FEDERAL MARITIME COMMISSION

Improved Use of Data on Shippers’ Complaints Could Enhance Oversight
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Why GAO Did This Study

The maritime shipping industry is vital to the global economy and accounted for $2.3 trillion in U.S. trade in 2022. FMC is responsible for overseeing this industry, including protecting U.S. shippers from unfair or unjustly discriminatory practices related to securing vessel space.

The Ocean Shipping Reform Act of 2022 includes a provision for GAO to examine whether carriers disadvantaged shippers of hazmat during the pandemic through the systemic and unreasonable denial of vessel space or other means. This report examines, among other things: (1) shippers’ experiences transporting hazmat during the pandemic; (2) how the amount of hazmat imports and exports changed from 2018 through 2022 (the most recent data available at the time of GAO’s review); and (3) actions FMC has taken to collect, manage, and use its complaint data.

For these objectives, GAO reviewed pertinent FMC regulations and policies; analyzed trade data; visited two ports; and interviewed FMC officials as well as representatives of six shippers and five carriers. GAO selected these shippers and carriers based on a review of recent FMC rulemakings and on stakeholders’ recommendations.

What GAO Recommends

GAO is making four recommendations to FMC, including that it review the information it collects on certain complaints, update its procedures for managing complaint data, and develop a data strategy to guide future efforts. FMC neither agreed nor disagreed with GAO’s recommendations, but identified actions it plans to take. GAO stands by its recommendations.

View GAO-24-106368. For more information, contact Andrew Von Ah at (202) 512-2834 or VonAhA@gao.gov.

What GAO Found

The COVID-19 pandemic disrupted the maritime shipping industry, causing congested ports, high demand for cargo space on ships, and volatile shipping rates. Selected shippers of hazardous materials (hazmat), which include chemicals and other types of cargo critical to the U.S. economy, told GAO they were particularly affected during the peak of the pandemic (2020 through 2022). All six hazmat shippers GAO interviewed said they had difficulty securing space on ships, and five said they experienced long delays. Shippers attributed these challenges to safety risks and additional requirements associated with hazmat, which made it less desirable for carriers to accommodate on their ships.

GAO found that while hazmat imports and exports increased from 2018 through 2020, hazmat imports stagnated and exports decreased from 2020 through 2022. Hazmat imports increased almost 32 percent from 2018 through 2020, but grew less than 1 percent afterward. Hazmat exports increased 19 percent from 2018 through 2020 and declined by 7 percent afterward. Conversely, non-hazmat imports and exports grew at a higher rate during the pandemic, which carriers attributed to non-hazmat shippers paying higher shipping rates.

Hazardous Materials Imports and Exports Transported on Cargo Ships in Twenty-Foot Equivalent Units, 2018–2022

Twenty-foot equivalent units

<table>
<thead>
<tr>
<th>Year</th>
<th>Hazardous materials imports</th>
<th>Hazardous materials exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>800,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>2019</td>
<td>1,100,000</td>
<td>1,600,000</td>
</tr>
<tr>
<td>2020</td>
<td>1,200,000</td>
<td>1,800,000</td>
</tr>
<tr>
<td>2021</td>
<td>1,200,000</td>
<td>1,800,000</td>
</tr>
<tr>
<td>2022</td>
<td>1,500,000</td>
<td>2,000,000</td>
</tr>
</tbody>
</table>

Source: GAO presentation of S&P Global Market Intelligence’s Port Import/Export Reporting Service (PIERS) trade data. | GAO-24-106368

The Federal Maritime Commission (FMC) is responsible for ensuring a competitive and reliable ocean transportation system for all U.S. shippers. Its oversight efforts include receiving complaints from shippers about carriers. FMC can use this information to respond to shippers’ concerns and initiate investigations of carriers. However, GAO found several shortcomings in how FMC collects, manages, and uses complaint data: (1) FMC does not consistently capture certain details—such as type of cargo, whether cargo is hazmat, and incident location—which limits FMC’s ability to analyze complaint trends; and (2) key FMC procedures for managing the data are out of date and incomplete. GAO also found that while FMC plans to modernize how it collects, manages, and uses information from complaints, it lacks a strategy to guide these efforts. Such a strategy could include key information on planned updates, such as goals, required investments, and expected outcomes. Taking steps to address these shortcomings and developing a data strategy could help FMC more effectively use data to oversee the maritime shipping industry.
Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BEIC</td>
<td>Bureau of Enforcement, Investigations, and Compliance</td>
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<td>CADRS</td>
<td>Consumer Affairs and Dispute Resolution Services</td>
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<tr>
<td>carriers</td>
<td>ocean carriers</td>
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<tr>
<td>CBP</td>
<td>U.S. Customs and Border Protection</td>
</tr>
<tr>
<td>Census</td>
<td>U.S. Census Bureau</td>
</tr>
<tr>
<td>DHS</td>
<td>U.S. Department of Homeland Security</td>
</tr>
<tr>
<td>DOT</td>
<td>U.S. Department of Transportation</td>
</tr>
<tr>
<td>FMC</td>
<td>Federal Maritime Commission</td>
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<tr>
<td>hazmat</td>
<td>hazardous materials</td>
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<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
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<td>OSRA</td>
<td>Ocean Shipping Reform Act of 2022</td>
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<tr>
<td>PHMSA</td>
<td>Pipeline and Hazardous Materials Safety Administration</td>
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<tr>
<td>PIERS</td>
<td>S&amp;P Global Market Intelligence’s Port Import/Export Reporting Service</td>
</tr>
<tr>
<td>Shipping Act</td>
<td>Shipping Act of 1984</td>
</tr>
</tbody>
</table>
April 23, 2024

The Honorable Maria Cantwell  
Chair  
The Honorable Ted Cruz  
Ranking Member  
Committee on Commerce, Science, and Transportation  
United States Senate  

The Honorable Sam Graves  
Chairman  
The Honorable Rick Larsen  
Ranking Member  
Committee on Transportation and Infrastructure  
House of Representatives  

The maritime shipping industry connects the United States to the global trade system and is vital to the nation’s economy. In 2022, maritime shipping accounted for $2.3 trillion in U.S. trade, more than any other mode of transportation.1 Beginning in early 2020, the COVID-19 pandemic wreaked havoc on global trade. In the first half of 2020, imports and exports declined significantly as the pandemic caused countrywide shutdowns, first in Asia and then in the United States.2 In the second half of 2020, demand for cargo space on container ships rapidly increased beyond available supply, resulting in delayed deliveries. With increased demand, shipping rates charged by ocean carriers (carriers) rose dramatically. According to industry data, cargo container rates for some trade routes increased from about $1,500 in May 2020 to as much as $11,000 in September 2021.3

Some shippers, who struggled to arrange transportation for their goods, raised concerns that certain types of cargo were unfairly prioritized during the pandemic. Specifically, some stated that carriers prioritized the transport of consumer products over cargos such as chemical


compounds used in manufacturing, which are often heavier and less valuable. These less-prioritized cargos include qualified hazardous materials (hazmat), dangerous goods that meet federal and international standards for transport if appropriately packed and shipped. According to the Pipeline and Hazardous Materials Safety Administration (PHMSA), these chemicals and other dangerous goods are critical to supporting the U.S. economy and essential to everyday lives.

The Federal Maritime Commission (FMC) is responsible for ensuring a competitive and reliable ocean transportation system that supports the U.S. economy and protects the public, including U.S. shippers, from unfair and deceptive practices. In that capacity, among other things, FMC adjudicates complaints alleging violations of the Shipping Act of 1984 as amended (Shipping Act). The Shipping Act is designed to protect shippers from unfair or unjustly discriminatory methods, as well as unfair or unjustly discriminatory actions regarding tariffs, rates, or charges, among other prohibitions.

The Ocean Shipping Reform Act (OSRA) of 2022 includes a provision for us to examine whether carriers disadvantaged shippers of hazmat during the pandemic through the systemic and unreasonable denial of vessel space accommodations or other means. This report examines

1. shippers’ experiences transporting hazmat during the pandemic;
2. how the amount of hazmat imports and exports changed from 2018 through 2022;
3. the extent to which hazmat shippers used FMC’s complaint mechanisms during the pandemic, and how FMC has conducted outreach to stakeholders about these processes; and
4. actions FMC has taken to collect, manage, and use its complaint data to monitor the maritime shipping industry.

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4In our report, “hazmat” refers to “qualified hazardous materials,” which are those certified for transportation in accordance with applicable safety laws, including regulations based on the definition of “qualified hazardous materials” at Pub. L. No. 117-146, § 22(c)(3), 136 Stat. 1272, 1284.


