

Missile Watch

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Editor: Matt Schroeder

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Editor's Note

The surprise extradition of notorious arms trafficker Viktor Bout to the United States tops the list of developments covered in this edition of *Missile Watch*. The former Russian intelligence officer is widely considered to be one of the most prolific arms traffickers of the last twenty years, and his trial is likely to yield important new insights into the illicit arms trade. Also noteworthy is the release of the Department of Homeland Security's final report on its counter-MANPADS program. The report reveals that two anti-missile systems evaluated during the program are capable of protecting planes from MANPADS, but the \$43 billion price tag may preclude their installation on more than a small number of commercial airliners.

The other recent headline-generating event in which MANPADS featured prominently is the release of hundreds of thousands of classified documents on US military operations in Afghanistan and Iraq by the organization Wikileaks. These documents include dozens of references to alleged trafficking and use of MANPADS by insurgents, yet they are of little value to policymakers or researchers. Most are preliminary, unsubstantiated tactical level field reports written by individuals whose knowledge about the subject matter is difficult to discern. For researchers, any information contained in the documents is useful only as a starting point, and the manner in which they were released all but guarantees that the government officials capable of clarifying or elaborating on their contents will refuse to discuss them.

At the same time, the reports could be extremely useful to insurgents and arms traffickers. By alerting suspected traffickers to US government monitoring of their activities, the leaked documents could jeopardize ongoing investigations as traffickers break off contact with undercover agents, destroy documentation associated with the illicit activities, or relocate their operations. The net result may not only be impunity for traffickers and their accomplices, but also months or years of wasted effort by investigators, and hundreds of thousands of dollars in wasted government resources. For these and many other reasons, none of the documents released by Wikileaks are replicated or analyzed here.

Finally, I'd like to call your attention to a new initiative aimed at expanding *Missile Watch* and ensuring its long-term viability. As the only publication dedicated exclusively to tracking illicit activity involving MANPADS, *Missile Watch* plays a unique role in documenting, assessing, and contextualizing developments in the MANPADS threat and global efforts to combat it. Providing this service is resource-intensive, however, and *Missile Watch* is currently an unfunded project. Your generous support will allow us to strengthen *Missile Watch* by

- expanding our access to court documents and other untapped data sources,
- improving our ability to assess the technical authenticity of online videos and photographs of illicit MANPADS,

- increasing and diversifying our sources through the translation of more foreign language documents, and
- broadening our coverage to include other advanced conventional weapons.

All sponsors will receive pre-publication access to each issue and invitations to annual virtual briefings on the MANPADS threat. Sponsors who contribute \$100 or more will also receive a signed copy of the *Small Arms Trade*. Called “indispensible” by *Foreign Policy* Editor Moisés Naím, the book features a four-chapter history of the MANPADS threat and global efforts to control it. Additional benefits for major donors include customized briefings and, when appropriate, recognition in *Missile Watch*.

For more information on becoming a *Missile Watch* sponsor, click [here](#).

Global News



UN Arms Register: Venezuela the largest importer of MANPADS in 2009

Submissions to the UN Register of Conventional Arms reveal that at least five countries imported MANPADS in 2009. Russia was by far the largest exporter, transferring 1800 MANPADS to Venezuela. Ukraine was second with combined exports of 100 missiles and 93 launchers to the US and the UK.¹ Together, exports by Russia and Ukraine account for more than 90% of all reported transfers in 2009.

The table below lists all of the MANPADS transfers for 2009 reported to the UN Arms Register as of November 2010. It should be noted that reporting to the UN Arms Register is far from complete and therefore the data is partial at best. As of early November 2010, only 66 states had reported to the Register on their 2009 transfers. The effect of this low rate of reporting is offset slightly by a comparatively high reporting rate amongst MANPADS producers, 13 of which have submitted their 2009 reports.¹ Of the six remaining producer states, the Czech Republic, France and Pakistan routinely report to the Register, and the Czech Republic and Pakistan have not exported more than a few dozen MANPADS in recent years. France does not specify missile types in its export data and therefore little known about their MANPADS exports. Similarly, little is known about Egyptian exports. While arms exports from Iran and North Korea are banned, there is strong evidence that missiles produced by both states are crossing borders.²

¹ The US and the UK did not list imports of MANPADS from Ukraine in their 2009 reports. The FAS has sought clarification from the governments involved and will report any findings in future issues of *Missile Watch*.

