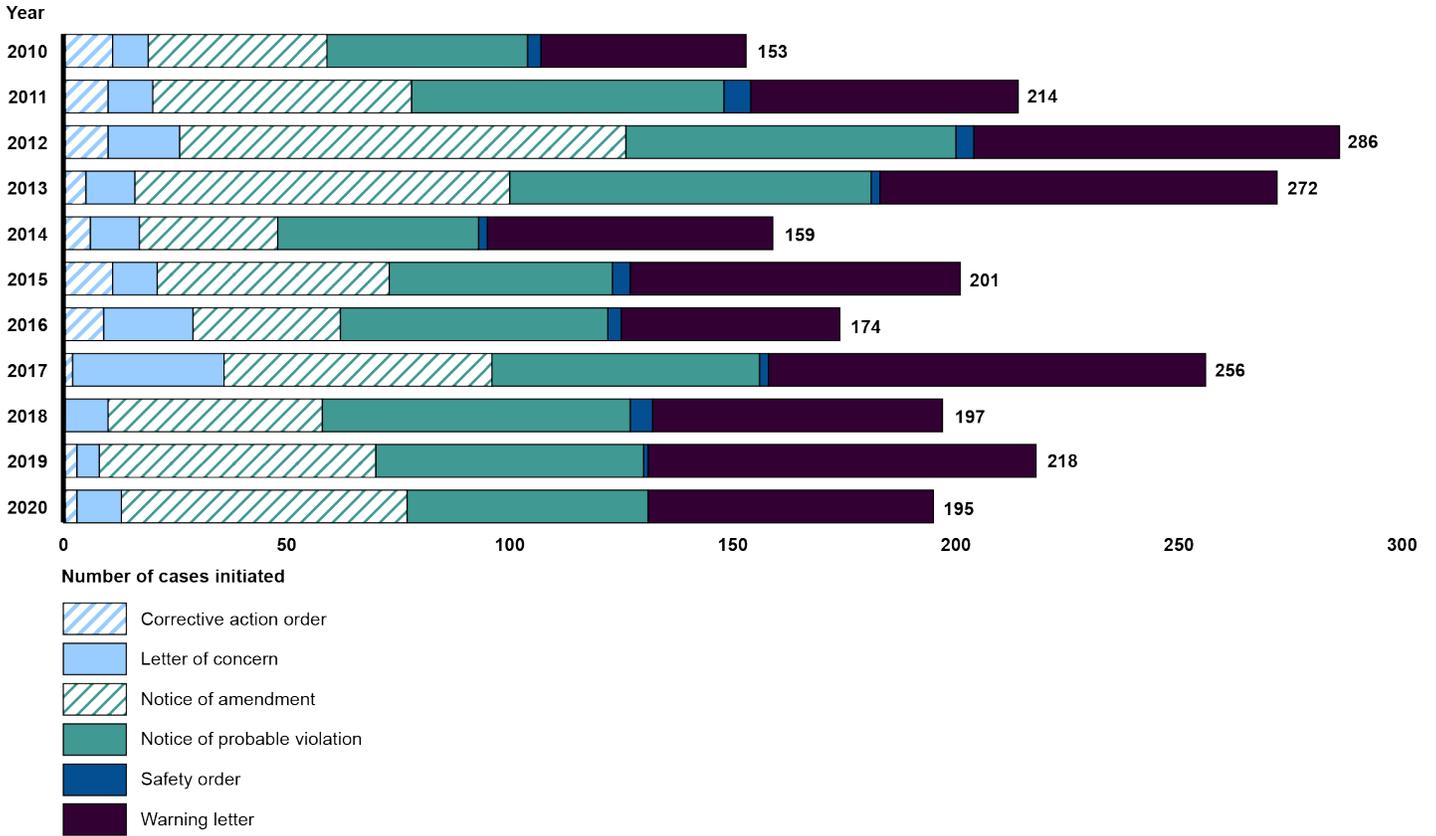
Source: GAO analysis of PHMSA enforcement data. | GAO-23-105537

Note: For this analysis, we excluded cases that involved liquefied natural gas (LNG) facilities and excavators that did not comply with PHMSA's requirements for protecting underground pipelines from excavation-related damage; these requirements are located in 49 C.F.R. Part 196. Additionally, we excluded cases under the purview of the headquarters.

Figure 8 displays the same data, but organized by enforcement action type per year for all regions. Warning Letters, Notices of Amendment, and Notices of Probable Violation remain the primary ways through which PHMSA enforces the pipeline safety laws and regulations.

Appendix I: Analysis of Pipeline and Hazardous Materials Safety Administration's (PHMSA) Data on Pipeline Enforcement Actions

Figure 8: Total Number of Cases the Pipeline and Hazardous Materials Safety Administration (PHMSA) Initiated by Enforcement Action Type, from 2010 to 2020



Source: GAO analysis of PHMSA enforcement data. | GAO-23-105537

Note: For this analysis, we excluded cases that involved liquefied natural gas (LNG) facilities and excavators that did not comply with PHMSA's requirements for protecting underground pipelines from excavation-related damage; these requirements are located in 49 C.F.R. Part 196. Additionally, we excluded cases under the purview of the Headquarters.

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**Appendix I: Analysis of Pipeline and  
Hazardous Materials Safety Administration's  
(PHMSA) Data on Pipeline Enforcement  
Actions**

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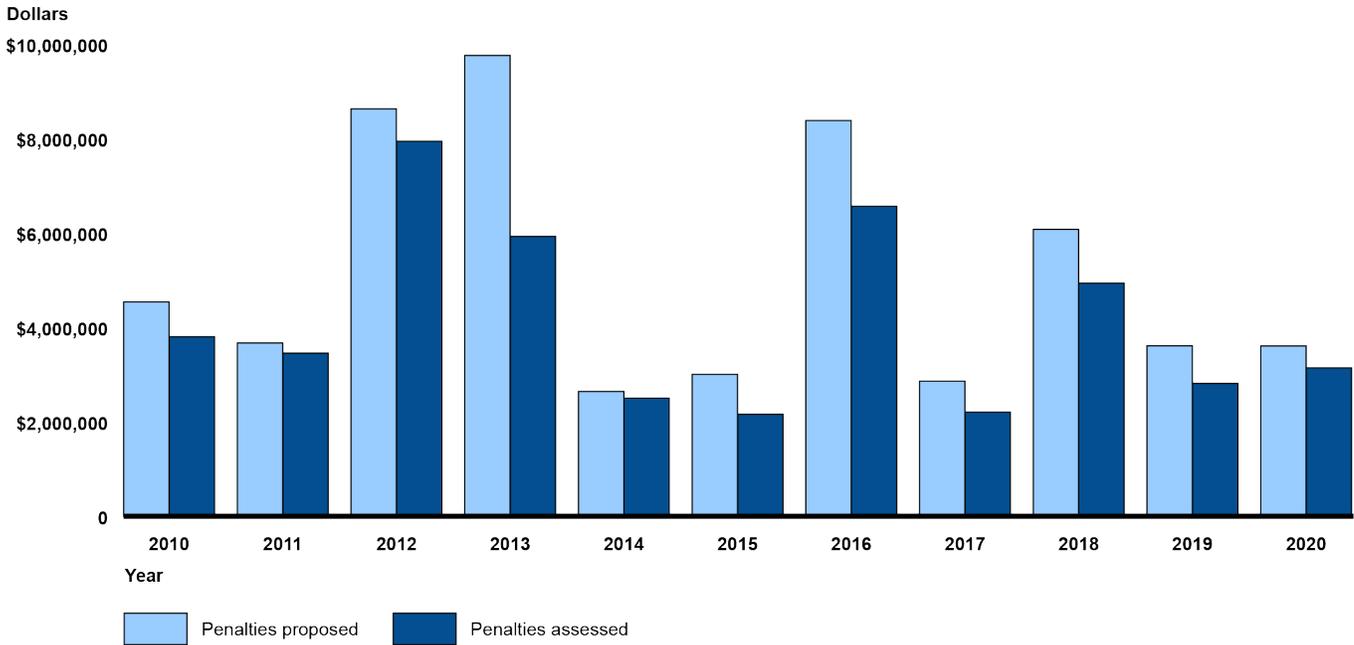
In addition to these data, we also analyzed the changes in the total amounts of civil monetary penalties proposed and assessed by PHMSA for Notice of Probable Violation cases.<sup>2</sup> Figure 9 displays the differences between these penalty amounts. On average, PHMSA pursued 41 Notice of Probable Violation cases with proposed civil monetary penalties a year from 2010 to 2020. Of these, an average of 13 cases a year saw a decrease in the amount of civil monetary penalties assessed versus the amount PHMSA proposed.

