HUMAN RIGHTS WATCH

Back in Business?
U.S. Landmine Production and Exports

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The Bush administration appears poised to erase many of the positive steps the United States has taken in the past toward banning antipersonnel mines. The United States has apparently not used antipersonnel mines since the Gulf War in 1991.[1] It has had a prohibition on exports of antipersonnel mines since 1992. The last antipersonnel mines rolled off U.S. production lines in 1997. However:

- The United States will decide in December 2005 whether it will begin the production of a new antipersonnel mine called Spider.
- According to a media report, which the Pentagon has yet to confirm or deny, in May 2005 the U.S. Army was to begin deploying to Iraq a new remote-controlled landmine system called Matrix, which relies on technology developed for Spider.
- The Pentagon has requested a total of $1.3 billion for development and production activities for another new antipersonnel mine called the Intelligent Munitions System, with a full production decision expected in 2008.
- There is concern that a United States proposal for an international prohibition on export of landmines that do not self-destruct will pave the way for the resumption of U.S. export of antipersonnel mines that do self-destruct.

These developments are the result of the Bush administration's landmine policy announced in February 2004 under which the United States abandoned its long-held objective of joining the 1997 Mine Ban Treaty, which comprehensively prohibits the use, production, trade or stockpiling of antipersonnel mines.[2] The United States still stockpiles 10.4 million antipersonnel mines, the world's third largest arsenal after China and Russia.[3] The U.S. also has 7.5 million antivehicle mines, and production and export of antivehicle mines has been ongoing.[4]

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[1] The United States used landmines in 1991 in Kuwait and Iraq, scattering 117,634 of them mostly from airplanes. The U.S. apparently did not use landmines in Yugoslavia (Kosovo) in 1999, nor in the fighting in Afghanistan since October 2001, nor in the fighting in Iraq since March 2003. However, the U.S. reserved the right to use antipersonnel mines during each of these conflicts, and deployed antipersonnel mines to the region at least in the cases of Kosovo and Iraq.

[2] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: New U.S. Policy on Landmines," February 27, 2004. The full name of the treaty is the Convention on the Prohibition on the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and On Their Destruction.

[3] Included in this stockpile are 2.8 million non-self-destructing landmines. Mixed systems that contain both self-destructing antipersonnel and antivehicle mines constitute only 11 percent of the overall stockpile. For details see, International Campaign to Ban Landmines, *Landmine Monitor Report 2004: Toward a Mine-Free World* (New York: Human Rights Watch, November 2004), pp. 1,141-1,142.

[4] For example, the U.S. exported 124,000 antivehicle mines to South Korea in 2004.

Future use, production, or export of antipersonnel mines by the United States will of course not constitute a violation of the Mine Ban Treaty since the United States is not party to the treaty. However, such acts would clearly be against the trend of the emerging international consensus against any possession or use of antipersonnel mines.[5] As of July 1, 2005, a total of 145 countries were party to the Mine Ban Treaty, and another eight countries had signed but not yet ratified. With very few exceptions, nearly every nation has endorsed the goal of a global ban on all antipersonnel mines at some point in the future. Even many states not party to the Mine Ban Treaty have stopped production, trade, and use of the weapon.[6] Human Rights Watch, as one of the founders of the International Campaign to Ban Landmines, which received the 1997 Nobel Peace Prize, believes that any production, trade, stockpiling, or use of antipersonnel mines by any actor must be condemned.

United States production, export or use of new antipersonnel mines could also create difficulties for many of its military allies who are part of the treaty. States Parties to the Mine Ban Treaty cannot "assist" in any way with acts that are prohibited by the treaty; thus States Parties could be in danger of violating the treaty if the United States were to use these mines in joint military operations.[7] Moreover, States Parties would have to consider ending any investments they may have in U.S. companies producing or exporting the new antipersonnel mines.[8]

Policy Background

The United States was the first country to call for the "eventual elimination" of all antipersonnel mines in 1994. On May 16, 1996, President Clinton said that the United States would "seek a worldwide agreement as soon as possible to end the use of all antipersonnel mines." At the same time, the Pentagon was directed to begin to

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[5] "The 2004 Nairobi Declaration," which was agreed to by States Parties to the Mine Ban Treaty at the First Five-Year Review Conference, held in Nairobi from November 29 to December 3, 2004, states: "One-hundred-forty-four states have joined this endeavor and have established a powerful international norm that is recognized, in words and in actions, well beyond the Convention's membership. Whereas anti-personnel mines were until recently in widespread use, their production has decreased dramatically, trade in this weapon has virtually ceased and their deployment is now rare…. And together we have destroyed more than 37 million stockpiled mines." The declaration is contained in Part IV of the Final Report of the First Review Conference, APLC/CONF/2004/5, 9 February 2005.