² An arms shipment from North Korea that was interdicted in Bangkok in late 2009 reportedly contained 10 MANPADS, and Iranian missiles have been found in Iraq.

International Transfers of MANPADS, 2009 As reported to the UN Register of Conventional Arms

Importer	Exporter	Item Description	Quantity	Notes
Australia	<i>Sweden</i>	RBS 70 missiles and launchers	Classified	<i>Sweden did not submit corresponding data on exports of MANPADS to Australia in its 2009 report.</i>
Egypt	<i>Russia</i>	None	98	<i>Type of MANPADS not specified.</i>
<i>Finland</i>	Sweden	RBS 70 MANPADS	20	<i>Sweden also reported the transfer but withheld data on quantities</i>
Malaysia	<i>China</i>	None	16	<i>Probably FN-6 MANPADS. Malaysia reported imports of 16 unspecified SHORAD systems and 64 missiles.</i>
<i>Spain</i>	France	Mistral	12	<i>Data from France on its 2009 transfers not available</i>
UK	<i>Ukraine</i>	9M313, Igla-1 missiles	18	<i>The UK did not submit corresponding data on imports of Igla-1 missiles from Ukraine in its 2009 report.</i>
USA	<i>Ukraine</i>	9P519, Igla-1 launchers	42	<i>The US did not submit corresponding data on imports of MANPADS from Ukraine in its 2009 report.</i>
USA	<i>Ukraine</i>	9M36-1, Strela-3 missiles	67	<i>See above</i>
USA	<i>Ukraine</i>	9P58M, Strela-3 launchers	51	<i>See above</i>
USA	<i>Ukraine</i>	9M39, Igla missiles	15	<i>See above</i>
Venezuela	<i>Russia</i>	None	1,800	<i>Probably Igla-S MANPADS</i>

Table Notes

- 1) Source: [UN Register of Conventional Arms](#), last accessed 3 November 2010. Table compiled by the Federation of American Scientists.
- 2) The notes column contains additional information about the transfer. FAS notes are in italics. Notes from reporting states' submissions to the Register are in normal font.
- 3) Countries in italics are the source of the UN Arms Register data in each record.
- 4) Transfers of missiles and launchers NOT intended for use as man- or crew-portable weapons are excluded when possible.

The most noteworthy transfer in 2009 was the export of 1800 MANPADS to Venezuela. While the model of the missiles is not specified, they are almost certainly SA-24s (Igla-S) – Russia’s most advanced MANPADS. Rumors of an Igla-S sale to Venezuela date back at least to 2008, but no hard proof of the transfer emerged until early 2009, when footage of the missiles surfaced on YouTube. In April 2010, the head of US Southern Command provided the first public data on the size of the deal, which was estimated at up to 2,400 systems.³ Neither party to the transfer had provided specific information on the number of MANPADS transferred until now.

The transfer is the largest recorded in the UN Arms Register in recent years. Whether it is the largest MANPADS transfer is unclear since many countries either do not report to the Register or do not report on the quantities of systems transferred. Records of arms exports in other public data sources, including SIPRI’s expansive Arms Transfers Database, supports the assumption that the transfer to Venezuela is one of the largest in recent years.



SA-24 MANPADS on display during military parade in Venezuela. Source: Youtube

The transfer is also one of the most controversial. Critics worry that the missiles and other weapons sold to Venezuela in recent years will spark a regional arms race or will end up in the hands of armed groups.⁴ Concerns about diversion are underscored by numerous [reports](#) of leakage from Venezuelan arsenals and persistent allegations of collusion between elements of the Venezuelan government and Colombian rebels. In response to concerns about the regional military balance, Venezuelan President Hugo Chavez described the missiles as “defensive weapons” and likened them to “a boxer’s jab.”⁵ Chavez has denied allegations of arms trafficking by his government. Neither the Venezuelan government nor the Russian government has provided detailed information on what, if any, enhanced stockpile security procedures or end-use monitoring requirements have been implemented to safeguard the missiles. Russian officials have repeatedly

³ William McMichael, “Drug, arms trafficking big SouthCom concerns,” *Army Times*, 28 April 2010.

