Sea-Based Nuclear Weapons and Global Nuclear Disarmament

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Abstract

Why There Is Room for Reduction

1. Many development programs are technology/prestige driven
   - Case study: India
   - Case study: China
   - Case study: Pakistan
2. Current capabilities/numbers are more than necessary for maintaining a credible deterrent

Problems with Previous Arms Control Measures

- Strategic Arms Limitation Talks (SALT) II Agreement
- Reciprocal unilateral measures under Presidential Nuclear Initiatives
- Unilateral moves under Clinton administration
- Unilateral moves under George W. Bush administration

- Very limited scope, did not cover most destabilizing weapon systems:
  - SALT II Agreement: The protocol banned deployment, but not testing, of cruise missiles capable of ranges in excess of 500 kilometers on ground- and sea-based launchers.
  - No limitation on deployment after agreement expiration.
  - No limitation on nuclear armed sea-launched cruise missiles (SLCM)

- Confidence-building measures not sustained
  - Transparency measures regarding nuclear armed SLCM stopped after Strategic Arms Reduction Treaty (START) expired in 2009.

To Further Reduce the Numbers

- SSBN
  - Modernization decisions to be made
    - U.S., U.K., China
  - SLBM
    - U.S.: 24→16
    - U.K.: 16→8
    - China: 12→24

- Choose the optimal operation strategy
  - Reassess the threat of surprise first strike and the need to maintain a number of SSBN at sea
  - Maintain a hedge capability rather than a full-blown capability
    - Maintain a capable infrastructure and make the best use of existing submarines to train reserve crews.

To Move to Less Platforms

- Prohibition of surface ship based nuclear ballistic missiles
  - India: Chandrash shot range ballistic missile (500km) on conventional surface ships?
  - Pakistan:
    - Naval Strategic Force Command in 2012
    - Declared intent to develop sea-based deterrent
  - Nuclear missiles on surface ships?

- Cutting dual-use systems: nuclear armed cruise missiles (submarines- and surface ship-based)

- Strategic ambiguity; risk of inadvertent escalation
  - Russia, France, China (existing and possible planned systems)
  - India: Reportedly to carry SLCMs as well

To Reduce the Role

- Optimal operational tempo
  - Reduce strategic patrols to the lowest level necessary to maintain deterrent
  - Crew training and proficiency maintenance

- Russian SSBN Deterrent Patrols 1951-2012

How Current Dialogues Need to Be Adjusted

- Reduce alert levels at peacetime
  - Explore options of not (or selective) mounting SLBMs or warheads on SSBNs during routine patrols

- Escalation risks resulted from re-alerting during crisis can be mitigated
  - Avoid only using outdoor SSBN docking facilities, but use underwater entrances/exits to SSBN pens/docking facilities.
  - SSBN leaving port during crisis won’t be easily detected.

To Reduce Offensive Capabilities

- Avoid offensive strategies
  - Rethink the need for developing and deploying strategic anti-submarine warfare (ASW) capability
  - Aggressive strategic ASW increases “use or lose” dilemma

- Think strategically about developing and deploying advanced unmanned underwater vehicles (UUV) for strategic ASW purposes
  - Potential for radically shifting existing offense-defense balance underwater

- Radical arms control measures difficult to succeed
  - ASW free zones
  - Clarifying intentions at official level
  - Naval engagement at operational level

- Unilateral restraint and transparency
  - Continuous at sea deterrent?
    - "Out of the blue" first strike threat evaluation
  - Armed patrol and warhead integration?
  - Keeping low alert level?
  - Numerical reductions
  - Infrastructure maintenance and crew reserve

References