
Office of Inspector General

Audit Report

PROGRAM AND DATA LIMITATIONS IMPEDE THE EFFECTIVENESS OF FAA'S HAZARDOUS MATERIALS VOLUNTARY DISCLOSURE REPORTING PROGRAM

Federal Aviation Administration

Report Number: AV-2015-034

Date Issued: March 13, 2015





Memorandum

**U.S. Department of
Transportation**

Office of the Secretary
of Transportation
Office of Inspector General

Subject: **ACTION:** Program and Data Limitations Impede
the Effectiveness of FAA's Hazardous Materials
Voluntary Disclosure Reporting Program
Federal Aviation Admin
Report No. AV-2015-03

Date: March 13, 2015

From: Matthew E. Hampton 
Assistant Inspector General
for Aviation Audits

Reply to
Attn. of: JA-10

To: Federal Aviation Administrator

The transportation of hazardous materials by air can present serious safety risks. For example, between 1991 and 2014, lithium batteries, which have the potential to ignite, were involved in over 70 aircraft incidents involving extreme heat, smoke, fire, or explosion in aviation cargo and passenger baggage. In particular, in 2010, a United Parcel Service Boeing 747-400 aircraft caught fire, crashed, and killed both pilots in Dubai, United Arab Emirates. According to the final accident investigation report,¹ the fire may have been caused by improperly declared lithium batteries in the cargo and other combustible materials.

To promote safety and incentivize carriers to comply with hazardous materials regulations, FAA established the Hazardous Materials Voluntary Disclosure Reporting Program (HM VDRP) in 2006. Under the HM VDRP, air carriers can voluntarily disclose violations of specific hazardous materials regulations without receiving civil penalties. FAA's policy² is designed to encourage compliance with regulations, foster safe operating practices, and promote the development of internal evaluation programs by air carriers. However, the effectiveness of the HM VDRP depends on close monitoring by FAA to ensure the program is not misused.

Given the seriousness of risks posed by hazardous materials in aviation, including the potential for accidents, we initiated this audit of FAA's oversight of the HM

¹ General Civil Aviation Authority of the United Arab Emirates, "Air Accident Investigation Report: Uncontained Cargo Fire Leading to Loss of Control Inflight and Uncontrolled Descent into Terrain."

² FAA Advisory Circular 121-37: Voluntary Disclosure Reporting Program – Hazardous Materials, January 31, 2006.

VDRP. Our audit objectives were to determine whether FAA: (1) has an adequate framework to effectively carry out the HM VDRP, and (2) uses HM VDRP data to identify safety risks.

We conducted our work in accordance with generally accepted Government auditing standards from September 2013 to January 2015. Exhibit A details our scope and methodology and exhibit B lists organizations visited or contacted.

RESULTS IN BRIEF

FAA does not have an adequate framework to carry out the HM VDRP effectively. Specifically, FAA lacks sufficient internal controls, including oversight, training, and guidance, to meet the goals of the program. For example, under the HM VDRP, FAA requires air carriers to complete a comprehensive fix³ for violations they disclose. However, for 31 of the 48 (65 percent) closed cases we reviewed,⁴ FAA did not obtain sufficient evidence that air carriers completed all the required comprehensive fixes and conducted self-audits⁵ required in FAA's HM VDRP. Three of these cases involved shipping lithium batteries on a passenger aircraft—a potentially serious safety risk. In addition, FAA guidance lacks sufficient clarity on how certain program requirements should be met, such as what should be considered a repeat violation. As a result of these weaknesses, FAA does not have reasonable assurance that air carriers have implemented effective comprehensive fixes to prevent violations from recurring.

FAA does not use HM VDRP data to identify safety risks or trends. Regional managers who administer the program do not conduct risk analyses because they have not been required or asked to do so by FAA Headquarters officials. According to a 2007 FAA memorandum, FAA originally planned to conduct risk analyses on voluntary disclosure information that FAA regional managers entered into its Web-Dangerous Goods (WebDG) database. However, in 2009, FAA replaced WebDG with the Aviation Hazmat Portal (AHP) but never updated its policy to require managers to enter these data into its current AHP database. As a result, FAA's HM VDRP program data remain incomplete. According to FAA, the Agency does not conduct trend analyses with HM VDRP data because there were only 121 HM VDRP reports since the program's inception in 2006 through late 2013—a relatively small number to conduct in-depth risk analysis. Notwithstanding these limitations, however, FAA is missing opportunities to

³ According to FAA guidance, comprehensive fixes are “corrective steps and actions to prevent the apparent violation [...] from recurring.”