⁴ See, for example, Merle Kellerhals, “Russian Overtures to Venezuela not a Threat, U.S. Official Says,” *America.gov*, 28 October 2008 and *Country Reports on Terrorism 2009*, US State Department, 5 August 2010, <http://www.state.gov/s/ct/rls/crt/2009/140888.htm>.

⁵ Jorge Rueda, “Venezuela’s Chavez accuses Colombia, US of plot,” *Associated Press*, 28 December 2009.

provided assurances that its end-use controls meet international standards,⁶ but have provided few details.



Extradition of ‘Merchant of Death’ could reveal much about the illicit arms trade

The bitter two-year struggle over the fate of arms dealer Viktor Bout came to an abrupt end on November 16th when the “Merchant of Death” was loaded onto a plane bound for the United States. The former Russian intelligence officer, whom many believed was untouchable, is now sitting in a holding cell in lower Manhattan. Media coverage of Bout’s arrest and extradition has focused primarily on the incriminating information that he may have on high-level Russian government officials. The insights of greatest value are likely to be on the illicit arms trade, however. If court documents released to date are at all indicative of the information that will come out during and after the trial, Bout’s extradition will contribute significantly to our understanding global arms trafficking and the “Merchants of Death” that control it.

Bout was arrested in Bangkok in March 2008 after a lengthy undercover operation lead by the US Drug Enforcement Agency. He and an associate are accused of plotting to sell thousands of weapons, including up to 800 Igla missiles,⁷ to undercover informants posing as representatives of the Revolutionary Armed Forces of Colombia (FARC).

Documents from the case released shortly after Bout’s arrest contain important details on the mechanics and costs of transcontinental arms trafficking, the alleged sources of the weapons offered by Bout, and the impact of national and international sanctions. The latter is particularly important to policymakers as it provides important clues regarding the effectiveness of various control measures. During emails and conversations with undercover agents, Bout’s alleged co-conspirator, Andrew Smulian complains to the undercover agents about the constraining effects of the sanctions on Bout’s activities. “Our man has been made persona non-G – for the world through the UN,” laments Smulian in an email dated 25 November 2007. “All assets cash and kind are frozen...and of course [Bout has] no ability to journey anywhere other than home territories.”⁸ Bout himself comments on effectiveness of US anti-laundering provisions, noting that even small payments in US dollars have been blocked.⁹

⁶ [“U.S. receives “assurances” from Russia regarding controls on shoulder-fired missiles sold to Venezuela, but key questions remain.”](#) *Missile Watch*, Volume 3, Issue 1, February 2010.

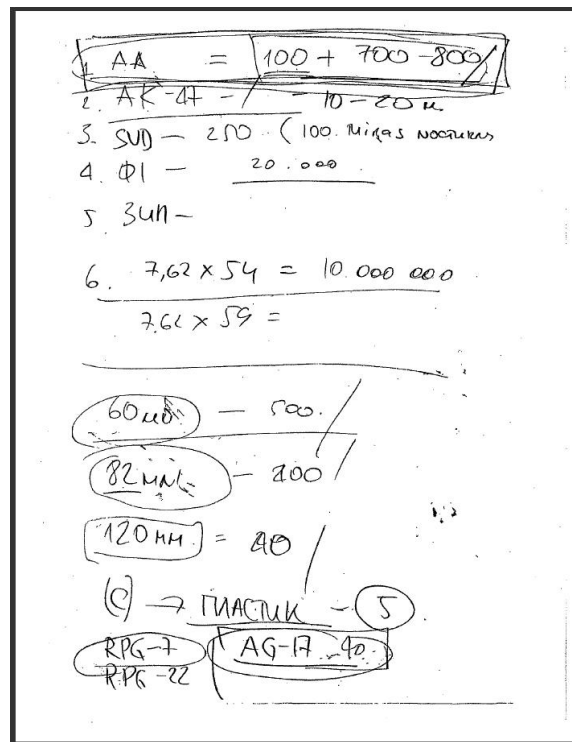
⁷ *United States of America –v– Viktor Bout*, Rebuttal Affidavit Concerning Request for Extradition, 17 February 2009, p. 9.

