



Statement of

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Chairman Katko, Ranking Member Watson Coleman, and Members of the Subcommittee,

Thank you for the opportunity to testify today on the topic of air cargo security on behalf of the Congressional Research Service (CRS). In accordance with our enabling statutes, CRS does not advocate policy or take a position on legislation.

The air cargo industry serves business and consumer demand for the domestic and international transport of high-value and time-critical goods. The air cargo industry has experienced somewhat of a slump over the past decade, but recent data show that it has largely recovered. The Federal Aviation Administration (FAA) and others anticipate it will experience growth over the next two decades spurred by an expanding global economy and the growth of e-commerce.<sup>1</sup> Data from the first quarter of 2017 show that, by weight, domestic and U.S.-international air cargo shipments are up almost 8% from last year, and international shipments between the United States and both the Asia-Pacific region and Latin America are each up over 10%.<sup>2</sup> Renewed growth in the air cargo industry will likely pose security challenges, but could also present opportunities for implementing more effective air cargo security measures.

Existing multilayered approaches to air cargo security incorporate access controls, surveillance and physical security measures, physical screening of cargo shipments, supply chain security measures (such as tamper-evident and tamper-resistant packaging), shipper vetting, and air cargo worker vetting.

My remarks will focus on four areas: insider threats; risk-based targeting of shipments; physical screening; and in-flight protection from explosives.

## Insider Threats

Insiders, individuals with access to detailed knowledge of the air cargo system, pose a vexing threat to aviation security. Adding to the challenge is the fact that air cargo is often stored and prepared for shipment at off-airport facilities and arrives at airports in bulk. This complex supply chain involves large numbers of individuals who handle and transport cargo prior to its loading, as well as individuals responsible for the routing and tracking of shipments. Historically, in the United States, these air cargo supply chains have been infiltrated by organized criminal elements conducting systematic theft and smuggling operations. There is concern among some that terrorist networks could similarly infiltrate airports, distribution centers, and ground transport operations to gather information about possible weaknesses and exploit vulnerabilities in the air cargo supply chain.

Regulations promulgated in 2006 mandate access restrictions to cargo aircraft and cargo operations areas and are designed to deter individuals from introducing weapons, explosives, and other threats into the system, but 100% physical screening of air cargo workers has been widely regarded as too costly, complex, and inflexible to meet the demands of air cargo and airport operations. Consequently, efforts to address insider threats have focused on worker vetting. This includes all regulated air cargo workers employed by airports, airlines, and freight forwarders, as well as employees of manufacturers, warehouses, distribution centers, and so on, that voluntarily participate in the Transportation Security Administration's (TSA's) Certified Cargo Screening Program.

Enhancing vetting capabilities through more detailed lookbacks and periodic reviews of cargo workers' potential ties to criminal activity and terrorism could potentially enhance threat detection. Recent

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<sup>1</sup> Federal Aviation Administration, *FAA Aerospace Forecast: Fiscal Years 2017-2037*, [https://www.faa.gov/data\\_research/aviation/aerospace\\_forecasts/media/FY2017-37\\_FAA\\_Aerospace\\_Forecast.pdf](https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/FY2017-37_FAA_Aerospace_Forecast.pdf); Boeing Company, *World Air Cargo Forecast 2016-2017*, <http://www.boeing.com/commercial/market/cargo-forecast>.

<sup>2</sup> U.S. Department of Transportation, Bureau of Transportation Statistics, *Air Cargo Summary Data*, <https://www.transtats.bts.gov/freight.asp?pn=0&display=data2>.

statutory changes allow for more detailed records checks of certain cargo workers,<sup>3</sup> but systematic reviews of the process and available options to improve vetting techniques might be beneficial.

### Risk-Based Vetting of Shipments

In addition to vetting air cargo workers, vetting of shippers and shipments serves as another key element in the multilayered approach to air cargo security. The known shipper program, first developed in the mid-1990s and refined in 2006, continues to serve as the primary means for vetting shipments: only consignments received from known shippers can fly aboard passenger airplanes. In addition, Customs and Border Protection (CBP) utilizes its Automated Targeting System to evaluate inbound international cargo and select cargo for inspection. Building on this, CBP and TSA continue to pilot test the Air Cargo Advance Screening (ACAS) system, under which freight forwarders and airlines voluntarily submit key data elements of cargo manifests for pre-departure vetting. Based on results of the pilot program, CBP and TSA are seeking to identify the appropriate data elements to require and to determine how much advance notice they need in order to identify shipments that require closer scrutiny.