⁴ We reviewed closed cases from fiscal year 2012 through June 2014. For details on how we selected the cases we reviewed, see Exhibit A, Scope and Methodology.

⁵ According to FAA guidance, a self-audit “ensure[s] that the corrective action taken prevents a recurrence or noncompliance.”

combine HM VDRP data with data from other sources, such as compliance inspections, to identify trends that represent safety risks.

We are making recommendations to improve FAA's HM VDRP program framework, oversight, and use of data for identifying safety trends.

BACKGROUND

FAA's HM VDRP is designed to provide incentives for air carriers to achieve compliance with the hazardous materials regulations by voluntarily disclosing safety violations.⁶ FAA protects privacy for the records that carriers submit for review to the extent allowed by law.

Under FAA guidance, air carriers who voluntarily disclose hazardous materials violations must identify and complete comprehensive fixes,⁷ as well as perform subsequent self-audits to ensure corrective actions prevent recurring violations. In turn, FAA must evaluate air carriers' reports and determine whether the comprehensive fixes are acceptable.

FAA regional offices manage the HM VDRP. A regional manager may accept a voluntary disclosure only if an air carrier meets required conditions, such as:

- Notifies the FAA branch manager of the apparent violation within 24 hours after detection and before FAA learns of it by other means;
- Submits a written report within 30 days of initial notification that:
 - Explains why the apparent violation was inadvertent;
 - Provides evidence of the seriousness of the apparent violation;
 - Describes the immediate action to terminate the conduct that resulted in the apparent violation; and
 - Describes a comprehensive fix satisfactory to FAA including a follow-up self-audit to ensure the comprehensive fix prevents a recurrence of noncompliance.

Once FAA determines the comprehensive fixes proposed by the carrier are acceptable, the Agency may issue a letter of correction, rather than initiating an

⁶ The HM VDRP applies only to hazardous materials violations of 49 CFR 175, *Carriage by Aircraft*. Other hazardous materials violations are not covered under the program, including those under: 49 CFR 171 *General Information, Regulations, and Definitions*; 49 CFR 172, *Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans*; and 49 CFR Part 173, *Shippers – General Requirements for Shipments and Packagings*.

⁷ Examples of comprehensive fixes airlines proposed included training, procedural changes, and employee briefings.

enforcement action, closing the case. If the carrier does not complete the comprehensive fix, FAA may take enforcement action such as a civil penalty for the apparent violations disclosed.

In 2007, FAA issued a policy requiring the regions to enter HM VDRP data into the WebDG database. According to FAA, the purpose of collecting these data was to identify and analyze trends associated with the reporting requirement and corrective actions taken by air carriers. FAA intended the database to include the carrier's report used by FAA to accept the voluntary disclosure, FAA letter of correction closing the case, and any additional information provided by the air carrier as part of the corrective action plan. In 2009, FAA replaced WebDG with the AHP database.

We have reported on FAA's voluntary disclosure programs over the past several years. Exhibit C details our prior audit coverage on a number of oversight and data concerns that impede these programs from reaching their full potential, many of which are similar to the systemic issues we identified in HM VDRP.

FAA DOES NOT HAVE SUFFICIENT INTERNAL CONTROLS TO EFFECTIVELY CARRY OUT THE PROGRAM

FAA's HM VDRP lacks an adequate framework for carriers and FAA staff to address hazardous materials safety issues. In particular, FAA does not have sufficient program oversight and training to meet all HM VDRP requirements. Finally, FAA guidance lacks sufficient clarity on how certain program requirements should be met.

FAA Does Not Have Sufficient Oversight and Training To Meet HM VDRP Requirements

Effective internal controls, such as oversight and training, are integral to provide reasonable assurance that a program operates as intended.⁸ However, FAA's HM VDRP lacks an effective oversight process and training to provide reasonable assurance that regional staff are following all program requirements. For example, Headquarters staff we interviewed told us that, while they are responsible for developing policy, their involvement in the program is limited. As a result, we found examples of ineffective controls in the case files of all 9 FAA regions we analyzed. For example:

- **FAA is not obtaining evidence of completed comprehensive fixes and self-audits in all cases.** FAA guidance requires air carriers to identify and complete

⁸ According to the U.S. Government Accountability Office (GAO), "Internal control is a major part of managing an organization. It comprises the plans, methods, and procedures used to meet missions, goals, and objectives." GAO, *Standards for Internal Control in the Federal Government* (GAO/AIMD-00-21.3.1, November 1999).

