



ALASKA MISSILE DEFENSE WEEKLY (Thirty-Ninth Edition)

**Compiled by: Ms. Hillary Pesanti, Community Relations Specialist
Command Representative for Missile Defense**

907.552.1038

hillary.pesanti@elmendorf.af.mil

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NOVEMBER 25, 2002-NOVEMBER 29, 2002

ALASKA SPECIFIC NEWS BREAKS

- [DoD mulling Guard, reserve manning of missile defense test bed, Inside The Army](#)
- [\\$15 million earmarked for Delta, News-Miner](#)

MONDAY, NOVEMBER 25, 2002

- [Navy missile aces test, Honolulu Star-Bulletin](#)
- [Sea-based midcourse system intercepts first ascending target, Aerospace Daily](#)
- [Solid state, Defense Daily](#)
- [Aegis test meant to bolster Israeli missile defense, Middle East Newline](#)
- [Israel boosts Arrow arsenal as war looms, Defense News.com](#)
- [With Iraq in mind, DoD to boost PAC-3 missile purchases 'immediately,' Inside The Army](#)
- [Boeing kinetic warhead technology key to successful Aegis tests, St. Louis](#)

TUESDAY, NOVEMBER 26, 2002

- [Scud makes early morning launch, Lompoc Record](#)
- [Israelis monitor VAFB launch, Santa Barbara News-Press](#)
- [Air Force readies modified Boeing 747 for extensive Airborne Laser integration work, Defense Daily](#)
- [U.S. may sell four destroyers to Taiwan, Reuters](#)
- [Missile defense shield concept still leaky, USA Today](#)

WEDNESDAY, NOVEMBER 27, 2002

- [Germany to Give Israel Patriot Missiles, The Associated Press](#)

- [Selling arms to India and Pakistan: explosive business, The Christian Science Monitor](#)
- [Missile Code Of Conduct Launches In The Hague, Global Security Newswire](#)
- [Tactical Laser Weapons Still Many Years Away, National Defense](#)
- [MDA Fires Another Scud To Monitor Flight Characteristics, Defense Daily](#)
- [Israelis observe American test firing of Scud missiles, Ha'aretz \(Israel\)](#)
- [Ballistic Missile Defense System Passes Latest Test, Fox News](#)

THURSDAY, NOVEMBER 28, 2002

- Thanksgiving Holiday

FRIDAY, NOVEMBER 29, 2002

- Thanksgiving Holiday

ALASKA SPECIFIC NEWS BREAKS #39 **NOVEMBER 25, 2002-NOVEMBER 29, 2002**

DOD MULLING GUARD, RESERVE MANNING OF MISSILE DEFENSE TEST BED, *Inside The Army*, November 25, 2002. The Defense Department is considering continued use of Army active Guard and Reserve personnel to man the Ballistic Missile Defense System test bed through the end of the decade, sources said last week. The department does not intend, however, to increase the overall end strength of the Army National Guard. To compensate for the greater number of personnel on full-time active duty, therefore, the number of part-time Guard soldiers would be reduced, sources said. Administration officials say the interceptors expected to be placed at Fort Greely, AK, which is part of the test bed, could eventually provide a limited national missile defense capability against intercontinental ballistic missiles. Fort Greely comprises one part of the test bed that also includes Vandenberg Air Force Base, CA, Kwajalein Atoll, and the Hawaiian islands. National Guard participation in the BMDS test bed began this year, in accordance with congressional direction. Lawmakers included \$6.7 million in the fiscal year 2003 appropriations bill to support 85 personnel at the test bed; they are supposed to provide an "Emergency Defensive Operations" capability by 2004. Hiring for the new slots has already begun.

