History of DPRK nuclear and proposal for next steps

Siegfried S. Hecker
Center for International Security and Cooperation
Stanford University

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North Korea nuclear program

Governs size of arsenal	Governs sophistication of arsenal	Governs threat arsenal poses
Bomb-grade Pu or HEU	**Weaponization**	**Delivery system**
•Most difficult part •Reactors **(Pu)** or enrichment **(HEU)** Hydrogen bombs - **Tritium** - **Li-6D**	•Physics, computers •High explosives •Detonators •Initiators •Machining •Assembly •Explosives tests •Arming, fuzing, firing	•Plane •Boat •Van •Missile

Nuclear Capability	Zhu Xuhui Wu Jun	S. S.Hecker	D. Albright (ISIS)
Plutonium	30-40 kg	20-40 kg	~30 kg
HEU	> 500 kg	500 kg	250 – 650 kg
Nuclear devices (sufficient material)	30	25-30	15-32
Fit on SCUD & Nodong	Yes	Yes	Yes
Fit on HW-12 HW-14 & HW-15	? ?	Possible No	?

North Korea's nuclear and missile timeline

Year	Diplomacy	Plutonium	U enrich	Weaponize	Missiles	Tritium/ Lithium-6	Import	Export
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95-96								
97-98								
99-00								
01-02								
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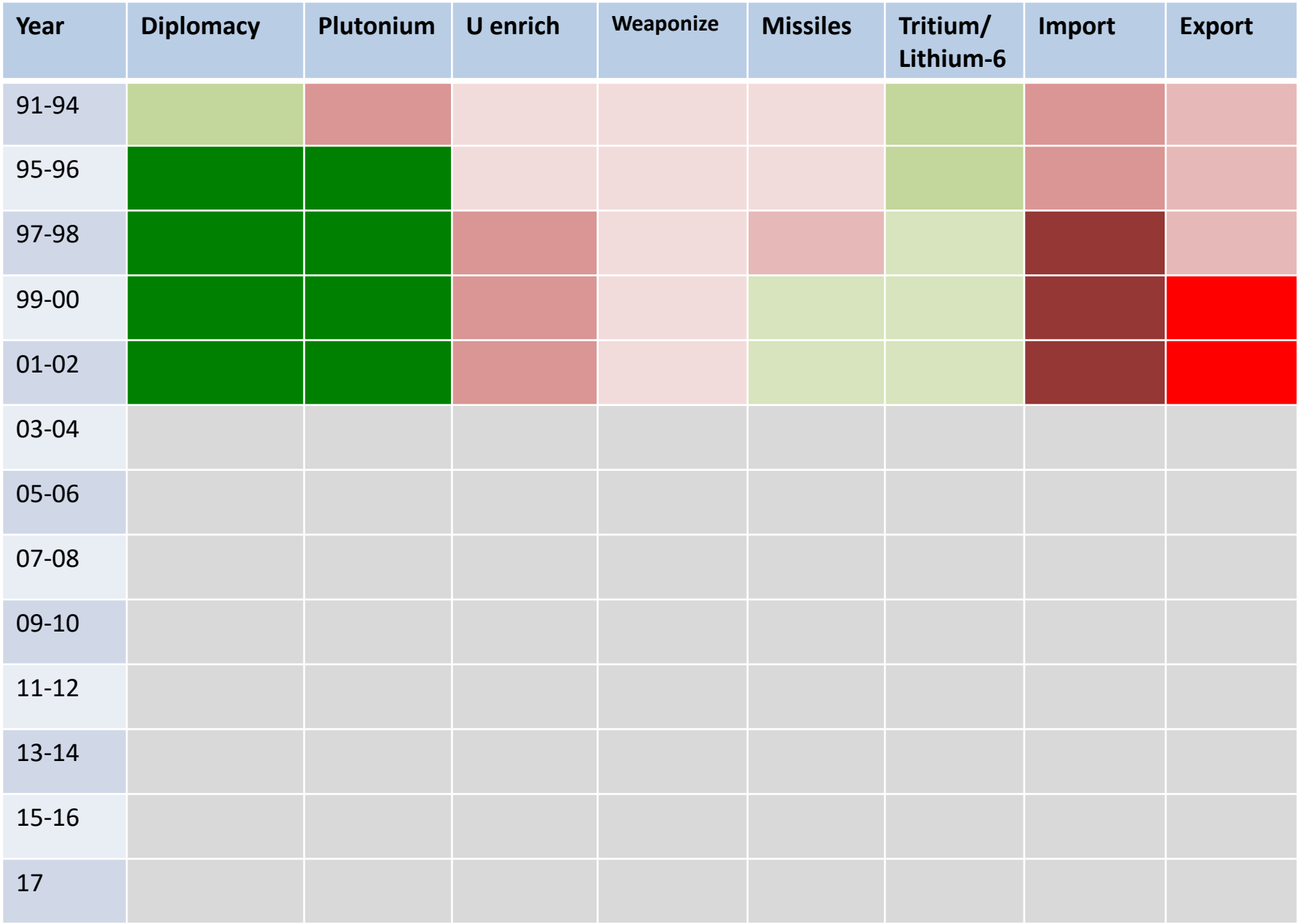