comprehensive fixes and self-audits to prevent recurrence of air carrier's noncompliance. FAA is required to evaluate whether the comprehensive fixes are adequately accomplished. However, we found that not all air carriers provided documentation⁹ that these actions were completed. Specifically, in 31 of the 48 (65 percent) closed HM VDRP cases we reviewed,¹⁰ FAA did not obtain sufficient evidence¹¹ that air carriers completed all their comprehensive fixes and conducted self-audits. For example, an air carrier disclosed that it transported a shipment of primary lithium batteries on a passenger aircraft, even though the shipment was marked "forbidden for transport aboard passenger aircraft." While the air carrier proposed comprehensive fixes, such as making its employees aware of the violation and conducting safety briefings to address the violations, the carrier provided neither adequate evidence of completion of these actions nor the results of its self-audit. As a result, FAA does not have evidence that the carrier adequately addressed this safety issue.

- **FAA region did not provide response after the carrier's initial notification.** One region did not provide written responses to the air carriers' initial notifications for 10 of the 15 cases we reviewed, as required. In this region, staff indicated that they were aware of the requirement to provide the written response, but simply did not prepare them.
- **FAA's final assessment of the carrier's comprehensive fixes.** FAA is required to conduct and document a final assessment of the air carrier's actions. If all elements of the comprehensive fix have been adequately accomplished, FAA guidance calls for FAA to write a statement in its Enforcement Investigative Report (EIR) confirming the fix is satisfactory. However, in none of the 48 cases we reviewed did regional personnel document a statement in the EIR that the comprehensive fix was satisfactory. Instead, FAA simply summarized the carriers' proposed comprehensive fixes in the EIR without making a statement on the adequacy of the comprehensive fixes or left the field in the EIR blank.

Training is another critical control that can enhance staff awareness of the requirements and procedures they must follow to execute the program. Yet, regional managers told us that they did not receive training in the program, leading to instances of noncompliance with HM VDRP requirements, including:

⁹ Examples of documentation could include items such as training records, copies of procedural changes, or employee briefings.

¹⁰ We reviewed closed cases for the period of fiscal year 2012 through June 2014. For details on how we selected the cases we reviewed, see Exhibit A, Scope and Methodology.

¹¹ FAA guidance defines evidence as "written documentation or reports that support [...] analysis of the apparent violation and the resulting elements of the proposed comprehensive fix."

- **FAA region did not provide a response after the carrier's initial notification.** The HM VDRP requires FAA to provide a written response to the air carrier's initial notification of an apparent violation. However, one region was unaware of this requirement and did not provide written responses for 8 of 10 cases we reviewed. The Regional manager stated that training has not been provided for the program by FAA Headquarters, which could have clarified and reinforced the program requirements.
- **FAA region waived the carrier's requirement to conduct a self-audit.** Under the HM VDRP, air carriers are required to conduct a self-audit to prevent a recurrence of the non-compliance. HM VDRP's guidance does not state that it allows this requirement to be waived. However, in two cases we reviewed, a regional manager waived the air carrier's self-audit requirement due to "the non-systemic nature of the apparent violation." Both violations occurred because the air carrier transported a shipment of lithium batteries on passenger aircraft that were marked as forbidden on passenger aircraft. When asked about the waivers, the regional manager explained that he had not received training regarding the proper way to process a voluntary disclosure and was unaware that waiving a self-audit was not permissible. However, by waiving the self-audit, there is no evidence that the carrier's comprehensive fixes can prevent a recurrence of the non-compliance.

FAA Guidance Lacks Clarity on How To Meet Certain Program Requirements

FAA's guidance for the HM VDRP has not been updated since 2006 and lacks details regarding how to administer the program, including clarification regarding repeat violations. As a result, FAA staff used their own judgment to manage the program, sometimes in conflicting ways. For example:

- **Defining "serious" violations.** FAA's guidance requires air carriers to provide evidence that demonstrates the "seriousness of the apparent violation" but does not provide guidance on what constitutes "seriousness." As a result, regional managers developed their own approaches to defining the seriousness of a violation. Managers in three regions explained that, in their view, merely reporting the violation indicated seriousness. However, one of the managers added his own additional criteria that could be considered when determining seriousness including repeat occurrences of violations, human error, and type of commodity being shipped.
- **Clarifying policies for repeat violations.** FAA's guidance does not clarify what should be considered a repeat violation. According to the guidance, regional managers will determine whether repeated violations will be accepted in the HM VDRP on a case-by-case basis, after evaluating the facts and

circumstances surrounding the repeated violation. However, repeat disclosures could indicate air carriers' failure to implement comprehensive fixes after their first violation. Further, FAA's willingness to accept repeat disclosures could undermine the Agency's efforts to encourage air carriers to comply with regulations and foster safe operating practices, and increases the risk that the program could be abused.