Our review examined the ocean transportation of containerized hazmat on cargo ships into (imports) and out of (exports) the United States from 2018 through 2022. For all objectives, we reviewed relevant federal laws, regulations, and agency documents. We interviewed officials from FMC, Department of Homeland Security (DHS), Department of Transportation (DOT), and Commerce. We selected and interviewed a non-generalizable sample of 18 stakeholders—maritime industry associations (seven), shippers (six), and carriers (five). We identified stakeholders based on reviews of relevant FMC rulemakings and on recommendations from other stakeholders, among other things. While the results of our interviews are non-generalizable, stakeholders were selected to represent a range of known perspectives and industry experiences and provide illustrative examples for our report. We also visited the Ports of New Orleans and Newark to understand how hazardous materials are manufactured, transported, and stored as part of our background research. We also reviewed industry documents and conducted a literature search to inform these objectives.

To describe how the amount of hazmat imports and exports transported on cargo ships changed from 2018 through 2022 (the most recent data available at the time of our review), we purchased and analyzed S&P Global Market Intelligence’s Port Import/Export Reporting Service (PIERS) data for the 5-year period. We analyzed these data to (1) describe changes in hazmat imports and exports by year, and (2) compare those changes to non-hazmat cargo. To assess the reliability of PIERS data, we reviewed relevant documentation, interviewed knowledgeable representatives, and conducted electronic testing of the

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7While our review focused on hazmat imports and exports, in some cases we included information about non-hazmat. For example, some of FMC’s processes that we reviewed did not apply exclusively to hazmat. In those circumstances, we have examples related to hazmat but included some findings that may apply more broadly to all types of cargo.

8We interviewed officials from the U.S. Coast Guard and U.S. Customs and Border Protection (CBP) within DHS; officials from PHMSA within DOT; and officials from the U.S. Census Bureau (Census) within Commerce. We selected the U.S. Coast Guard because it oversees the safety and security of the maritime industry and PHMSA because it oversees the safe transportation of hazmat. We selected CBP and Census because these agencies collect trade data on imports and exports, respectively.

9We conducted a literature search of scholarly peer-reviewed materials, government reports, legislative materials, and trade press reports from January 2018 through December 2022 to identify material relevant to our review.

10PIERS is a private data source that pulls trade data from numerous sources, including CBP, Census, and carriers. We purchased PIERS data because the data had a hazmat indicator variable for imports and exports, and these data were not available elsewhere.
data for missing data or other errors. We determined that the PIERS data were sufficiently reliable to report high-level trends in hazmat and non-hazmat imports and exports from 2018 through 2022.

To understand shippers’ use of FMC’s complaint mechanisms and assess FMC’s related outreach efforts, we interviewed selected shippers, as discussed above. We also reviewed FMC’s relevant outreach efforts and compared them with (1) information in FMC’s strategic plan, (2) leading practices for consumer outreach, and (3) the Standards for Internal Control principle on evaluating the quality of information that an agency communicates to external stakeholders.¹¹

To assess the actions FMC has taken to collect, manage, and use complaint data to monitor the maritime shipping industry, we reviewed relevant FMC docket logs from 2018 through 2022 and other FMC documents. These documents include the Consumer Affairs and Dispute Resolution Services (CADRS) complaint form, standard operating procedures, and documentation on formal complaints. We compared these documents with data-use provisions in the Federal Data Strategy and Standards for Internal Control principle on quality information.¹² Appendix I provides additional information on our objectives, scope, and methodology.

We conducted this performance audit from November 2022 to April 2024 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.


### Background

<table>
<thead>
<tr>
<th>Entities Involved in Ocean Transport</th>
<th>Multiple entities are involved in the ocean transportation of cargo containers, including shippers, carriers, and third-party intermediaries.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Shippers include entities or companies that supply or own the cargo being transported on the ship. Shippers can include large companies that arrange for the shipment of millions of cargo containers annually, and small companies that might only arrange for the shipment of one or two containers in a given year.</td>
<td></td>
</tr>
<tr>
<td>• Carriers are primarily foreign companies that own or operate container ships that deliver cargos to ports around the globe. Most of the largest carriers are organized into three global shipping alliances that share space on their vessels to operate more efficiently. According to FMC, while the number can fluctuate annually, there were more than 145 active carriers in 2022.</td>
<td></td>
</tr>
<tr>
<td>• Third-party intermediaries, such as freight forwarders, help shippers arrange transportation for compensation. Typically, freight forwarders assemble and consolidate shipments to take advantage of volume rates offered by the carrier that ultimately hauls the goods.</td>
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</table>

| Federal Role in Ocean Transport of Hazmat | Hazmat—any substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce—is among the many types of cargo that carriers transport. Hazmat cargos can include many goods people use on a regular basis, such as lithium batteries, dry ice, and aerosol whipped cream, as well as fertilizers, fireworks, and chemical compounds. As illustrated in figure 1, PHMSA classifies hazmat—based on the product’s specific chemical and physical properties—into one of nine classes that represent different types of risks. |

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13Throughout this report, we use the terms ocean carrier or carrier to refer to carriers that operate the cargo ships.

14See 49 C.F.R. Parts 172 and 173. In addition to the nine classes, Part 173 identifies specified material, packages, and explosives for which the offering for transportation or the transportation of is forbidden. 49 C.F.R. §§ 173.21, 173.54.
Federal regulations establish requirements for shippers and carriers on the safe transportation of hazmat. Shippers must properly identify hazmat, package it, and train employees to use relevant safety protocols. For example, during packaging, shippers must include placards that indicate the hazmat class. Carriers must confirm that shippers have provided appropriate hazmat shipping declarations, follow specific requirements for loading and stowing cargo, and develop a

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15PHMSA’s hazmat classifications are designed to help guide shippers, carriers, and others on the safe and proper handling, storage, and transportation of specific hazmat. See 49 C.F.R. Parts 171, 172, and 173.
manifest listing the location and types of hazmat on board.\textsuperscript{16} The U.S. Coast Guard is responsible for ensuring maritime safety and security for U.S. coastlines, ports, inland waterways, and high seas, and the agency inspects hazmat and other cargos to ensure they comply with federal requirements for packaging and storage, among other things.

To help meet its mission of ensuring a competitive and reliable ocean transportation system, FMC has established four complaint mechanisms that shippers can use to communicate concerns to the agency. These mechanisms range from formal complaints to dispute resolution services. In a formal complaint, any person, including shippers, shippers’ associations, and trade groups or trade associations, may allege violations of the Shipping Act by carriers of other entities. FMC’s Bureau of Enforcement, Investigations, and Compliance (BEIC) investigates reports of potential law violations as well as a separate category, known as charge complaints.\textsuperscript{17} Through FMC’s Consumer Affairs and Dispute Resolution Services (CADRS), complainants such as shippers can request that FMC help resolve disagreements with carriers and other entities.

As detailed in table 1, these mechanisms vary with respect to their requirements for submission, purpose, and potential outcomes. FMC can also use information collected through its complaint mechanisms to help monitor shipping trends and determine what investigations BEIC should initiate.

<table>
<thead>
<tr>
<th>Complaint mechanism</th>
<th>Overview of mechanism</th>
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</table>
| Formal Complaint Process | • The formal complaint process allows complainants to allege potential violations of the Shipping Act of 1984, as amended (Shipping Act) to FMC and to seek reparations within 3 years of the claimed violation.  
• This process involves a formal legal proceeding to assess the legitimacy of the complaint. When submitting a formal complaint, complainants must include information such as the name of the complainant and the respondent, the matter of the complaint and alleged Shipping Act violation, and the damages incurred because of the alleged violation. Once a complaint is filed, cases will be heard by an Administrative Law Judge. |

\textsuperscript{16}49 C.F.R. Part 176.  
\textsuperscript{17}While BEIC investigates complaints received about potential Shipping Act violations, including information concerning complaints about assessed charges, FMC’s Office of the Secretary is responsible for receiving formal complaints to initiate legal proceedings.
The charge complaint process, established by the Ocean Shipping Reform Act of 2022, allows shippers and other stakeholders to bring a complaint against a carrier to dispute charges assessed, such as the costs that shippers incur when using carriers’ containers or other equipment. This includes costs related to demurrage (i.e., the charge for using a container within a port terminal) and detention (i.e., the charge for using a container outside of a port terminal).

As of February 2024, FMC was in the process of establishing a final charge complaint process. In the interim, charge complaints are handled by FMC’s Bureau of Enforcement, Investigations, and Compliance.

The informal complaint process allows shippers to allege violations of the Shipping Act for damages not exceeding $50,000. These small claims complaints are not handled through a formal legal proceeding as in the formal complaint process. Rather, a small claims settlement officer uses more informal procedures to determine damages and reparations.