[6] The most comprehensive source on the global status of the landmine ban is the ICBL's *Landmine Monitor Report 2004*. The report notes that in 1998/1999 fifteen governments used antipersonnel mines, while in 2003/2004 the number declined to four (Georgia, Myanmar, Nepal, and Russia). *Landmine Monitor Report 2004*, p. 6.

[7] Article 1 of the Mine Ban Treaty states, "Each State Party undertakes never under any circumstances … to assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention."

[8] Ibid.

"undertake a program of research, development and other measures…to permit both the United States and our allies to end reliance on [antipersonnel mines] as soon as possible."[9]

While the Clinton administration did not sign the Mine Ban Treaty in 1997, it established the goal of joining by 2006 if suitable alternatives to antipersonnel mine had been identified and fielded. Additionally, the United States committed to cease using antipersonnel mines, except those contained in "mixed systems" with antivehicle mines, everywhere in the world except for Korea by 2003 and in Korea by 2006. In practice, this meant 8.4 million artillery-delivered Area Denial Antipersonnel Mines (ADAM) would not be eligible for use.[10]

The Pentagon spent over $319 million between fiscal years 1999 and 2004 to develop and procure alternatives for antipersonnel mines.[11] One program, the Remote Area Denial Artillery Munition (RADAM), which would have combined existing antipersonnel and antivehicle mines into a new mixed system, was cancelled in fiscal year 2002. The RADAM program cost $12.1 million, but no munitions were produced. As detailed below, some of the other "alternative" programs are now aimed at producing weapons that meet the definition of an antipersonnel mine under the Mine Ban Treaty.

The Bush Administration's Landmine Policy

The Bush administration announced a new landmine policy on February 27, 2004, following a two-and-one-half year review. The policy abandons the goal of joining the Mine Ban Treaty, also known as the Ottawa Convention: "The United States will not join the Ottawa Convention because its terms would have required us to give up a needed military capability…. Landmines still have a valid and essential role protecting United States forces in military operations.… No other weapon currently exists that provides all the capabilities provided by landmines."[12]

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[9] The White House, "Fact Sheet: U.S. Announces Antipersonnel Landmine Policy," May 16, 1996.

[10] For more details on the development of U.S. policy, see International Campaign to Ban Landmines, *Landmine Monitor Report 2004: Toward a Mine-Free World* (New York: Human Rights Watch, November 2004), pp. 1,138-1,140.

[11] The $319 million figure is compiled from: Office of the Secretary of the Army (Financial Management and Comptroller), "Committee Staff Procurement Backup Book, FY 2005 Budget Estimates, Procurement of Ammunition, Army," February 2004, pp. 406-411; Office of the Secretary of the Army (Financial Management and Comptroller), "Descriptive Summaries of the Research, Development, Test and Evaluation Army Appropriation, Budget Activities 4 and 5," February 2004, pp. 74-79, 1,079-1,087, 1,096-1,101; Office of the Secretary of the Army (Financial Management and Comptroller), "Descriptive Summaries of the Research, Development, Test and Evaluation Army Appropriation, Budget Activities 1,2, and 3," February 2004, p. 463.

[12] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: New United States Policy on Landmines," February 27, 2004.

The policy reframes the focus from only antipersonnel mines to both antipersonnel and antivehicle mines, and characterizes landmines according to their active lifespan or persistence: "The United States has committed to eliminate persistent landmines of all types from its arsenal."[13] A persistent landmine is one that does not self-destruct. A self-destructing mine blows itself up after a set period of time, which for U.S. mines ranges from four hours to fifteen days.

Both self-destructing and persistent antipersonnel mines are prohibited by the Mine Ban Treaty, which bans any mine that is "designed to be exploded by the presence, proximity or contact of a person."[14] Human Rights Watch, the International Campaign to Ban Landmines, the International Committee of the Red Cross, United Nations agencies and pro-ban governments have long argued that a global prohibition must include all types of antipersonnel mines.[15]

Under the new Bush administration policy, the use of landmines that self-destruct is permitted without a cut-off date, and without any geographic restriction. This reverses the decade-long U.S. position that all antipersonnel mines should be banned at some point in time and reverses the decision to stop using the 8.4 million ADAM mines, except in Korea, as of 2003.

Under the policy, the use of antipersonnel mines that do not self-destruct is permissible until 2010, but only in Korea. The use of antivehicle mines that do not self-destruct is permissible globally until 2010, but only after presidential authorization if outside of

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[13] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: New United States Policy on Landmines," February 27, 2004.

[14] This is from the definition of antipersonnel mine contained in Article 2.1 of the Mine Ban Treaty.