For example, for a single air carrier that had a total of 15 HM VDRP cases, one region accepted 11 instances of the same apparent violations occurring at different locations on varying dates. In 9 of the 11 cases, the repeat violation was related to persons' lack of knowledge of hazardous materials markings or labeling on shipments they accepted. In 2 of these 11 cases, hazardous materials shipments travelled on passenger aircraft even though the package was labeled as forbidden on this type of aircraft. Despite the repeat nature of these violations, the region accepted the cases. In contrast, another region rejected a case from an air carrier that was found to have a history of repeat violations.

- **Addressing violations outside of the program.** FAA guidance does not clarify how regions should handle cases involving hazardous materials violations that are outside the purview of the HM VDRP. For example, in one case, an air carrier shipped an oxygen generator on a passenger aircraft that was forbidden for transport aboard passenger aircraft. This incident was in violation of two separate parts of the Hazardous Materials Regulations.¹² However, the region accepted this apparent violation into the program under one regulation but did not address the carrier's non-compliance with the second regulation. When asked why, FAA managers stated that the second regulation was not covered under the HM VDRP program. As a result, the air carrier was, in effect, not held accountable for violating the second regulation. Furthermore, by not holding these air carriers fully accountable, FAA is missing an opportunity to capture violations related to transporting forbidden hazardous materials on passenger aircraft.
- **Closing cases before a comprehensive fix is completed.** FAA's program guidance contains a weakness that allows a case to be closed once FAA determines a proposed comprehensive fix is acceptable, rather than requiring FAA to verify that the air carrier actually completed its proposed comprehensive fix. Moreover, FAA regional managers stated that they do not routinely follow up on HM VDRP cases once they are closed. Under the program, if FAA determines that the carrier did not complete its comprehensive fixes, FAA has the option to reopen the case and pursue legal

¹² 49 CFR Part 175 and Part 173.27 both address aspects of carrying hazardous materials on an aircraft. Part 175 is covered under the HM VDRP program, but Part 173.27 is not.

enforcement action. FAA regional managers we interviewed were not aware of voluntary disclosure cases that had been re-opened. However, because FAA does not verify that air carriers have completed their comprehensive fixes in all cases, FAA does not have sufficient information to determine whether air carriers have effectively mitigated the hazardous materials safety issues that the program was intended to correct.

According to FAA Headquarters, FAA regional managers who are responsible for implementing the program should obtain sufficient evidence to be confident about: (1) the nature and content of the proposed comprehensive fix; (2) how the air carrier intends to implement it; and (3) whether the fix was actually implemented. In addition, they stated that FAA personnel responsible for monitoring the air carrier's action should have some form of analysis that adequately demonstrates the satisfactory accomplishment of the fix. However, these concepts are not specifically included in the program's guidance; therefore, not all FAA regions may be following them.¹³ FAA Headquarters officials agreed that more clarification in the guidance could ensure that these concepts are fully imparted to the field.

FAA DOES NOT USE PROGRAM DATA TO IDENTIFY SAFETY RISKS

FAA does not conduct trend analyses of HM VDRP data to identify safety risks at either the regional or Headquarters level. In addition, not all FAA regions are entering HM VDRP data into the Agency's AHP database, which limits FAA's ability to conduct trend analysis. Finally, FAA has not taken advantage of opportunities to use program data in conjunction with data obtained from other sources, such as inspections, to identify safety risks.

Neither Regions Nor Headquarters Conduct Trend Analyses Based on HM VDRP Data

Although FAA's regional offices manage the program and maintain case files, they do not use HM VDRP data to conduct risk analyses. For example:

- One regional manager stated that trends were to be developed at the Headquarters level. While the region had been providing Headquarters information to run trends and analysis, the manager noted that Headquarters had not shared any resulting analysis from the information provided. Meanwhile, in contrast, Headquarters personnel stated that they expect regions to inform them of any significant safety trends.

¹³ We interviewed 8 out of 9 FAA regions for HM VDRP compliance. For more details, see Exhibit A, Scope and Methodology.

- Another regional manager commented that the region does not use HM VDRP data to identify safety risks because the deficiencies identified under the program are not systemic but the result of human error, in the manager's opinion.

