



THE DEFENSE MONITOR

The Center for Defense Information believes that strong social, economic, political, and military components and a healthy environment contribute equally to the nation's security. CDI opposes excessive expenditures for weapons and policies that increase the danger of war.

© 2000 Center for Defense Information — Washington, DC

I.S.S.N. # 0195-6450

Volume XXIX, Number 1

2000

What's Inside:

- United States Changes Position on Child Soldiers page 3
- Nuclear Power Plants - Double-Edged Swords page 4
- When a Miss is a Hit: NMD Isn't Horseshoes page 7
- When Thinking Big Means Smallpage 7

“Up, Up and Away” The Cost of National Missile Defense

What moves faster than an intercontinental missile, leaps over rational scientific and diplomatic arguments, and defies the pull of fiscal constraints more surely than gravity governs the universe?

With apologies to Superman for using his motto, the answer is the cost of the National Missile Defense (NMD) system that the Administration and Congress seem intent on developing and deploying by 2005 and maintaining for at least another 25 years.

Cost Growth Predicted

The Center for Defense Information has been predicting major growth in the cost of NMD for a number of years. The first hint of trouble was the failure of President Clinton to kill the program in his first term. Even though funding was cut back between 1995 and 1998, the money that continued to flow into the research and development of the system kept it alive, giving its supporters in Congress the time they needed to mount a full scale offensive in support of an accelerated program.

Continued on page 6

European Security and Defense Identity (ESDI)

For years, the United States has badgered European NATO countries to share more of the NATO burden by increasing their military spending and harmonizing their weapons procurement decisions. For an equally long period, nationalism, economics (jobs), and deep government involvement in defense manufacturing stymied what few efforts were made.

But that began to change in December 1998 when Great Britain, in the French-British “St. Malo Accord,” ended its long-standing opposition to the EU developing its own military security identity. Adding to the momentum for such an undertaking was the 78 day air war against Yugoslavia which revealed a huge technological gap between the U.S. and Europeans in such fundamental capabilities as communications, intelligence, precision munitions, and logistics.

Europe Acts: The U.S. Reacts

The response to these revelations was three-fold. First, NATO’s outgoing Secretary-General, Javier Solana, was named the EU’s new High Representative for Foreign and Security Policy as well as Secretary General of the existing but dormant European military structure, the

Western European Union (WEU). Second, at the first combined EU foreign and defense ministerial meeting on November 15, 1999, the Europeans resolved to devise a coherent, common approach to arms procurement. This was followed on December 10 by formal approval of a new 60,000 strong EU Rapid Reaction Force and a governing council modeled after NATO’s Council of Ministers.

So how did the U.S. react? As momentum for the new European Defense Initiative grew during the Autumn of 1999, the U.S. issued warnings about the potential for the EU initiative to undermine NATO. The U.S. had been happy to live with the WEU because it was essentially toothless. Nor was the U.S. concerned about the Franco-German Corps or the five-nation EuroCorps. They were too small to adversely affect U.S. dominance of NATO. But if the 15 nation EU, of which 11 are also NATO nations, succeeded in developing a viable common defense policy around which to formulate a separate security identity, this could result in a force worthy of the name. Here

Continued on page 2

Question:

How many people worldwide are either refugees or internally displaced persons?

see page 7

European Security Defense Initiative, from page 1

would be a threat (as the U.S. sees it) to the continuing U.S. position of “first among equals.”

Why ESDI Now?

One of the driving forces for a European only common security and defense policy is a major reshaping of Europe’s defense industries. German, French, and Spanish companies have joined together to form European Aeronautical Defense and Space Company (EADS) while defense giants British Aerospace and Marconi Electronics have merged. These combinations (and others) are a reaction in part to the merger-mania of U.S. defense firms. But there are three other factors pushing the Europeans down this road.

An EU common defense policy could be a threat to the U.S. as first among equals.

First are the inefficiencies of European defense spending. The new NATO Secretary-General estimates that total European military spending – 60% of the U.S. total– yields only 10% of the capabilities. Second, European firms are becoming increasingly angry that the U.S. refuses to “buy European” when procuring new weapons and equipment. Third, European governments are unhappy with U.S. restrictions on the transfer of

technology even though the Europeans are investing money in the development of new U.S. built weapons such as the Joint Strike Fighter.