[15] See, for example, Human Rights Watch Position Paper on "Smart" (Self-Destructing) Landmines, February 27, 2004, available at: http://hrw.org/english/docs/2004/02/27/7681.htm. Also, at the First Review Conference for the Mine Ban Treaty in November 2004, Human Rights Watch gave a briefing on U.S. landmine policy that stated: "At its heart, the new policy is just dusting off the U.S. 'smart' mine policy from the mid-1990s, with its emphasis on promotion of self-destructing and self-deactivating mechanisms. The U.S. tried to convince the treaty negotiators in Oslo in 1997 to make an exception for these types of mines, claiming they did not pose dangers to civilians. The U.S. sent a team of generals to convince the U.S.'s closest military allies, and they failed. They failed for a number of reasons that are still valid today. Smart mines are not safe mines; they have failure-to-destruct rates and failure-to-arm rates; they are usually used in great numbers and spread over huge areas, impossible to map or mark; while active, they are indiscriminate just like dumb mines; they will deny land and endanger civilians and require clearance operations. The 144 States Parties to the Mine Ban Treaty understand all this. The United States stands alone in seeking a technological solution to the antipersonnel mine problem. Many nations have also argued that it would be unacceptable to permit wealthy nations to use sophisticated and expensive mines, but expect poorer nations to give up the cheap dumb mines available to them." Steve Goose, Director, Human Rights Watch Arms Division, "Briefing on U.S. Landmine Policy," Nairobi, November 30, 2004, http://hrw.org/english/docs/2004/11/30/global10233.htm

Korea.[16] The United States began to destroy antivehicle mines that do not self-destruct in 2004, and a total of 77,171 such antivehicle mines (M15s and M19s) were shipped to Iraq for use in the destruction of captured ammunition.[17]

In announcing the policy, the U.S. stated that it would no longer have any low metal content landmines (so-called "non-detectable" mines) within one year. The 696,600 low metal content M14 antipersonnel mines remaining in the U.S. stockpile for use in Korea were made compliant with the detectability requirements of 1996 Amended Protocol II of the Convention on Conventional Weapons (CCW) by the permanent attachment of metal washers.[18] In addition, the use of low metal content antivehicle mines was formally prohibited on January 3, 2005.[19]

The new policy also committed the United States to seek a global ban on the export of persistent landmines (see below), and to increase the State Department's mine action funding by 50 percent over fiscal year 2003 baseline levels. Finally, the search for landmine alternatives was recast into a program for the development of alternatives for persistent antipersonnel and antivehicle mines.[20]

Development and Production of New Landmines

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[16] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: New U.S. Policy on Landmines," February 27, 2004.

[17] Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Annual Progress Report: U.S. Department of Defense Removal and Destruction of Persistent Landmines and Development of Landmine Alternatives," December 2004, p. 6.

[18] United States of America, Annual National Report for CCW Amended Protocol II, Form C, November 27, 2003. The U.S. ratified Amended Protocol II, which contains restrictions on use of mines and booby-traps, on May 24, 1999.

[19] U.S. Department of State, Office of the Spokesman, "Media Note: United States Bans Non-Detectable Landmines," January 3, 2005. The U.S. had already prohibited the use of low metal content antipersonnel mines as part of its obligations under 1996 Amended Protocol II to the Convention on Conventional Weapons. It had been U.S. policy not to use low metal content antivehicle mines since May 1996.

[20] Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Annual Progress Report: U.S. Department of Defense Removal and Destruction of Persistent Landmines and Development of Landmine Alternatives," December 2004, p. 7. However, since 1996, the Pentagon has been permitted to pursue alternatives that are not compliant with the Mine Ban Treaty. This was allowed to continue because of a certification made by President Clinton to Congress as a condition of the ratification of the Amended Protocol II that excluded compliance with the Mine Ban Treaty as a criterion guiding the landmines alternatives program. The text of the certification reads, "I will not limit the types of alternatives to be considered on the basis of any criteria other than those specified in the sentence that follows. In pursuit of alternatives to United States anti-personnel mines, or mixed anti-tank systems, the United States shall seek to identify, adapt, modify, or otherwise develop only those technologies that (i) are intended to provide military effectiveness equivalent to that provided by the relevant anti-personnel mine, or mixed anti-tank system; and (ii) would be affordable."

The Bush administration's landmine policy states, "The United States will continue to develop non-persistent anti-personnel and anti-tank landmines."[21] According to budget documents released in February 2005, the Pentagon is requesting $688 million for research on and $1.08 billion for the production of new landmine systems between fiscal years 2006 and 2011.[22]

New U.S. landmines will have a variety of ways of being initiated, both command-detonation (that is, when a soldier decides when to explode the mine, sometimes called "man-in-the-loop") and traditional victim-activation. As noted above, a mine that is designed to be exploded by the presence, proximity, or contact of a person (i.e., victim-activation) is prohibited under the Mine Ban Treaty.