Moreover, Headquarters also does not conduct trend analyses using HM VDRP data. Yet, FAA issued policy in 2007 instructing Headquarters staff to identify trends based on program information that regions were required to enter into a database called WebDG. FAA Headquarters stated they intended to use this information to analyze trends associated with air carriers' violation reports as well as any comprehensive fixes implemented by the carriers. However, in 2009, FAA replaced WebDG with the AHP database and never updated its policy to enable trend analysis through the new database. FAA Headquarters staff stated that due to the replacement of WebDG with AHP, the 2007 policy does not expressly require regional staff to enter the data into AHP. According to managers we spoke with, not all regions are entering data into the AHP database, leaving the program's data incomplete and limiting FAA's ability to identify trends and conduct future analysis.

In addition, Headquarters staff cited the small number of voluntary disclosures submitted as a limiting factor in their ability to conduct trend analysis. From 2006 to late 2013, according to FAA, there were only 121 closed HM VDRP reports from air carriers. In comparison, as OIG reported in 2014, we conducted a review of FAA's Flight Standards Voluntary Disclosure Reporting Program at 10 air carriers and randomly selected reports out of 1,335 disclosures from these carriers between October 2007 and July 2012.¹⁴ Program and air carrier personnel provided the following explanations for the small number of HM VDRP submissions:

- Air carriers can only report apparent violations of certain¹⁵ but not all hazardous materials requirements.¹⁶ For example, the HM VDRP does not apply when an air carrier acts as the shipper of its own hazardous materials. In other words, if another company submits the materials for shipment, but the

¹⁴ *Further Actions Are Needed To Improve FAA's Oversight of the Voluntary Disclosure Reporting Program* (OIG Report Number AV-2014-036, Apr. 10, 2014). OIG reports are available on our Web site at: <http://www.oig.dot.gov>.

¹⁵ Under the HM VDRP, air carriers can only report violations of Title 49 CFR Part 175, which includes regulations pertaining to acceptance, loading, unloading, handling, and stowage of hazardous materials carried by air; training requirements for employees who handle hazardous materials; and certain reporting requirements.

¹⁶ Air carriers cannot use the Program to report violations of hazardous materials regulations in Title 49 CFR Parts 171-173. Part 171 covers the general applicability of hazardous materials regulations and includes requirements such as: incident reporting incident notification, submission of examination reports, and authorizations for use of international standards and regulations. Part 172 lists and classifies hazardous materials for purposes of transportation and prescribes the requirements for shipping papers, package marking, labeling, and transport vehicle placarding applicable to the shipment and transportation of those hazardous materials. Part 173 contains the definitions of hazardous materials for transportation purposes, requirements observed in preparing hazardous materials shipments by air, highway, rail, or water; and inspection, testing, and retest responsibilities for personnel who work with containers used to transport hazardous materials.

carrier transports them, the carrier can disclose the violation. However, carriers are not able to disclose a shipping violation if they ship their own materials due to the HM VDRP's limited requirements.

- FAA stated that air carriers may have little incentive to report violations unless there is a high risk that FAA inspections could identify the violations.
- Reporting can be cumbersome. Currently, air carriers report the initial notification of a violation to FAA by telephone, fax, email, and oral or written notification. Because there is no Web site or automated form to submit written information, such as a required written report due 30 working days after the initial notification, air carriers must create a document with the required sections and then either email, mail, fax, or hand deliver the information to the FAA region. FAA and air carriers suggested creating an automated Web-based system, similar to the one used for the Flight Standards Voluntary Disclosure Reporting Program.
- FAA has not conducted outreach to air carriers to promote the program.
- Air carriers can use their own internal programs to deal with hazardous materials incidents.

FAA Could Use Program Data More Effectively To Address Risks

We recognize the small number of HM VDRP cases may not currently lend itself to a rigorous analysis to identify trends signifying risk. However, FAA has not taken advantage of opportunities to use program data in conjunction with data obtained from other sources, such as from its compliance inspections, to identify safety risks. Our analysis, an independent safety team's report, and FAA's own work show the benefits of combining VDRP with other data to identify risks. For example:

- According to its 2008 report, an independent safety review team¹⁷ referred to VDRP data along with data from many other sources as a potential contributor to the identification of trends that represent risks. In this regard, HM VDRP data could become one input, among many, for the analytic operations that belong at the heart of FAA's Safety Management System, the Agency's approach to managing safety risks.
- FAA's Fiscal Year 2014 HM National Work Plan, which defines goals for its hazardous materials safety program, recognizes the benefit of using hazardous

¹⁷ The independent review team was a blue ribbon panel appointed by Secretary of Transportation Mary E. Peters. It published "Managing Risks in Civil Aviation: A Review of FAA's Approach to Safety" in 2008 to communicate its evaluation of FAA's safety culture as well as its recommendations to improve the culture and the implementation of an aviation safety system.

materials data from the AHP database along with other data to accomplish FAA's hazardous materials oversight mission. Specifically, the plan states that hazardous materials staff should, among other things, perform compliance inspections and investigations through the use of data including compliance data derived from inspection and investigation methodologies and the evaluation of data entered and maintained in the AHP.

