

American-Soviet Disarmament



Nuclear Cost (1969)



Russia and the United States were spending \$50 million a day on nuclear weapons

(Strategic Arms Limitation Treaty) SALT

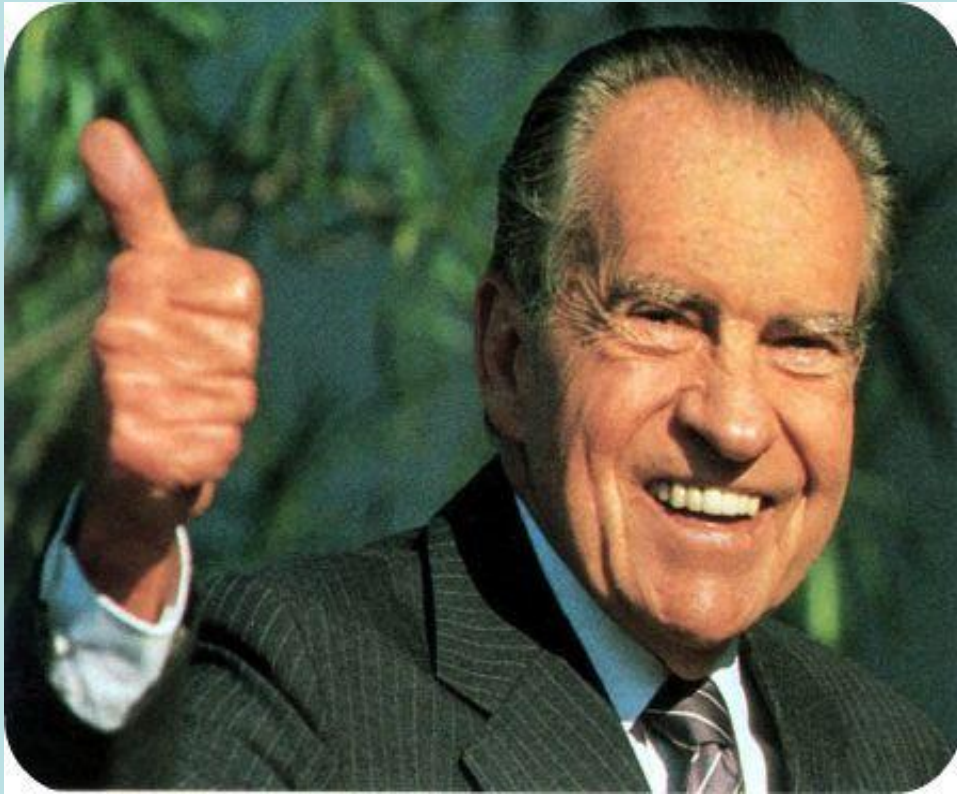


May 26, 1972

Part I: Offensive Missiles (Launchers)