U.S. officials have noted that self-destruct features will limit the time that these mines will be able to remain in a victim-activated mode and that enhancements to the current technology will continue to be researched and developed.[23] Additionally, "future tactical barriers may include a new generation of landmines or alternative systems."[24]

Matrix

Matrix is a new landmine system designed to allow an operator equipped with a laptop computer to remotely detonate lethal and non-lethal Claymore mines by radio signal from a distance. The Pentagon has not made public what this distance is.[25] Matrix is an adaptation of the technology developed under the Spider program (see below), in order to get it into the field rapidly. According to a State Department official, Matrix is a command and control system, and "not a landmine."[26]

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[21] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: New U.S. Policy on Landmines," February 27, 2004.

[22] The totals for fiscal years 2005 to 2011 are compiled from: Office of the Secretary of the Army (Financial Management and Comptroller), "Descriptive Summaries of the Research, Development, Test and Evaluation Army Appropriation, Budget Activities 4 and 5," February 2005, pp. 939-947, 957-962; Office of the Secretary of the Army (Financial Management and Comptroller), "Committee Staff Procurement Backup Book, FY 2006/2007 Budget Submission, Procurement of Ammunition, Army," February 2005, pp. 418-422, 425-428.

[23] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: New U.S. Policy on Landmines," February 27, 2004.

[24] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: Landmine Policy White Paper," February 27, 2004.

[25] Claymore mines normally propel lethal fragments from 40 to 60 meters across a 60-degree arc. However, U.S. Army tests indicate that the actual hazard range for these types of mines can be as high as 300 meters. Headquarters, U.S. Department of the Army, "Technical Manual 43-0001-36, Army Ammunition Data Sheets for Landmines (FSC 1345)," September 1, 1994, pp. 3-13 and 3-14.

[26] Open Letter to U.S. Campaign to Ban Landmines from Richard Kidd, Director, U.S. Department of State, Bureau of Political-Military Affairs, Office of Weapons Removal and Abatement, June 24, 2005. The full quote reads: "Furthermore, neither the Matrix command and control system (Matrix is not a landmine) nor the Spider

A total of twenty-five Matrix systems were reportedly to be sent to Iraq for use by units of the Army's Stryker Brigade by May 2005.[27] The Pentagon and State Department have not responded to requests from Human Rights Watch for confirmation if this deployment has taken place.

In late February 2005, Human Rights Watch raised questions about the potential harm these mines could pose to civilians.[28] One question related to how a soldier would be able to make a positive identification of his target from great distances. A second question was whether civilians themselves could inadvertently detonate the mines, rather than a soldier operating the system. The original technology behind Matrix was designed with a feature, sometimes called a "battlefield override switch," that substituted activation by a victim for detonation by command.

The U.S. Army Program Manager responsible for Matrix subsequently told Human Rights Watch that the system relies on [unspecified] types of electro-optical and infrared sensors to detect intrusion, and on visual target identification; no tripwires are used.[29] However, the operating distance for Matrix remains unknown, and thus concerns about visual identification remain. Moreover, it remains unknown if the Matrix system contains a battlefield override feature, and the Pentagon has not given concrete assurances that civilians cannot accidentally detonate Matrix controlled Claymore mines.

Spider

Spider is the result of the Non-Self-Destruct Alternative (NSD-A) program. The Spider system consists of a control unit capable of monitoring up to eighty-four hand-emplaced unattended munitions that deploy a web of tripwires across an area. Once a tripwire is touched by the enemy, a man-in-the-loop control system allows the operator to activate either lethal or non-lethal effects.[30]

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self-destructing/self-deactivating short-duration landmine contributes now, or will contribute, to the global landmine problem."

[27] Michael Peck, "Stryker Brigade in Iraq Will Protect Bases with Remote-Controlled Mines," *National Defense Magazine*, March 2005.

[28] Human Rights Watch Press Release, "U.S.: New Landmines for Iraq Raise Fears of Civilian Risk," February 28, 2005.

[29] Remarks by the U.S. Army Program Manager for Close Combat Systems to Human Rights Watch, Geneva, Switzerland, March 7, 2005. An official from the office of the Under Secretary of Defense for Policy was also present. The Program Manager also confirmed that only existing lethal and non-lethal Claymore mines are being used and no new munitions are being deployed with Matrix.