Grudging Assent

It is paradoxical that the U.S. would complain about the Europeans developing a security apparatus that could relieve NATO and thus the U.S. from having to involve itself in every European crisis that might arise. But the Europeans have sought to defuse the criticism, going out of their way to reassure the U.S. that NATO remains the most important defense arm on the continent and that any EU force would complement NATO.

The U.S. view of the NATO-ESDI relationship is stronger: in the event that a military response to events in or near the borders of NATO nations was considered necessary by the EU, NATO would have the right of “first refusal.” Under this formulation, and considering the continuing reduction of military budgets by major European nations (thus retarding on-the-ground changes) and the “rapid reaction” focus of the proposed force, the U.S. has signaled a reluctant assent to the European initiative.

The “New” NATO

Washington, however, is playing its own card in these developments through a concerted effort to lock in new missions under the NATO banner. Recognizing (finally) that there is no

Membership Status: European Union and NATO				
Country	EU Member	NATO Member	EU Candidate	NATO Candidate
Austria	X			
Belgium	X	X		
Bulgaria			X	X
Canada		X		
Cyprus			X	
Czech Republic		X	X	
Denmark	X	X		
Estonia			X	X
Finland	X			
France	X	X		
Germany	X	X		
Greece	X	X		
Hungary		X		
Iceland		X		
Ireland	X			
Italy	X	X		
Latvia			X	X
Lithuania			X	X
Luxembourg	X	X		
Malta			X	
The Netherlands	X	X		
Norway		X		
Poland		X	X	
Portugal	X	X		
Romania			X	X
Slovakia			X	X
Slovenia			X	X
Spain	X	X		
Sweden	X			
Turkey		X	X	
United Kingdom	X	X		
United States		X		

Source: European Union and NATO

threat to NATO nations from other sovereign states, the U.S. wants European NATO nations to assume more of the burden in the Balkans, which would reduce the operations tempo of U.S. forces. (NATO troops, including about 14,000 Americans, are patrolling in Bosnia and Kosovo and may soon be in Montenegro.) Countering Russian, Chinese, Afghani, and (to a lesser extent) Iranian influence in the former Soviet states clustered around the oil-rich Caspian Sea dictates increased support for NATO member Turkey (not yet an EU member). Furthermore, at the April, 1999 NATO summit in Washington, the Alliance formally adopted policies to go after terrorists, prevent the spread of nuclear, biological, and chemical weapons, leave the door open for further NATO expansion, and pursue a strategy

of engagement with countries in the Mediterranean basin.

Even as its 15 governments struggle to launch the EU rapid reaction force, Europeans are taking steps to rectify critical military shortcomings. The most

The development of a European force able to act on its own is overdue.

recent of these was the launch of the second joint French-Italian-Spanish optical satellite, which the French plan to follow with an all weather, day-night intelligence gathering satellite in two or three years.

ESDI and NATO

The development of a strong, independent, combined European force able to act on

its own is overdue. Demographics – Europeans are below the basic population replacement rate – and economics argue for combinations that surmount the old roadblocks created by nationalism and the heavy hand of the United States. With no real threat to its security on the horizon, Europe has the opportunity to find its own identity in a European security system that makes it an independent, worthy partner with the U.S. in future diplomatic and military endeavors.

ESDI and NATO can happily co-exist. NATO will remain, but with a stronger Europe the call on North American resources will not be as frequent or as severe. A more equitable sharing of the 21st century defense burden strengthens both America and Europe and is clearly in the best interests of both. ■

United States Changes Position on Child Soldiers

After six years of negotiations and numerous attempts to sabotage the process, the United States has finally ceased its attempts to block a draft protocol that raises the age for conscription and participation in armed conflict to 18. Previous international law had established the age for participation, conscription, and recruitment into military forces at 15.