According to FAA, it is potentially difficult to combine HM VDRP data with other data due to the need to maintain confidentiality about the identity of the air carriers that use the VDRP process. However, in its 2013 Air Traffic Organization Safety Report,¹⁸ FAA identified processes in which other voluntary reporting programs are used to identify safety risks and share data. For example, FAA stated that under the Air Traffic Safety Action Program,¹⁹ safety risks have been identified while allowing air traffic controllers and managers to report risks confidentially. Also, FAA stated that another program called the Confidential Information Share Program (CISP) was created to allow confidential voluntary disclosure programs to share data and foster mutual understanding of aviation safety issues from the air traffic and flight crew perspectives.

CONCLUSION

FAA established the HM VDRP program to encourage compliance with safety regulations, foster safe operating practices, and promote the development of internal evaluation programs. However, FAA must clarify its HM VDRP guidance and establish better internal controls to provide more reasonable assurance that both air carriers and FAA regional officials meet program requirements. FAA also has an opportunity to identify trends by combining the limited program data with other data collected by FAA. Until these steps are taken, FAA will not be able to maximize the potential for the HM VDRP to reduce safety risks in the National Airspace System.

RECOMMENDATIONS

To improve FAA's Hazardous Materials Voluntary Disclosure Reporting Program framework, oversight, and use of data for identifying safety trends, we recommend that FAA:

1. Require air carriers to provide FAA with sufficient evidence of completion of comprehensive fixes and self-audits.

¹⁸ "Air Traffic Organization 2013 Safety Report," Federal Aviation Administration, published April 2014.

¹⁹ ATSAP is a voluntary, non-punitive program in which air traffic controllers can self-report safety instances and concerns. In July 2012, we issued a report on FAA's implementation of ATSAP (*Long-Term Success of ATSAP Will Require Improvements in Oversight, Accountability, and Transparency*, OIG Report Number AV-2012-152, July 19, 2012).

2. Close Hazardous Materials Voluntary Disclosure Reporting Program cases only after air carriers provide evidence of completion of comprehensive fixes and self-audits.
3. Clarify how Hazardous Materials Voluntary Disclosure Reporting Program requirements are to be met, such as defining what constitutes serious violations and determining under what circumstances repeat violations could be accepted.
4. Provide training to the FAA Regions on Hazardous Materials Voluntary Disclosure Reporting Program requirements or policies.
5. Verify that FAA Regions consistently meet the requirements of the Hazardous Materials Voluntary Disclosure Reporting Program.
6. Require Regions to enter data from Hazardous Materials Voluntary Disclosure Reporting Program cases into the Aviation Hazmat Portal database.
7. Verify that FAA Regions record detailed information on voluntary disclosure cases into the Aviation Hazmat Portal database.
8. Develop an automated system, such as a Web site, to allow air carriers to report potential violations under the Hazardous Materials Voluntary Disclosure Reporting Program.
9. Combine Hazardous Materials Voluntary Disclosure Reporting Program data with data from other sources, such as inspections, to identify trends signifying safety risk.

AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

We provided FAA with a draft of this report on January 28, 2015. We received the Agency's response on February 23, 2015, which is included in its entirety in the appendix to this report. In its response, FAA stated that it concurred with 8 of our 9 recommendations and partially concurred with 1 recommendation (recommendation 8).

In addition, FAA noted that the Agency recently issued a policy to improve the HM VDRP program. FAA issued the policy following detailed discussions with OIG staff about our findings during the course of our audit. While FAA did not provide specific information on its planned actions for recommendations 1, 5, 6, and 7 in its response to our report, its new policy does address these four

recommendations. Therefore, we consider these recommendations resolved but open pending completion of the planned actions, which includes revising its current HM VDRP policy (Advisory Circular 121-37).

FAA did not provide specific information on its planned actions to implement recommendations 2, 3, 4, and 9. Therefore, these recommendations will remain open and unresolved until FAA provides further information on its planned actions and completion timeframes.

Finally, FAA stated that it intends to implement the recommendations it concurred with by December 31, 2015, but noted that recommendation 8 might be delayed due to resource limitations. While FAA's planned action for recommendation 8 is responsive, the Agency did not provide a specific target action date for completion. Therefore, we consider this recommendation open and unresolved, pending FAA's provision of a target action date.