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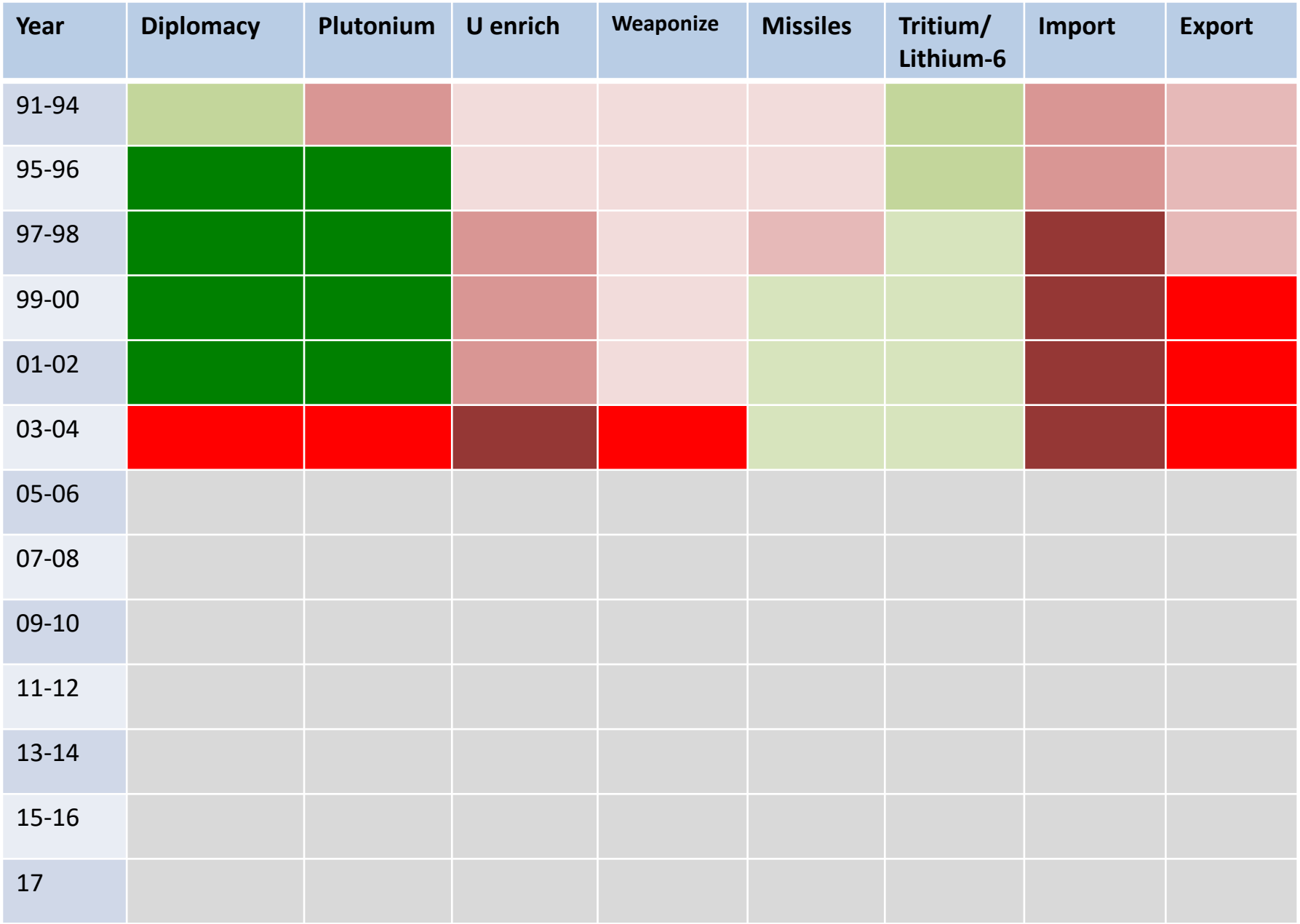