⁸ *United States of America –v– Viktor Bout*, Sealed Complaint, p. 4.

⁹ *United States of America –v– Viktor Bout*, Rebuttal Affidavit Concerning Request for Extradition, 17 February 2009, p. 7. Bout also mentions that he has “friends who are... working with banks” who notified him 24 hours in advance of any blocks or holds that were about to be placed on accounts.”

Also on display in the documents is Bout's modus operandi, which was surprisingly careless at times. Court documents indicate that Bout set up an email account for communicating with US informants under the name "Victor But." Compounding the mistake, Bout also listed an address in Moscow and the same telephone number that Bout used to communicate with the undercover agents.¹⁰

Additional [documents](#) obtained by the FAS in 2009 contain more details on, *inter alia*, the weapons that Bout allegedly offered to sell to undercover agents. Bout's hand-written notes from a meeting with DEA informants include references to weapons not identified elsewhere, including 60 mm, 82 mm, and 120 mm mortars (or mortar rounds); "SVD" (presumably a reference to Dragunov sniper rifles); 10,000,000 rounds of 7.62 x 54 mm ammunition; RPG-7 launchers; AG-17 automatic grenade launchers; and RPG-22 disposable anti-tank rockets.



Viktor Bout's hand-written notes from a meeting with undercover informants in Bangkok

Notably absent from these documents was [Exhibit 6](#)

of the *Rebuttal Affidavit Concerning Request for Extradition*, which contains "...photographs and specifications for anti-aircraft missiles..." offered by Bout. This exhibit could provide clues regarding the manufacturer and proximate (illicit) source of the missiles, and whether they were intended for vehicle-mounted or man-portable launchers.¹¹ When queried about the missing exhibit, a spokesperson for the US Attorney's Office confirmed that the exhibit has not been cleared for public release and that no additional documents pertaining to the case have been made public since the aforementioned documents were provided to the FAS in 2009.

The Igla missile exhibit, along with other documents likely to be released after Bout's trial, may answer several key questions about the illicit trade in shoulder-fired missiles and other weapons. These questions include the following:

Did Bout have access to hundreds of Igla missiles?

Documents released thus far do not reveal whether the supplier referenced by Bout actually had access to 800 Igla missiles. If the claims are true, the stockpile would be the largest known cache

¹⁰ *United States of America –v– Viktor Bout*, Sealed Complaint, p. 13.

¹¹ During a conversation with the US informants, Bout's alleged co-conspirator claimed that he could supply helicopters armed with missiles to the FARC, which raises the possibility that the Iglas may have been intended for use on helicopters rather than with man-portable gripstocks. See *United States of America –v– Viktor Bout*, Sealed Complaint, p. 9.

of later generation MANPADS accessible to traffickers in recent years. Even if the missiles were available to Bout, the threat that they pose would depend on their age and condition. While the operational status of the missiles is unlikely to be discussed in court documents, photographs of the missiles could reveal the date of manufacture or telltale signs of improper storage or maintenance. This information is critical for assessing the current availability of MANPADS on the black market and the threat they pose if acquired by terrorists or insurgents.

Who were Bout's suppliers and what was the nature of their operations in Bulgaria?

Bout's alleged co-conspirator repeatedly identified Bulgaria as the source of at least some of the weapons that were to be delivered to the FARC. On 26 January 2008, Smulian "...informed CS [Confidential Source] -1, CS-2 and CS-3 that Bout had 100 Igla surface-to-air missiles available immediately..." and "advised that the weapons are in Bulgaria..."¹² Several days later, Smulian reportedly confirmed that "the weapons are ready in Bulgaria."¹³ The documents do not indicate whether Bout's suppliers were private dealers or government officials, or whether they were based in Bulgaria or simply storing the weapons there temporarily.¹⁴ Answers to these questions could reveal the existence of a major arms trafficking entity and shed light on its operations, including the countries in which it is active.