According to sources, the Defense Department will likely continue manning the Fort Greely portion of the test bed with Guard soldiers on full-time active duty. A draft version of program budget decision No. 224 proposes assigning 85 enlisted Guardsmen

and officers to the test bed and EDO mission every year through fiscal year 2009. In FY-04, the cost of the personnel is \$6.7 million; the bill grows to about \$8.4 million by FY-09. The comptroller suggests that the Missile Defense Agency provide the funds from within its own budget. The National Guard will have to compensate for the increase in full-time AGR slots; sources say that the PBD directs a corresponding decrease in part-time soldiers in order to keep Army National Guard end strength static at 350,000. According to sources, the PBD notes that Guard participation in the test bed's Emergency Defensive Operations could change if operational responsibility is transferred from MDA to the Army. The PBD indicates that manpower needs for EDO may increase. The document states that 85 soldiers fulfill only the minimum requirement for the test bed's Emergency Defensive Operations activities. Full mission support is approximately 300 personnel, sources said.

\$15 MILLION EARMARKED FOR DELTA, News-Miner, DELTA JUNCTION--It is Thanksgiving and Delta Junction officials are ready to carve into \$12.3 million from the federal government. After months of waiting for federal money to offset community impact caused by the Ground-based Midcourse Defense test bed at Fort Greely, the city recently received word the money has been transferred to the state, which will disperse it to the city on a request basis. But that's not all the area is getting. While a last-minute federal decision zeroed out the line item for \$2.5 million in business loans, that money will still be coming into the community. The city helped negotiate a plan to have those funds instead flow to the Delta/Greely School District, increasing its take from \$1 million to \$3.5 million. Superintendent Dan Beck said the funds will go into a building fund, with the idea they may be leveraged with state money and more federal funds due to come in the next two years. That makes a total of \$15.8 million allotted to the area for 2002 and 2003. "We're going to have to decide exactly how to spend it," city administrator Pete Hallgren said. While the City Council had to outline its expenditures in its request to the Department of Defense, and money has to be allocated in ways that will benefit Space and Missile Defense at Fort Greely, there is enough leeway in the budget to allow some adjustment, Hallgren said. To help that process, the city is holding a special public meeting 7 p.m. Tuesday at the Delta Community Center to ask for comment on a new city recreational building. That building could also include city offices, the library and emergency services. "It's all heavily inter-related," Hallgren said. "Overall, what we're looking for is ideas--what the community really wants." Ideas will be turned over to the city's contracted architect, Charles Bettisworth, and structural engineer, PDC Inc. Construction could begin next summer. "It's going to be a position where decisions can be made pretty quickly," Hallgren said.

In a Nov. 21 memo to the council, Hallgren noted the city money has been allocated in the following manner: the new city landfill, \$5.5 million; fire and ambulance, \$900,000; fire station/public works, \$3.2 million; communications, \$480,000; recreation center

with city hall, \$1.2 million. An additional \$270,000 is listed for social service grants and \$750,000 for education and job training.

Hallgren said that because the landfill cost will likely come in under \$5.5 million--perhaps \$2 million less, he said--some of that money could be used for one of the other listed needs, like a community recreation center. The extra money doesn't mean the city is angling for a new city hall. Hallgren said he considers the city's current space adequate. "I can guarantee you this isn't a plan to come up with a bigger city hall," he said. Library space, a new or renovated emergency services building, and a recreational facility are all priorities established in a Defense Department plan completed in September. The department cited the missile system's need for landfill space, reliance on the city's emergency services, and a lack of recreational opportunities, which could harm quality of life for Defense Department employees. Hallgren said it is important to note that the money--the first such defense federal impact money in 25 years--has to be used in certain ways. It is not allocated to address spinoff impact from missile defense, nor is it to make up for the closure of Fort Greely, or to anticipate a greater Army presence in Alaska. But, Hallgren points out, it is a great deal of money being funneled into a small community. "We have come a long way," he said.

GLOBAL NEWS BREAKS #39

MONDAY, NOVEMBER 25, 2002

NAVY MISSILE ACES TEST, Honolulu Star-Bulletin, November 22, 2002. For the third straight time, a missile fired from hundreds of miles offshore from the cruiser USS Lake Erie destroyed a target rocket launched from the Navy's Pacific Missile Range on western Kauai. Yesterday's test was the most difficult trial yet for the Aegis BMD (Ballistic Missile Defense) system. In previous tests the new missile knocked down targets as they re-entered Earth's atmosphere. Yesterday, it hit a missile while it was still climbing. "Three and a half minutes after the target was launched, it was toast," said Chris Taylor, spokesman for the Missile Defense Agency. "The Lake Erie had a window of only 70 to 85 seconds to detect the target and launch the missile."...Millions of dollars have been spent to upgrade the Pacific Missile Range's tracking and telemetry equipment for the tests...Meanwhile, plans are going ahead to begin testing the THAAD (Theater High-Altitude Air Defense) missile, the Army's new air defense missile, beginning in 2004 at the Pacific Missile Range. At least nine test flights are planned. The THAAD missile originally was expected to be tested at the Army's missile range at Kwajalein Atoll in the Marshall Islands. U.S. Sen. Daniel Inouye was instrumental in convincing the Army to move the tests to Kauai. Officials from the Army's Redstone Arsenal were at the Kauai base yesterday to view the Navy test.

SEA-BASED MIDCOURSE SYSTEM INTERCEPTS FIRST ASCENDING TARGET, Aerospace Daily, November 25, 2002. The Missile Defense Agency's Sea-based Midcourse Defense (SMD) system Nov. 21 shot down a target missile in its ascent phase for the first time and hit the target closer to its warhead than in previous tests...The Aries was hit in the ascent portion of its midcourse phase of flight, meaning it was still gaining altitude but was above the Earth's atmosphere. The SMD system intercepted target missiles in tests in January and June, but those shoot-downs occurred in the descent phase. The latest test is also unique because the target was hit in the top third of its body. Hitting that part of the missile is considered more challenging than hitting it in the middle, the intercept point for the January and June tests...The next tests will occur "no earlier than late spring," and a Defense Department official said he would not be surprised if it aimed for the target's warhead.

SOLID STATE, Defense Daily, November 25, 2002. Lockheed Martin plans to continue to upgrade the Aegis weapon system with signal processing upgrades for its use in the sea-based missile defense effort, but at some point a new solid-state laser will become essential, program officials say. "At some point you have to go to the solid-state radar," says Chris Myers, Lockheed Martin director of missile defense and radar programs. The company is on contract to develop an S-Band solid-state radar. Myers reports the company is still on track for an upcoming demonstration of that capability.

AEGIS TEST MEANT TO BOLSTER ISRAELI MISSILE DEFENSE, Middle East Newslines, November 21, 2002. The U.S. Navy plans to conduct the first of a series of tests to ensure that its Aegis missile defense system can help protect Israel from an Iraqi Scud attack. Officials said the Defense Department and the military have launched a program to conduct six tests of the Aegis to develop an emergency deployment sea-based ballistic missile defense against short- to medium-range ballistic missiles. The U.S. Navy plans to deploy an Aegis-class destroyer in the eastern Mediterranean by January. Officials said the destroyer will participate in an exercise with Israeli air defense and its air force in an effort to bolster missile defense. They said the U.S. destroyer will remain off the Israeli coast to protect against any Iraqi medium-range missiles fired toward Tel Aviv and the surrounding area. Officials said the navy has completed a series of tests to determine the operability of the Aegis system with other missile defense assets. Israel has already deployed the Arrow-2 medium-tier system and the PAC-2 low-tier system.

ISRAEL BOOSTS ARROW ARSENAL AS WAR LOOMS, Defense News.com, November 22, 2002. The looming specter of a U.S.-led war on Iraq, and the possibility that Baghdad could retaliate with a Scud missile barrage against Israel, have accelerated intense efforts here to build and stockpile Arrow missile interceptors. In the drive to secure their airspace, Israeli officials have temporarily shelved their diplomatic attempts to secure U.S. permission to export the joint U.S.-Israeli system to third countries,

officials here said. In meetings Nov. 14-15 in Washington of the U.S.-Israel Joint Political Military Group, a semi-annual forum in which Israel has repeatedly raised requests to export the Arrow, the subject was not even discussed, according to officials who participated in the talks. Instead, the two sides, led by Lincoln Bloomfield, U.S. assistant secretary of state, and Amos Yaron, director-general of Israel's Ministry of Defense (MoD), focused on mutual threats in the region and prewar coordination efforts, sources here said.