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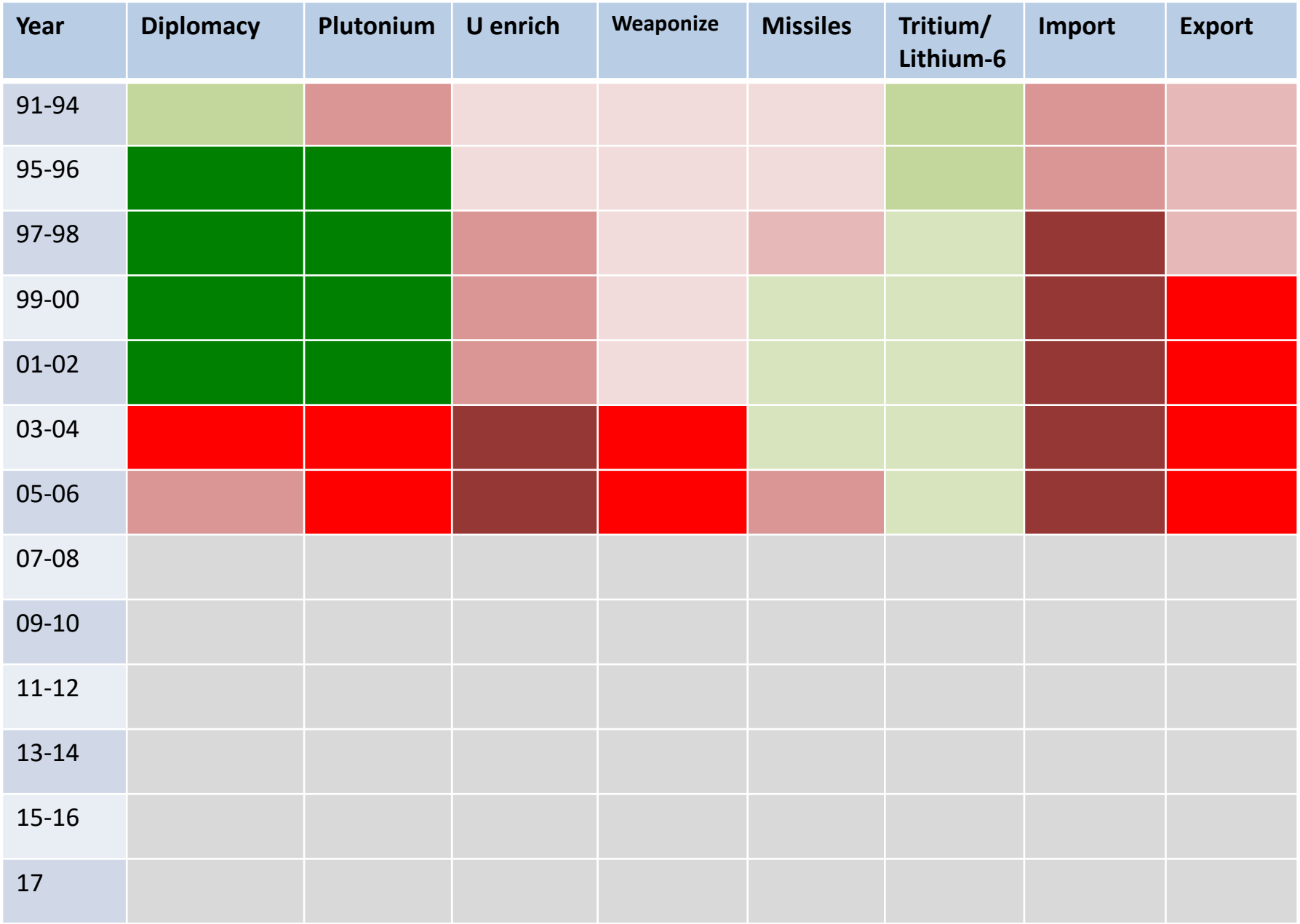