Pamphlet seized from Bout at the time of his arrest

Would Bout's delivery scheme have worked?

Bout's plan for delivering the weapons to Colombia was strikingly similar to previous illicit transfers, including one of the best known cases of diversion in South America. According to court documents, the weapons were to be air-dropped over Colombia from one of the many Soviet-era cargo planes upon which Bout built his air transport empire. The method of delivery and routing¹⁵ are very similar to those used in the high-profile diversion of 10,000 surplus Jordanian assault rifles to the FARC in 1999 by high-ranking officials in the Peruvian government. The diversion is among the best known and documented cases of arms trafficking in the region, and policymakers have had a decade to learn from this example and guard against similar schemes in

¹² *United States of America –v– Viktor Bout*, Sealed Complaint, p. 9.

¹³ *Ibid.*, p. 10.

¹⁴ The government agencies identified by the DEA as assisting in the operation are listed on the bottom of page two of the US Attorney for the Southern District of New York's press release from 6 March 2008.

¹⁵ *United States of America –v– Viktor Bout*, Sealed Complaint, p. 8 & 11.

the future. It is therefore important to find out why Bout chose to arrange the delivery in this way and whether this choice reveals anything about arms export controls in the countries through which the delivery was to take place.

These are just a few of many important questions raised by the Bout's arrest and the trafficking scheme that led to it. Bout's trial is a historic opportunity to learn more about the illicit arms trade and the effectiveness of national and international efforts to curtail it. Answering the questions above would be a good first step toward taking full advantage of this opportunity.

Country Reports



Afghanistan: No evidence of Iranian MANPADS training, claims NATO official

NATO has no evidence to support recent claims that the Iranian military is providing MANPADS training to the Taliban, according to ISAF spokesmen interviewed by the Federation of American Scientists. The claims about the alleged training, which appeared in *The Washington Examiner* in October, are attributed to “several current and former military officials,” one of whom reportedly told *The Examiner* that “...the [Iranian Revolutionary Guard Corps] has been training Taliban fighters in the use of surface-to-air missiles...”¹⁶

A spokesperson for the ISAF told the FAS that “[w]e have no operational reporting to support the claims in this story.” The spokesperson also commented on reports of alleged MANPADS attacks in classified documents released by Wikileaks in July. “The Wikileaks stories were also overblown on this issue...” said the spokesperson. “...we have no credible reports of surface to air missiles shooting down our helos.”¹⁷

In response to a separate query about seized Taliban arms caches, another ISAF spokesperson told the FAS that “[o]ur recent operational reporting does not reflect any MANPADS.”¹⁸ This information is consistent with previous statements by ISAF representatives, which indicate that no MANPADS have been found in Afghan arms caches since at least October 2009.¹⁹

¹⁶ Sara A. Carter, “Iran training Taliban fighters to use surface-to-air missiles,” *The Washington Examiner*, 25 October 2010. The story also mentions claims in an unidentified Afghan intelligence report that Iran was supplying the Taliban with batteries for “older model surface-to-air missiles.”

¹⁷ Correspondence with ISAF spokesperson, 4 November 2010.

¹⁸ Correspondence with ISAF spokesperson, 12 September 2010.

¹⁹ See Schroeder, “No shoulder-fired anti-aircraft missiles in seized Afghan arms caches, confirms ISAF spokesperson,” *Missile Watch*, June 2010.