WITH IRAQ IN MIND, DOD TO BOOST PAC-3 MISSILE PURCHASES

'IMMEDIATELY', Inside The Army, November 25, 2002. The Defense Department intends to increase Patriot Advanced Capability-3 missile purchases "immediately," a decision that sources suggest is tied to a possible war against Iraq. According to two new budget documents, DOD will double PAC-3 monthly production rates this year. As soon as a reprogramming request that was sent to Congress last week is approved, more manufacturing equipment and a second shift of personnel will be added. With the extra resources, the number of missiles rolling off the line each month will increase from four to eight. "Recently revised inventory requirements" dictate the acceleration in production, according to the reprogramming paperwork. Sources say those requirements are linked to plans for armed conflict with Iraq. Just like during the first Gulf War in 1991, the United States is concerned that Iraq would respond to American or coalition action by striking Israeli targets; a military reply from the Jewish state could negatively impact any Arab support for, or even neutrality in, a war against Iraq. To prevent Israel from entering the fray, the Defense Department plans once again to field Patriot batteries to help protect -- and restrain -- its ally, sources said. Deputy Defense Secretary Paul Wolfowitz said late last month that the Pentagon was considering boosting PAC-3 production. During an Oct. 24 speech at a conference on Capitol Hill, Wolfowitz said production might be augmented "out of concern for near-term vulnerabilities." During Desert Storm, the Army deployed experimental Patriot missiles to Israel and Saudi Arabia to defend against Iraqi Scud attacks. The efficacy of the Patriots was less than promised, with dozens of Scuds landing in both Israel and Saudi Arabia. Officials believe the newer PAC-3 technology will be more successful, however. The original Patriots were "blast fragmentation" weapons that exploded in the vicinity of their targets; PAC-3s are "hit-to-kill," designed to directly strike incoming missiles.

The second manufacturing shift and related equipment will cost the Defense Department an extra \$70 million this fiscal year (Inside the Army, Nov. 11, p3). To cover the bill, DOD last week asked Congress for permission to draw \$10 million from the M1A2 Abrams System Enhancement Program and shift it to the PAC-3 effort. The department also wants to siphon \$64 million from elements of the Ballistic Missile Defense System. According to the reprogramming request, funds budgeted for test-bed development and upgrades, the sea-based midcourse segment (formerly called Navy Theater Wide), and midcourse segment common systems engineering and integration are available "with

manageable impact to meet higher priorities." The reprogramming contains money to fill a production gap expected between fiscal years 2003 and 2004, as well. According to the request, DOD must procure an additional 12 missiles to bridge those separate PAC-3 procurement contracts and keep the manufacturing line running smoothly. The extra missiles will cost \$34 million; the department has offered cash from several more accounts to pay the rest of the bill, including spare and repair parts for Army weapons and tracked combat vehicles, the Conventional Ammunition Working Capital Fund, ammunition production base support, and the Raptor and Wide Area Munition programs.

Sources say DOD intends to maintain the increased production rate of eight missiles per month throughout FY-04. The additional 36 units will cost \$97.2 million. Prime contractor and subcontractor facilities also will require upgrades to support the higher production rate; the department needs \$25 million for this task. According to sources, a draft version of program budget decision No. 224 includes this new production and funding profile. DOD will acquire 108 PAC-3 missiles in FY-04. In the PBD, the Pentagon comptroller proposes that the Army provide \$82.2 million of the \$122.2 million needed from within its own budget. The PBD also suggests replenishing in FY-04 the \$64 million taken this year from the BMDS program, formerly called National Missile Defense. The overall procurement objective of 1,159 PAC-3 missiles remains the same. To compensate for the larger purchases in FY-03 and FY-04, the comptroller suggests cutting production in FY-08 and FY-09. Instead of buying 216 missiles in each of those years, DOD would receive 184 units annually, sources said.