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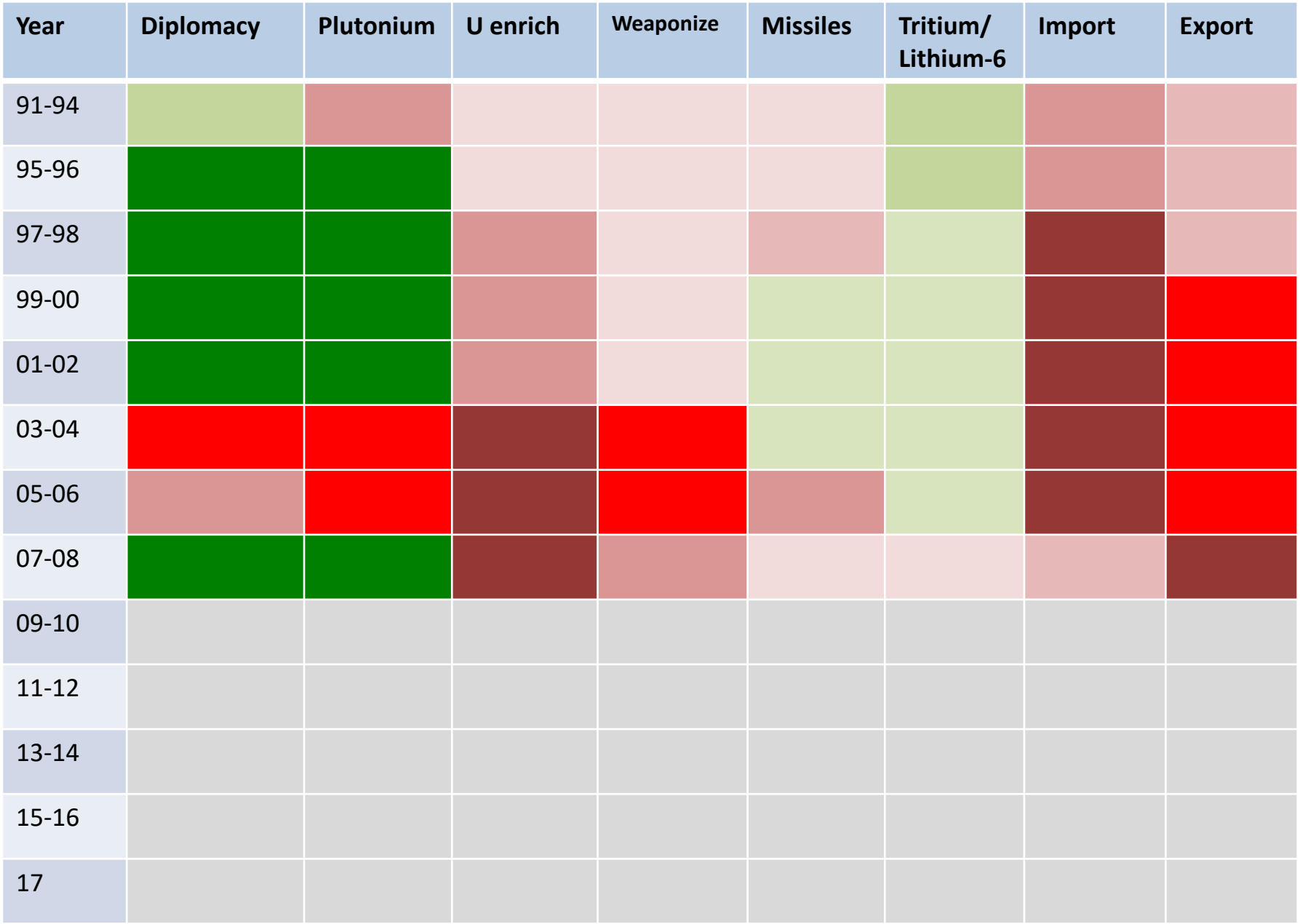

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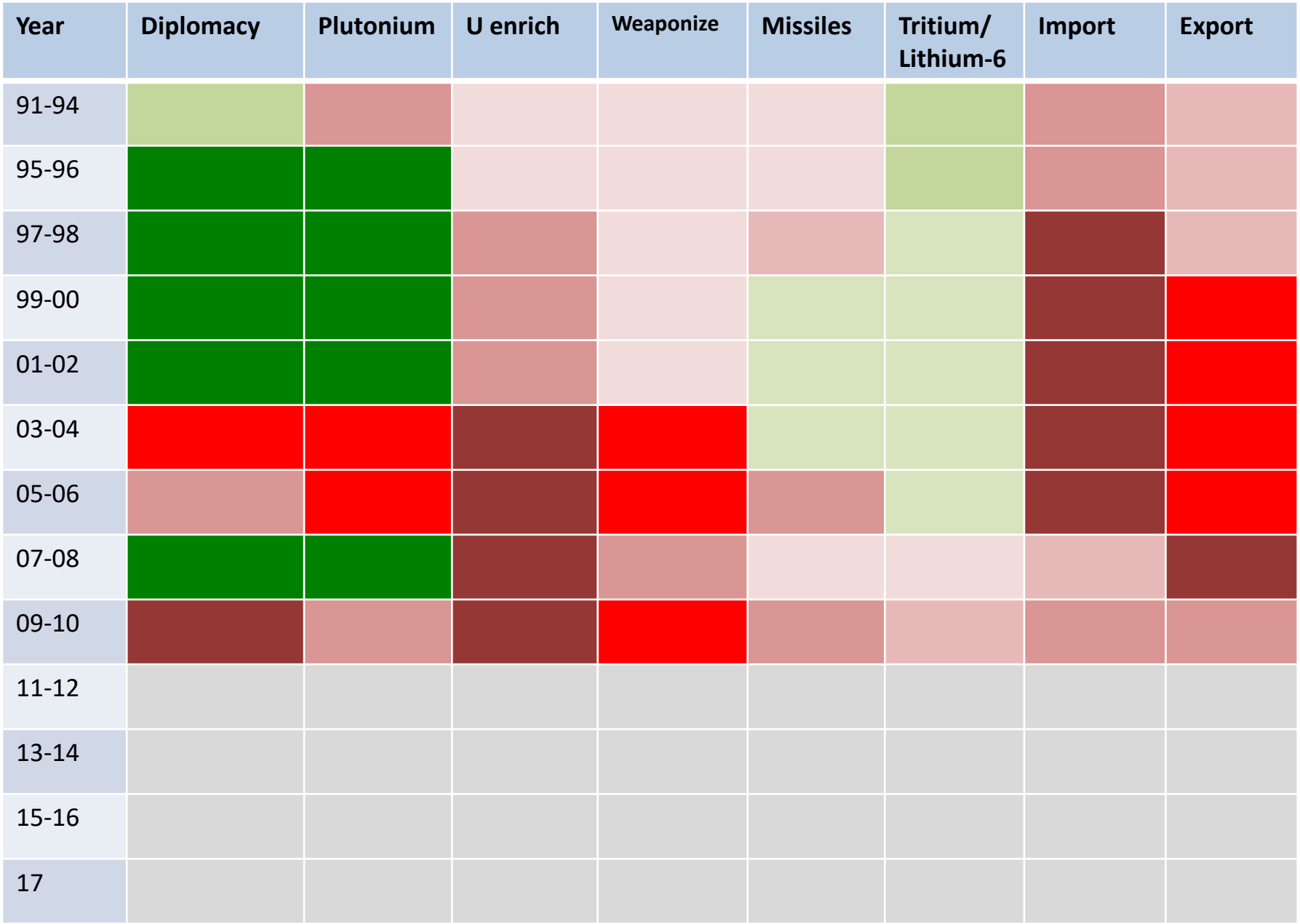