CADRS serves as an impartial resource to help shippers and others resolve shipping issues. This informal and voluntary process is a less costly and time-consuming means of resolving issues than the other complaint mechanisms.

OSRA of 2022 included provisions designed to enhance FMC’s oversight and expand the agency’s capabilities. For example, in addition to codifying CADRS in statute, OSRA of 2022 increased FMC’s enforcement capabilities by requiring not less than seven positions to assist in investigations and oversight, strengthening the capabilities of CADRS, and establishing the charge complaint process. FMC also reported it received congressional approval in July 2022 to reclassify its area representatives as investigators, move them to BEIC, and reassign their public outreach responsibilities to other offices.

18OSRA of 2022 also required FMC to issue three new rulemakings on demurrage and detention, unfair or unjustly discriminatory methods, and unreasonable refusal to deal or negotiate with regard to vessel space. As of February 2024, FMC issued a final rule on demurrage and detention billing practices, and was in the process of finalizing the remaining rules.
Selected Shippers Experienced Challenges during the Pandemic, but Stakeholders Disagreed on Whether These Were Greater for Hazmat

Our six selected hazmat shippers cited difficulty securing vessel space, complications with the process for receiving booking confirmations, and carrier delays among the challenges they faced during the pandemic.

**Securing vessel space.** All six selected hazmat shippers we interviewed described challenges securing vessel space from 2020 through 2022. Five of these shippers said this challenge occurred very often, and one said it occurred sometimes. One shipper said it rented space on 11 cargo planes at considerable cost to import hazmat because it could not secure vessel space. Similarly, an industry association representing hazmat exporters said that, during the pandemic, shipping rates for imports were so much higher than for exports that it was more profitable for carriers to return empty containers to foreign ports than wait to load U.S. exports. Two shippers told us they had also sometimes struggled to secure vessel space prior to 2020.

**Complications with the booking confirmation process.** Three of the selected hazmat shippers said the process for receiving a booking confirmation—in which a carrier confirms a shipper’s request for vessel space—was more time-consuming during the pandemic. For example, according to one shipper, prior to 2020, the process of requesting and receiving a booking confirmation for hazmat cargo would take less than 48 hours. However, according to the shipper, from 2020 through 2022, the process could take months, and in some instances, the booking confirmation came after the requested shipping date. Three shippers also said they had to take additional actions to book vessel space, such as reaching out to new carriers, contracting with third-party intermediaries, and transporting cargo out of alternative locations. For example, one shipper said it transported hazmat via trucks to a different port to secure vessel space.
Carrier delays. Five of our selected hazmat shippers said that from 2020 through 2022, they experienced long carrier delays (i.e., more than one month) transporting hazmat once cargo was loaded. Of these five shippers, two said the delays occurred very often, and three said the delays occurred sometimes. According to our selected shippers, long delays were less common prior to 2020; only two shippers said they sometimes experienced long delays during that time.

Selected Shippers and Carriers Disagreed on Whether Challenges Were Greater for Hazmat

Several well-documented factors—including demand for cargo space exceeding supply, congestion at ports, and shortages of containers and workers—affected all shippers and contributed to the challenges described above. However, selected hazmat shippers we interviewed, along with their industry representatives, believed shipping challenges during the pandemic were worse for hazmat. From their perspective, they faced greater challenges due both to the nature of the goods and to carriers’ preference for transporting non-hazmat cargo. In contrast, the selected carriers we interviewed acknowledged the complexities of transporting hazmat cargo but said they did not prioritize non-hazmat over hazmat cargo.

Selected shippers and other stakeholders described several challenges they faced during the pandemic specifically related to hazmat cargo. For example, five shippers described challenges with securing access to “ISO-tank” containers, which are used to transport liquid hazmat cargo, based on requirements set by the International Organization for Standardization (ISO) (fig. 2). Two shippers also said that certain ports or countries were challenging to move hazmat through during the pandemic. Since carriers’ routes can include numerous stops, these country-specific challenges could result in shippers’ hazmat not being loaded, or being delayed, at certain legs of the journey.

19According to the U.S. International Trade Commission, following the onset of the pandemic in 2020, the surge in consumer demand for goods overwhelmed existing vessel container capacity, leading to a shortage of vessel space. The increased demand for goods also led to heavy congestion at ports, causing delays for shippers that had secured vessel space for their cargo. Moreover, shortages of containers and workers further exacerbated the lack of vessel space and delays moving cargo. United States International Trade Commission, The Impact of the COVID-19 Pandemic on Freight Transportation Services and U.S. Merchandise Imports (Washington, D.C.: November 2021).
Selected shippers and other stakeholders also said that carriers generally preferred to transport non-hazmat, and that this preference exacerbated the challenges hazmat shippers faced during the pandemic. Some of our selected shippers and other stakeholders said that at the height of the pandemic, larger carriers stopped transporting hazmat or reduced the amount they transported, because they had other cargo options. Carriers’ preference for non-hazmat could be due to several factors, including:

- **Weight of hazmat.** According to stakeholders, hazmat cargo is generally heavier than non-hazmat cargo and reduces the amount of other cargo a carrier can transport, because it contributes to the total weight of the vessel.

- **Additional requirements.** As mentioned previously, carriers must take additional precautions when transporting hazmat, such as developing a manifest listing the class and location of all types of hazmat onboard. Carriers must also follow rules about where cargo can be stored onboard, in addition to certain segregation
requirements among hazmat.\textsuperscript{20} For example, flammable goods cannot be stowed near explosives.

- **Additional safety risks and potential for bad publicity.** Hazmat can pose more safety risks to carriers than non-hazmat cargo, and some recent high-profile ship fires from hazmat have made carriers wary of transporting this type of cargo.\textsuperscript{21}

Selected carriers agreed that transporting hazmat involves more requirements and can pose greater risks than transporting non-hazmat. For example, they said that stowage requirements for segregating certain hazmat cargos could limit the available vessel space for hazmat shipments. According to an industry association representing carriers, long delays in getting vessels into congested ports during this period made some hazmat, such as chemicals, unsafe for transport because they can become unstable. All selected carriers also cited concerns with shippers' undeclared or mis-declared cargo.\textsuperscript{22} According to carriers, when shippers do not declare, mis-declare, or improperly pack hazmat, the cargo may be placed in the wrong location on the ship, start leaking, or interact with other cargo, potentially putting the crew at risk.

However, the selected carriers said they did not prioritize non-hazmat over hazmat cargo during the pandemic; in fact, three carriers told us they increased the amount of hazmat they transported. According to selected carriers, increases in demand for electric vehicles with installed lithium-ion batteries or separately packaged lithium-ion batteries that power them—both of which are regulated by PHMSA as hazardous materials—have contributed to such increases. According to the carriers, because demand for cargo space exceeded supply during the pandemic, both hazmat and non-hazmat shippers alike believed they were being treated

\textsuperscript{20}See 49 C.F.R. §§ 176.63, 176.83, and 176.84. Segregation is obtained by maintaining certain distances between incompatible hazardous materials or by requiring the presence of one or more steel bulkheads or decks between them or a combination thereof. 49 C.F.R. § 176.83(a)(2).


\textsuperscript{22}Undeclared” hazmat means a hazardous material that is subject to the hazard communication requirements of the Hazardous Materials Regulations (49 C.F.R. Parts 171-180), which is offered for transportation in commerce without any visible indication to the person accepting the hazardous material for transportation that a hazardous material is present, on either an accompanying shipping document, or the outside of a transport vehicle, freight container, or package. See 49 C.F.R. § 171.8. “Mis-declared” hazmat is generally referred to as any shipment in which the hazmat is not properly identified.
unfairly. Ultimately, carriers told us they transported cargo for any shippers willing to pay the higher shipping rates that predominated during the pandemic.

Hazmat imports and exports transported on cargo ships increased from 2018 through 2020, before pandemic disruptions contributed to a stagnation of imports and decline in exports through 2022 (fig. 3). According to PIERS data, hazmat imports increased almost 32 percent from 2018 through 2020 but less than 1 percent from 2020 through 2022. Hazmat exports also increased 19 percent from 2018 through 2020, before declining by 7 percent from 2020 through 2022. Overall, across the 5-year period, hazmat imports grew more than 32 percent and hazmat exports grew almost 11 percent.