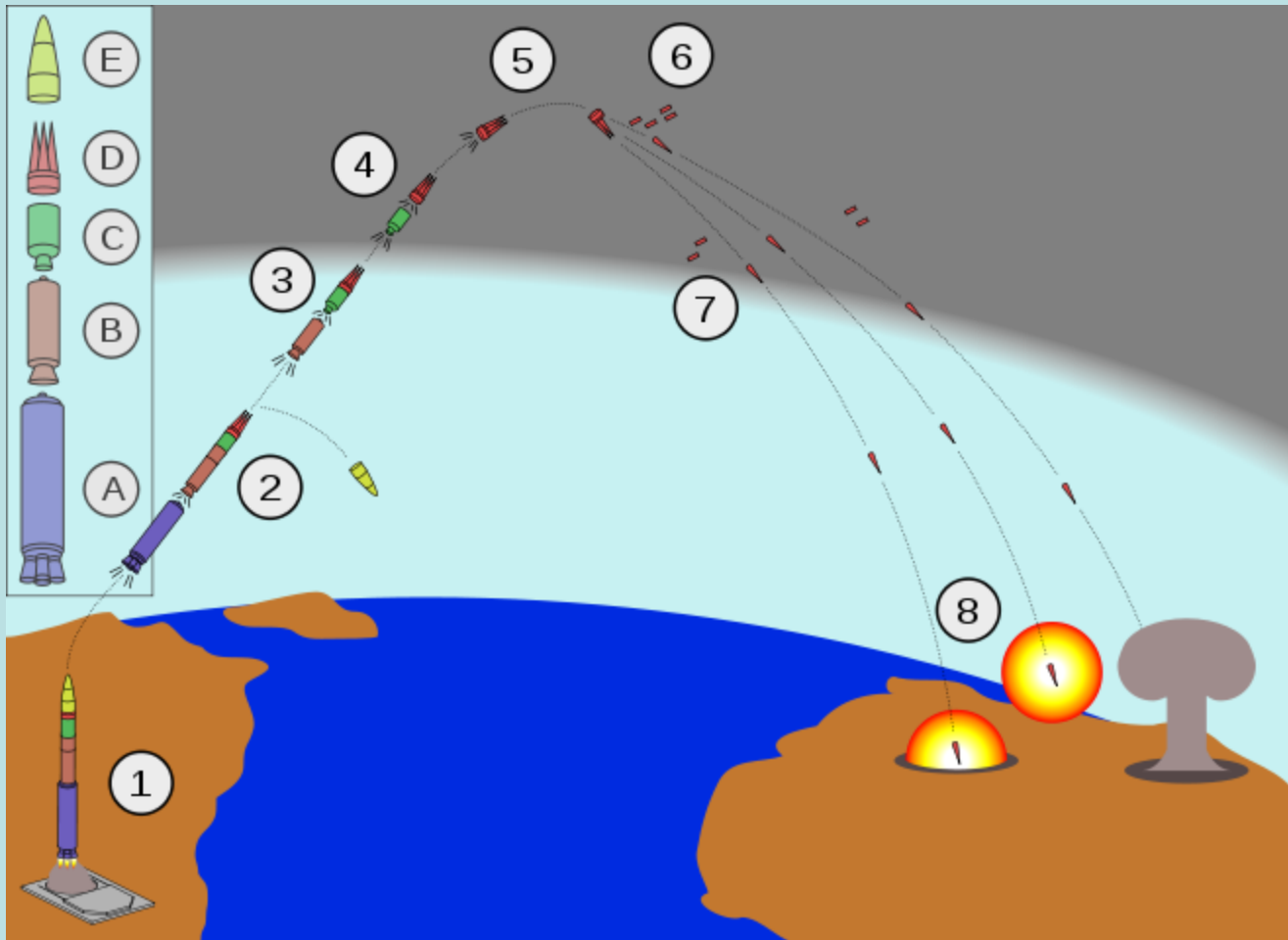
U.S.S.R	United States
Land based Missiles 1,607	Land based Missiles 1,054
Sea based Missiles 740	Sea based Missiles 656
Total: 2,328	Total: 1,710

Why Would Nixon Give It the Thumbs Up?



- Does not count warheads
 - US (3,500)
 - USSR (2,350)
- Does not count MIRVs

Multiple Independently targetable Reentry Vehicle



Part II: Antiballistic Missile Systems (ABM)



2 Permitted Per Country

Why Will the Soviets Comply?



SALT Part III: Economic Exchanges

- US sells wheat to Soviets

Winner:



United States

- 1,150 more warheads
- MIRV technology



Intermediate-range Nuclear Forces Treaty



- INF missiles cut –Soviets (1,846), US (846)

Winner:



United States

- Soviets had to destroy 1,000 INF missiles



START I

(Strategic Arms Reduction Treaty)

July 31, 1991



Nuclear Missiles
(ceilings)

–US 7,200

–Soviets 6,000

Winner:



United States

- United States permitted to keep 1,200 more nuclear missiles than the Soviets



START II

(Strategic Arms Reduction Treaty)
Signed 1993, Ratified 2000



Nuclear Warheads
(ceilings)

–US 3,500

–Russia 2,997

Winner:



United States

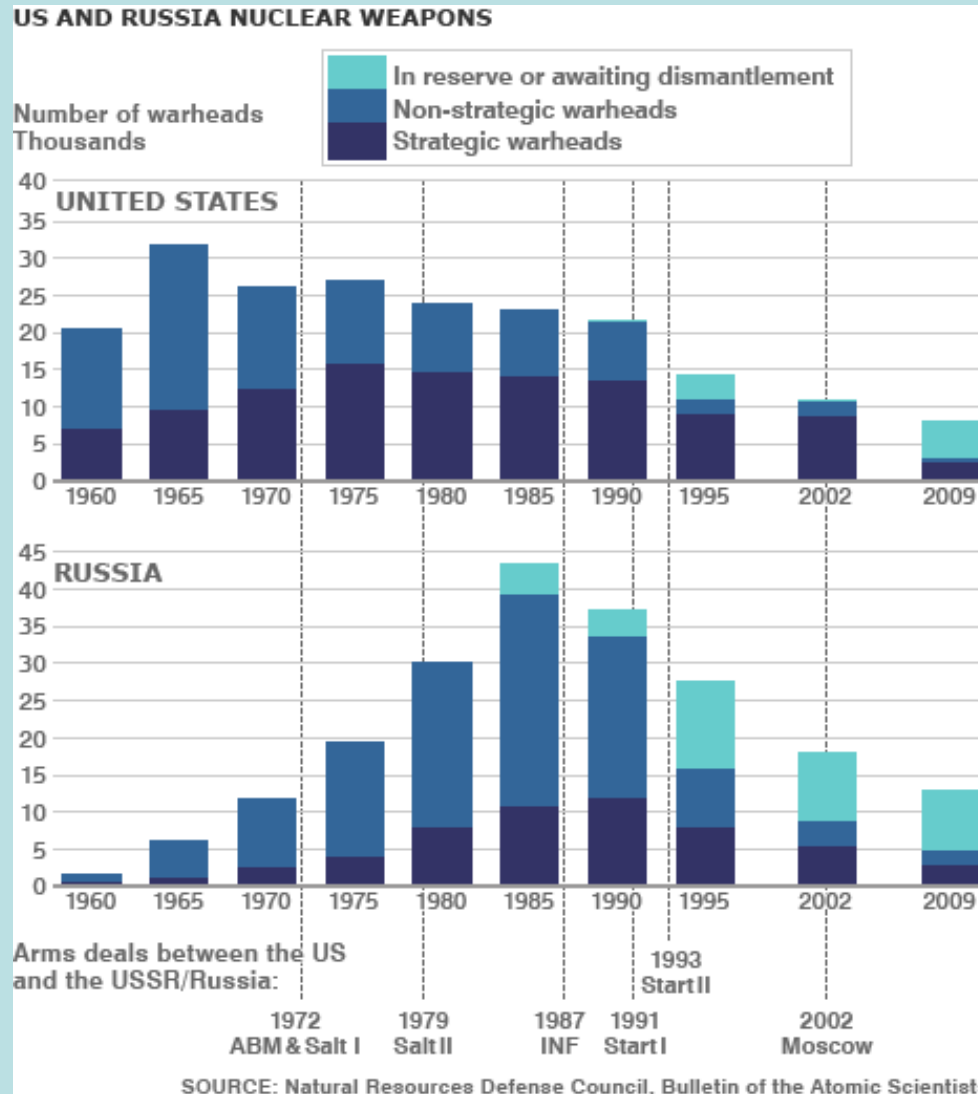
- United States permitted to keep 500 more nuclear warheads than the Soviets



