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## United States Nuclear Forces

### U.S. Strategic Nuclear Arsenal

Land-Based Ballistic Missiles							
Name	Year Deployed	Maximum Range (km)	Missile Total	Warhead Type	Yield (kt)	Warhead Number and Spares	Notes
LGM-30G Minuteman III Mk 12	1970	13,000	138	W62	170	214/20	
LGM-30G Minuteman III Mk 12A (MIRV)	1979	13,000	250	W78 (MIRV)	335	450/10	Capable of being loaded with 3 warheads
LGM-30G Minuteman III Mk 21/SERV	2006 (1986)	13,000	100	W87	300	100/10	Warhead from Peacekeeper missile (MX) attached to a Minuteman III
LGM-118 MX/Peacekeeper	1986 (Retired in 2006)	9,600-11,000	0	W87	300	0/0	W87 warhead; all operational MX withdrawn in 2006
SLBMs							
Name	Year Deployed	Maximum Range (km)	Missile Total	Warhead Type	Yield (kt)	Warhead Number and Spares	Notes

UGM-96A Trident I C-4	1979 (Retired in 2005)	7,400	0	6 MIRV	100	0/0	Trident II D-5 replaced Trident I C-4 by 2006
UGM-133A Trident II D-5 Mk-4	1992	12,000	288 *	6 W76 (MIRV)	100	1,344/80	
UGM-133A Trident II D-5 Mk-5	1990	12,000	288*	6 W88 (MIRV)	455	384/20	

### Other Delivery Platforms

#### Aircraft

Name	Year Deployed	Maximum Range (km)	Platform Total	Weapons and Type	Yield (kt)	Warhead Number and Spares	Notes
B-52H Stratofortress	1961	16,000	94	ALCM/ W-80-1 x	5-150	528/25	
B-2A Spirit	1993	12,000	21	B61-7 (360 kt), B61-11 , or B83 bombs (1.2 Mt)	360 kt, 1.2 Mt	555/25	

#### Submarines

Name	Year Deployed	Platform Total	Weapons	Notes
Ohio class	1981	14	UGM-133A Trident II D-5 SLBMs	Four of the current 14 Ohio class were converted into SSGNs (see text)

#### Other Strategic Nuclear Weapons

Name	Year Deployed	Max Range (km)	Platform Total	Warhead Type	Warhead Yield (kt)	Quantity	Notes
B61-3, 4, 11	1979	-	n/a	variable	170	100	Carried on B-2A Spirit; versions 3 and 4 have a variable yield, version 11 is the "bunker buster" designed for deep penetration

BGM-109A Tomahawk**	1984	2,500	325	1 W80 – 0	5-150	400	W80-0 warhead; carried on <i>Los Angeles</i> -class submarines and some surface ships
The Advanced Cruise Missiles have been removed from service and are in the process of being dismantled.							
*Both Mk-4 and Mk-5 warheads are deployed on missiles on 14 submarines							
**Because of their subsonic speeds, ALCMs and SLCMs are not always considered strategic weapons. Those that have been included here are noteworthy due to both the size of their yields and their ranges.							

## Summary of U.S. Nuclear Forces:

*As of January 2008, the U.S. stockpile contains approximately 5,400 operational nuclear warheads, including 3,575 strategic and 500 non-strategic warheads as well as 1,260 warheads in the inactive stockpile. An additional 5,150 warheads await dismantlement. Current plans call for the United States to reduce its operationally deployed strategic nuclear arsenal to 1,700 - 2,200 warheads by the end of 2012. The majority of the weapons removed from the arsenal, however, will probably be moved to either a responsive or inactive capacity, rather than dismantled. In addition, the United States has a sizable tactical nuclear weapons arsenal.*

The Strategic Offensive Reductions Treaty (SORT) agreement between the United States and Russia calls for a reduction in Russia's and the United States' strategic nuclear arsenals to 1,700-2,200 operationally deployed warheads by the end of 2012.<sup>1</sup> While no specific numbers have been released by the Pentagon, it is likely that 600 W62s, 500 W78s, 1,500 W76s, 1,000 W80-1s, 400 W84s, and 600 B61-10s will be removed from the operational stockpile.<sup>2</sup>

Dismantlement and retirement of the Peacekeeper missile fleet was completed in late 2005. Some Peacekeeper missiles will be put into storage, either for space missions or possible future redeployment. The 2002 Nuclear Posture Review (NPR) prescribes the retention of Peacekeeper silos as well. In addition, some of the Mark 21 reentry vehicles and W87 warheads formerly deployed on Peacekeeper missiles have been reused in Minuteman IIIs in the Safety Enhanced Reentry Vehicle (SERV). The Minuteman fleet is also seeing changes. Guidance and propulsion systems are being upgraded and a program to refurbish their liquid-propulsion stage has been planned. In addition, the Air Force is decommissioning 50 Minuteman IIIs (of the 500 it currently possesses), for use in future testing.<sup>3</sup>

The plan to do away with all MIRVed missiles under START II has been abandoned following Russia's withdrawal from the treaty. The 250 missiles carrying the W78 have MIRV capability; they can carry one to three warheads. No longer bound by START II, the United States may also repurpose the warheads from the 50 decommissioned Minuteman missiles to make up to 25 of the remaining Minuteman missiles MIRVs again, with 3 warheads on each.<sup>4</sup>