![Figure 3: Hazardous Materials Imports and Exports Transported on Cargo Ships, in Twenty-Foot Equivalent Units (TEU), 2018–2022](image)

Source: GAO presentation of S&P Global Market Intelligence's Port Import/Export Reporting Service (PIERS) trade data. | GAO-24-106368

Our estimates of the changes in the amount of hazmat are in twenty-foot equivalent units (TEUs).
By contrast, non-hazmat cargo grew at a higher rate during the pandemic, when vessel space was hardest to secure, compared to prior years. Specifically, from 2020 through 2022, non-hazmat imports increased at a greater rate than hazmat imports, and non-hazmat exports decreased at a lower rate than hazmat exports. According to PIERS data, non-hazmat imports increased about 2 percent from 2018 through 2020, before growing almost 17 percent from 2020 through 2022 (fig. 4). Non-hazmat exports decreased almost 9 percent from 2018 through 2020, with a 6 percent rate of decline from 2020 through 2022. Overall, from 2018 through 2022, non-hazmat imports increased by about 19 percent, and non-hazmat exports decreased by about 14 percent.

Figure 4: Non-Hazardous Materials Imports and Exports Transported on Cargo Ships, in Twenty-Foot Equivalent Units (TEU), 2018–2022

Despite an overall positive growth rate for hazmat imports and exports across our 5-year period, hazmat still accounted for a small percentage of all cargo shipped. Specifically, according to PIERS data, hazmat accounted for about 5 percent and 10 percent of total imports and exports, respectively, from 2018 through 2022 (fig. 5).
FMC Does Not Have an Outreach Plan to Improve Shippers’ Understanding and Use of Its Complaint Processes

Hazmat Shippers Rarely Submitted Complaints to FMC during the Pandemic, Partially Due to Lack of Knowledge about the Processes

Shippers generally did not use FMC’s four complaint mechanisms—formal complaints, charge complaints, informal complaints, or CADRS—to communicate concerns related to transporting hazmat during the pandemic. Specifically, we reviewed 407 CADRS complaints that FMC received from 2020 through 2022 and identified four that were related to...
shippers’ concerns about transporting hazmat. Moreover, none of the selected shippers we interviewed submitted complaints to FMC about the transportation of hazmat.

During our interviews, selected shippers cited numerous concerns with filing a complaint to FMC. Those concerns included the time required to do so, fear of carrier retaliation over submitting a complaint, and lack of knowledge about the complaint processes (fig. 6). For example, a few shippers told us that gathering the documentation to substantiate their claims would be time-consuming, and that submitting a claim could require hiring an attorney. Shippers also raised concerns that carriers might avoid working with them for future shipments if they filed complaints. Two shippers said they did not file a complaint due to lack of awareness about FMC’s complaint processes. Similarly, in 2022, FMC found that stakeholders repeatedly demonstrated confusion with its complaint processes, including misunderstandings about the differences between CADRS complaints and formal complaints.

While these four complaint narratives in the CADRS database are related to shippers’ concerns about transporting hazmat, the complaints did not contain any allegations of Shipping Act violations. As will be discussed later, we reviewed almost 700 CADRS’ complaints and FMC’s docket (where formal complaints are published) from 2018 through 2022 and identified four CADRS complaints related to hazmat, with all complaints occurring during the pandemic. We did not review information on informal complaints because it was not publicly available, and we did not review information on charge complaints because the process was established after the enactment of OSRA on June 16, 2022, and not in place for the full time frame of our review (2018 through 2022).

FMC has taken some steps to educate shippers and other maritime industry stakeholders about its complaint mechanisms. For example, in response to a pandemic working group, FMC updated its “Filing a Complaint” webpage in 2022 to include more information on its complaint processes. According to FMC officials, the webpage helps stakeholders understand the options available for submitting a complaint to the agency. FMC has also developed two webinars—describing FMC’s four complaint processes and the new charge complaint process—which are available on its website. Officials also told us that each of the five FMC Commissioners share information on the agency’s complaint processes by participating in industry events, talking with media, and meeting with maritime stakeholders. For example, in a November 2022 media interview, the FMC Chairman highlighted the importance of shippers submitting complaints to FMC.

FMC launched a “Fact Finding 29 initiative” in which it brought together various maritime shipping stakeholders to recommend ways to improve supply chain challenges during the pandemic. In response to stakeholder feedback, the Fact Finding Officer recommended that FMC revise its existing complaint website and hold a webinar describing the complaint processes. FMC, Fact Finding Investigation 29 Final Report.

However, we found that some misperceptions remain, even in instances where FMC has taken action. For example:

- Selected shippers mostly perceived FMC’s complaint processes as generally time-consuming, costly, and litigious. However, we found that through CADRS and the charge complaint process, FMC has provided shippers with new ways to submit a complaint that require fewer resources. Shippers can use CADRS to request help from FMC to locate cargo, communicate with carriers that fail to respond, and arbitrate and reach agreement with carriers on service contracts or negotiated rate agreements. Similarly, a shipper could submit a charge complaint against a carrier simply by emailing FMC with the following information: name of the carrier; description of the charges being disputed; and supporting documentation, including invoices or proof of payment for the charges. Misunderstandings about the requirements for CADRS and charge complaints, compared to the formal complaint process, could discourage shippers from submitting complaints.

- FMC did not include a reference to or description of the charge complaint process with the other complaint mechanisms atop its complaint webpage. OSRA of 2022 established the charge complaint process to provide shippers with a mechanism to dispute the charges assessed by carriers, such as charges for using a carrier’s containers or other equipment. Not having a comprehensive list of FMC’s complaint mechanisms could limit shippers’ knowledge and use of these processes.

- Four shippers we interviewed cited concerns about carrier retaliation, an issue FMC is aware of and working to prevent through outreach and training to carriers. However, the fact that four shippers cited this as a concern suggests shippers may be unaware of FMC’s efforts.

FMC’s strategic plans, leading practices, and *Standards for Internal Control* emphasize the importance of clear communication to the public. Specifically, FMC’s strategic plans for fiscal years 2018-2022 and 2022-2026 include an objective to enhance public awareness of its agency resources, remedies, and regulatory requirements through education and outreach. In our prior work, we found that agencies should have a plan for their outreach to consumers, to help overcome challenges that may
emerge, and we identified leading practices for such planning. For example, these practices call for agencies to define program goals, identify and engage with key stakeholders, and develop clear, consistent messages. Standards for Internal Control also state that agencies should evaluate external information and take action to ensure its quality (i.e., that the information is complete, accurate, and timely).

FMC officials told us they would like to enhance their outreach to stakeholders about the complaint mechanisms, but they have not established a plan to guide such efforts. FMC officials said they have not developed an outreach plan for more coordinated actions because they have limited resources and have prioritized other efforts, such as those related to the requirements outlined in OSRA of 2022.

Without an outreach plan that aligns with leading practices, FMC lacks assurance that it is efficiently using its limited resources to provide complete and accurate information about its complaint mechanisms to stakeholders. For example, in developing such a plan, FMC could draw on leading practices to define its goals, analyze any gaps in knowledge among its stakeholder groups, and determine appropriate messages to address those gaps. Such steps could also help FMC determine which industry events are best suited to reach target audiences, and establish relevant goals or performance measures to assess whether messages are reaching the intended audience. Developing a plan to improve shippers’ awareness and understanding of the complaint mechanisms could spur them to make greater use of FMC’s processes.

\[28\text{GAO-08-43. The leading practices developed in this report are (1) define goals and objectives; (2) analyze the situation; (3) identify stakeholders; (4) identify resources; (5) research target audiences; (6) develop consistent, clear messages; (7) identify credible messengers; (8) design media mix; and (9) establish metrics to measure success.}

\[29\text{GAO-14-704G.} \]
As previously discussed, FMC expanded its complaint mechanisms by establishing a new charge complaint process in response to OSRA of 2022. However, we found several shortcomings in how FMC collects, manages, and uses its complaint data from two of its complaint mechanisms that limit FMC’s ability to respond to shippers’ challenges and monitor the maritime shipping industry. Specifically, we found that FMC has not

- collected certain information from shippers through CADRS to enable the agency to better analyze complaint data;
- reviewed or updated its procedures for managing complaint data since 2019; or
- established a strategy for modernizing and using complaint data.

While the primary purpose of the information FMC collects through its complaint mechanisms is to resolve shippers’ concerns, this information also informs FMC’s oversight efforts, including those to combat unfair and unjust practices.

FMC does not collect certain information from shippers through the CADRS complaint process. As a result, FMC’s ability to readily monitor trends and inform its oversight efforts are limited.