U. N. officials estimate that there are approximately 300,000 children under 18 serving as soldiers around the world.

The United States did not want the age raised to 18

because the Pentagon wanted to continue its practice of recruiting 17 year olds (who had parental consent) and their subsequent use throughout active duty forces.

Agreement Details

After two weeks of negotiations in Geneva, and mounting pressure from the international community, the Pentagon agreed to compromise language allowing the continued recruitment and training of 17-year olds, but requiring governments to take “all feasible measures” to prevent sending anyone under 18 into combat.

The agreement does allow government armies to recruit children as young as 16 with parental consent, a concession made to fit the demands of the United States and the United Kingdom, countries which recruit under 18's for the armed forces. Rebel and guerilla armies are banned from recruiting or using children under the age of 18 in their military forces.

International Effects

The efforts in Geneva are significant for the millions of children around the world who are vulnerable to forced participation in armed conflict. United Nations officials estimate that there are approximately 300,000 children under 18 serving as soldiers around the world. The agreement is the first step in protecting children and

ensuring they are not subject to hazardous or dehumanizing treatment.

The United States has not yet ratified the protocol's parent treaty, the UN Convention on the Rights of the Child, making it one of only two countries (the other is Somalia) not to have done so. The new protocol must also be accepted by the United Nations General Assembly and then ratified by the Senate before it comes into force in the United States. Senate ratification should be noncontroversial, because the Pentagon has already agreed to make necessary changes to adhere to the Protocol. The Pentagon says that the U.S. has less than 3,000 soldiers under 18 among its 1.2 million active duty soldiers.

CDI's Role

The Center for Defense Information has been working to change U.S. policy on the recruitment and use of children under 18 in the military for several years. CDI staff have met with high-ranking Pentagon and State Department officials

Nuclear Power Plants – Double-Edged Swords

Unlike the United States and Canada, where no new nuclear power plants are under construction, the rest of the world is pressing ahead to develop nuclear energy. Thirty-three nations now operate or are constructing electric-generating reactors, with many more to come.

This increasing reliance on nuclear power has military implications that to date have received little attention but which pose serious dilemmas.

These nations desperately need more electric power to further their economic development and satisfy their peoples' demands for a better life. However, while nuclear energy is economically attractive, its power plants carry a danger that is seldom discussed. They are vulnerable to an enemy attack. Nuclear reactors are latent nuclear weapons, hostages to a potential enemy who could threaten to devastate them. Besides dispersing deadly radioactive material all over the landscape, a successful attack would severely cripple the target's electrical production. More nuclear power plants would only create more hostages for a potential enemy, dramatically raising the stakes of war for nations with nuclear reactors. This potential for wartime targeting of nuclear power plants ought to spur a new sense of urgency in the search for better tools for conflict resolution everywhere that nuclear power plants operate.

The Rush to Build Reactors

According to London's Uranium Institute, of the 428 reactors that are now on-line worldwide, 96 are in Asia. More significantly, 20 of the 30 plants now under construction are in Asia – an area with major security problems and expanding military capabilities.

China operates three plants, with four more under construction and eight more approved. The International Atomic Energy Agency (IAEA) reports that China's long-term goal is to have over 100 reactors on-line. An increasingly assertive Taiwan has six nuclear plants, which

provide 35 percent of its electrical needs. Japan gets 36 percent of its electricity from 52 plants, with plans to increase that percentage to 40. Although most of Russia's 29 reactors are in Europe, a handful are east of the Urals.

On the Korean peninsula, South Korea has 14 plants generating 42 percent of its power, with six more under construction. North Korea is slated to have two light-water reactors under the 1994 "Agreed Framework" with South Korea, Japan, and the United States. Under that

Think of nuclear power plants as fixed nuclear weapon sites that an enemy can attack with conventional weapons in order to disperse deadly radioactive material.

agreement North Korea agreed to curtail its drive to build reactors that would produce weapons-grade plutonium.

India maintains 10 plants and is planning six more. Rival Pakistan has only one, with another being built. Russia has a contract to build three nuclear plants in Iran; one is currently under construction (see Table 1 for a worldwide compilation).