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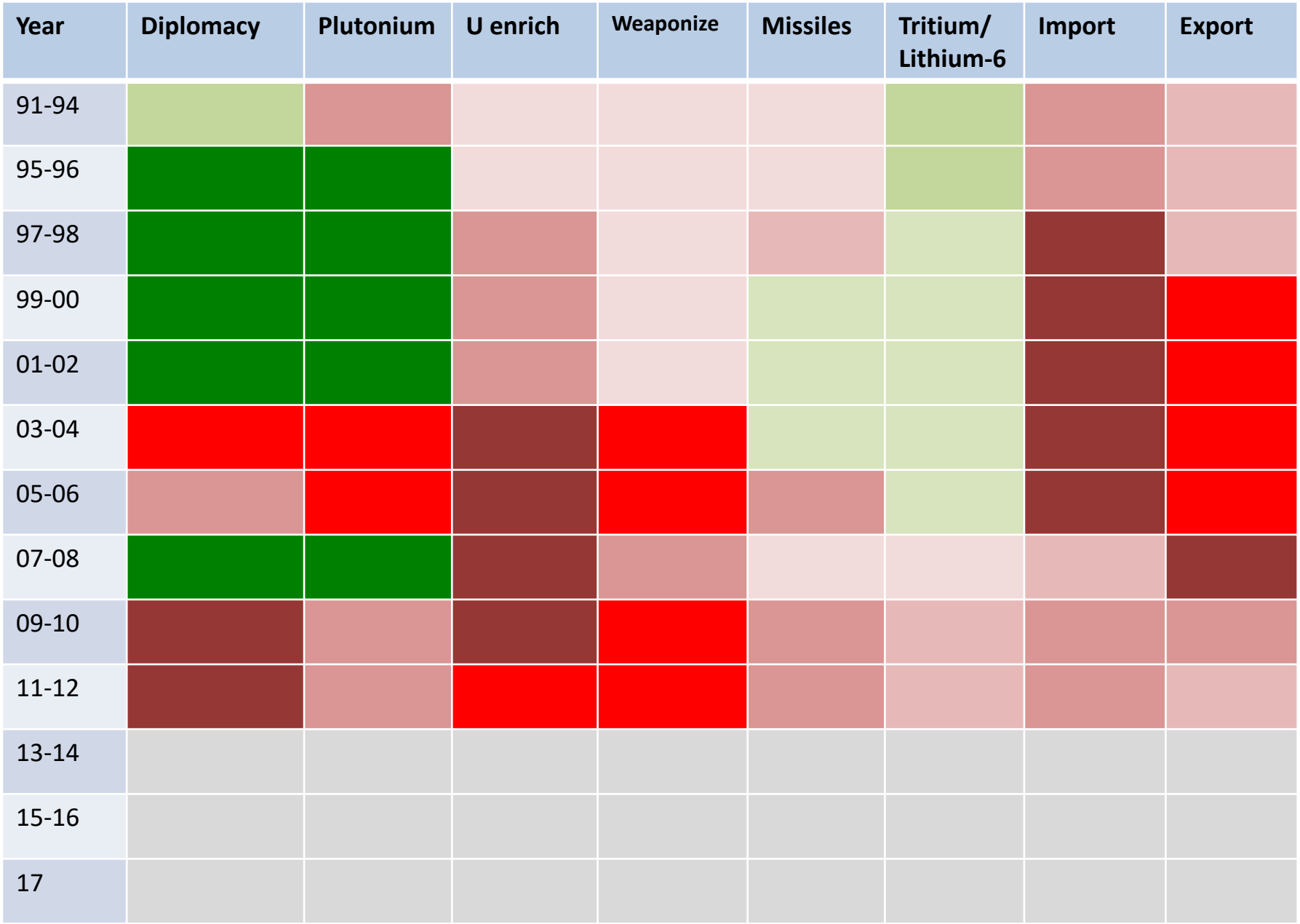