Currently, the United States bases its Trident SLBMs on 14 Ohio-class submarines armed with approximately 1,728 warheads. In late 2005, the Navy replaced all of its Trident C-4 missiles with Trident II D-5 missiles.<sup>5</sup> It is likely that in the context of SORT, each Trident II missile will go from being armed with six MIRVed warheads to four, which would reduce the SLBM arsenal to approximately 1,200 warheads. In addition, the four oldest Ohio submarines have been converted to SSBNs and now carry conventionally armed Tomahawks. Also, since 2001 there has been a proposal to disarm some of the Trident missiles carried by the SSBNs of their nuclear payload, so that they could be used to attack targets that needed to be attacked quickly. With many subs patrolling throughout the oceans of the world there would be a good chance that at least one sub carrying conventional Tridents would be within range. However there is a danger that such a launch could be interpreted incorrectly as a nuclear launch since it would look the same to detection devices. As such it is likely that the weapons development will go to different technologies with similar capabilities, such as hypersonic cruise missiles, with Congress directing money spent on the Prompt Global Strike program not be spent on the conventional Trident missile program.<sup>6</sup>

The United States currently deploys two classes of aircraft that can carry strategic nuclear weapons, the B-2A Spirit and the B-52H Stratofortress. The B-1B no longer has a nuclear mission, although a plan remains to outfit it for nuclear weapons should the need arise. Other planes in the U.S. inventory could be similarly equipped but might require retrofitting as well as a change in doctrine. The B-52 can carry 20 AGM-86B air-launched cruise missiles (ALCMs) which are equipped with a single W80 nuclear warhead. The United States has eliminated its Advanced Cruise Missile stock from service and is in the process of dismantling it.<sup>7</sup> The B-2A Spirit carries the B61-7 and B61-11 earth penetrators and B83 gravity bombs.<sup>8</sup>

In 1998, the Pentagon decided to maintain the size of its tactical nuclear arsenal in response to Russia's dependence on its own large tactical arsenal. The nuclear-tipped Tomahawk SLCMs are arguably tactical weapons, and the United States also stores approximately 350 tactical nuclear bombs in Europe for U.S. and NATO use.<sup>9</sup> Some aircraft that are not necessarily designed as bombers, like the F-16, also maintain a non-strategic nuclear capability.<sup>10</sup>

Recent accidents involving the misplacement of nuclear weapons or their components have shown a worrying loss of focus within the U.S. military establishment.<sup>11</sup> At the end of August 2007, a B-52 bomber mistakenly transported nuclear-armed cruise missiles over U.S. territory.<sup>12</sup> More recently, the United States discovered in late March 2008 that it had accidentally shipped four fuses for nuclear missiles to Taiwan in August 2006, and only discovered the mistake when alerted to it by Taiwan.<sup>13</sup> Both of these events illustrate the findings of the Defense Science Board report commissioned in the wake of the 2007 nuclear flyover accident: "While the size of the nuclear force and the deployed nuclear weapons stockpile has been decreased, the complexity of the mission remains demanding. Despite these complex demands, the level of focus on the nuclear enterprise has been drastically reduced."<sup>14</sup>

Amidst these troubles, many within U.S. Strategic Command (STRATCOM) and the National Nuclear Security Administration (NNSA) are pushing for the Reliable Replacement Warhead (RRW) program, which would develop a new nuclear warhead,<sup>15</sup> to replace the W76 warhead carried by the Trident missiles. The NNSA supports the program because they claim that the reliability of the existing stockpile is deteriorating, despite a continuing stewardship program. Also, they want the new weapon because it will be optimized for a post-Cold War world by optimizing security and longevity instead of maximizing explosive yield. Many experts and members of Congress are concerned about RRW because of the expense, and because they are concerned that creating a new weapon will require additional nuclear tests, which may undermine the nonproliferation regime and be politically inflammatory abroad. Critics of RRW point to Department of Energy (DOE) life extension programs (LEP) for the B61, W76, and W87 warheads under the Stockpile Stewardship Program. Arguing that the LEPs have been successful, they say RRW is unnecessary. In addition, a study by the JASON group, a collection of distinguished scientific advisors to the government, concluded that the nuclear pits at the core of nuclear warheads are likely last up to one hundred years, greatly lessening the need to develop new cores for U.S. nuclear weapons in the short term.<sup>16</sup>

Because Congress zeroed out most of the funding for RRW last year, leaving in only \$15 million in the 2008 defense appropriation budget,<sup>17</sup> the program is unlikely to make significant progress in the short term. Nevertheless, the Administration requested \$30 million for RRW in FY 09 and the Navy plans for the new warhead to be deployed on its SLBMs starting in 2014, in spite of the fact that development is proceeding so slowly.<sup>18</sup> Whether or not the new warhead will be built and what impact it will have on current and future nonproliferation efforts remain to be seen.

**Total Active Strategic Nuclear Warheads: ~4,075**

**Reserve Strategic Nuclear Warheads: ~1,260**

**Strategic Nuclear Warheads Awaiting Dismantlement: ~5,150**

**Total Strategic Warheads: ~10,485**

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<sup>12</sup> *Ibid.* p. 10

<sup>13</sup> Thom Shanker, "Missile Parts Sent to Taiwan in Error," *New York Times*, Mar. 26, 2008

<sup>14</sup> DSB report, p. 21

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<sup>18</sup> Kristensen, Norris, *Nuclear Notebook* 2008, p. 2