[30] Office of the Secretary of the Army (Financial Management and Comptroller), "Descriptive Summaries of the Research, Development, Test and Evaluation Army Appropriation, Budget Activities 4 and 5," February 2004,

Spider contains the aforementioned battlefield override feature that removes the man-in-the-loop and allows for activation by the target (or victim). In the words of the Pentagon, "Other operating modes allow Spider munitions to function autonomously without Man-in-the-Loop control (i.e. target activation), if necessary, to respond to the combat environment; the operator can regain control of the munitions at any time."[31] In an earlier report to Congress, the Pentagon stated, "Target Activation is a software feature that allows the man-in-the-loop to change the capability of a munition from requiring action by an operator prior to being detonated, to a munition that will be detonated by a target. The Chairman, Joint Chiefs of Staff, and the Service Chiefs, using best military judgment, feel that the man-in-the-loop system without this feature would be insufficient to meet tactical operational conditions and electronic countermeasures."[32]

A decision whether to produce Spider will be taken in December 2005 and the first units are scheduled to be produced in March 2007. The U.S. Army spent $135 million between fiscal years 1999 and 2004 to develop Spider and another $11 million has been requested to complete research and development. A total of $390 million is budgeted to produce 1,620 Spider systems and 186,300 munitions.[33] Textron Systems Corporation in Wilmington, Massachusetts and Alliant Techsystems in Plymouth, Minnesota are jointly developing Spider. Day and Zimmerman in Parsons, Kansas and General Dynamics in Taunton, Massachusetts are primary subcontractors.

Intelligent Munitions System

The Intelligent Munitions System (IMS) is a new program combining three landmine alternatives programs—the Self Healing Minefield, Mixed Systems Alternative, and Antipersonnel Landmine-Alternative (APL-A) programs—into one research and

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pp. 1,096-1,101; Office of the Secretary of the Army (Financial Management and Comptroller), "Committee Staff Procurement Backup Book, FY 2005 Budget Estimates, Procurement of Ammunition, Army," February 2004, pp. 406-411.

[31] Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Annual Progress Report: U.S. Department of Defense Removal and Destruction of Persistent Landmines and Development of Landmine Alternatives," December 2004, p. 7.

[32] Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Progress on Landmine Alternatives, Report to Congress," April 1, 2001, p. 11.

[33] Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Annual Progress Report: U.S. Department of Defense Removal and Destruction of Persistent Landmines and Development of Landmine Alternatives," December 2004, p. 8.

development program.[34] A total of $172 million of research and development funding was spent on those three programs between fiscal years 1999 and 2004.

A total of $1.3 billion has been requested for IMS development and production activities between fiscal years 2005 and 2011. IMS prototypes are being developed by General Dynamics Advanced Information Systems in Bloomington, Minnesota and Textron Systems Corporation in Wilmington, Massachusetts. The decision to produce IMS is scheduled to be taken in 2008 and the first units produced in 2009.

According to budget documentation, the IMS is "an integrated system of effects (lethal, non-lethal, anti-vehicle, anti-personnel, demolitions), software, sensors/seekers, and communications that may be emplaced by multiple means and is capable of unattended employment for the detection, classification, identification, tracking and engagement of selected targets." The Pentagon further states, "IMS utilizes sensors linked to effects and is controlled over robust communications in either an autonomous mode or via Man-in-the-Loop control."[35]

The terms "unattended employment" and "autonomous mode" appear to be synonymous with victim-activation, and like Spider, would make this system incompatible with the Mine Ban Treaty. Language contained in the conference report accompanying the fiscal year 2003 defense appropriations bill attempts to rectify this: "The conferees direct that the Army clearly define the requirements for a next generation intelligent minefield and ensure compliance with the Ottawa Convention, and report back to the House and Senate Appropriations Committees with detailed plans for such a system."[36]

Volcano Antivehicle Mines

A total of 191,000 M87A1 Volcano antivehicle mines were produced in the United States between 1996 and 2004. An additional 2,000 canisters, each containing six

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[34] Office of the Secretary of the Army (Financial Management and Comptroller), "Descriptive Summaries of the Research, Development, Test and Evaluation Army Appropriation, Budget Activities 4 and 5," February 2005, pp. 939-947; Office of the Secretary of the Army (Financial Management and Comptroller), "Committee Staff Procurement Backup Book, FY 2006/2007 Budget Submission, Procurement of Ammunition, Army," February 2005, pp. 425-428.

[35] Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Annual Progress Report: U.S. Department of Defense Removal and Destruction of Persistent Landmines and Development of Landmine Alternatives," December 2004, p. 8.