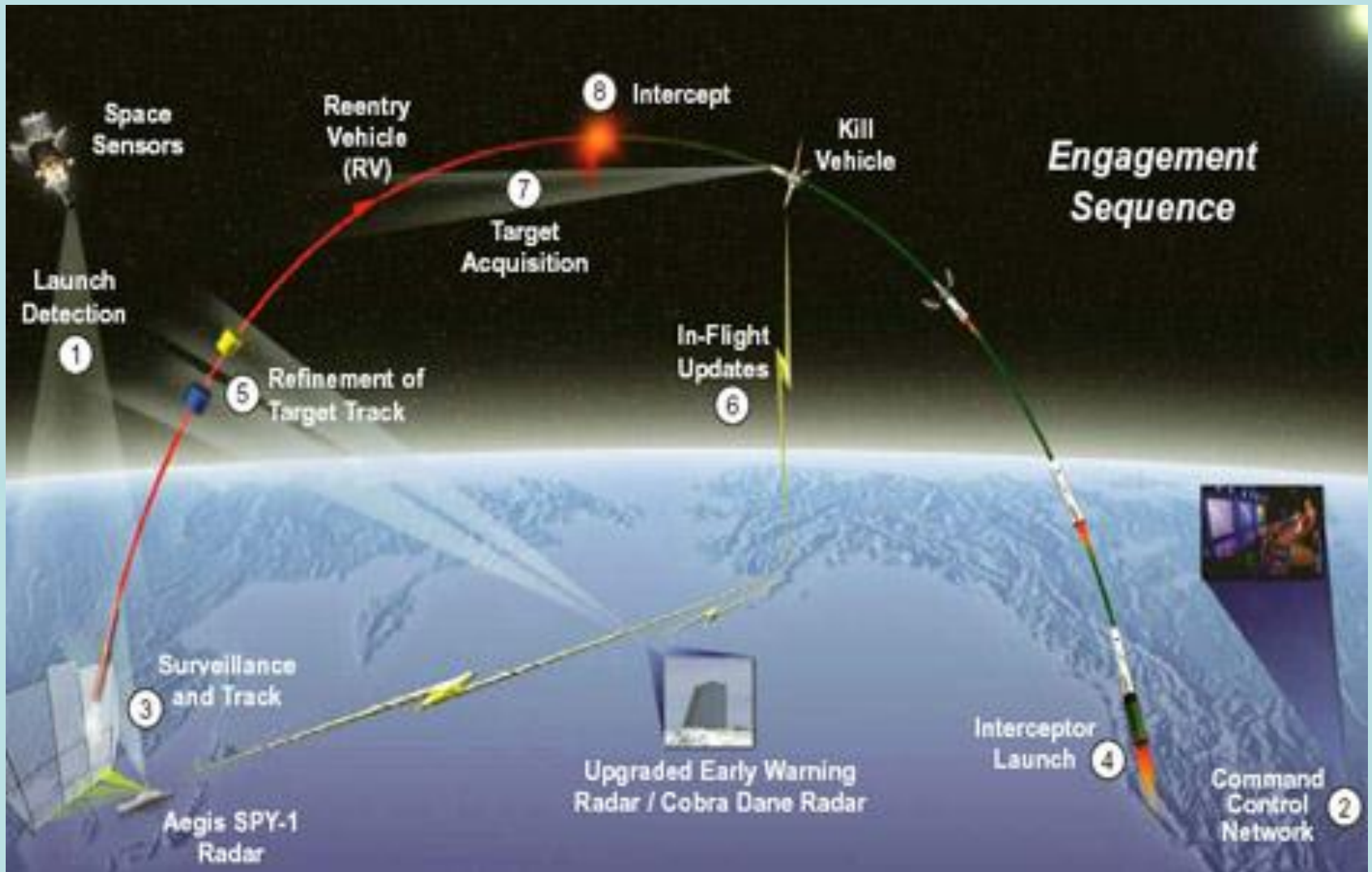
GW and Nuclear Inferiority



Russia is Winning!!!



GW withdrew from Anti-Ballistic Missile Treaty



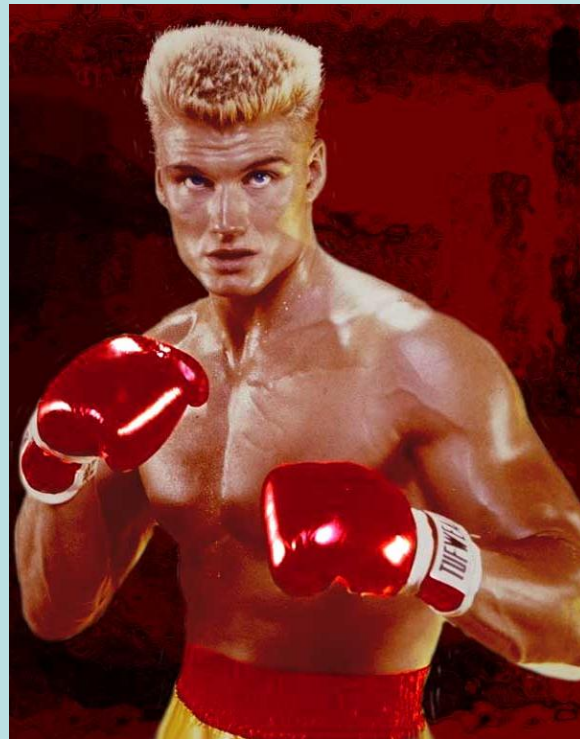
The Moscow Treaty (2002)