ACTIONS REQUIRED

FAA's planned actions for recommendations 1, 5, 6, and 7 are responsive, and we consider these recommendations resolved but open pending completion of the planned actions. We consider recommendations 2, 3, 4, 8, and 9 open and unresolved pending receipt of FAA's detailed planned actions for each of our recommendations and the date when those plans will be completed. In accordance with DOT Order 8000.1C, please provide your written response within 30 days of issuance of this report.

We appreciate the courtesies and cooperation of Department of Transportation representatives during this audit. If you have any questions concerning this report, please call me at (202) 366-1987, or Scott Macey, Program Director, at (415) 744-0434.

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cc: DOT Audit Liaison, M-1
FAA Audit Liaison, AAE-100

EXHIBIT A. SCOPE AND METHODOLOGY

We conducted our work from September 2013 through January 2015 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.

To conduct our review, we interviewed FAA regional hazardous materials managers from 8 of the 9 FAA regions²⁰ to obtain an understanding of their processes to carry out the HM VDRP. Specifically, we interviewed officials from the following FAA regions: Eastern, Great Lakes, Northwest Mountain including Alaska, Southern, Southwest including Central, and Western Pacific. In addition, we analyzed all 48 HM VDRP closed cases from fiscal years 2012–2014.²¹ We limited our scope to this time frame, in part, because FAA officials stated that regions are only required to maintain case files for 2 years. To validate that we had an accurate and complete universe of cases for the timeframe we reviewed, we contacted FAA Headquarters to obtain a list of the closed cases during the time period. We also contacted the FAA regions to obtain the actual closed case files. Based on our review of Headquarters and Regional information, we concluded that the data were reliable enough for the audit.

To evaluate the effectiveness of FAA’s Hazardous Materials Voluntary Disclosure Program, we:

- Reviewed FAA’s guidance and policies.
- Interviewed staff responsible for program management and oversight both at Headquarters and in the Regions.
- Interviewed and corresponded with air carriers.
- Interviewed NTSB and Regional Airline Association regarding the program’s effectiveness.
- Reviewed documentation from FAA Headquarters and case documentation from Regional Offices for the HM VDRP.
- Analyzed case documentation to evaluate whether program requirements were met and determine causes of violations.

²⁰ We did not interview one of the regions because it only had one case in our sample.

²¹ We reviewed FY 2014 closed reports through June 2014.

EXHIBIT B. ORGANIZATIONS VISITED OR CONTACTED**FAA Headquarters**

Office of Security and Hazardous Materials Safety

FAA Regional Offices

Joint Security & Hazardous Materials East

Eastern Region

Southern Region

New England Region

Joint Security & Hazardous Materials Central

Great Lakes Region

South West Region

Joint Security & Hazardous Materials West

Western Pacific Region

Northwest Mountain Region including Alaska

National Transportation Safety Board

Office of Railroad, Pipeline, and Hazardous Materials Investigation

Office of Government and Industry Affairs

Office of the Managing Director; Safety Recommendations and Quality Assurance
Division

Air Carriers

United Parcel Service

Southwest Airlines

United Airlines

Stakeholders

Regional Airline Association

EXHIBIT C. OIG REPORTS ADDRESSING VOLUNTARY DISCLOSURE REPORTING PROGRAMS

1. *Further Actions Are Needed To Improve FAA's Oversight of the Voluntary Disclosure Reporting Program* (OIG Report No. AV-2014-036, April 10, 2014). We reported that FAA's VDRP²² process does not require air carriers to identify the root cause of reported violations, and FAA does not ensure air carriers implement all corrective actions or verify whether the actions resolved the problems. FAA also does not collect, analyze, or trend VDRP data to identify safety risks at the national level, which could aid the inspection planning process.
2. *FAA's Safety Data Analysis and Sharing System Shows Progress, but More Advanced Capabilities and Inspector Access Remain Limited* (OIG Report No. AV-2014-017, December 18, 2013). We reported that FAA's Aviation Safety Information Analysis and Sharing (ASIAS)²³ program does not allow its inspectors and analysts to use ASIAS data for their air carrier oversight due to proprietary data concerns. Yet, 74 percent of 292 field inspectors and analysts we surveyed stated that access to national-level data provided through ASIAS would improve air carrier safety oversight.
3. *Long Term Success of ATSAP Will Require Improvements in Oversight, Accountability, and Transparency* (OIG Report No. AV-2012-152, July 19, 2012). We reported that FAA will need to make significant improvements before its Air Traffic Safety Action Program (ATSAP)²⁴ will be able to effectively identify and address the root causes of safety risks. Due to provisions designed to protect controller confidentiality, much of the data that FAA collects are not validated, raising questions about the effectiveness of these data for analyzing safety trends. Also, FAA does not have a formal process to ensure that report acceptance criteria are rigorously followed and that conduct issues are dealt with appropriately.
4. *FAA Is Not Realizing the Full Benefits of the Aviation Safety Action Program* (OIG Report No. AV-2009-057, May 14, 2009). We reported that FAA's Aviation Safety Action Program (ASAP)²⁵ is a potentially valuable safety tool,

²² VDRP allows air carriers to voluntarily report and correct—without civil penalty—non-compliances with airline operations, maintenance, and training programs.