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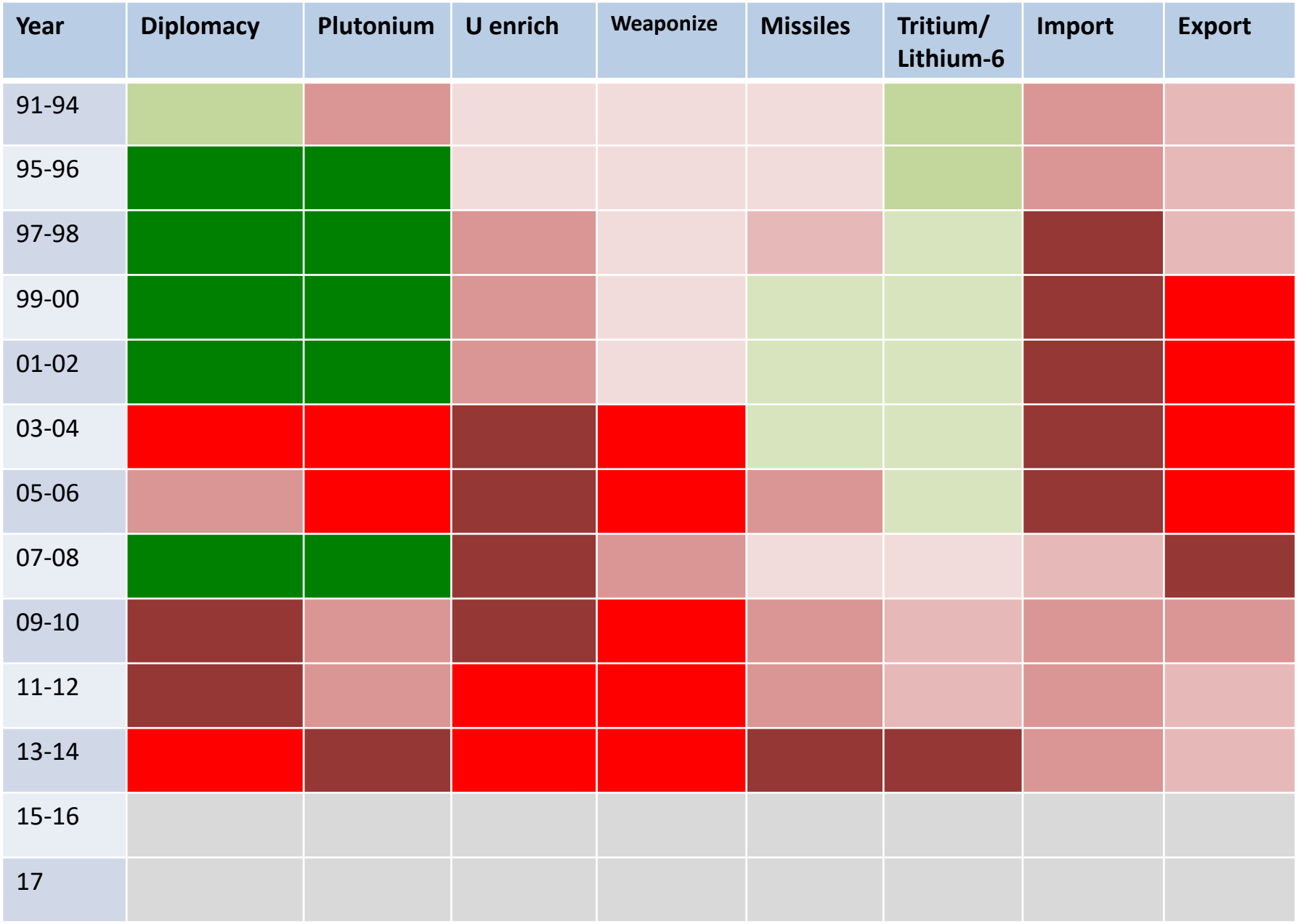