Strategic Offensive Reduction Treaty (SORT)



Deployed nukes between 1,700 – 2,200 by 2012

Winner:



- No nuclear cuts –only deployed nukes.
- Keeps status quo
- No winner
- Russia is still winning -13,000 vs. US 9,300



New START Treaty

April 8, 2010



By 2017:

- Cut warheads to 1,550 (from 2,200)
- Total launchers and bombers: 800
- Deployed ICBMs, SLBMs, and bombers: 700

Winner:



- Both countries cut to the same levels, i.e. warheads, launchers, etc.



Estimated U.S. and Russia Nuclear Weapons 2009-2016

	2009		2016	
	US	Russia	US	Russia
Operational	2,700	4,830	2,175	3,675
Strategic	2,200	2,780	1,675 ^a	1,675 ^a
Non-Strategic	500 ^b	2,050 ^c	500	2,000
Reserve	2,500	3,500 ^d	2,500	3,500
Total Stockpile	5,200	8,330^e	4,675	7,175
Awaiting Dismantlement	4,200	4,670 ^e	2,600 ^f	few ^f
Total Inventory	9,400	13,000	7,275	7,175

^a Based on upper limit of START follow-on treaty.

^b Approximately 200 of these warheads are deployed in Europe.

^c Deployed on bases with operational units.

^d The majority of these are thought to be non-strategic warheads.

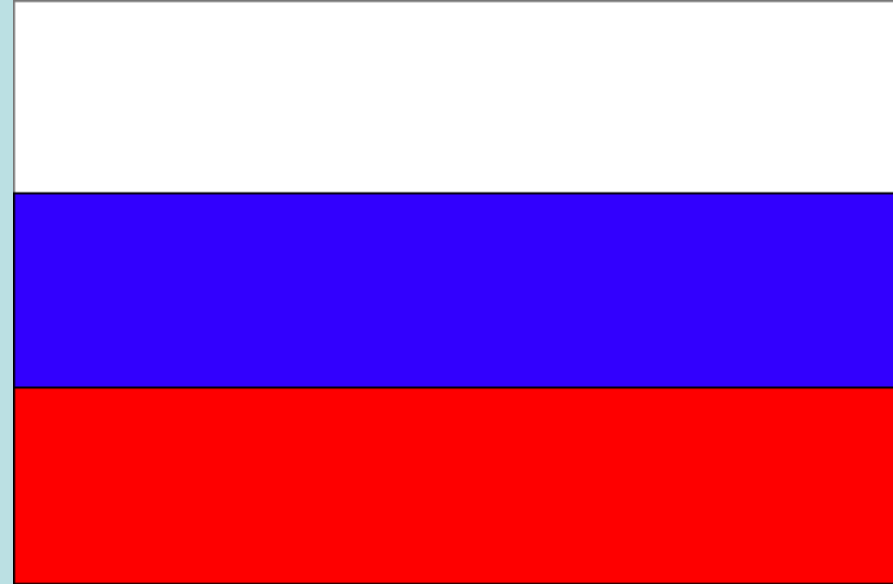
^e Very little is known about the total size of the Russian stockpile and how many warheads are awaiting dismantlement.

^f Assumes warheads cut by START follow-on treaty will be retired and dismantlement continued at current rate.