FMC uses a one-page complaint form to collect basic information about CADRS complaints, but this form collects limited details about the dispute itself. The CADRS form requests information from the “Person Requesting Assistance,” which could be a shipper describing a challenge, and on who the “Dispute is With,” which could be an ocean carrier. The form also asks whether the “type of shipment” is a household good or commercial cargo, and whether the shipment is an import or an export (fig. 7). However, the form does not specifically ask about the type of good or commodity, whether it is hazardous or perishable, or the port of import or export. The complainant has the option to provide additional information in narrative form or by attaching supporting documentation. However, our review of CADRS complaints found that the content and level of detail of this additional information varied, depending on what the parties involved in the complaint elected to share with FMC.

30FMC’s CADRS complaint form is formally called the “Dispute Resolution Services Request Form - Cargo” or “Form 33.” In this report, we refer to this form as the “CADRS complaint form.”
FMC translates the information from the CADRS complaint form into a spreadsheet database to track the status of cases and compare information across cases. Most columns in the database correspond to fields on the CADRS complaint form. As a result, FMC’s analyses across CADRS cases are generally limited to data from fields on the form. FMC
officials said they primarily track high-level program statistics on the number of cases, type of complaint (household goods or commercial cargo), and the time it takes to resolve a case. FMC officials said they can also use these data to help monitor industry trends and identify issues that may require additional attention, including those that may warrant an investigation by the Bureau of Enforcement, Investigations, and Compliance (BEIC).

However, the limited amount of information on complaints that the form collects can make certain analyses across cases challenging. For example, to track certain characteristics of the cargo, like whether it is hazardous, FMC staff would have to manually review the case narrative or staff notes in the data. For instance, to identify hazmat cases from 2018 through 2022, we had to manually review almost 700 cases in the CADRS spreadsheet database for any indication of hazmat in the narrative or staff notes fields. FMC officials told us they generally only manually review data in certain circumstances, such as based on Commissioner or agency priorities. For example, in September 2023, FMC reported that it reviewed 300 CADRS complaints for fiscal year 2022 and found that almost half of total export cases were related to agricultural shipments.

FMC’s fiscal year 2018-2022 strategic plan and our prior work have stressed the importance of collecting comprehensive information to analyze and respond to risks. For example, FMC’s strategic plan provides a framework to address current or anticipated challenges in the ocean transportation system, in part through information captured from complaints it receives. Our previous work has also highlighted the importance of conducting comprehensive analyses of complaint data and information to monitor industry trends. Further, Standards for Internal Control state that agencies should use quality information, collected in a timely manner at the appropriate level and specificity, to make informed decisions to achieve key objectives and address potential risks.

FMC has not reviewed the CADRS complaint form since the enactment of OSRA of 2022 to ensure it captures sufficient information. FMC last

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31In our review, we found four potential cases in which a dispute involved hazardous chemical cargos based on the description of the incident or name of the commodity.


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updated the CADRS form in 2019. However, this was before OSRA of 2022, which codified FMC’s CADRS office in statute and directed FMC to appoint additional staff to assist with investigations and oversight. According to officials, FMC captures few specific details about shippers’ challenges through CADRS largely because the original intent of this complaint mechanism was to quickly resolve specific cargo issues. FMC officials told us that they would like to modernize the CADRS database to allow for additional analyses. However, FMC has not prioritized a review of the CADRS form because analyzing CADRS data to monitor the shippers’ challenges is not the primary purpose of these data.

By reviewing the CADRS complaint form to capture additional information about cargo complaints, FMC would have greater assurance that it is collecting sufficient information to meet the goals and objectives outlined in its strategic plan—including protecting the public from unlawful, unfair, and deceptive ocean transportation practices. Collecting more comprehensive and timely data through the CADRS process would enable the agency to more effectively monitor and respond to concerns in the maritime industry.

**FMC’s Procedures for Managing and Using Complaint Data Are Incomplete and Outdated**

FMC has standard operating procedures (procedures) that serve as the primary guidance documents for the CADRS and BEIC offices. The procedures outline staff responsibilities, as well as procedures for handling CADRS complaints, formal complaints, and investigations. For example, the CADRS procedures describe how staff should input case information into the CADRS database, and the BEIC procedures describe the processes staff should use during an investigation. However, we found that the procedures for these offices were incomplete and outdated, limiting FMC’s ability to effectively manage and use complaint data to monitor and respond to shippers’ challenges.

*Standards for Internal Control* require agencies to have policies that enable management to effectively monitor the agency’s activities.34 For example, agencies should document the responsibilities of staff in their policies and communicate these policies to staff, so that staff can implement control activities related to their assigned responsibilities. *Standards for Internal Control* also require agencies to periodically review policies, procedures, and related control activities for their effectiveness in achieving the agencies’ objectives and addressing related risks.

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We found that FMC’s procedures for the CADRS and BEIC offices did not reflect the full range of actions that staff can take to manage and use data from CADRS cases. These actions include:

- **Flagging cases.** FMC officials told us that CADRS staff have discretion to flag cases they believe may warrant investigation by BEIC, and that FMC’s Commissioners may set priorities for flagging cases. However, the procedures do not include these actions, nor do they offer guidance on the criteria for flagging cases, such as the priorities set by Commissioners.

- **Forwarding cases.** FMC officials told us that CADRS staff are expected to forward any complaints they receive alleging a violation of the Shipping Act to BEIC for further review. Our review did not identify any guidance in the CADRS procedures describing this expectation.

- **Analyzing data.** Agency priorities may require that staff analyze data across cases, such as in the agricultural example above. Officials told us that staff may also proactively review multiple CADRS or investigative cases to identify trends. We did not find guidance in the procedures on analyses that staff may conduct on their own initiative.

FMC has not established requirements for reviewing and updating its procedures. Instead, officials told us that each office reviews the procedures on an “ad-hoc” basis, typically when staff identify a need for updates. However, our review found that both offices had undergone significant changes, but staff had not conducted such updates.

- **CADRS procedures.** FMC has not reviewed or updated procedures for the CADRS office since 2019. Officials told us the procedures mention the name of staff who have not worked at FMC in several years. Further, the procedures do not reflect the current size and capacity of the CADRS office, which has grown from two to three staff during the COVID-19 pandemic to seven staff.

- **BEIC procedures.** FMC has not reviewed or updated procedures for BEIC since 2020. However, in response to OSRA of 2022, BEIC has undergone significant changes, including an internal reorganization and increased enforcement responsibilities. For example, OSRA of 2022 directed FMC to increase its investigatory capacity by adding a minimum of seven additional staff. In addition, FMC removed requirements for Commission approval at each step of the investigation process. However, these changes are not reflected in BEIC’s current procedures.
FMC officials recognized that the agency needs to update its procedures for the CADRS and BEIC offices and said they plan to do so. Further, officials said they would like to have a more systematic approach to reviewing and updating procedures. Nevertheless, as of November 2023, FMC had not updated its procedures or developed a plan for how to regularly conduct such updates. By updating its procedures to include all actions staff can take in response to shippers’ concerns, including handling potential violations of the Shipping Act, FMC will have greater assurance that its staff are consistently following its procedures. Establishing requirements for future updates to these procedures could also improve FMC’s ability to monitor and respond to shippers’ challenges in the future.

FMC plans to modernize some aspects of how it collects, manages, and uses complaint data, to better monitor shippers’ challenges and trends in the maritime shipping industry. These plans include upgrading the CADRS database in the next 2 fiscal years to an integrated case management system. According to FMC officials, this modernization effort will help staff more easily conduct analyses across cases. FMC also plans to enhance BEIC’s ability to collect data from the complaints it receives and increase collaboration among various teams within BEIC. However, FMC has not assessed its current data capabilities and needs, nor has it documented a strategy with key information for its modernization efforts, such as goals and intended outcomes, planned actions and investments, potential risks, and how it will measure the effectiveness of its efforts.

The federal government has increasingly required agencies to use data to drive decision-making. For example, in 2019, the Office of Management and Budget issued the Federal Data Strategy, which contained 10 operating principles on how the federal government can leverage the use of data to deliver on its mission to better serve the public. According to the Federal Data Strategy, executive departments and federal agencies should establish good data governance practices, including identifying data needs, providing sufficient resources to support data initiatives, and using data to guide decision-making.35 OSRA of 2022 also highlighted the

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importance of using data and modernizing data-related processes to help FMC meet its mission. For instance, OSRA of 2022 directed FMC to create a new webpage that allows for the submission of comments, complaints, and other concerns. Standards for Internal Control also state that agencies should establish and conduct monitoring activities for their internal control systems and evaluate the results.

FMC officials told us that they have not taken actions to modernize some aspects of how the agency collects, manages, and uses complaint data due to their focus on implementing the requirements in OSRA of 2022 and to limited agency resources. Without a data strategy to guide its efforts, FMC may face challenges moving forward with its modernization plans. Developing a data strategy that identifies key information—such as goals and intended outcomes, planned actions and investments, and plans to measure effectiveness—can help FMC ensure that it implements its modernization efforts efficiently and effectively. Further, a data strategy could inform changes FMC is making in response to OSRA of 2022, as well as future decisions related to how FMC collects and manages data.