These nuclear power states all realize that economic progress depends on expanding electrical capacity. Coal, gas, and oil are finite resources and they pollute. The price of oil can fluctuate wildly, rising as much as 10 percent in a matter of days. Dependence on fossil fuels can impose high unanticipated costs. Nuclear fuel, on the other hand, is abundant because of the dismantling of so many nuclear weapons after the Cold War. According to Charles B. Yulish, vice president of the United States Enrichment Corporation (a former government, now privatized, agency that buys and sells nuclear fuel worldwide),

"There is no shortage of nuclear material, nor do we anticipate one in the future. In fact, it is getting considerably less expensive." Nuclear power technology, advanced by the lessons of Chernobyl and Three Mile Island, is also more reliable. "It's no mystery why nuclear power has such appeal," says Alan Waltar, head of the nuclear energy department at Texas A&M University in College Station, noting that the quality of life in Asia is at stake.

Environmentalists decry such heavy reliance on nuclear energy because of its hazards (for example, the recent nuclear accident at Tokaimura, Japan) and the problem of nuclear waste disposal. But nuclear power nations, focused on the production of abundant energy, are proceeding with their own production plans. Just as they downplay disposal dangers, they also choose to ignore the potential threat to their national security.

The Security Dilemma

Think of nuclear power plants as fixed nuclear weapon sites that an enemy can attack with conventional weapons in order to disperse deadly radioactive material. Any country having nuclear power plants would certainly have to think carefully about attacking a nation that possesses missiles or bombers capable of destroying its nuclear power plants. (Incidentally, this is probably the reason Israel has not pursued generating electricity from nuclear energy, despite lacking internal sources of coal or oil.) It is a powerful capability for a nation with no nuclear weapons to be able to destroy the nuclear power plants of an enemy.

Consider the cost of having one's reactors obliterated.

First, there is the loss of electricity, which means the loss of electrically-powered trains, water distribution systems, communications, factories, hospitals, homes, computers, radars, and street lighting. Such losses would devastate any economy, hamper its military, and dishearten its civilians. Electrical power stations and grids in Iraq

were prime targets for Coalition forces in Desert Storm, for NATO forces against Yugoslavia, for Serb troops punishing Kosovars, and for Russian efforts to crush Chechnya.

Second, unlike coal- or oil-fired plants, nuclear power stations are impossible to repair. In fact, they must be sealed at enormous expense in time, material, and labor. Putting the sarcophagus around the reactor at Chernobyl, for example, took two years, more than 5,000 tons of material, and a work force of over 600,000. The destruction of the nuclear core at Three Mile Island Unit 2, although little radiation leaked, cost \$1 billion to clean up.

Third, huge areas of contaminated land become unsuitable for crops, factories, and habitation. The Chernobyl reactor explosion contaminated 130,000 square kilometers in Ukraine, Belarus, and Russia where 4.9 million people lived. More than 300,000 people had to be permanently relocated at great expense.

Fourth, the psychological effects on people in the contaminated area would be profound. Positive attitudes toward war would quickly vanish, as happened at Hiroshima and Nagasaki. A radioactive Mother Earth would create universal fear and psychological depression among the people near a destroyed nuclear plant, a phenomenon witnessed around Chernobyl and Three Mile Island.

These costs would give pause to potential aggressors with nuclear power plants. An enemy in a full-throated war would possess a retaliatory capability because nuclear power plants cannot be given guaranteed protection. A cruise missile or bomber (including a suicide bomber pilot) with a 1,000 pound explosive weapon could inflict damage that would disperse tons of radioactive material. "Destruction of the main feed pump or steam lines," says A. David Rossin, a nuclear expert at Stanford's Center for International Security and Cooperation, "could create problems of decay heat and produce the release of fission products." Perhaps the most vulnerable nuclear material is in the spent fuel storage pool,

