



HISTORICAL DEVELOPMENT AND PROTECTION MEASURES FROM THE HYDROGEN BOMBS



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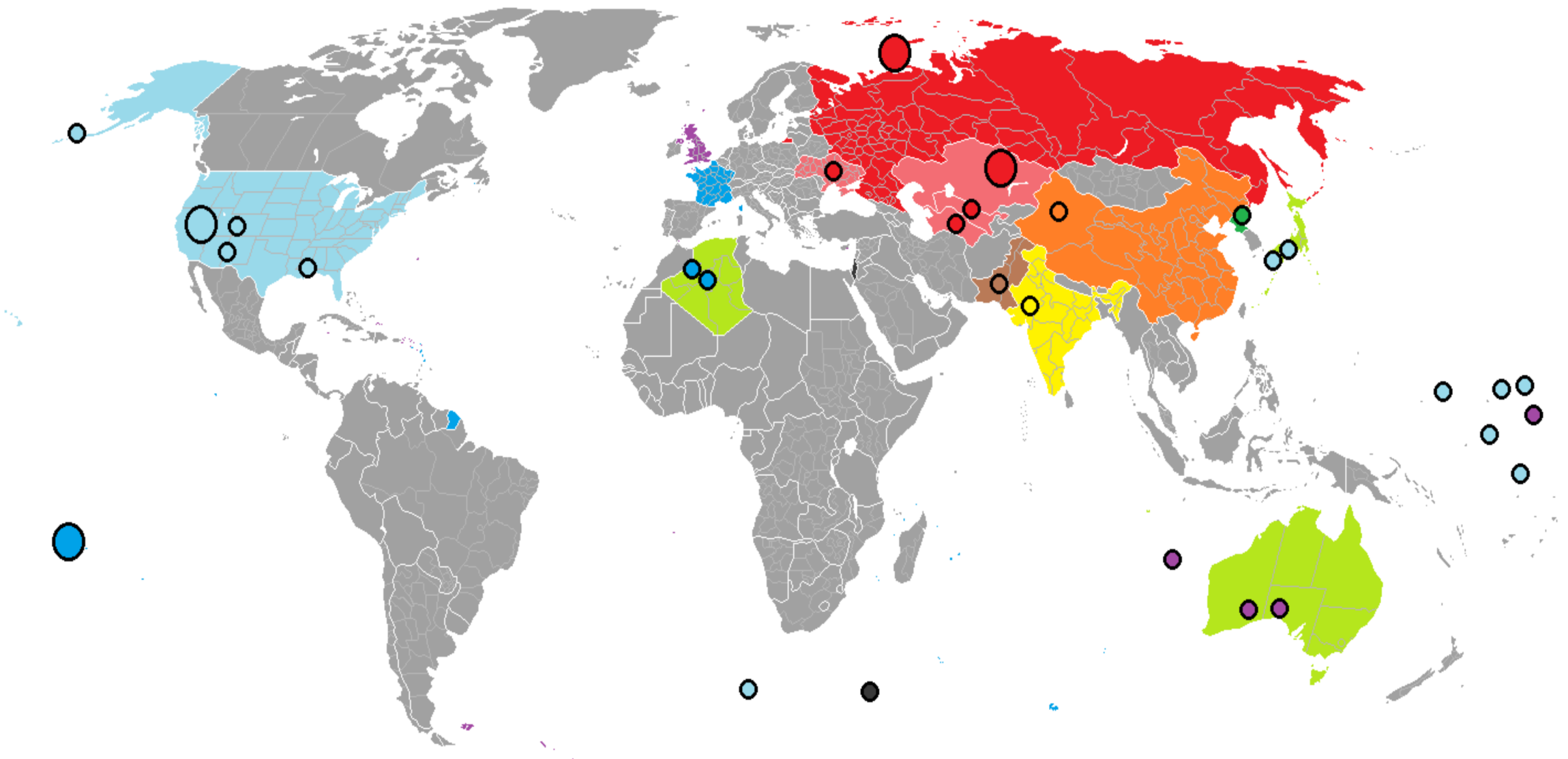
INTRODUCTION

The first thermonuclear (hydrogen) explosion was conducted by US on 30.10.1952 year on the island of Eniwetok in the Pacific Ocean. This was a surface nuclear explosion with power of 10,4 Mt. After the US, other countries in the world have made its first thermonuclear rehearsals committed as follows:

- USSR on day 12.08.1953 year had conducted a hydrogen bomb test with power of 400 kt,
- United Kingdom on day 15.05.1957 year had conducted a hydrogen bomb test with power of 1 Mt,
- France on day 24.08.1964 year had conducted a hydrogen bomb test with unknown power,
- China on day 17.06.1967 year had conducted a hydrogen bomb test with power of 3 Mt,
- North Korea on day 06.01.12016 year had conducted a hydrogen bomb test with unknown power.