The impact of the COVID-19 pandemic on the maritime shipping industry underscored the importance of FMC’s mission—to ensure a competitive and reliable ocean transportation system that supports the U.S. economy and protects U.S. shippers from unfair and deceptive practices. The overall increase in hazmat imports and exports from 2018 through 2022 does not suggest that carriers systemically disadvantaged hazmat shippers over this period. The pandemic affected all shippers, increasing their costs and resulting in delays. However, when vessel space was hardest to secure from 2020 through 2022, hazmat imports and exports were affected to a greater extent than non-hazmat cargos. Further, while all our selected hazmat shippers cited difficulties during the pandemic, none availed themselves of FMC’s complaint mechanisms. FMC has taken positive steps toward implementing the numerous requirements outlined for the agency in OSRA of 2022. Enhancing the tools it has in place will allow FMC to better identify and respond to shippers’ challenges. Developing an outreach plan to communicate FMC’s various complaint processes could increase FMC’s awareness of emerging issues and help alleviate shippers’ concerns. Taking steps to improve how it collects, manages, and uses complaint data could also strengthen FMC’s ability to monitor and respond to shippers’ challenges. Moreover, developing a data strategy could help FMC manage its planned data.

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modernization efforts and leverage its complaint data to oversee the maritime shipping industry more effectively.

We are making the following four recommendations to FMC:

- The Chairman of the Federal Maritime Commission should develop an outreach plan for communicating information about FMC’s various complaint processes to shippers. Such a plan should align with leading practices for effective outreach. (Recommendation 1)

- The Chairman of the Federal Maritime Commission should review the CADRS complaint form to ensure it is collecting specific information on shippers’ challenges. (Recommendation 2)

- The Chairman of the Federal Maritime Commission should update the procedures for FMC’s CADRS and BEIC offices to ensure they include all actions staff can take in response to shippers’ concerns, such as analyzing complaint data, and establish requirements for future reviews and updates. (Recommendation 3)

- The Chairman of the Federal Maritime Commission should develop a strategy to guide FMC’s efforts to modernize how it collects and manages data such that FMC can better monitor shippers’ challenges and trends in the maritime shipping industry. (Recommendation 4)

We provided a draft of this report to the FMC, DHS, Commerce, and DOT for review and comment. FMC provided written comments that are reprinted in appendix II and summarized below. FMC, DHS, and Commerce also provided technical comments, which we incorporated as appropriate. DOT had no comments.

In its written comments, FMC neither agreed nor disagreed with our four recommendations. FMC described some actions it has taken and plans to take that relate to areas our recommendations address. FMC also noted dissatisfaction with several aspects of our report, which we address here.

FMC said that our review of its complaint processes “came as a surprise.” During our audit, we provided FMC with information about our review on multiple occasions, met with FMC officials five times, and corresponded via telephone and email throughout the process to provide context on our work. For example, we provided FMC with a formal letter in December 2022 that outlined our research objectives, which have not significantly changed since that time. We also offered FMC officials the opportunity to review substantive portions of our draft and provide additional supporting documentation on at least two occasions prior to issuing our report.
Moreover, we provided FMC officials with a detailed list of questions or information prior to each meeting, to help ensure they were prepared to discuss the topics.

FMC also expressed dissatisfaction with our report’s methodology. First, FMC incorrectly stated that we generalized our interviews with hazmat shippers to all types of shippers to make our recommendations. As we state in our report, our selection of hazmat shippers is non-generalizable. We used information from the shippers’ interviews to provide illustrative examples in our report. Moreover, as we state in our report, while our review focused on hazmat imports and exports, in some cases we included information about non-hazmat. For example, because FMC’s complaint mechanisms were not exclusive to hazmat, our findings and recommendations apply to all types of cargo.

Second, FMC suggested that we used interviews with hazmat shippers as the primary source of support for our recommendations. This is incorrect. The primary sources of support for our recommendations—described in detail in the Objectives, Scope, and Methodology of our report (appendix I)—included the following:

1. Leading practices, laws, and agency documents that identify the required or desired state or expectation. These included leading federal practices for data management and strategy outlined in the Office of Management and Budget’s *Federal Data Strategy*, leading practices for consumer outreach developed by GAO, and *Standards for Internal Control*.

2. Interviews with officials from four agencies (FMC, DHS, DOT, and Commerce) and a non-generalizable sample of 18 maritime stakeholders that handled or transported hazmat—maritime industry associations (seven), shippers (six), and carriers (five).

3. The presence or absence of certain FMC documents and data. Among other things, we reviewed FMC’s regulations, rulemakings, and agency procedures, as well as FMC data on formal complaints and CADRS complaints. As we noted in our report, FMC did not provide us with other information, such as an outreach or data modernization plan, citing the absence of such documents.

4. Interviews with FMC officials on five occasions.

FMC also stated that because our report found no systemic disadvantage of hazmat shippers, it is difficult to ascertain how oversight of container
shipping would be enhanced by our recommendations. While FMC is correct that we did not find data to suggest that carriers systemically disadvantaged hazmat shippers, FMC’s response letter omits other key findings from our report that paint a more nuanced picture. For example, we found that when vessel space was hardest to secure from 2020 through 2022, hazmat imports and exports were affected to a greater extent than non-hazmat cargos. We also found that all selected hazmat shippers said they had difficulty securing space on ships, and most said they experienced long delays over that period. Yet, none availed themselves of FMC’s complaint mechanisms. Given the challenges these shippers faced, along with several published reports by the United States International Trade Commission and others we cite that recount similar challenges, we concluded that FMC could enhance its oversight of the maritime shipping industry by improving its use of data on shippers’ complaints.

FMC provided specific responses to each of our recommendations, which we address in turn:

**Recommendation 1.** Regarding our recommendation that FMC establish an outreach plan for its complaint mechanisms, FMC acknowledged in its written comments the importance of such outreach. FMC also described numerous outreach initiatives it had undertaken—e.g., presentations at conferences, posting a webinar about the complaint mechanisms on its website, and meetings with shippers—which we summarize in our report. However, as we also discuss in our report, FMC did not have a documented plan for these efforts that, for example, defined its outreach goals, analyzed any gaps in knowledge among its stakeholder groups, or determined appropriate messages to address those gaps. We found that the absence of such a plan was contrary to leading practices for consumer outreach. Further, FMC’s assertion in its written response that its outreach efforts have generally been successful, given the increase in complaints, was contrary to what we found. For example, as we reported, based on our interviews and FMC’s *Fact Finding Investigation 29 Final Report*, shippers were generally unfamiliar with FMC’s complaint mechanisms and had difficulty discerning the differences between the mechanisms.

Therefore, we continue to believe that having an outreach plan could help FMC refine its outreach efforts to, among other things, determine which industry events are best suited to reach target audiences and establish relevant goals or performance measures to assess whether messages
are reaching the intended audience. Developing an outreach plan to communicate FMC’s various complaint processes could also increase FMC’s awareness of emerging issues and help alleviate shippers’ concerns. As such, we stand by our recommendation and believe that FMC should implement it.

**Recommendation 2.** Regarding our recommendation that FMC review the CADRS form to ensure it is collecting specific information about shippers’ challenges, we are encouraged that FMC said in its written response that it continually reviews the CADRS form. However, we were not able to verify how or when FMC takes this action. Specifically, FMC did not describe its procedures for such updates, nor did it provide any information regarding past updates. As we mentioned in our report, FMC has not updated the CADRS form since 2019, prior to OSRA of 2022, which codified CADRS in statute and directed FMC to appoint additional staff to assist with investigations. Given that FMC noted in its comments that it is receiving more complaints than in years past, we believe that collecting more specific information on the form is even more important to effectively monitor and respond to concerns in the maritime industry.

As stated in our report, because FMC’s CADRS form does not specifically ask about the type of good or commodity, whether it is hazardous or perishable, or the port of import or export, FMC must manually review its spreadsheet database to identify complaint trends, which is time-consuming and may provide inaccurate results. For example, as we reported, we manually reviewed more than 700 complaints and identified four hazmat complaints.

We appreciate that FMC does not want to burden shippers, but we believe that FMC must balance any reporting burden with the need to capture sufficient information to understand concerns in the maritime shipping industry. Therefore, we continue to believe that FMC should implement our recommendation.