Worldwide Reactor Status and Country Electrical Nuclear Share

Country	Number Operating	Number Being Built	Nuclear Share (%)
Argentina	2	1	10.04
Armenia	1	--	1.42
Belgium	7	--	55.16
Brazil	1	1	1.08
Bulgaria	6	--	41.50
Canada	14	--	12.44
China	3	4	1.16
Czech Rep.	4	2	20.50
Finland	4	--	27.44
France	58	1	75.77
Germany	19	--	28.29
Hungary	4	--	35.62
India	10	6	2.51
Iran	--	1	0.00
Japan	52	1	35.86
S. Korea	14	6	41.39
Lithuania	2	--	77.21
Mexico	2	--	5.41
Netherlands	1	--	4.13
Pakistan	1	1	0.65
Romania	1	--	10.35
Russia	29	3	13.08
Slovakia	5	1	11.39
Slovenia	1	--	38.33
S. Africa	2	--	7.25
Spain	9	--	31.66
Sweden	12	-	45.75
Switzerland	5	-	41.07
Taiwan	6	--	24.77
UK	35	--	27.09
Ukraine	14	2	45.42
USA	104	--	18.69
Total	428	30	--

Source: CORE issues: The Journal of the Uranium Institute, Jun-Aug '99, No. 2

according to Rossin, where unloaded core material does not have the same degree of protection as does the reactor core.

No matter how such a catastrophic exchange might begin – through launch on warning, false warning, or other tension producing event – in a war between nations with nuclear power plants, even if neither has nuclear weapons, one or both nations may take desperate measures to ensure survival. One can only imagine what would have happened had either Iran or Iraq had nuclear power plants during their 1980-88 war.

Security Policy Implications

Nations with nuclear plants will hesitate to attack any nation that has the conventional capability of destroying an attacking nation's nuclear plants. It is noteworthy that no state with nuclear power plants has ever attacked another state that had the capability to retaliate. The greater the risks of a retaliatory attack, the greater the deterrence. Assuming the rationality of government leaders, this is very, very good news.

But today there are terrorists whose calculus may be different.

The terrorist threat is undoubtedly exaggerated. And terrorist groups would have to be suicidal to deliberately unite most of the entire world in seeking their annihilation. Still, hatred makes extreme actions possible. In spite of extraordinary precautions all states now take to guard their nuclear plants, a suicide airplane packed with high explosives could penetrate missile or fighter protection. Computer controls could be hacked, shutting down coolant pumps and warning devices, in perhaps the most frightening scenario for cyber war. And the United States has 104 reactors on line.

The paradox of all things nuclear is that they constitute a pair of double-edged swords. First, nuclear power plants can produce abundant energy but at the risk of costly accidents and the problem of waste disposal. Second, nuclear power plants can impose caution upon potential

THE COST OF NATIONAL MISSILE DEFENSE, from page 1***The “Rogues”***

The August 1998 launch of a multi-stage rocket over Japan by North Korea became the pretext for the pro-NMD faction to launch their campaign. Even though the North Korean missile lacked the range to reach the United States, NMD supporters used this event to hype what is still a non-existent threat from any one of a number of “rogue states,” chiefly Iran and Iraq, in addition to North Korea. What this scare blitz rarely noted was the fact that between 1983 and 1998 the U.S. had spent over \$39 billion on various iterations of a NMD system and had nothing to show for it. The technology simply didn’t exist.

It still doesn’t. In only one test has a defending missile intercepted a test intercontinental ballistic missile. A second attempt on January 18, 2000 failed. With at most one similar test scheduled in April or May, and the full results of this test unlikely to be available by June, the Administration is still planning a June decision on whether to proceed with deploying a system.

Which NMD

The question is, which system? Originally, NMD was to have 20 interceptors at one site, either in North Dakota or in Alaska (which would require modification of the Anti-Ballistic Missile Treaty). In late summer and early autumn, State Department and Pentagon officials

seemed to focus on Alaska and to begin talking about an “expanded architecture” of 100 interceptors. By December, the number being discussed in some quarters was 225 interceptors at two sites to protect all 50 states.

Of course, as the numbers of interceptors rose, as the planning shifted from one to two sites, and as other, new requirements (e.g., upgrading radars and long-distance communications, a second test facility in the Pacific, and more spare parts) were enumerated, costs began to soar. Someone also discovered that it would take even more money to maintain an expanded NMD deployment.