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<sup>2</sup>Civil monetary penalties may be proposed for probable violations identified during inspections, investigations, or other means. Proposed penalties are communicated to operators and the public in Notices of Probable Violation. An operator has the opportunity to contest the allegations, request a hearing, and submit written explanations that it believes may warrant mitigation or elimination of the proposed civil penalty before the penalty, if any, is assessed in the Final Order. PHMSA has discretion to determine the proposed and assessed amounts of a civil penalty. Thus, a proposed civil penalty may be greater than the assessed amount, or not assessed at all. The factors that PHMSA considers in making these determinations are listed in its regulations. 49 C.F.R. § 190.225. PHMSA will not assess any penalties if it withdraws all of the allegations in a notice of probable violation prior to issuing a final order, or if it determines that the operator did not violate a pipeline safety statute, regulation, or PHMSA order issued under them in its final order.

Appendix I: Analysis of Pipeline and Hazardous Materials Safety Administration's (PHMSA) Data on Pipeline Enforcement Actions

Figure 9: Total Amount of Penalties the Pipeline and Hazardous Materials Safety Administration (PHMSA) Proposed versus Assessed, from 2010 to 2020



Source: GAO analysis of PHMSA enforcement data. | GAO-23-105537

Notes: Civil monetary penalties may be proposed for probable violations identified during inspections, investigations, or other means. Proposed penalties are communicated to operators and the public in Notices of Probable Violation. An operator has the opportunity to contest the allegations, request a hearing, and submit written explanations that it believes may warrant mitigation or elimination of the proposed civil penalty before the penalty, if any, is assessed in the Final Order. PHMSA has discretion to determine the proposed and assessed amounts of a civil penalty. Thus, a proposed civil penalty may be greater than the assessed amount or not assessed at all. The factors that PHMSA considers in making these determinations are listed in its regulations. 49 C.F.R. § 190.225. PHMSA will not assess any penalties if it withdraws all of the allegations in a notice of probable violation prior to issuing a final order or if it determines that the operator did not violate a pipeline safety statute, regulation, or PHMSA order issued under them in its final order.

For this analysis, we excluded cases that involved liquefied natural gas (LNG) facilities and excavators that did not comply with PHMSA's requirements for protecting underground pipelines from excavation-related damage, which are located in 49 C.F.R. Part 196. Additionally, we excluded cases under the purview of the headquarters

# Appendix II: Comments from the Department of Transportation



**U.S. Department of  
Transportation**  
Office of the Secretary  
of Transportation

Assistant Secretary  
for Administration

1200 New Jersey Avenue, SE  
Washington, DC 20590

October 25, 2022

Ms. Elizabeth Repko  
Director, Physical Infrastructure  
U.S. Government Accountability Office (GAO)  
441 G Street NW  
Washington, DC 20548

Dear Ms. Repko:

The Pipeline and Hazardous Materials Safety Administration's (PHMSA) mission is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives. To do this, the agency establishes national policy, sets and enforces standards, educates, and conducts research to prevent incidents. To provide greater public access to enforcement activities, PHMSA's Pipeline Enforcement web site makes available extensive enforcement records and information to the regulated community, the public, partner state agencies, and other stakeholders. PHMSA ensures accurate and complete enforcement records with centralized control using stringent data entry and quality control procedures.

Upon review of the draft report, PHMSA concurs with GAO's three recommendations to update PHMSA's Enforcement Transparency website to: (1) provide complete, machine-readable data that can be downloaded in bulk and in selected subsets; (2) be interoperable with other relevant datasets, such as PHMSA's accident/incident dataset (e.g., by adding a unique identifier variable); and (3) provide a search function that allows users to find relevant information, which could include the ability to search by the regulation violated. We will provide a detailed response to each recommendation within 180 days of the final report's issuance.

PHMSA appreciates the opportunity to respond to the GAO draft report. Please contact Gary Middleton, Director of Audit Relations and Program Improvement at (202) 366-6512 or [gary.middleton@dot.gov](mailto:gary.middleton@dot.gov) with any questions or if GAO would like additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Philip McNamara".

Philip McNamara  
Assistant Secretary for Administration

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# Appendix III: GAO Contact and Staff Acknowledgments

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## GAO Contact

Elizabeth Repko, (202) 512-2834 or [RepkoE@gao.gov](mailto:RepkoE@gao.gov)

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## Staff

## Acknowledgments

In addition to the contact above, Sara Vermillion (Assistant Director); Catrin Jones (Analyst-in-Charge); Sharon Dyer; Lauren Wice; Alicia Loucks; Mary-Catherine P. Overcash; Malika Rice; and Gina Hoover made key contributions to this report.

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