BOEING KINETIC WARHEAD TECHNOLOGY KEY TO SUCCESSFUL AEGIS TESTS, St. Louis, Nov 27, 2002.

Sub-systems developed by Boeing played a key role in the latest successful intercept test, Flight Mission-4 (FM-4) of the Aegis Ballistic Missile Defense System on Nov 21. FM-4 is the third successful intercept test in one year for the Missile Defense Agency and the U.S. Navy. This test was the most challenging to date and tested the system's ability to engage the target during the ascent phase of flight, then subsequently intercept. With the success of the FM-3 flight test on June 13, 2002, the Aegis BMD project accelerated its flight-testing objectives. FM-4 marks the beginning of a flight test series to develop an emergency deployment sea-based ballistic missile defense against short-to medium-range ballistic missiles. FM-4 is the first developmental flight test against more complex and stressing ballistic missile engagement scenarios. Boeing has been teamed with Raytheon Company, the prime contractor for the program, since 1996 to build the Standard Missile-3 (SM-3) kinetic warhead and is responsible for the guidance unit, ejector, kinetic warhead integration, and environmental testing. All Boeing components and systems performed exceptionally during the test. "This latest intercept again validates the viability of hit-to-kill technology and the ability to field systems that will help protect our homeland, as well as deployed troops, allies and friends abroad,"

said Debra Rub, vice president, Boeing Air & Missile Defense Systems, part of Boeing Integrated Defense Systems. "Boeing has been developing and proving this technology for more than 15 years and we are proud to be a part of this latest success." In addition to its work on the Aegis Ballistic Missile Defense/SM-3 program, Boeing holds key roles in each element of the Ballistic Missile Defense System architecture. Boeing also leads the System Engineering and Integration effort on the Missile Defense National Team.

TUESDAY, NOVEMBER 26, 2002

SCUD MAKES EARLY MORNING LAUNCH, Lompoc Record, November 25, 2002. A Scud missile launched Monday amid an unusual notch of security sparked by concerns for the safety of visiting Israelis involved in the weapon test, Defense Department sources said. After delays due to unfavorable winds, the Scud missile blasted off from its north Vandenberg Air Force Base launch site at 1:30 a.m. Monday, officials said. The single-stage, liquid-fueled weapon -- the most proliferated missile in the world -- climbed into the star-filled sky for more than a minute before the flight terminated and the Scud plopped into the Pacific Ocean. It flew 186 miles and to an altitude of 281,000 feet before splashing down. "The data, obtained from a variety of sensors observing during the flight, will contribute to the development of enhanced missile defense technologies to intercept and destruct Scuds and Scud-like missiles before they can reach their targets," said Chris Taylor, a Missile Defense Agency spokesman...Monday's Scud test by the Missile Defense Agency came on the heels of a Nov. 14 launch from Vandenberg. "It was identical to the previous launch," said Taylor. Neither test attempted an intercept... Both Scuds had their warheads removed and replaced with instrumentation packages to help officials learn more about the foreign-made weapon. "This was to obtain significant signature data on the Scuds, the environment before, during and after a launch," said Taylor. The Scud tests -- the first occurred during daylight and the second came in darkness -- are part of a \$13 million program dubbed Blue Velvet. The three-year program calls for a preliminary report to be completed this spring and a final analysis to be done by the fall.

