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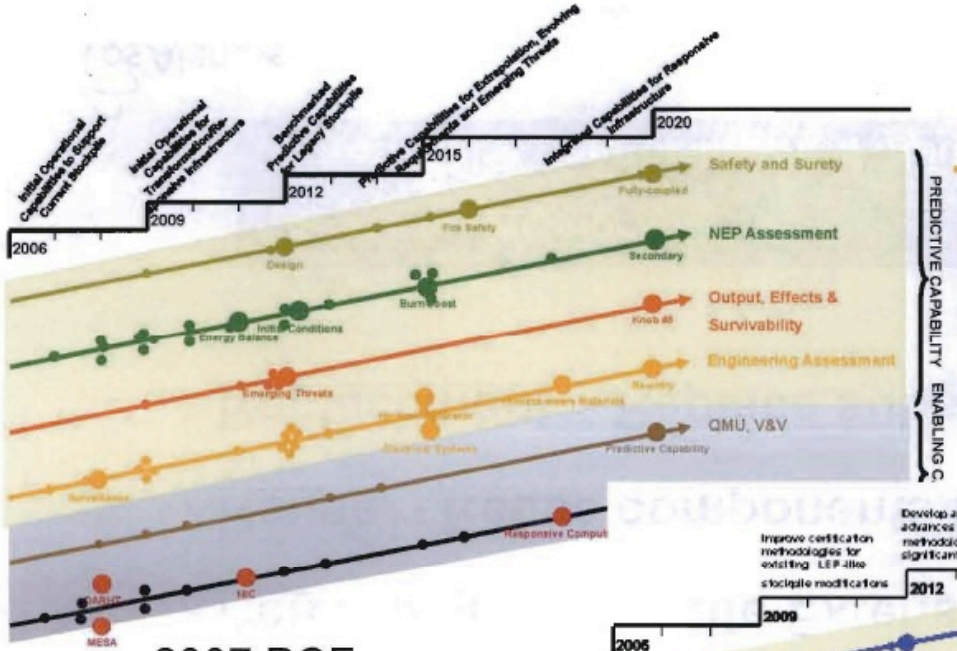
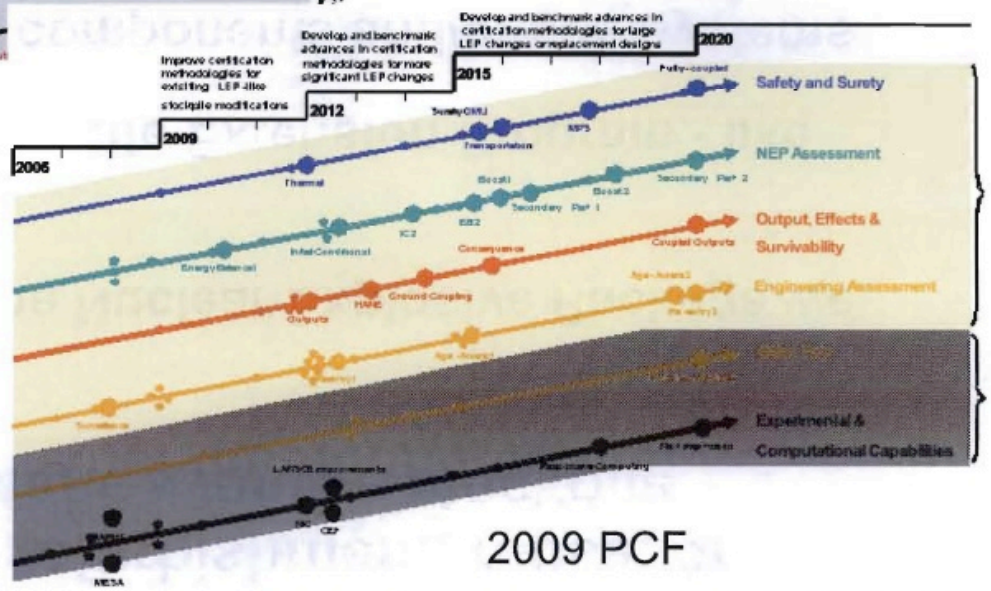


2007 PCF

We are already slipping out our PCF pegposts.