Egypt: Another Massive Missile Cache Discovered in the Sinai

In August, Egyptian authorities recovered dozens of anti-aircraft missiles from arms caches in the Sinai, according to media reports. The missiles, which unnamed Israeli sources identified as SA-7s, were reportedly discovered during an Egyptian government operation aimed at curtailing arms trafficking in the Sinai. Estimates of the number of anti-aircraft missiles recovered during the operation range from 110 to 190 units.²⁰

Media accounts of the seized caches indicate that the weapons, including the anti-aircraft missiles, were bound for the Gaza strip.²¹ Similar claims about 100 anti-aircraft missiles recovered in March 2010 were later challenged by Egyptian military officials, who told the Federation of American Scientists that the missiles were part of a decades-old cache of weapons left over from the 1973 war with Israel. The missiles, which were unearthed by heavy flooding, were in “very bad condition,”²² and presumably would have been of little use as anti-aircraft weapons. The FAS is seeking additional information on the missiles recovered in August and will convey any findings in future issues of *Missile Watch*.



Somalia: Photos of missile found in Somalia confirm UN report, but questions remain

Photos of a MANPADS found in Somalia appear to confirm some of the information on the missile provided by UN investigators, but many questions remain. The missile was one of two MANPADS found in Somalia that the Monitoring Group attempted to trace using serial numbers painted onto the weapon. A preliminary check of the serial numbers by the Russian government indicated that the missile depicted in the photo - an SA-18 Igla - was manufactured in 1995 and exported to Eritrea the same year.



Markings on an SA-18 missile found in Somalia

The physical characteristics of the tube and battery coolant unit depicted in the photographs are consistent with those of the SA-18 MANPADS. The markings on the launch tube are also

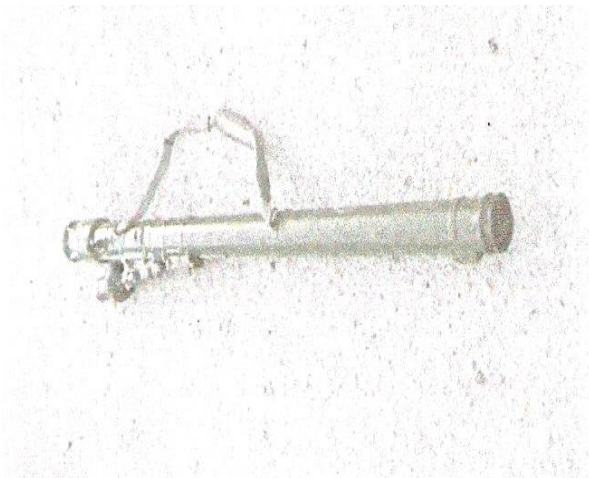
²⁰ See “Egypt seizes Gaza-bound rockets,” *UPI*, 29 August 2010; “More weapons and tunnels discovered near Gaza border,” *Daily News Egypt*, 30 August 2010; and “Egypt seizes ‘Gaza-bound weapons’,” *Aljazeera.net*, 30 August 2010.

²¹ See “150 anti-aircraft missiles found in Sinai,” *Ma’an News Agency*, 31 August 2010 and Avi Iassacharoff, “Egyptian forces find additional missiles, TNT cache, in Sinai,” *Haaretz.com*, 29 August 2010.

²² See “Shoulder-fired missiles found in the Sinai were old, “in very bad condition,” says Egyptian official,” *Missile Watch*, Volume 3, Issue 2, June 2010, pp. 4-6.

consistent with the Russian government's preliminary assessment that the missile was produced in 1995. The assessment was tentative, however, pending the outcome of additional analysis by Russian weapons experts. In the letter conveying their initial findings to the UN Monitoring Group, the Russian government noted that "...the marking of the missile were executed in paint..." and therefore "...a remarking is possible."²³ The letter contains an additional, ambiguous reference to the markings, the wording of which appears to suggest some doubt about their authenticity. "For a definitive identification of the missile," states the letter, "it is necessary to perform its [sic] visual examination by our specialists as the missile bears the marking *executed differently*, which will allow for the identification of the *real number* of the missile." [Italics added]²⁴ The outcome of this examination is unknown.

The SA-18 MANPADS is one of dozens reportedly transferred to Somali militants, which used them to shoot down a Belarussian cargo aircraft in 2007.²⁵ A year later, UN peacekeepers foiled an attempt by 'opposition fighters' to shoot down a plane at Mogadishu International Airport.²⁶ UN investigators have accused Eritrea of supplying many of the missiles, including at least six SA-18s. The Eritrean government denies the accusations.