The ACAS pilot program began in 2010. In July 2016, CBP extended it for an additional year.<sup>4</sup> While the ultimate objective is to develop uniform regulations for advance cargo screening, progress has been relatively slow, despite favorable views of the concept and active industry participation. Last year, the Aviation Security Advisory Committee, a group of industry advisers to TSA, expressed concern that, after more than five years of pilot testing, the system had still not been fully developed. In the committee's view, TSA had not devoted adequate staffing and resources to the project.<sup>5</sup>

### Cargo Screening

The Implementing Recommendations of the 9/11 Commission Act of 2007 (P.L. 110-53) mandated 100% screening of air cargo placed on passenger flights. In contrast to its functional role in airline passenger and baggage screening, TSA serves primarily in a regulatory capacity with respect to air cargo screening. Mandatory screening is primarily accomplished by airlines and freight forwarders, as well as manufacturers, shippers, and cargo consolidators that are certified by TSA under the voluntary Certified Cargo Screening Program. TSA approves and oversees participants in this program and conducts security threat assessments of workers who handle air cargo shipments at certified facilities. The program has been widely viewed by industry as a successful example of a voluntary initiative that addresses the statutory requirements while providing adequate flexibility to address industry-specific challenges. However, projected future growth in air cargo may pose a challenge to this layer of security in particular, especially if facilities do not appropriately plan for it. If cargo shipments spike, some of these privately owned facilities may have difficulty acquiring additional screening equipment to meet increased demand in the near term. Industry growth could create opportunities to upgrade screening technologies and streamline processes, but it also introduces investment risks if cargo activity later falls off.

Another option under consideration is the certification and deployment of TSA-approved third-party explosives detection canine teams to screen air cargo. While many in industry support the idea, TSA had put the concept on hold after results from a 2011 pilot project failed to demonstrate reliable conformity to TSA performance standards among canine teams provided by outside contractors.<sup>6</sup> TSA is currently re-

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<sup>3</sup> See the FAA Extension, Safety, and Security Act of 2016, P.L. 114-190.

<sup>4</sup> U.S. Customs and Border Protection, "Extension of the Air Cargo Advance Screening (ACAS) Pilot Program," 81 *Federal Register* 47812-47813, July 22, 2016.

<sup>5</sup> Aviation Security Advisory Committee, Meeting Minutes, February 29, 2016, [https://www.tsa.gov/sites/default/files/asac\\_meeting\\_minutes\\_29feb2016-508.pdf](https://www.tsa.gov/sites/default/files/asac_meeting_minutes_29feb2016-508.pdf)

<sup>6</sup> Transportation Security Administration, *Canine Teams Effectiveness for Securing Transportation Systems*, Statement by (continued...)

evaluating available options to take advantage of third-party canine teams, and it is premature to say whether this approach may provide a viable means to address cargo screening needs.

## In-Flight Measures

The majority of security experts believe that the most meaningful air cargo security measures involve identifying threats through risk-based measures and physical screening before explosives or incendiary devices can be placed on an aircraft.<sup>7</sup> However, it may also be possible to limit the damage from a device that might go undetected and be loaded into a cargo hold. The 9/11 Commission recommended the deployment of at least one hardened cargo container on every passenger aircraft,<sup>8</sup> but doing so was widely regarded as being too costly and too complex to implement.

Alternative approaches for explosive containment may be further evaluated. For example, lighter-weight bomb-resistant bags that can absorb the energy of an explosion have been successfully tested in the United Kingdom.<sup>9</sup> This technology may address the weight concerns associated with the hardened unit loading device designs that were tested and certified in the United States over a decade ago.

## Conclusion

In summary, while a comprehensive framework for air cargo security exists in the United States, several elements of this framework, including the Air Cargo Advance Screening system, remain incomplete. In addition, there are potential opportunities to improve the vetting of air cargo employees, refine risk-based approaches to identify and appropriately screen high-risk cargo, and improve the likelihood that an aircraft can survive an explosion or in-flight fire.

This concludes my prepared statement, and I look forward to your questions.

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(...continued)

Melanie Harvey and Anmarie Lontz before the House Committee on Homeland Security, Transportation Security Subcommittee, June 24, 2014, <https://www.tsa.gov/news/testimony/2014/06/24/canine-teams-effectiveness-securing-transportation-systems>.

<sup>7</sup> See, for example, U.S. Government Accountability Office, *Aviation Security: Actions Needed to Address Challenges and Potential Vulnerabilities Related to Securing Inbound Air Cargo*, GAO-12-632, June 11, 2012, <http://www.gao.gov/products/GAO-12-632>; International Air Transport Association, *Recommended Practice 1630: Air Cargo Security*, <http://www.iata.org/whatwedo/cargo/security/documents/csc-recommended-practice1630.pdf>.

<sup>8</sup> National Commission on Terrorist Attacks Upon the United States, *The 9/11 Commission Report*, p. 393, <https://9-11commission.gov/report/>.

<sup>9</sup> David Shukman, "Aircraft 'Bomb Bag' Limits On Board Explosion Impact," *BBC News*, July 24, 2015, <http://www.bbc.com/news/science-environment-33650713>.