According to the official data in the period from 16.07.1945 to 06.01.2016 year, the total number of nuclear explosions in worldwide was 2120 with a total capacity of 540.749 kt. In the worldwide, there were total 512 aerial rehearsals, 8 underwater rehearsals, 1357 underground rehearsals and 243 surface nuclear explosions from which approximately 212 Mt with fission and fusion 328 Mt process.

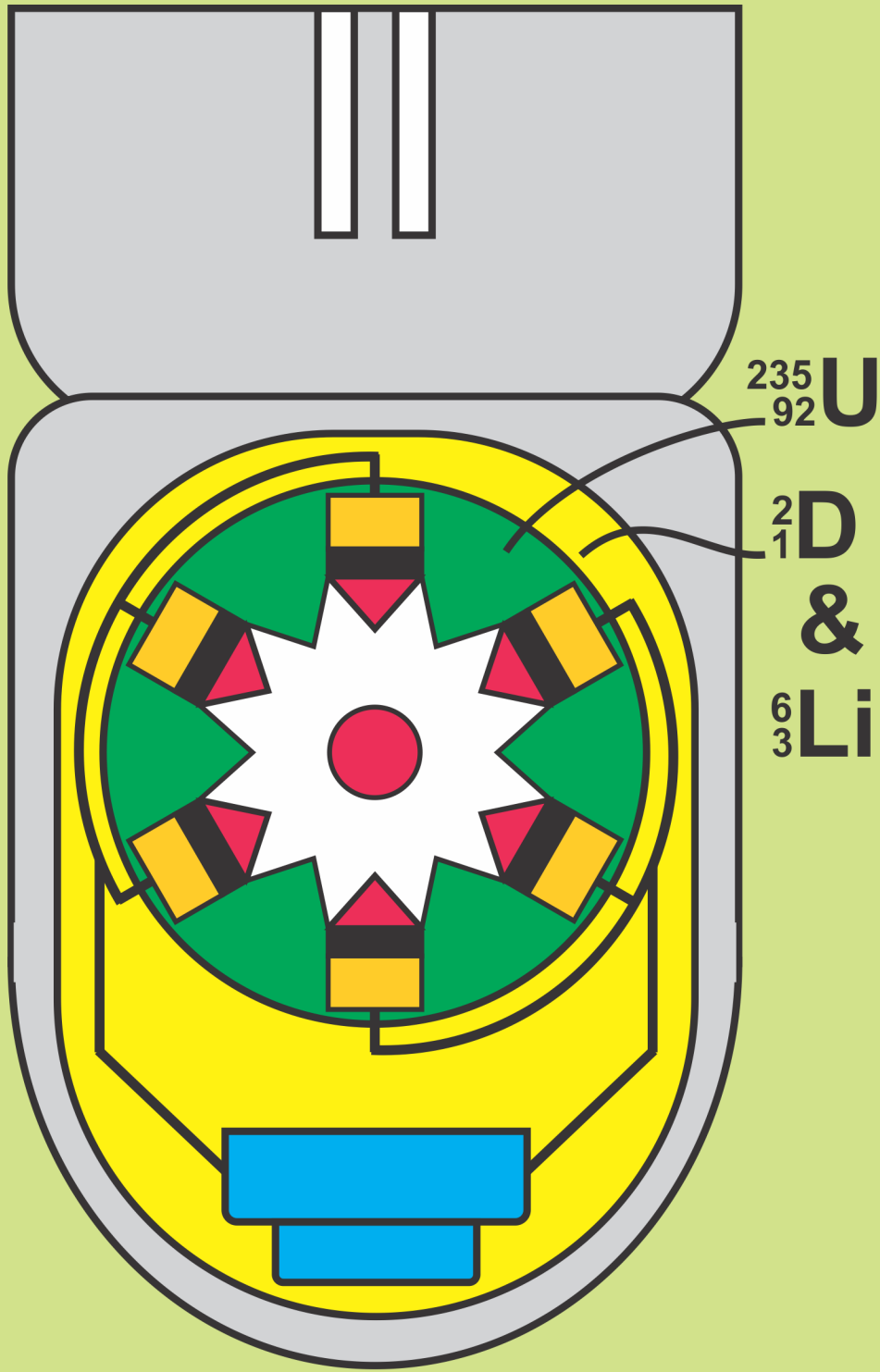
Real nuclear use locations world map



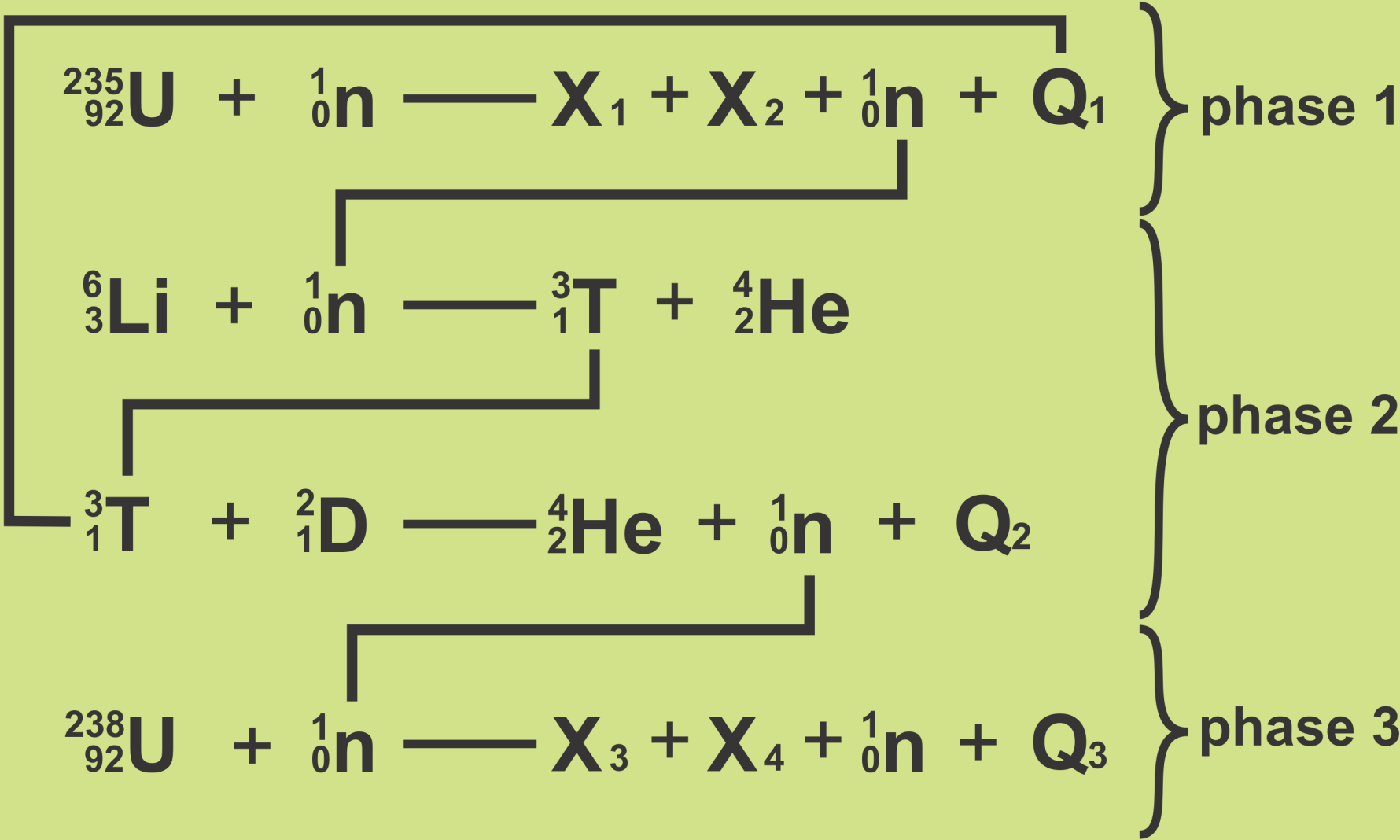
North Korea has conducted a nuclear test hydrogen bomb (06.01.2016)