US-Russian Nuclear Arsenals (2012)



- Deployed: 2,700
- Total: 9,300

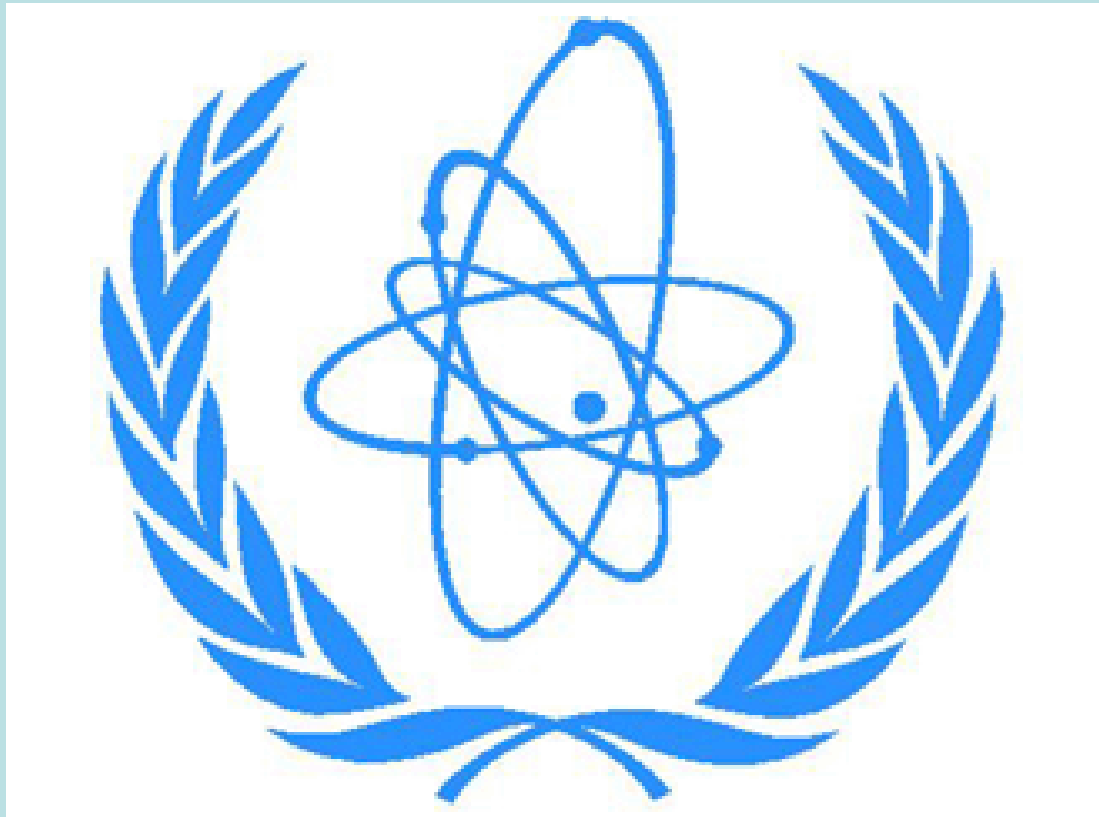


- Deployed: 4,840
- Total: 13,000

Whose got the Nukes?

Country	Date
United States	1945
Russia	1949
United Kingdom	1952
France	1960
China	1964

International Atomic Energy Agency (IAEA) (1957)



- seeks to promote the peaceful use of nuclear energy and to inhibit its use for military purposes

Non-Proliferation Treaty (NPT) of Nuclear Weapons

-limits the spread of nuclear weapons



189 countries

New Members of the Nuclear Club

Country	Date
India	1974
Israel?	1979
Pakistan	1998
North Korea	2006

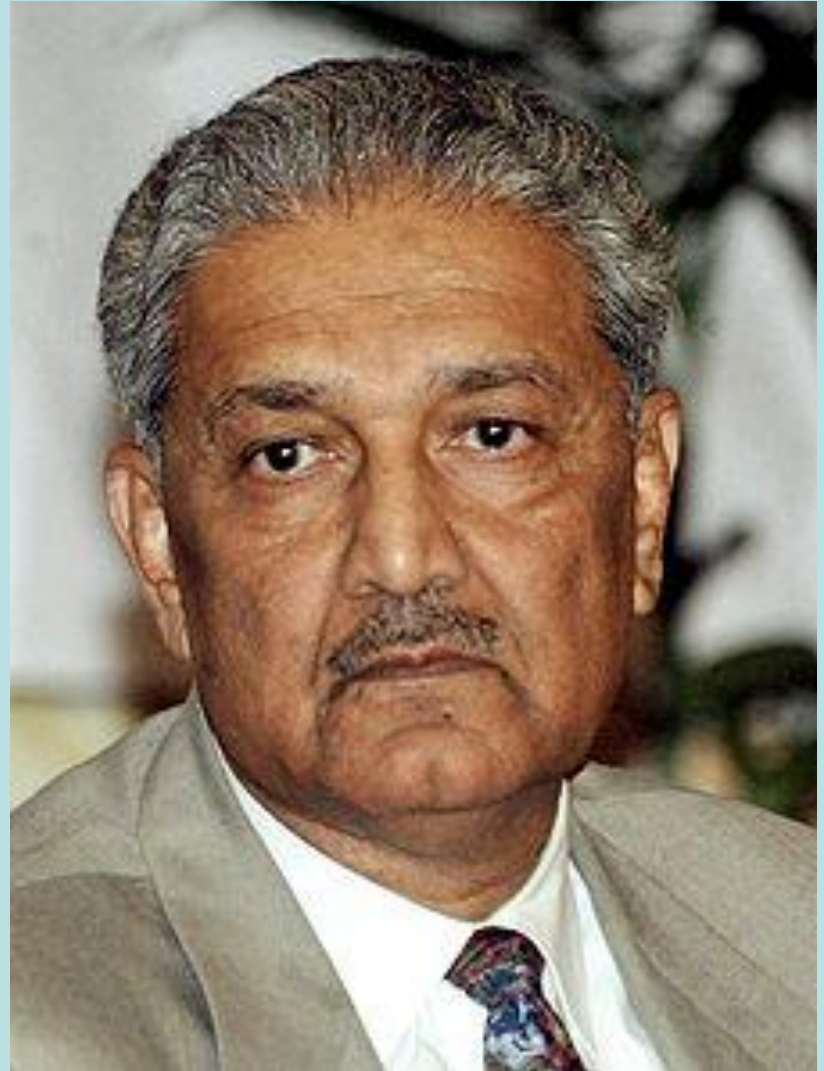
Non -NPT Members

Status of World Nuclear Forces 2011*

<u>Country</u>	<u>Operational Strategic</u>	<u>Operational Nonstrategic</u>	<u>Reserve</u>	<u>Military Stockpile</u>	<u>Total Inventory</u>
Russia	2,430 ^a	0 ^b	5,500 ^c	8,000	11,000 ^d
United States	1,950 ^e	200 ^f	2,850 ^g	5,000	8,500 ^h
France	290	n.a.	? ^j	~300	~300
China	0 ^j	? ^j	~180	240	240 ^j
United Kingdom	160 ^k	n.a.	65	225	225 ^k
Israel	0	n.a.	80	80	80 ^l
Pakistan	0	n.a.	90-110	90-110	90-110 ^m
India	0	n.a.	80-100	80-100	80-100 ⁿ
North Korea	0	n.a.	<10	<10	<10 ^o
Total:^p	~4,830	~200	~8,650	~14,000	~20,500

A. Q. Kahn

Father of the
Pakistani
Atomic Bomb



Iran -2013?



Self Disarmed Countries

Country	Date
South Africa	1990
Kazakhstan	1995
Belarus	1996
Ukraine	1996

Former Soviet republics turned over nuclear weapons to Russia (1995 – 1996)

Ukraine inherited about 5,000 nuclear weapons –was 3rd largest in world

Cooperative Threat Reduction (CTR) program (1992)

Nunn-Lugar Cooperative



Deactivated

- 7,504 warheads
- 752 ICBMs
- 496 ICBM silos
- 143 ICBM mobile launchers
- 155 strategic bombers
- 906 Air-to-Surface missiles
- 194 nuclear tunnels
- 3/17/09 -8 ICBMs

Nuclear Disarmament (To Be Continued)