ISRAELIS MONITOR VAFB LAUNCH, Santa Barbara News-Press, November 26, 2002. In a project kept secret, Israeli officials have been studying Scud missile technology at Vandenberg Air Force Base and on Monday watched their second launch from the base this month... "Israel, like the U.S., is very interested in exactly how a Scud performs," said Lt. Col. Rick Lehner, a spokesman for the Missile Defense Agency at the Pentagon. A team of about 15 government, military and aerospace industry members from Israel have been living and working at Vandenberg since mid-October and grew to about 50 members in the days preceding each launch. They will be leaving this week. The Israelis' role was observation only, Lt. Col. Lehner said. For much of the next year, the agency and the Israeli government will study information

from ground sensors and equipment attached to each Scud, to help develop “enhanced missile defense technologies to intercept and destroy Scuds and Scud-type missiles before they can reach their target,” explained Chris Taylor, a Missile Defense Agency spokesman. The Israelis’ presence at the base was kept secret primarily out of concern for their safety, a senior military official said... The Israelis will have full access to any information gathered from Vandenberg’s two Scuds, Mr. Taylor said. A preliminary report on the \$13 million program, dubbed “Blue Velvet,” will be available in next spring, with a final report late next year. “One of the reasons for creating this capability to launch Scuds is, there will be other Scuds launched from Vandenberg in support of other programs,” Mr. Taylor said. “For example, the airborne laser program will attempt to shoot down a Scud in the ‘04-05 timeframe. These were the first two. There will be more.”

AIR FORCE READIES MODIFIED BOEING 747 FOR EXTENSIVE AIRBORNE LASER INTEGRATION WORK, Defense Daily, November 26, 2002.

The modified Boeing 747-400 that has been flying flight worthiness tests for the Airborne Laser (ABL) program is headed to Edwards AFB, Calif., next month for integration work to get the laser system onto the platform, program officials reported... While MDA and the Air Force are still aiming for the first shoot-down test of the ABL in 2004, Kadish said the certainty of the date is in flux at least until completion of ongoing hardware integration and laser lab tests over at least part of next year... Nonetheless, the first ABL plane, which will go to Edwards for at least a year of integration work, successfully completed its flight worthiness tests over the summer and fall. That modified 747 flew equipped with modifications necessary to house the laser... The aircraft is scheduled to undergo more extensive ground tests once it reaches Edwards, program officials said. Then the tracking and high-energy laser system also will be installed there. “This system is one of the most complex engineering challenges ever undertaken in an aircraft, and our team has made solid progress,” Scott Fancher, Boeing vice president and ABL program director, said in a statement after the first flight. “We’ve created a methodical approach to ABL development, moving through each phase after meeting appropriate technical goals. We are now at the beginning of the future of missile defense.”... [Air Force Col. Ellen Pawlikowski, ABL program director at Kirtland AFB, N.M.] said a successful demonstration of ABL would clear the way for progress and open the door for possibly integrating lasers onto other future platforms.

U.S. MAY SELL FOUR DESTROYERS TO TAIWAN, Reuters, November 25, 2002. The U.S. Defense Department on Monday said it has notified Congress that it may sell four Kidd-class guided missile destroyers and related equipment to Taiwan for about \$875 million... The ships were decommissioned in the late 1990s and mothballed. The proposed sale would include 248 standard ground-to-air missiles, 32 radar guided Harpoon missiles, support equipment, logistics and services, the Pentagon said in a

statement. "The proposed sale of this equipment and support will not affect the basic military balance in the region," the statement said...China, which considers Taiwan a renegade province that must return to the fold, has objected for some time to the military sales and contacts with the island. Beijing has over the years threatened to take control of the island by force if necessary. The Bush administration declined to offer Taiwan, separated from China by a narrow strait of water, more advanced ships that could offer ballistic missile defense platforms, the Aegis-equipped Arleigh Burke-class destroyers. Earlier this month Taiwan's parliament defense committee gave the initial approval to buy the four ships, though the purchase requires approval of the full parliament.

OPINION/LETTERS

MISSILE-DEFENSE-SHIELD CONCEPT STILL LEAKY, USA Today, November 25, 2002. Regarding a U.S. missile-defense system, Air Force Lt. Gen. Ronald Kadish was quoted in USA TODAY as saying, "We no longer need to experiment, to demonstrate or prevaricate." He added that "we need to get on with this, and I'm confident we will" ("Pentagon official says U.S. missile shield almost ready," News, Wednesday). The general's "confidence" is based upon a test in which a ground-based Air Force interceptor missile, launched from Kwajalein Atoll in the Pacific, struck and destroyed a dummy warhead aboard a modified Minuteman II missile. The Minuteman, launched from Vandenberg Air Force Base, Calif., also was accompanied by an unspecified number of decoys. As an objective test, this is akin to shooting fish in a barrel, and it is preposterous to state that no more testing is necessary...Two key questions arise in connection with this test: What decoys were deployed? How many decoys were presented along with the "target"? The killer missile must ignore them when selecting the rogue missile to be destroyed. I will have confidence in the general's assertions when the U.S. military can destroy two "incoming" missiles, separated by seconds and launched in an identical trajectory. Until this challenge, along with multiple decoys, has been consistently overcome, we cannot claim to have succeeded in perfecting an alternate workable missile-defense system. *John G. Gamble, Hull, Mass.*

WEDNESDAY, NOVEMBER 27, 2002

GERMANY TO GIVE ISRAEL PATRIOT MISSILES, The Associated Press, Nov 26 2002. Germany has a "moral duty" to protect Israel and will provide Patriot anti-missile systems to help its defense against Iraq if war erupts in the Middle East, Chancellor Gerhard Schroeder said. "If Israel needs an increase in security, we will help - and on time," Schroeder was quoted as saying. . . . Earlier, the German Defense Ministry said it was examining an Israeli request to supply Patriot missiles. In Jerusalem, the Israeli Defense Ministry said it asked Germany for Patriot missiles more than a year ago and was waiting for an answer. Israeli officials raised the request again during talks at the German Defense Ministry last week, the Israeli statement said. The

German air force has 30 Patriot missile systems in service, and the daily Die Welt said Israel wants them to strengthen its defense against Iraqi missiles. The report in the newspaper's Tuesday edition named no sources.

SELLING ARMS TO INDIA AND PAKISTAN: EXPLOSIVE BUSINESS, The Christian Science Monitor, November 27, 2002. When India began a pullback last month of tens of thousands of troops along its 1,800-mile border with Pakistan, diplomats in Washington and Europe chalked it up as another victory for quiet diplomacy . . . But here in South Asia, as elsewhere, building ties means selling weapons to friends, and experts say that adding arms to this already unstable region risks unintended and undesirable effects . . . If there is a single weapons issue with the most potential for destabilizing the power balance in South Asia, it is the ongoing sale of high-tech radar and missile defense systems from Israel to India. Using a combination of unmanned drones and combat aircraft radar - largely dependent on US technology - India hopes to nullify Pakistan's nuclear weapons potential with the capability to shoot down incoming ballistic missiles. Some experts worry that if India has no fear of Pakistan's nuclear weapons, it may be emboldened to launch attacks on its rival. "The only thing that stops an Indian attack is probably Pakistan's inventory of nuclear weapons," says Mr. Wezeman. "If their rival's weapons can't be delivered to India, then the principal of deterrence disappears, and the possibility of war increases."

MISSILE CODE OF CONDUCT LAUNCHES IN THE HAGUE, Global Security Newswire, November 26, 2002. Seeking new ways to stem the spread of ballistic missiles, several dozen nations yesterday inaugurated the International Code of Conduct Against Ballistic Missile Proliferation, the first multilateral agreement to address the production, development, testing and transfer of ballistic missiles . . . Heading the U.S. delegation, Undersecretary of State John Bolton said the code's establishment is "an important contribution" to efforts to address missile proliferation. Bolton's presence surprised experts here, who had perceived that the Bush administration did not consider the code to be of major significance. Countering those perceptions, however, Bolton said yesterday that missiles capable of carrying weapons of mass destruction are a direct threat to U.S. security. Bolton said U.S. efforts to develop a missile defense system complement both the new code of conduct and the 15-year-old Missile Technology Control Regime, a system of common export controls among industrialized nations.