Soaring Dollars

The numbers tell the tale. Between Fiscal Years (FY) 1993-1998 the Clinton Administration spent \$8.12 billion on NMD. The FY2000 budget, proposed in February, 1999, programmed \$10.65 billion for NMD development and deployment between FY1999 and 2005 – and this was for a 20 interceptor force. The Pentagon estimated it would cost another \$2 billion to go to the 100 missile force. The other new requirements were estimated to cost \$2 billion more, and the price tag for operating the system for 20 years was an additional \$10 billion.

The total? In FY1999 dollars, development costs since 1993 plus the estimated future development costs, the deployment price tag, and the estimated

NMD Actual/Estimated Costs Since 1993

Years	NMD Cost (\$Billions)
1993-1998	8.12
1999	1.24
2000	1.29
2001	1.72
2002	1.89
2003	1.71
2004	1.70
2005	1.10
Beyond 2005	14.00
Total	32.77
Source: The United States Government.	

20 year sustainment costs for the 100 interceptor system equals \$32.8 billion (as detailed in the chart above).

One more prediction: if the system can ever be made technologically reliable enough to warrant deployment and the diplomatic impasse with the Russians over the ABM Treaty is resolved, this latest incarnation of NMD of whatever size – 20, 100, 225, or more – will cost U.S. taxpayers much more than \$32.8 billion. ■

United States Changes Position on Child Soldiers, from page 3

in attempts to reach consensus on this issue. CDI has also worked with policy makers on Capitol Hill to develop legislation that would condemn the use of child soldiers, encourage the United States to support international efforts prohibiting the use of child soldiers, and provide funding for rehabilitation and reintegration of former child soldiers.

CDI is also a founding and Steering Committee member of the U.S. Campaign

to STOP the Use of Child Soldiers. The campaign, now with over 50 members, has three goals. The first is to gain U.S. support for an international ban on military service by children under 18 – part of which has been accomplished by this draft agreement. Second, the Campaign encourages the prohibition of recruitment of children under 18 for the armed forces. Third, the Campaign is working to

eliminate U.S. military aid (arms sales and training) to countries or groups that facilitates the use of child soldiers.

While not incorporating all the changes CDI and its campaign partners advocated, the recent compromise reflects most of the changes CDI encouraged at these meetings. Our success demonstrates that people working together can make a difference. ■

When a Miss is a Hit: NMD Isn't Horseshoes

If you've ever played horseshoes, you know that the old saying that missing by "an inch is as good as a mile" doesn't apply. Even if the thrower doesn't ring the pole with the horseshoe, points are awarded for coming close (either touching the stake or within six inches).

Apparently the Pentagon thinks the same thing applies to National Missile Defense (NMD). As noted in the article "Up, Up and Away" in this issue, the January 18 attempt to hit a target representing an incoming Inter-Continental Ballistic Missile failed. Preliminary analysis points to the failure of the two infrared seekers on the interceptor in the six seconds before the two missiles should have collided.

Nonetheless, the Pentagon is declaring the test a success because it met "secondary objectives" – collecting information about how the various components such as optical sensors, ground based radars, and satellite detection systems worked. The trade publication *Aerospace Daily* reports that a "senior military official" told them that "a miss doesn't necessarily mean a failure; a hit doesn't necessarily mean success."

If the whole purpose of developing and deploying NMD is to shoot down even one or two ICBMs, will the Pentagon be as willing to tell Americans on the receiving end of a missed ICBM that the miss wasn't a failure?

That assumes, of course, that the Pentagon itself wasn't the target of the ICBM that was missed. ■

When Thinking Big Means Small

Most of the recent news about missiles has focused on the U.S. national missile defense shield. But there are still thousands of nuclear tipped offensive missiles in the armories of the U.S. and Russia, many more than enough to obliterate life on earth.

Arms control pacts which will freeze and then reduce the number of offensive nuclear weapons have been concluded between the superpowers. START I (1991) decreed a ceiling of 6,000 warheads each. START II – still unratified by the Russian Duma – cut the number of deployed warheads by approximately half, to between 3,000 and 3,500.