SA-18 MANPADS found in Somalia



Close-up of the battery coolant unit on SA-18 MANPADS found in Somalia

²³ UN Monitoring Group on Somalia, *Report of the Monitoring Group on Somalia pursuant to Security Council resolution 1766 (2007)*, S/2008/274, p. 59.

²⁴ Ibid.

²⁵ UN Monitoring Group on Somalia, *Report of the Monitoring Group on Somalia pursuant to Security Council resolution 1766 (2007)*, S/2007/436, p. 15.

²⁶ See "Missile attack on Mogadishu airport foiled by peacekeepers, according to UN report," *Missile Watch*, Volume 3, Issue 2, June 2010, p. 13.



United States: *FAS Obtains Key Counter-MANPADS Report*

The Federation of American Scientists has obtained a key report on the Department of Homeland Security's multi-million dollar program to assess the cost and effectiveness of installing anti-missile systems on commercial airliners. According to the report, the anti-missile systems evaluated by DHS meet program effectiveness requirements, but outfitting most U.S. airliners with them would cost \$43 billion, a price tag that is likely to be unpalatable to policymakers confronting shrinking budgets and a struggling economy. In the unlikely event that Congress decides to take up this issue, several important questions about effectiveness of these systems against current and future threats need to be answered before a decision regarding their installation on US airliners is made.

The DHS report, which was obtained by the Federation of American Scientists under the Freedom of Information Act, summarizes the results of a six-year, \$276 million congressionally-mandated program to "...develop, demonstrate and evaluate technologies to protect commercial aircraft from MANPADS [man-portable air defense systems]."²⁷ The three-phase program featured extensive testing of anti-missile systems developed by Northrop Grumman Corporation (Guardian) and BAE Systems (JETEYE). Both systems use a laser to jam incoming missiles, causing them to veer off-course. Similar systems have been used on military aircraft for many years.

The report contains several significant findings, the most important of which is that both the Guardian and the JETEYE systems meet DHS' program requirements for defeating MANPADS. According to the report, both the Guardian and the Jeteye are able to defeat "multiple missiles under many attack scenarios."²⁸ DHS reached this conclusion after what appears to be fairly extensive testing. Computer-based modeling and simulation was reportedly used to test the performance of the systems in millions of different scenarios. Thousands of additional tests involving the use of actual missile seekers were then conducted at Guided Weapons Evaluation Facility at Eglin Air Force Base.²⁹ The systems were then mounted on aircraft and tested against missile simulators in various conditions, including the "high clutter commercial airport environment" at Memphis International Airport.³⁰ The final stage consisted of live-fire testing during which 29 actual MANPADS were fired at the anti-missile systems at White Sands Missile Range. Both systems "worked well and defeated the missiles" during the live-fire tests, according to the report.³¹

²⁷ Counter-MANPADS Program Results: Fiscal Year 2008 Report to Congress, Department of Homeland Security, 30 March 2010, p.6.

²⁸ Ibid., p. iii.

²⁹ Ibid., p. 14.

³⁰ Ibid., p. 15.

³¹ Ibid., p. 15-16.

While the rigor of the testing is clearly conveyed in the report, several key questions about the capabilities of the anti-missile systems are left unanswered. The report states that the systems were able to defeat “various MANPADS” but does not specify which MANPADS were used (or simulated) in the testing, or how the anti-missile systems performed against the most sophisticated missiles. While few if any of the most advanced MANPADS are available on the black market, recent exports of advanced MANPADS to countries with dubious stockpile security and export controls underscores the need for anti-missile systems that protect against all MANPADS, even those that have not yet been acquired by terrorists and insurgents. Similarly, the report says little about the next generation of MANPADS and the ability of the anti-missile systems to defeat them. A \$43 billion investment in anti-missile systems would make little sense if technological advancements in MANPADS were to render the systems obsolete half way through their twenty-year life-cycle.