[36] U.S. House of Representatives, "Report 107-732, Making Appropriations for the Department of Defense for the Fiscal Year Ending September 30, 2003, and for Other Purposes: Conference Report to Accompany H.R. 5010," October 9, 2002, p. 256.

antivehicle mines, are currently being produced at the Lone Star Army Ammunition Plant in Texarkana, Texas, which is a government-owned facility operated by the Day and Zimmerman Company.[37]

The M87A1 Volcano was ordered by the United Kingdom in 1996, with a contract value exceeding $100 million, and it entered service with the Royal Engineers in 2001 as the L35A1 Shielder.[38] In April 2002, the U.S. State Department notified Congress of a pending direct commercial sale of M87A1 Volcano systems to Israel under a contract valued at $50 million or more.[39]

Previously, Volcano was produced only as a mixed system with both antipersonnel and antivehicle mines packaged together. This antivehicle mine-only version was part of the Pentagon's response to the one-year antipersonnel landmine use moratorium scheduled to take effect in February 1999, but which was subsequently nullified. The program also involved upgrades for the system such as modifications to the safe and arm mechanism and the dispenser control unit. This was an example of the U.S. quickly developing, producing, and even exporting an alternative to an existing system containing antipersonnel mines.

Claymore Mines

Claymore-type mines, also known as directional fragmentation munitions, are among the most common mines in the world. The United States first produced Claymore mines in 1960 and has since produced 7.8 million of them for a cost of $122 million.[40] When used in command-detonated mode, Claymores are permissible under the Mine Ban Treaty. When used in victim-activated mode, usually with a tripwire, they are prohibited.

As noted above, the Matrix system uses Claymore mines command-detonated by radio signal, but it is unknown if a victim-activated option is also available. Moreover, the current U.S. policy regarding use of Claymores with tripwires is unclear. Under Clinton administration policy, and according to existing Army field manuals, use of Claymores

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[37] Department of the Army, "Committee Staff Procurement Backup Book, FY 2005 Budget Estimates, Procurement of Ammunition, Army," February 2004, pp. 393-394.

[38] Alliant Techsystems Press Release, "ATK Shielder Anti-Tank Barrier System Enters Service with UK Royal Engineers," September 6, 2001.

[39] Letter from Paul V. Kelly, Assistant Secretary of State for Legislative Affairs, to J. Dennis Hastert, Speaker of the House of Representatives, April 12, 2002. Such notifications are required by Section 36(c) of the Arms Export Control Act.

[40] Office of the Secretary of the Army (Financial Management and Comptroller), "Committee Staff Procurement Backup Book, FY 2005 Budget Estimates, Procurement of Ammunition, Army," February 2004, p. 388.

with tripwires is restricted to Korea. But, Pentagon and State Department officials have not responded to Human Rights Watch's questions as to whether this continues to be the case under the new landmine policy.

In February 2004, the Pentagon requested $20.2 million to produce 40,000 M18A1E1 Claymore mines. Mohawk Electrical Systems, Inc (Milford, Delaware) is scheduled to produce the munitions between June 2005 and March 2006.[41] The M18A1E1 will incorporate a new triggering system that does not rely on either the victim-activated mechanical tripwire fuze or the command-detonated electrical initiation provided with the M18A1. Instead, the Claymores will be command detonated by a new generation of modernized demolition initiators that use explosives to trigger the mine.[42]

Export and Transfer of Landmines

United States officials have often claimed that U.S. mines are not a significant factor in the global landmine problem.[43] It is likely that this argument will be used in part to justify any decision to renew production of antipersonnel mines. However, the United States exported over 5.6 million antipersonnel mines to thirty-eight countries between 1969 and 1992.[44] Deminers in at least twenty-nine mine-affected countries have reported the presence of nine different types of U.S.-manufactured antipersonnel mines and four types of antivehicle mines, including both non-self-destructing and self-destructing types.[45] A total of twenty-one states that have banned the weapon have

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[41] Office of the Secretary of the Army (Financial Management and Comptroller), "Committee Staff Procurement Backup Book, FY 2005 Budget Estimates, Procurement of Ammunition, Army," February 2004, pp. 386-392. This procurement includes $16 million in supplemental funding from the Emergency Wartime Supplemental Appropriations Act, 2003.

[42] U.S. Army Field Support Command, "Sources Sought Amendment: M18A1 Claymore Antipersonnel Mine; M18A1E1 Claymore Antipersonnel Mines, a Variant that uses a Non-Electrical Initiation System; its Trainer (MM68E1); and the M5 Modular Crowd Control Munition (MCCM)," May 12, 2004.

[43] See, for example, Open Letter to U.S. Campaign to Ban Landmines from Richard Kidd, Director, U.S. Department of State, Bureau of Political-Military Affairs, Office of Weapons Removal and Abatement, June 24, 2005. It states, "The truth is that nearly all of the landmines that deminers are clearing around the world are of foreign - not U.S. – origin. All the mines being cleared today are "persistent" mines, exactly the type that will be prohibited by the new U.S. landmine policy."

[44] Of this total, 4.14 million were non-self-destructing mines and approximately 80,000 were self-destructing mines. The remaining 1.36 million were Claymore mines. These figures do not include direct commercial sales. Sixteen of the recipient countries are considered to be mine-affected. Human Rights Watch obtained this information in August 1994 through a Freedom of Information Act request to the Defense Security Assistance Agency and U.S. Army Armament, Munitions, and Chemical Command concerning U.S. landmine deliveries under the Foreign Military Sales Program and Military Assistance Program.

[45] Mine threat files maintained by demining organizations and mine action centers in mine-affected countries contain information on the types of mines encountered. Similar information is included in the annual transparency reports submitted by states party to the 1997 Mine Ban Treaty. Human Rights Watch has cross-referenced this primary source data with secondary sources such as annual editions of *Jane's Mines and Mine Clearance* and databases compiled and maintained by the Canadian, French, and U.S. militaries. The

declared possessing (and subsequently destroying) 2.9 million antipersonnel mines of U.S. origin in their stockpiles, more than any other single exporting state.[46]

On October 23, 1992, President George H. W. Bush signed into law the Mine Export Moratorium, which prohibits the export of all antipersonnel mines.[47] The State Department issued a regulation implementing the statute, which categorically states, "All licenses, sales or transfers of landmines specifically designed for anti-personnel use, regardless of method of delivery, are suspended until further notice."[48] This moratorium has been extended several times, most recently until October 23, 2008.[49] In addition, the Clinton administration announced on January 17, 1997, that the United States "will observe a permanent ban on the export and transfer" of antipersonnel mines.

In its February 2004 landmine policy announcement, the United States indicated its intent to seek an international agreement that prohibits the sale or export of landmines, both antipersonnel and antivehicle, that do not self-destruct.[50] Subsequently, the United States announced it would pursue negotiations in the Conference on Disarmament (CD).[51]

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countries where U.S. manufactured mines have been found include: Afghanistan, Angola, Cambodia, Chad, Chile, Colombia, Cyprus, El Salvador, Eritrea, Ethiopia, Greece, Iran, Iraq, Jordan, South Korea, Kuwait, Laos, Lebanon, Malawi, Mozambique, Rwanda, Somalia, Sudan, Thailand, Tunisia, Turkey, Vietnam, and Zambia, as well as Western Sahara (under Moroccan control).

[46] The following States Parties to the Mine Ban Treaty have declared stockpiles of antipersonnel mines of U.S.-origin: Australia, Austria, Cambodia, Canada, Chile, Colombia, Ecuador, El Salvador, Greece, Honduras, Japan, Jordan, Luxembourg, Netherlands, Norway, Peru, Portugal, Sudan, Thailand, Tunisia, Turkey, and Venezuela. In keeping with their treaty obligation, all of these states have destroyed, or are in the process of destroying these antipersonnel mines, except, in some cases, a small number retained for demining training and research. Three former exporting states account for the vast majority of the imported antipersonnel mines declared by States Parties between 1999 and 2004: United States (2.9 million), China (1.4 million), and Russia/U.S.S.R. (1.06 million). Another 22 landmine exporting countries also contributed to the global stockpiles.

[47] Public Law 102-484, Sec. 1365, October 23, 1992.

[48] Public Notice 1727, "Suspension of Transfers of Anti-Personnel Mines" FR Doc. 92-28460, *Federal Register*, November 18, 1992.

[49] Public Law 107-115, Section 548, January 10, 2002.

[50] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: New U.S. Policy on Landmines," February 27, 2004.

[51] U.N. Office in Geneva, Press document: "Conference on Disarmament Hears Statement by United States on Landmines and Fissile Material," July 29, 2004. It is highly unlikely the effort in the CD will go anywhere, as the CD has not even been able to agree on its agenda since 1997. In a practical sense, there is little need for a new agreement, as there has been almost no trade in antipersonnel mines since the mid-1990s. A *de facto* global ban on trade already exists and is holding tight. Moreover, several Mine Ban Treaty States Parties have pointed out they could not agree to a new international instrument on mine transfer that has a lesser standard than the ban treaty.

There is concern that the U.S. proposal to negotiate a ban on the transfer of non-self-destructing landmines could signal that the U.S. is now prepared to engage again in the trade of self-destructing antipersonnel mines. The law banning the transfer of all antipersonnel mines will expire in October 2008, unless it is extended, and it is not clear if the Bush administration has retained or overturned the formal Clinton administration policy permanently banning transfers of all antipersonnel mines. The Bush administration may believe that since it has determined that self-destructing mines pose no danger to civilians, there is no need to restrict trade.

Exception for Training and R&D?

In announcing its desire to pursue an international transfer ban, the State Department declared, "Consistent with existing U.S. obligations, we will seek appropriate limited exceptions for training personnel engaged in demining or countermine operations."[52] In fact, despite the export prohibition, the United States has continued to transfer and acquire antipersonnel mines in recent years, presumably for training or research and development purposes. The State Department reported that thirty-two M87 Volcano canisters, each containing five antivehicle mines and one antipersonnel mine, were sold to Germany in fiscal year 2004 with a license value of $10 million.[53] Romania transferred 3,265 antipersonnel mines to the U.S. Navy between April 2003 and April 2004.[54] In 2002, Ecuador transferred 1,644 antipersonnel mines to the U.S. Navy Explosive Ordnance Disposal Technology Division (Indian Head, Maryland).[55] The U.S. provided 140 M14 antipersonnel mines to Canada for testing of personal protective equipment for deminers in 2001.[56] While all four of the above mentioned countries are party to the Mine Ban Treaty, that treaty contains an explicit exception in Article 3 for transfer of antipersonnel mines for the development of and training in mine detection, mine clearance, or mine destruction techniques.

However, it is unclear how the United States can legally justify such transfers given its obligations under the Mine Export Moratorium and CCW Amended Protocol II.

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[52] U.S. Department of State, Bureau of Political-Military Affairs, "Fact Sheet: New U.S. Policy on Landmines," February 27, 2004. Similarly, the Pentagon has stated, "Consistent with existing U.S. obligations, it will include appropriate exceptions for training personnel engaged in demining or countermine operations." Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Annual Progress Report: U.S. Department of Defense Removal and Destruction of Persistent Landmines and Development of Landmine Alternatives," December 2004, p. 4.

[53] "Report by the Department of State Pursuant to Section 655 of the Foreign Assistance Act, Direct Commercial Sales Authorizations for Fiscal Year 2004," p. 51.

[54] Romania, Mine Ban Treaty Transparency Measures Report, Form D.2, April 2004. Four types were transferred: MAI-75 (1,300), MAI-68 (1,300), MAI-6 (620), and MAI-2 (45).

[55] Ecuador, Mine Ban Treaty Transparency Measures Report, Form D.2, May 31, 2002.

[56] Canada, Mine Ban Treaty Transparency Measures Report, Form D.2, April 24, 2002.

Human Rights Watch is unaware of any formal interpretation or understanding of the export moratorium made to permit the transfer of antipersonnel mines for research and development purposes. It is not publicly known whether such an exception is contained in an interpretation by the United States of Article 8 of Amended Protocol II concerning prohibitions and restrictions on landmine transfers.[57] The Bush administration has not said if it continues to uphold the understandings of its predecessor on this issue. Repeated requests by Human Rights Watch over a number of years for clarification of this matter have gone unanswered.

Recommendations

Human Rights Watch believes that the Bush administration should reverse its decision not to join the Mine Ban Treaty, and should not insist on the right to use self-destruct antipersonnel mines indefinitely. Specifically with respect to the production and export issues raised in this paper:

- Research and development on or production of mines or munitions capable of being victim-activated should be immediately halted.
- Continued funding for the Spider program should be made contingent on the removal of the battlefield override feature.
- Continued funding for the Intelligent Munitions System should be dependent on the compliance of this program with the Mine Ban Treaty.
- The Department of Defense should publicly clarify whether the Matrix mine system has already been deployed, and if it is capable of being victim-activated. DoD should also provide details on target identification and the protections afforded civilians in areas Matrix mines are used.
- The Department of Defense should clarify current policy regarding use of Claymore mines with tripwires, and should prohibit such use everywhere, including Korea.
- The Mine Export Moratorium should be made permanent.
- Antivehicle mines that do not self-destruct and that are being withdrawn from service in order to implement the February 2004 policy should not be made available for transfer or export under foreign military sales or excess defense articles programs.

[57] The Senate Foreign Relations Committee's Report on the ratification of the protocol states that "the administration further clarified with the Senate its understanding of issues related to Article 8 in two classified memoranda and a letter to Chairman Helms. The Senate received these documents on July 23, 1998." Senate Foreign Relations Committee, Executive Report 106-2, May 13, 1999, p. 51. However, this understanding has not been made public and does not appear to be reflected in the formal reservations and understandings adopted by the U.S. upon the Senate providing its advice and consent in ratifying the treaty in 1999.

- Any interpretations of or exceptions to the Mine Export Moratorium should be publicly disclosed, as well as what understandings the United States observes regarding the transfer of mines prohibited by CCW Amended Protocol II.
- The appropriate Congressional committees should be notified on an annual basis by the Department of State of any export or transfers of antipersonnel mines by U.S. agencies or companies, regardless of the intended purposes of the mines or the number of mines.