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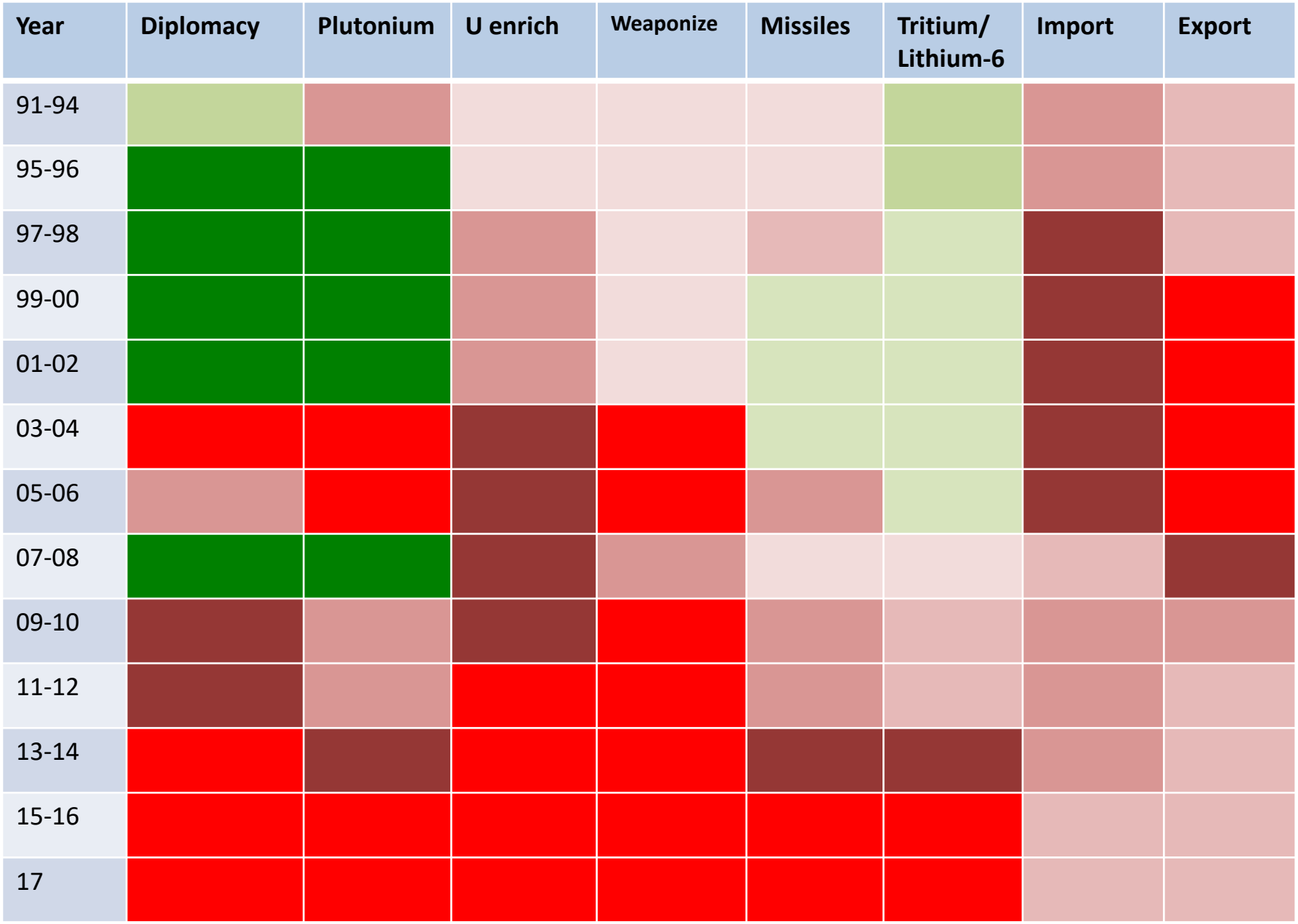

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95-96	AF	Freeze 50&200 dem.						Missiles
97-98	AF				TP-1 launch		Cent material	
99-00	AF						Cent material	Syria Libya
01-02	AF						Cent material Cent train	
03-04	NPT withdr	Reacto restart		Built bomb				
05-06	9/19/05 Joint Statement		Pilot plant	Bombs First NT	TP02 Launch			
07-08	Disable	Reactor halted	Pilot plant					
09-10			YB Cent facility	Second NT	Unha-2 launc			
11-12	Leap-day deal							
13-14		Reactor restart	YB Cent expan	NT-3				
15-16				NT-4&5				
17				NT-6				