TACTICAL LASER WEAPONS STILL MANY YEARS AWAY, National Defense, December 1, 2002. The prospect of highly precise, directed-energy guns has tantalized military planners for decades. But only recently has the Defense Department begun to put real money into laser technology that ultimately could deliver speed-of-light tactical weapons . . . An industry competition is now underway to develop a 25 kw solid-state laser. The project . . . will establish whether the technology is mature enough to warrant further development . . . Defense contractors such as TRW and Raytheon

now claim that a 25 kw solid-state laser is achievable and that, within five to 10 years, they could jack up the power to 100 kw. . . The availability of high-power diodes, however, remains a concern. [Chauncy F. McKearn, manager of Raytheon's high-energy laser program] predicts the cost will go down from current levels of \$70 to \$100 per watt down to \$5 per watt during the next several years. . . Five years ago, he said, "a single 100 kw laser would have used three times the world's yearly production of diodes." Zimet, the NDU researcher, said the industry must address this problem so it can deliver on its promises of "affordable" weapon-class solid-state lasers. "If a laser device of 100 kw costs \$30 million or \$40 million, the military probably won't be interested."

MDA FIRES ANOTHER SCUD TO MONITOR FLIGHT CHARACTERISTICS, Defense Daily, November 27, 2002. The Missile Defense Agency (MDA) on Monday conducted another flight of a Scud missile from Vandenberg Air Force Base, Calif., which was observed by U.S. and Israeli government and industry officials, the Air Force and MDA reported yesterday . . . "This test was identical to the previous test, both of which were designed to obtain advanced data on the flight characteristics of the Scud," [MDA spokesman Chris Taylor] added. The data obtained from a variety of sensors observing the flight will contribute to the development of enhanced missile defense technologies to intercept and destroy scuds and scud-type missiles before they can reach their target, according to an Air Force statement. MDA is compiling the data for a preliminary report on Scud performance due to be completed this spring, with a more comprehensive, final report to be done by next fall, Taylor said. . .

ISRAELIS OBSERVE AMERICAN TEST FIRING OF SCUD MISSILES, Ha'aretz (Israel), November 27, 2002. The United States this week fired a test launch of a Scud missile in the presence of Israeli representatives, with the aim of studying the projectile's trajectory to improve the means of defense. The test was held two days ago at Vandenberg Air Force base in California as part of a series to gather information about the way the Scud behaves so as to improve the next generation of Patriot missiles used to combat it. Among the Israelis present were representatives of the defense establishment and the military industries. Chris Taylor, spokesman for the Missile Defense Agency, said that the U.S. would give Israel all information gathered in the tests. An interim report is expected in the spring and the final report will be ready after the summer of next year. . . American sources said it was unlikely that the information gathered from the tests would be applicable in the short run if Iraq were to send a Scud at Israel in the coming months. But, they stressed, at a later date the information would be useful in improving the operative ability of the Patriot.

OPINION

BALLISTIC MISSILE DEFENSE SYSTEM PASSES LATEST TEST, Fox News, November 27, 2002. Last week was a milestone for our homeland security. No, not

because of passing a bill -- but because of passing a test. That is, the test for effective protection against the vilest leaders in the world launching the vilest weapons: Ballistic missiles topped with nuclear, biological or chemical weapons. Indeed a ballistic missile defense *system* for homeland security will protect us more than any *Department* of Homeland Security. . . But don't just take my word for it. Take that of a real expert in this field, Dr. Robert Jastrow, SDI's early and prescient backer. Jastrow founded NASA's Goddard Institute for Space Studies and served as its director for 20 years. On Thursday, Dr. Jastrow said: "With this latest successful test, the Aegis missile defense system is appreciably closer to deployment." . . . Here, at long last, is a Pentagon BMD program that won't go on endlessly being tested. It'll actually get deployed, which is the only way to boost our homeland security.

THURSDAY, NOVEMBER 28, 2002

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FRIDAY, NOVEMBER 29, 2002

Thanksgiving Holiday