2009 PCF

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As we look out into our strategic horizon we can see possible refurbishment, reuse, or replacement scenarios for the stockpile

With respect to the Nuclear Explosive Package we see:

- **Refurbishment - Life Extension Program - like**
- **Reuse - Reuse components and/or sub systems**
- **Replacement - Replace subsystems/systems**

Options for the stockpile:

Do Nothing → Refurbishment → Reuse → Replacement

There are several ways to sustain capabilities

- Find Efficiencies ⇦
- "Right size" ⇦
- Diversify --- see Jay Dallman's talk
- Get more money

Updating CTBT safeguards is key to sustaining a credible nuclear stockpile

PRIMARY RISK from a *ratified* CTBT:

- ***Attention* to the nuclear deterrent will likely erode —**
  - **The effectiveness of the CTBT Safeguards could atrophy quickly**
  - ***Technically:*** *there is little difference between a ratified CTBT, and the current testing moratorium*

MITIGATION measure:

- **Strengthen the language of the safeguards**

We must design mechanisms to counter "intentional inattention" —Sustaining a credible nuclear deterrent requires enduring safeguards

Stockpile risk under a CTBT decreases with increased flexibility

- Limited refurbishment with a combination of reuse and replacement provides timely modernization
  - Refurbishment alone cannot meet DoD performances, safety and security standards for much of the stockpile
  - Reuse enables necessary stockpile production timelines
  - Replacement is essential for a viable modernized stockpile with increased flexibility and diversity
- Stockpile modernization can increase confidence and long-term stockpile flexibility and diversity, and provide challenging (attractive) science for our future workforce

Options for the stockpile:

Do Nothing → Refurbishment → Reuse → Replacement

Decreasing Stockpile Risk

CTBT safeguards require continuing national support to ensure the safety, security and reliability of the deterrent

Considerations for inclusion in forward-looking safeguards:

- **Stockpile modernization:** refurbishment, reuse, replacement provide options and maintain needed capabilities for the future
- **Product realization capability:** notably absent in current safeguards
- **Maintaining a hedge capability to test is essential:** complement a strong stewardship program with irreducible set of test-specific activities
- **Surveillance:** more important as stockpile is reduced and ages
- **Annual Assessment:** expand to address projected state of the stockpile and capabilities

See handout on safeguards

CTBT Safeguards

Safeguard A *(Stockpile Stewardship)*

The conduct of a Science Based Stockpile Stewardship program to ensure a high level of confidence in the safety and reliability of nuclear weapons in the active stockpile, including the conduct of a broad range of effective and continuing experimental programs.

Safeguard B *(Scientists)*

The maintenance of modern nuclear laboratory facilities and programs in theoretical and exploratory nuclear technology which will attract, retain, and ensure the continued application of our human scientific resources to those programs on which continued progress in nuclear technology depends.

Safeguard C *(Test Readiness)*

The maintenance of the basic capability to resume nuclear test activities prohibited by the CTBT should the United States cease to be bound to adhere to this treaty.

Safeguard D *(Monitoring)*

Continuation of a comprehensive research and development program to improve our treaty monitoring capabilities and operations.

Safeguard E *(Intel)*

The continuing development of a broad range of intelligence gathering and analytical capabilities and operations to ensure accurate and comprehensive information on worldwide nuclear arsenals, nuclear weapons development programs, and related nuclear programs.

Safeguard F *(Annual Assessment)*

The understanding that if the President of the United States is informed by the Secretary of Defense and the Secretary of Energy (DOE)—advised by the Nuclear Weapons Council, the Directors of DOE's nuclear weapons laboratories and the Commander of the U.S. Strategic Command—that a high level of confidence in the safety or reliability of a nuclear weapon type which the two Secretaries consider to be critical to our nuclear deterrent could no longer be certified, the President, in consultation with Congress, would be prepared to withdraw from the CTBT under the standard "supreme national interests" withdrawal clause in order to conduct whatever testing might be required.

National discourse surrounding CTBT has provided a focus on the safeguards afforded to the nuclear stockpile

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Additional Risks:

- ***"Modernization"* could be interpreted as precluded under the CTBT**
- ***On-Site Inspections*** could interfere with national security missions

MITIGATION measure:

- **Strengthen the language of the safeguards**

We must design mechanisms to counter *"intentional inattention"* — Sustaining a credible nuclear deterrent requires enduring safeguards