As we mentioned in our report, in making any updates, FMC will need to ensure not only that the procedures reflect the full range of actions that staff can take, but also that the procedures are accurate and up to date. We found that the procedures did not reflect the current size and capacity of the CADRS office, which has grown from two to three staff during the COVID-19 pandemic to seven staff. As new staff are onboarded into these offices, it will be critical that such procedures are up to date and accurate. Moreover, as we state in our report, FMC should also establish requirements for future updates to these procedures. Updating these
procedures, as we recommended, will give FMC greater assurance that its staff are consistently following its procedures. Establishing requirements for future updates to these procedures could also improve FMC’s ability to monitor and respond to shippers’ challenges in the future.

**Recommendation 4.** Regarding our recommendation that FMC develop a data strategy, FMC stated in its written response that it is taking action to modernize its data processes using its information technology modernization plan. However, FMC did not provide us with this plan, nor did officials mention such a plan in our interviews. As a result, we cannot verify that the plan encompasses planned updates to the CADRS or BEIC data. We also cannot verify that the plan includes key information identified in leading practices—such as goals and intended outcomes, planned actions and investments, and plans to measure effectiveness. As we note in our report, having such information can help FMC ensure that it implements its modernization efforts efficiently and effectively and help guide future decisions related to how FMC collects and manages data. In its comments, FMC also stated that its new Chief Information Officer (CIO) will help the agency take more significant strides toward its information technology modernization goals. We look forward to working with the new CIO to implement this recommendation.

We are sending copies of this report to the appropriate congressional committees, the Chairman of the Federal Maritime Commission, the Secretary of Commerce, the Secretary of Homeland Security, 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.

If you or your staff have any questions regarding this report, please contact me at (202) 512-2834 or VonAhA@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.

Andrew Von Ah
Director, Physical Infrastructure
Appendix I: Objectives, Scope, and Methodology

The Ocean Shipping Reform Act (OSRA) of 2022 includes a provision for us to examine whether carriers prioritized certain types of cargo over qualified hazardous materials (hazmat) during the pandemic through the systemic and unreasonable denial of vessel space accommodations or other means.1 This report examines (1) shippers’ experiences transporting hazmat during the pandemic; (2) how the amount of hazmat imports and exports changed from 2018 through 2022; (3) the extent to which hazmat shippers used the Federal Maritime Commission’s (FMC) complaint mechanisms during the pandemic, and how FMC has conducted outreach to stakeholders about these processes; and (4) actions FMC has taken to collect, manage, and use its complaint data to monitor the maritime shipping industry.

Our review examined the ocean transportation of containerized hazmat into (imports) and out of (exports) the U.S. from 2018 through 2022. While our review focused on hazmat imports and exports, in some cases we included information about non-hazmat. We did this because none of FMC’s processes we reviewed, such as FMC’s complaint mechanisms, were exclusive to hazmat.

For all objectives, we reviewed pertinent federal laws, regulations, and agency documents and rulemakings on the ocean transportation of hazmat.2 For example, we reviewed documentation and procedures related to FMC’s four complaint mechanisms— formal complaints, charge complaints, informal complaints, and Consumer Affairs and Dispute Resolution Services (CADRS).3 We interviewed agency officials from FMC, Department of Homeland Security (DHS), Department of Transportation (DOT), and Department of Commerce to determine each

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1In our report, “hazmat” refers to “qualified hazardous materials,” which are those that are certified for transportation in accordance with applicable safety laws, including regulations. See definition of “qualified hazardous materials” at Pub. L. No. 117-146, § 22(c)(3), 136 Stat. 1272, 1284.

2OSRA of 2022 required FMC to issue three new rulemakings related to demurrage and detention, unfair or unjustly discriminatory methods, and unreasonable refusal to deal or negotiate with regard to vessel space accommodations. As of February 2024, FMC issued a final rule on demurrage and detention billing practices, and was in the process of finalizing the remaining rules.

3We focused our analyses of FMC’s complaint mechanisms on CADRS and formal complaints. We did not fully review the charge complaint process, because it was established after the enactment of OSRA on June 16, 2022, and not in place for the full time frame of our review (2018 through 2022). We did not review FMC’s informal complaint process (i.e., complaints through small claims court) because information was not publicly available.
Appendix I: Objectives, Scope, and Methodology

agency’s role with respect to the ocean transportation of hazmat and to capture their perspectives on our objectives.\(^4\) We also conducted a literature search of peer-reviewed studies, government reports, and trade and industry articles about ocean shipping of hazmat from 2018 through 2022, to obtain background information and identify potential stakeholders to interview.

For all objectives, we also conducted interviews with a non-generalizable sample of 18 maritime stakeholders that handled or transported hazmat—maritime industry associations (seven), shippers (six), and carriers (five). To identify relevant stakeholders, we reviewed stakeholders' submissions on FMC’s recent rulemakings, our literature search results, our prior reports, and recommendations from stakeholders we interviewed, among other things.\(^5\) We interviewed stakeholders to understand their (1) role in the transportation of hazmat, (2) challenges transporting hazmat during the pandemic, (3) perspectives on FMC’s complaint mechanisms, and (4) assessment of FMC’s oversight of the maritime industry, among other things. While we asked all stakeholders several open-ended questions, we also asked shippers some additional structured questions. These structured questions were related to, among other things, shippers’ experiences with securing vessel space, transportation delays, and factors that would prevent them from submitting a complaint to FMC.\(^6\) We also visited the Ports of New Orleans and Newark to understand how

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\(^4\) We interviewed officials from the U.S. Coast Guard and U.S. Customs and Border Protection (CBP) within DHS, the Pipeline and Hazardous Materials Safety Administration (PHMSA) within DOT, and the U.S. Census Bureau (Census) within Commerce. We selected the U.S. Coast Guard because it oversees the safety and security of the maritime industry and PHMSA because it oversees the safe transportation of hazmat. We selected CBP and Census because these agencies collect trade data on imports and exports, respectively. In conducting our interviews, FMC pointed us to FMC staff who were knowledgeable about the issues discussed.

\(^5\) To identify shippers, we also reviewed the list of participants on FMC’s National Shipping Advisory Committee. We limited our selection of carriers to the largest 11, according to FMC. One of the carriers provided us with written responses in lieu of an interview. We spoke with or received written responses from the following industry associations: American Chemistry Council, American Association of Port Authorities, International Vessel Operators Dangerous Goods Association, National Association of Chemistry Distributors, National Industrial Transportation League, National Customs Brokers & Freight Forwarders Association, and World Shipping Council.

\(^6\) For the questions about vessel space and transportation delays, we asked each shipper to rate its experiences on a three-point scale. Shippers’ options for rating their challenges were: very often, sometimes, and never, with an option to also select unsure/no opinion. These ratings of challenges were based on shippers’ perceptions of events, so we did not provide a numeric range. As a result, these shippers could have had the same experience, but rated those experiences differently.
hazardous materials are manufactured, transported, and stored as part of our background research. While the results of our interviews are non-
generalizable, stakeholders were selected to represent a range of known perspectives and industry experiences and provide illustrative examples for our report.

To describe how hazmat imports and exports changed from 2018 through 2022 (the most recent data available at the time of our review), we analyzed S&P Global Market Intelligence’s Port Import/Export Reporting Service (PIERS) data for the 5-year period. We analyzed these data to (1) describe changes in hazmat imports and exports by year, and (2) compare those changes to non-hazmat cargo. To determine if a specific import or export is hazardous, S&P Global Market Intelligence must first predict the type of good based on a freeform description in the good’s Bill of Lading. Based on that identification, S&P Global Market Intelligence then compares each good to a list of goods it has determined to likely be hazardous based on the name of the good and historical information for those types of goods from the Bill of Lading. For hazmat imports and exports, we analyzed and compared data on the total hazmat imports and exports by twenty-foot equivalent units (TEU).

To assess the reliability of PIERS data, we (1) reviewed relevant documentation, including the PIERS user guide; (2) interviewed knowledgeable PIERS representatives about the data; and (3) conducted electronic testing of the data for outliers or obvious errors. We determined

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7During the two site visits, we interviewed stakeholders representing the ports, shippers, carriers, freight forwarders, and an intermodal transit facility.

8PIERS is a private data source, managed by S&P Global Market Intelligence, that pulls trade data from numerous sources, including CBP, Census, and carriers. We initially considered using data directly from CBP and Census; however, we decided to purchase PIERS data because the data had a hazmat indicator variable for both imports and exports.

9A Bill of Lading is a document issued by a carrier to a shipper, signed by the captain, agent, or owner of a vessel, furnishing written evidence regarding receipt of the goods, the conditions on which transportation is made (contract of carriage), and the engagement to deliver goods at the prescribed port of destination to the lawful holder of the Bill of Lading.