Even if JETEYE and Guardian are capable of defeating all existing IR-seeking MANPADS and their next-generation counterparts, the systems are still not a panacea. Unprotected foreign airliners flying into the United States would still be vulnerable to a MANPADS attack, as would Americans flying on foreign airliners overseas. Furthermore, even the most effective anti-missile systems fail on occasion, as evidenced by recent examples of successful MANPADS attacks on military aircraft equipped with advanced anti-missile systems. In most of these cases, the reasons for the failure have not been made public. It is possible that the system malfunctioned, was turned off at the time of the attack, or was simply bested by the missile. Regardless, the lesson remains the same: no system is foolproof, a layered defense against the MANPADS threat is necessary. For these reasons, installation of anti-missile systems should not be viewed as a substitute for – or come at the expense of – other control measures.

Additional News & Resources

- ["Congo-Brazzaville: Airport 'Powder Keg' to Be Demined,"](#) *AllAfrica.com*, 3 November 2010.
- ["Four found guilty of plotting to bomb Bronx synagogue, shoot down U.S. military planes,"](#) *New York Daily News*, 18 October 2010.
- ["Congress Stops Funding Commercial Airline Defense Tech,"](#) *Popular Mechanics*, 18 October 2010.
- ["Israel says Hamas has anti-aircraft missiles,"](#) *Associated Press*, 18 October 2010.
- ["Southern California Man Faces at Least 25 Years in Prison for Convictions in Smuggling Schemes, Including Plot to Bring Surface-to-Air Missiles Into United States,"](#) *Federal Bureau of Investigation*, 6 October 2010.
- ["DARPA Takes Big Step in Aircraft Safety,"](#) *Targeted News Service*, 4 October 2010.
- ["Two linked to Tigers fighting extradition,"](#) *National Post*, 21 September 2010.
- ["The role of police air units in domestic counterterrorism,"](#) *Policeone.com*, 23 August 2010.
- ["Fourth assassination attempt against Prince foiled,"](#) *Saudi Gazette*, 17 August 2010.
- ["New intelligence on Iran antiaircraft missiles in Afghanistan,"](#) *Spy Talk* (Washington Post), 12 August 2010.
- [To Walk the Earth Safely,](#) *US State Department*, July 2010. Brief reference to US counter-MANPADS efforts on pages 6-7, 10 and 35.
- ["UPI interview with Hamid Gul,"](#) *UPI*, 29 July 2010. Brief but significant reference to Taliban's current Stinger stockpile.
- ["Stop Panicking About the Stingers,"](#) *Foreign Policy*, 28 July 2010.
- ["Tamil charity shut over links to arms buyer,"](#) *National Post*, 20 July 2010.
- ["Protecting rotorcraft: Technology only goes so far in stopping small-arms, RPG fire,"](#) *Army Times*, 16 July 2010.
- ["Missile warning systems from Northrop Grumman to equip Marine Corps medium- and heavy-lift helicopters,"](#) *Military and Aerospace Electronics*, 11 July 2010.
- ["United States Marks International Small Arms Destruction Day,"](#) *State Department*, 9 July 2010. Includes brief mention of destruction of 32,000 surplus, obsolete and poorly secured MANPADS destroyed since 2001.

- ["U.S. Aircraft Portable-Missile Defense May Cost \\$43 Billion"](#), *Bloomberg*, 2 July 2010.
- ["Secret Arms Trafficking to Hizbullah from Balkans, Report"](#), *Naharnet*, 24 June 2010.
- ["First Look: Next-Gen Anti-Aircraft Missile Jammer"](#), *Popular Mechanics*, 17 June 2010.

About the Author

Matt Schroeder is the Manager of the Arms Sales Monitoring Project at the Federation of American Scientists. Since joining FAS in February 2002, he has written more than 100 books, articles and other publications on US arms transfers, arms export policies, and the illicit arms trade. He is a co-author of the book *The Small Arms Trade* (Oxford: Oneworld Publications, 2007), and is a consultant for the Geneva-based Small Arms Survey.

About *Missile Watch*

Missile Watch is a quarterly publication by the Arms Sales Monitoring Project at the Federation of American Scientists that tracks the illicit proliferation and use of man-portable air defense systems (MANPADS), and international efforts to combat the MANPADS threat.

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