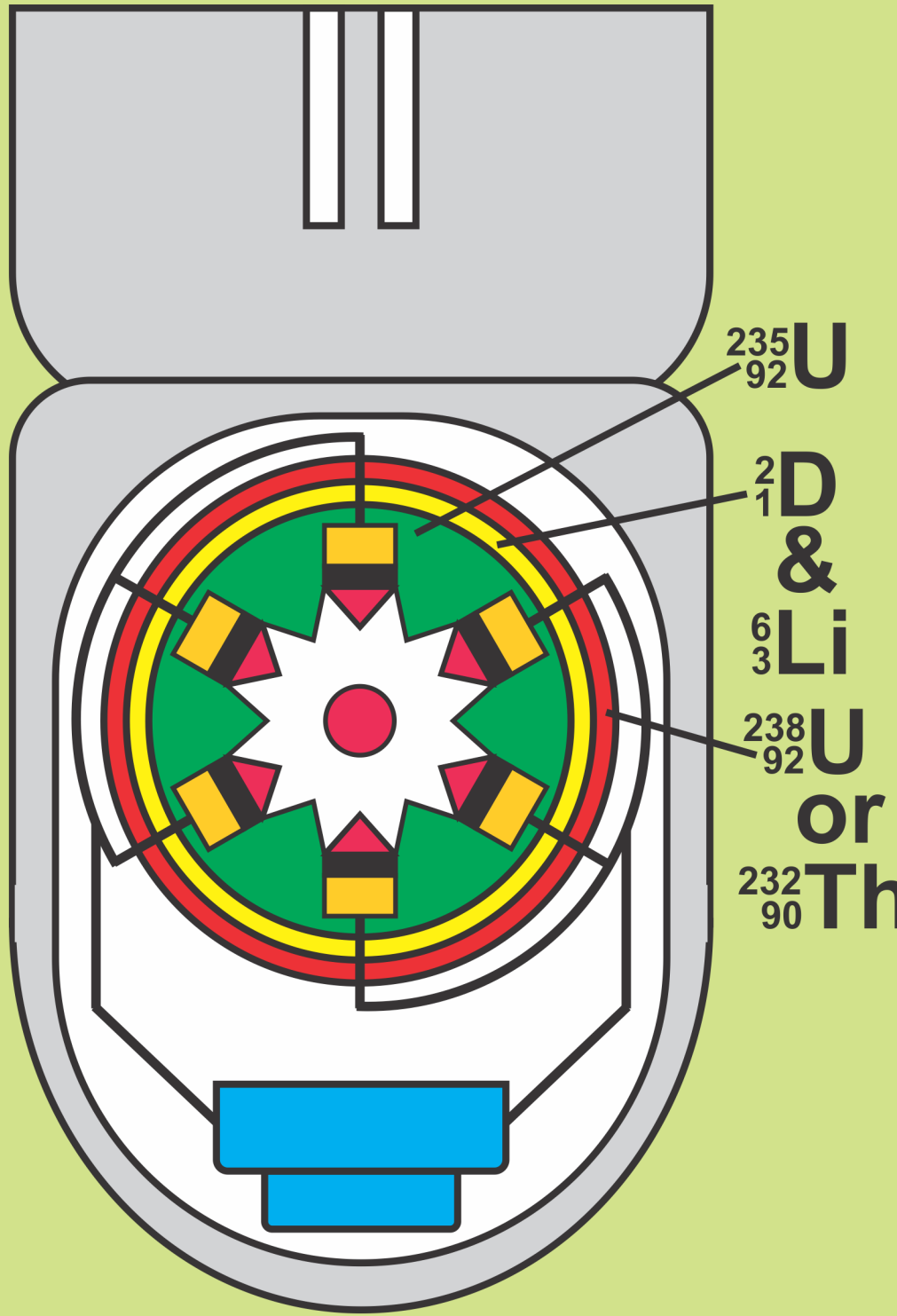
Hydrogen bomb fission and fusion process with two phases