10For example, S&P Global Market Intelligence representatives said they flag all chemicals as hazardous based on classification of the good in the Harmonized Tariff Schedule.

11TEU is a measurement used to describe the size of a cargo container. One twenty-foot equivalent (TEU) container is 20 feet long. The TEU unit is used throughout the maritime and transportation industries to describe and measure vessel capacities, transportation activity, and trade flows.
that the PIERS data were sufficiently reliable for the purpose of reporting high-level trends in hazmat and non-hazmat imports and exports from 2018 through 2022.

To examine shippers’ use of FMC’s complaint mechanisms and assess FMC’s related outreach efforts, we conducted semi-structured interviews with selected shippers (see above). In our interviews, we asked shippers about (1) their familiarity with FMC’s complaint mechanisms, (2) whether they had submitted a complaint to FMC, and (3) what factors, if any, would prevent them from submitting a complaint.12 We also interviewed officials and reviewed FMC’s relevant outreach efforts—for example, FMC’s website and relevant webinars—and compared them with (1) information in FMC’s strategic plan, (2) leading practices for consumer outreach that we have developed, and (3) the Standards for Internal Control principle on evaluating the quality of information that an agency communicates to external stakeholders.13

To assess how FMC collects, manages, and uses complaint data to monitor the maritime shipping industry, we reviewed relevant FMC complaint data, including 700 CADRS complaints from 2018 through 2022. We also reviewed FMC documents, including the CADRS complaint form, CADRS standard operating procedures, and documentation on formal complaints. We also interviewed FMC officials to understand the agency’s existing efforts in these areas, as well as any planned updates. To assess how FMC collects, manages, and uses complaint data, we compared FMC’s actions with Standards for Internal Control.14 We also compared FMC’s use of data with leading federal

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12In our question set for shippers, we included a list of potential barriers (i.e., cost, amount of time, litigiousness of the process, lack of awareness of the process, and fear of carrier retaliation), along with an “other” category. We developed these options from interviews with industry associations and our literature search.


14We compared FMC’s actions to (1) collect data with internal control principles related to quality information and monitoring agency processes; (2) manage data with internal control principle on implementing control activities through policies; and (3) use data with internal control principle on monitoring activities. See GAO-14-704G.
Appendix I: Objectives, Scope, and Methodology

practices for data management and strategy outlined in the Office of Management and Budget’s *Federal Data Strategy*.15

We conducted this performance audit from November 2022 to April 2024 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.

Appendix II: Comments from the Federal Maritime Commission

Federal Maritime Commission
Office of the Chairman
Washington, D.C. 20573 - 0001

April 1, 2024

Andrew Von Ah
Director, Physical Infrastructure Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Von Ah:

Thank you for the opportunity to review the Government Accountability Office’s (GAO) draft report “Improved Use of Data on Shippers’ Complaints Could Enhance Oversight.”

Section 22 of the Ocean Shipping Reform Act of 2022 required the GAO to prepare this report after “a review of whether there have been any systemic decisions by ocean common carriers to discriminate against maritime transport of qualified hazardous materials (hazmat) by unreasonably denying vessel space accommodations, equipment, or other instrumentalities needed to transport such materials.” 136 STAT. 1272, 1284. The answer to this question is not highlighted in the draft report’s summary but, on page 25, the draft report appears to answer Congress’ question in the negative: “The overall increase in hazmat imports and exports from 2018 through 2022 does not suggest that carriers systemically disadvantaged hazmat shippers over this period.”

Despite finding that there had been no systematic discrimination against hazmat shippers, the draft report contains four recommendations concerning how the FMC can address potential discrimination against hazmat cargo: (1) development of an outreach plan for communicating FMC’s various complaint processes, (2) review the CADRS complaint form to ensure it is collecting specific information on shippers’ challenges, (3) updates to internal SOPs for the CADRS and BEIC office, and (4) development of a strategy to guide modernization efforts. Draft Report at p. 26.

I appreciate these recommendations as to how the FMC should improve its internal processes and procedures to better serve American shippers, and I will address each of them in this letter. Nonetheless, that this draft report audits the FMC’s complaint process comes as a surprise to me since it was not what Congress requested.

The GAO apparently based its recommendations mainly on interviews with a handful of shippers all of whom transport a particular kind of cargo. During the COVID-19 pandemic, many of these shippers became frustrated with carriers that had safety policies that denied space to certain hazmat cargos due to safety concerns involving the increased transit times resulting from COVID-related congestion. Yet, the report generalizes its recommendations as if this is a representative sample. Furthermore, as the report finds, there was no systematic disadvantage even for these
shippers, so it is particularly difficult to ascertain how oversight of container shipping would be enhanced.

All of that said, as Chairman, I have made responsiveness to any U.S. importer or exporter a priority regardless of whether it enhances oversight per se. That is why during the same timeframe that the 407 CADRS complaints that GAO reviewed were lodged, the FMC engaged with shippers regularly on both the staff and Commissioner level. Particularly responsive to the criticisms in the draft report, I personally met with representatives of the American Chemistry Council and the National Association of Chemistry Distributors (now the Alliance for Chemical Distribution). Senior staff met with these groups as well. Additionally, as part of our industry oversight responsibilities, the FMC utilized the feedback received from industry stakeholders to enhance the efficacy of our Vessel-Operating Common Carrier (VOCC) Audit program through tailored examination of the very issues raised in your report. The FMC's Bureau of Trade Analysis and the Bureau of Enforcement, Investigations, and Compliance (BEIC) reviewed information and assessed trade data specifically with respect to hazardous cargo shipments. No additional information was provided to the FMC that related to potential Shipping Act violations.

None of this outreach was included in the GAO report.

As to the specific recommendations that are in the GAO report, Recommendation 1 provides that the FMC should develop an outreach plan for communicating the Commission’s various complaint processes to shippers.

The FMC conducted substantial industry outreach during the pandemic and during the post-pandemic recovery period, including outreach on FMC complaint processes. FMC staff frequently communicates the FMC’s complaint procedures to shippers through presentations at trade association conferences and individual meetings with shippers as well as presentations at our live-streamed Commission meetings. In addition, on April 27, 2022, the FMC published a webinar specifically designed at clarifying the Commission’s complaint procedures. Outreach remains ongoing, all of it planned, some of it in reaction to immediate needs of the industry we were created to serve.

Furthermore, these outreach efforts seem to have been successful insofar as the inquiries and cases from American shippers has increased dramatically. For example, so far this year, we have already received in less than two-months nearly twice as many new cases as we received in the entire year of 2020. Our Office of Consumer Affairs and Dispute Resolution Services now handles an average of more than 100 requests for help every month, many times what it did five years ago. To accommodate our growing caseload of formal cases, we have increased our Office of Administrative Law Judges from one judge to three. Again, none of this is mentioned in the GAO report.

Recommendation 2 is already consistent with our current practice of continuous review. CADRS is an alternative dispute resolution office. Its primary focus is to quickly resolve disputes and help shippers get their cargo moving expeditiously and not burden a complainant for more information. This process is free and voluntary and less time-consuming than litigation. While collecting certain, relevant information is critical to effective dispute resolution, collecting
additional, irrelevant data would result in undue burdens on the parties, prolonged resolution times, and confusion of issues, thereby undermining the very purposes of CADRS. In short, there cannot be a one-size-fits-all form in these types of inherently unique commercial disputes.

Recommendation 3 is consistent with the FMC’s current efforts. We have already updated several procedures for handling shippers’ concerns within BEIC. The FMC will continue to review and update at its discretion any SOPs for CADRS and BEIC to fully encompass all potential staff actions for addressing shippers’ concerns in those offices and when actions should be taken.

Recommendation 4 recommends development of a “strategy” for data collection and management modernization when the FMC is already carrying out many aspects of our longstanding information technology modernization plan. A part of these efforts focuses on developing an agency-wide strategy to guide the usage and management of data in a way that better enables the agency to monitor issues in the maritime industry and guide future decision-making. The Commission has taken identifiable and concrete steps to modernize our information technology systems, and, with the recent hiring of a new Chief Information Officer, we are taking more significant strides to accomplish our IT modernization goals.

Thank you for your attention.

Sincerely,

Daniel B. Maffei
Chairman
# Appendix III: GAO Contact and Staff

## Acknowledgments

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### Staff Acknowledgments

In addition to the contact named above, Matt Barranca (Assistant Director), Melissa Swearingen (Analyst in Charge), Xiang Bi, Jackson Eckel, Jocelyn Kuo, Geoffrey Hamilton, Jean McSween, Sarah Prokop, Malika Rice, Laurel Voloder, Michelle Weathers, and Jade Winfree made key contributions to this report.
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