²³ ASIAS enables authorized users to obtain data from confidential databases, as well as publicly available data sources to proactively identify and address risks that may lead to accidents.

²⁴ ATSAP is a voluntary, non-punitive program in which air traffic controllers can self-report safety instances and concerns.

²⁵ ASAP is a joint FAA and industry program intended to generate safety information through voluntary disclosure that may not be otherwise obtainable to identify potential precursors to accidents. The program allows aviation employees to self-report safety violations to air carriers and FAA, including violations of Federal Aviation Regulations, without fear of reprisal through legal or disciplinary actions.

but FAA's ineffective implementation and inadequate guidance have allowed inconsistent use and potential abuse of the program. Further, FAA has not devised a method to fully compile data reported through ASAP for analysis on a national level. Therefore, little is understood about nationwide trends in the types of violations reported under ASAP, and ASAP reports do not help FAA determine whether systemic, nationwide causes of those violations are identified and addressed.

Note: OIG reports are available on our Web site at <http://www.oig.dot.gov/>.

EXHIBIT D. MAJOR CONTRIBUTORS TO THIS REPORT

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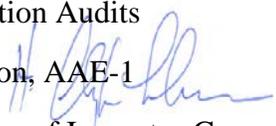


Federal Aviation Administration

Memorandum

Date: February 23, 2015

To: Matthew E. Hampton, Assistant Inspector General for Aviation Audits

From: H. Clayton Foushee, Director, Office of Audit and Evaluation, AAE-1 

Subject: Federal Aviation Administration's (FAA) Response to Office of Inspector General (OIG) Draft Report: FAA's Hazardous Materials Voluntary Disclosure Reporting Program

The FAA's Office of Security and Hazardous Materials Safety (ASH) recently implemented strong new internal controls to consolidate central oversight of the hazardous materials voluntary disclosure reporting program (VDRP). Under ASH Policy 2015-02, which was issued on October 31, 2014, regional managers are now required to coordinate with FAA Headquarters personnel on significant cases, those that are potential repeat violations, or violations that indicate a potential systemic issue, and document comprehensive fixes proposed by an air carrier in connection with a VDRP submission. This is a significant enhancement in the level of oversight and addresses many of the findings of this audit.

The FAA has reviewed the OIG's draft report and offers the following comments in response to the findings and recommendations:

- Structural changes to ASH's VDRP have been initiated, beginning with Headquarters' responsibilities to monitor and review VDRP activities in the regions and the regions' recording of all VDRP data into the Aviation Hazmat Portal. Additional structural changes, if necessary, will be made to ensure compliance.
- Hazardous materials VDRP Advisory Circular (AC 121-37) will be updated to ensure consistent application of VDRP requirements for the transportation of hazardous materials by air. This update will include clarifications of both terminology and processes.
- Additional changes to ASH's VDRP may include opening the VDRP to instances of apparent non-compliance with regulations involving carriers' shipments of company-owned hazardous material, and air-carrier violations of regulations in 49 C.F.R. parts 171 – 173.
- ASH recognizes the benefits of automating the VDRP submission process and is working with the FAA's Office of Aviation Safety (AVS) to explore options, including the possibility of incorporating the hazardous materials VDRP reports into the AVS

VDRP system, which if feasible, would be a more cost-effective approach than creating a new automated reporting application.

- Dissemination of VDRP data from FAA Headquarters to field offices has commenced with the sharing of VDRP information and data on a quarterly basis among hazardous materials program management personnel.
- The FAA is actively engaging the air carrier community through outreach, reminding them of the availability of the VDRP and informing them that program enhancements are planned.

Based upon a preliminary review, the Agency concurs with the OIG recommendations, as written, and partially concurs with recommendation 8. ASH expects to implement the concurred recommendations by December 31, 2015. Resource constraints may delay implementation of recommendation 8, but ASH will work with other FAA organizations to try to identify an in-house website solution that may be adaptable for that purpose.

We appreciate this opportunity to offer additional perspective on the OIG draft report. Please contact H. Clayton Foushee at (202) 267-9000 if you have any questions or require additional information about these comments.