In preliminary discussions with Russia on a possible START III agreement, the U.S. proposed a target of no more than 2,000-2,500 warheads for each side. Russia has now countered with a larger reduction, to 1,500 each, still far more than enough to destroy life on the planet. The U.S. is resisting, ostensibly because going to 1,500 now would jeopardize nuclear deterrence.

The real reason may lie elsewhere. Many NATO countries – the latest being Canada – have warned the U.S. that unilateral pursuit of a national missile defense risks fracturing allied solidarity, particularly if Washington abrogates the

1972 ABM Treaty with Moscow. The U.S. is pressuring Russia to accept modifications to the Treaty. Holding out against Moscow's call for deeper cuts in offensive weapons may be an effort to induce Moscow to accept the proposed U.S. changes to the ABM pact.

Washington, quite aware that Russia's economic collapse has weakened all elements of the Russian military, knows that the Kremlin doesn't have the resources to maintain 2,000 offensive nuclear weapons and soon may not possess even 1,500 reliable warheads. So a little, very public diplomatic hardball seems to be the game.

Aside from the symmetry of continuing to cut nuclear arsenals by 50 percent, steeper cuts in the number of deployed warheads reduces the chances for unauthorized or purely accidental launches. Nuclear stability between Russia and the U.S. doesn't rest on the number of weapons each side has but on verifiable agreements that establish rough parity. And at 1,500 each, the U.S. and Russia have more than enough power to deter each other as well as the other members of the nuclear weapons club.

Russia's offer is a bargain for America. It's an opportunity to think big by going small. ■

Nuclear Power Plants - Double-Edged Swords, from page 5

aggressor states but also risk horrendous nuclear devastation if war occurs.

Keeping these double-edged swords sheathed is the task of preventive diplomacy. Diplomacy created international organizations, such as the IAEA, which provide nuclear safety technology and monitor nuclear development. Most importantly, diplomacy *is the only way* to manage and

moderate disputes. But failing that, diplomacy becomes essential in creating a coalition powerful enough to give a potential aggressor second thoughts. Even if nuclear disarmament occurs, as pledged by those states that signed the 1995 renewal of the nuclear Non-Proliferation Treaty, the nuclear danger will not go away. ■

Answer:

50 million, according to estimates by the U.N.

"Up, Up and Away:" <i>The Cost of National Missile Defense</i>	1
European Security and Defense Identity (ESDI)	1
United States Changes Position on Child Soldiers	3
Nuclear Power Plants – Double-Edged Swords	4
When a Miss is a Hit: <i>NMD Isn't Horseshoes</i>	7
When Thinking Big Means Small	7



Center for Defense Information
 1779 Massachusetts Avenue, NW
 Washington, DC 20036
 (202)332-0600 • Fax: (202)462-4559
 www.cdi.org

NONPROFIT ORG.
 US POSTAGE
PAID
 Washington D.C.
 Permit No. 4627

Address Service Requested

For a single copy of this issue, send \$1.00. CDI's publication, *The Defense Monitor*, is sent without charge to all donors of \$45 or more. CDI receives no funds from the Pentagon or from military contractors. The Center is financed by voluntary tax-deductible contributions from individuals and grants from foundations. Contributions may be mailed to the Center for Defense Information, 1779 Massachusetts Ave. NW, Washington DC 20036.



THE STAFF

Director:
 Dale Bumpers, U.S. Senator (Ret.)

Deputy Director:
 Rear Admiral Eugene J. Carroll, Jr.
 U.S.N. (Ret.)

Chairman of Board:
 Rear Admiral Gene R. La Rocque
 U.S.N. (Ret.)

Chief of Research:
 Colonel Daniel Smith
 U.S.A. (Ret.)

Senior Fellows:
 David T. Johnson
 Lt. Colonel Piers M. Wood
 U.S.A.R. (Ret.)

Administrative Assistant:
 Eleanor Harrison-Little

Research Staff:
 Nicholas Berry
 Christopher Hellman
 Oscar Lurie
 Anna Klingsberg
 Jeffrey Mason
 Rachel Stohl
 Tomas Valasek

Scoville Fellow:
 Denise Groves

Receptionist:
 Marie Chevett

Interns:

Rachel A. Freedman (B.A., Syracuse)
 Jolema Gamble (B.A., Elon College)
 Olga Kryazheva (B.A., University of
 West Florida)
 Mark Sparrough (B.A., Clark University)
 Corwin Vandermark (B.A., Rutgers)
 Lucie Sentfova (B.A., Charles University;
 American University)

Systems Manager:
 Mark Ashton

Web Design:
 Laura Feinstein

TV Production Staff America's Defense Monitor:

Glenn Baker
 Moon Callison
 Jon Lottman
 Stephen Sapienza
 Mark Sugg

Development:
 Lynn Schuster

Consultants:
 Samuel J. Gorlitz
 Margaret Brenman-Gibson, Professor,
 Harvard University School
 of Medicine

Principal Analysts This Issue:
 Colonel Daniel Smith
 U.S.A. (Ret.)
 Nicholas Berry
 Rachel Stohl

BOARD OF ADVISORS

Doris Z. Bato—Santa Fe, NM
Arthur D. Berliss, Jr.—Captain, USNR
 (Ret.); former Vice-President, Allen-Hollander
 Co., New York, NY
Edward H.R. Blitzler—Former Chairman,
 Lightolier Inc., New York, NY
Dick Brukenfeld—Dobbs Ferry, NY
Ben Cohen—Chairman, Ben & Jerry's
 Homemade, Inc., South Burlington, VT
James R. Compton—President, J.R. Compton
 Developments; Chair, Fund for Peace Board,
 Los Gatos, CA
Joseph N. Deblinger—President, Deblinger
 Sales & Marketing Corp., Manhasset, NY
Gay Dillingham—CNS Communications,
 Santa Fe, NM
James A. Donovan—Colonel, USMC (Ret.),
 Author, former publisher *Journal of the Armed
 Forces*, Atlanta, GA
Robert L. Frome—Senior Partner, Olshan,
 Grundman and Frome, Attorneys, New York,
 NY
Seth M. Glickenhous—Investment Banker,
 New York, NY
Yoel Haller, M.D.—Santa Barbara, CA
Mrs. Eva Haller—Santa Barbara, CA
Dr. James D. Head—President, Strategy
 Development Company, Freeland, MI
David H. Horowitz—New York, NY
Robert G. James—Rear Admiral, USNR
 (Ret.), President, Enterprise Development
 Associates, New York, NY
Dr. Alan F. Kay—Businessman, St. Augustine, FL

Eugene M. Lang—Founder/ Chairman
 Emeritus, REFAC Technology Development
 Corp. and "I Have A Dream" Foundation,
 New York, NY
Paul Newman—Motion Pictures, Los Angeles,
 CA
Mr. and Mrs. Joseph Pulitzer IV—St.
 Louis, MO
Rudolph S. Rasin—President, The Rasin
 Corporation, Chicago, IL
John M. Rockwood—Publisher, Chicago, IL
Martha S. Schauss—River Forest, IL
Julie Schecter, Ph.D.—Director, Peaked Hill
 Trust, Wayland, MA
Richard Schuckman—Business Executive,
 Fair Lawn, NJ
John J. Shanahan—Vice Admiral, USN
 (Ret.), Ormond Beach, FL
Luella B. Slaner—Scarsdale, NY
Adele E. Starr—Mamaroneck, NY
Philip A. Straus—Partner, Neuberger and
 Berman, Members, New York Stock Exchange,
 New York, NY
Philip A. Straus, Jr.—Photographer,
 Philadelphia, PA
Andrew Ungerleider—Earthstone
 International Ltd., Santa Fe, NM
Albert B. Wells—
 President, The Abelard Foundation, Inc.;
 Kingsley, Schreck, Wells & Reichling,
 Private Investments, San Francisco, CA
Harold Willens—Former Chairman, Factory
 Equipment Corporation, Los Angeles, CA
Joanne Woodward—Actress-Director,
 Westport, CT

© Copyright 2000 by the Center for Defense Information. The Center for Defense Information encourages quotation and reprinting of any of the material, provided the Center is credited. The Center requests a copy of such use.