HYDROGEN BOMB

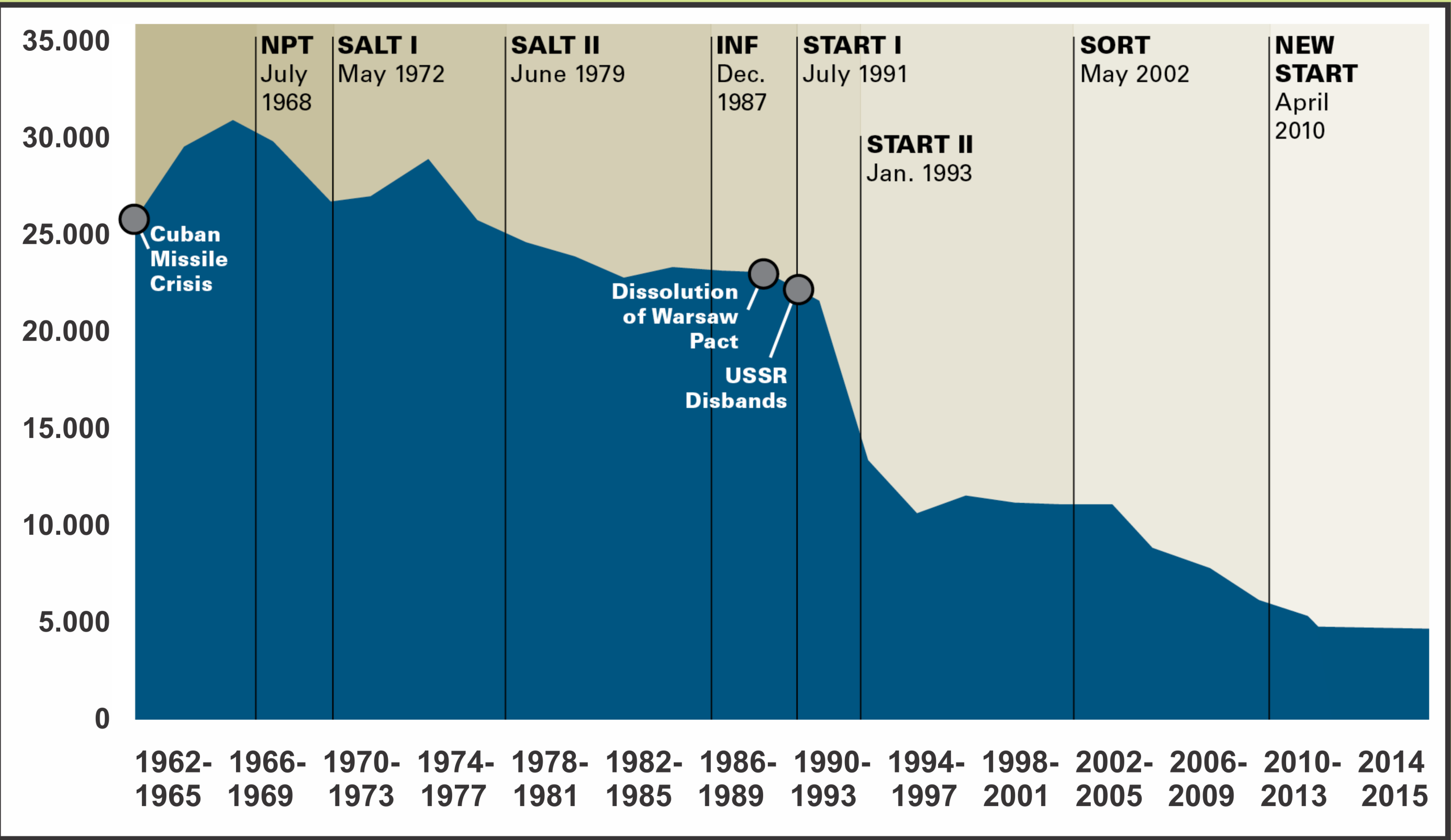


Hydrogen bomb fission, fusion and fission process with three phases



U.S. Nuclear Weapons Stockpile, 1962-2015

Since the late-1960s, the United States and Russia have signed a series of nuclear arms treaties that have contributed to steep cuts in their active and inactive nuclear warhead stockpiles.



Sources: U.S. Department of State, U.S. Department of Defense, Arms Control Association

Status of World Nuclear Forces 2015

Country	Deployed Strategic	Deployed Nonstrategic	Reserve/ No deployed	Military Stockpile	TOTAL INVENTORY
Russia	1,780	0	2,720	4,500	7,500
United States	1,900	180	2,620	4,700	7,200
France	290	not available	10	300	300
China	0	unknown	260	260	260
United Kingdom	150	not available	65	215	215
Israel	0	not available	80	80	80
Pakistan	0	not available	120-130	120-130	120-130
India	0	not available	110-120	110-120	110-120
North Korea	0	not available	< 10	< 10	< 10
TOTAL:	~ 4,120	~ 180	~ 6,000	~ 10,300	~ 15,600

Sources: FSA-Federation Of American Scientists. Current update: September 28, 2015.

CONCLUSION

The CBRN security cycle provides a framework which outlines the links between different CBRN management stages including specific actions for the prevention, preparedness, response, mitigation and recovery from CBRN incidents.

Prevention measures include the development of lists at EU level of high-risk CBRN materials; identifying and reporting suspicious transactions and behavior; enhancing security and control of high-risk CBRN materials; facilities and transport infrastructure; contributing to the development of a high security culture of staff; improving information exchange; strengthening the import/export regime and strengthening cooperation on the security of nuclear materials.

Preparedness requires improved emergency planning; stronger countermeasure capacity; improved domestic and international information flows regarding CBRN emergencies; the development of new modelling and better decontamination and remediation capacity and ensuring greater capacity to conduct criminal investigations.

Responding to CBRN events demands enhanced international cooperation; improved lines of communication with the public; more robust information tools for CBRN security; advanced training courses for first responders; improved personnel security and ensuring that legislation is put in place to tackle CBRN terrorism.