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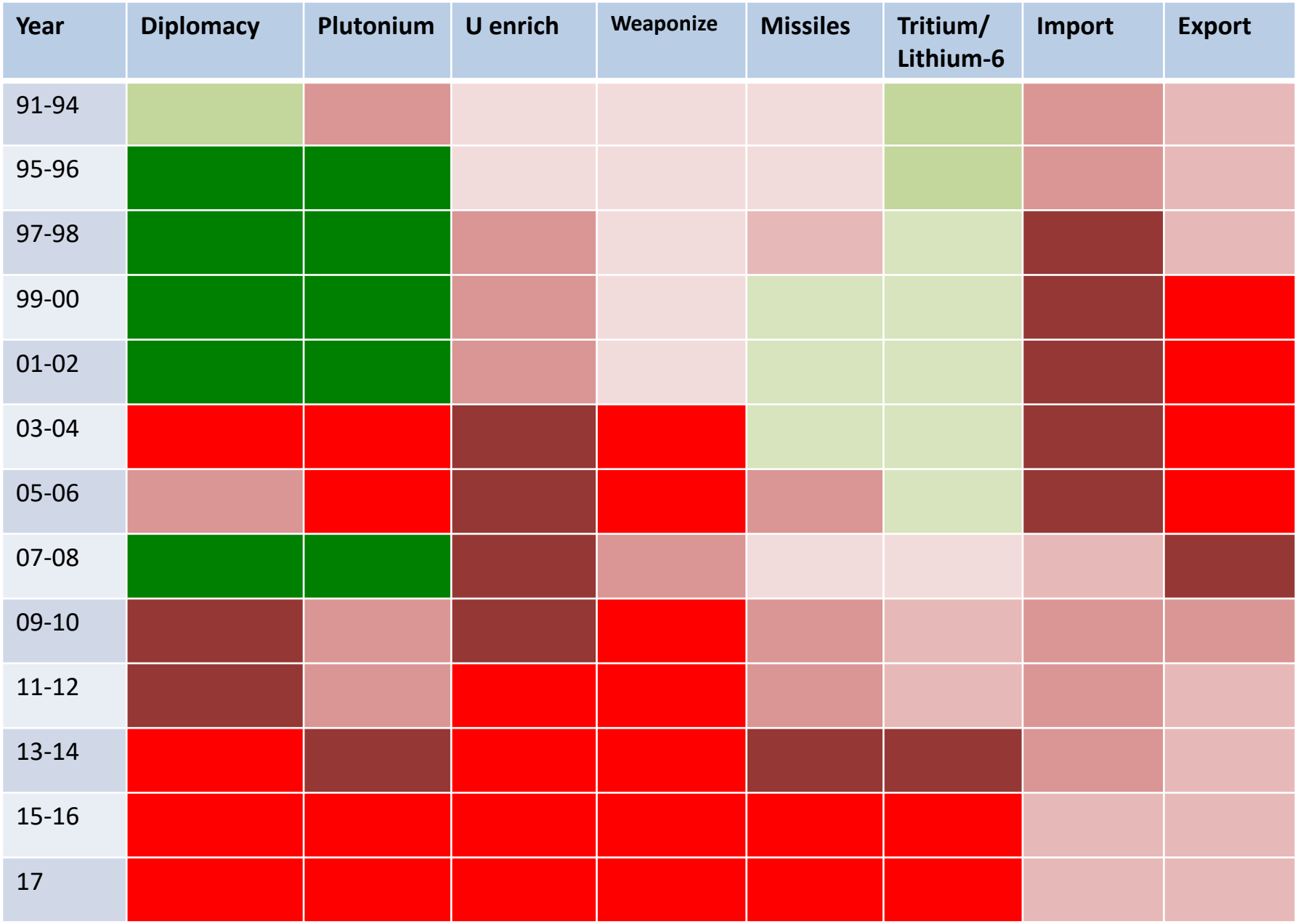

Lessons learned

- 25-year determined drive to nuclear arsenal & deterrent

- Diplomacy has slowed the drive (AF reversed some), but DPRK always retained a hedge to build the bomb

- DPRK continued to keep complex ready and exercised – including exporting nuclear technologies

- Great reliance on imports, but has good indigenous capabilities

- Nature of deterrent has changed with time. Resulted in a huge nuclear enterprise – with domestic prestige and global respect

- Wants Pakistan status of de facto nuclear weapon state

Next steps

- Focus on conflict avoidance and prevent nuclear war
  - Send US presidential envoy to Pyongyang to talk

- No preconditions, not negotiations – denuclearization must wait

- Don’t rush into negotiations without comprehensive strategy and understanding of history – DPRK will not stop everything

- Best option is to have US and China formulate combined strategy for conflict avoidance talks

- Such talks may create foundation for future negotiations to halt, roll back and eventually eliminate DPRK nuclear program







There are reasonable voices in the DPRK – we need to use them



Talk to prevent a nuclear detonation

Express U.S. concerns about instability and threat of conflict:

- Greatest U.S. concern is the increasing size and sophistication of the North's nuclear arsenal combined with the Kim regime's threatening rhetoric.

- Escalation of conventional military incidents to nuclear level. Impress Pyongyang that there is no such thing as limited nuclear use.

- Nuclear weapon safety and accidents that may result in radiological dispersal or nuclear detonation – risks increase as tensions mount.

- Nuclear weapons security, command and control in times of tension.

- How to put in place tools for crisis management in case of escalating conflict.

Lay the foundation for return to diplomatic dialogue of denuclearization and stability: