



Too Close for Comfort Collision of the Nuclear Submarines

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Uncannily close on the heels of the collision of the two satellites in space, came the news of the collision of two submersed nuclear powered submarines that were carrying nuclear weapons. The British HMS *Vanguard* (the UK's first Trident class submarine) and the French *Le Triomphant* banged into each other, allegedly gently, on the night of February 3-4, 2009 somewhere in the Atlantic Ocean, the second largest ocean of the world. Both vessels were on their regular national patrols, an activity that they have undertaken for many years. The UK, in fact, has had at least one nuclear-armed submarine at sea continuously since 1969. Though a major disaster of the nuclear kind was averted since the two 'boats' were reportedly traveling at very slow speed, the freak incident however, raises many issues that must be given the attention they deserve. Let me first highlight three generic issues and then move on to some specific concerns that India must take cognizance of.

Firstly, at the general level, the collision between nuclear armed and nuclear propelled submarines (SSBNs) highlights the fact that risks, such as the possibility of nuclear accidents, which arise from the very existence of nuclear weapons, subsist wherever these weapons exist irrespective of the nature of the nation state, its command and control systems or the length of its experience in handling these dangers. These are *existential risks*, which can only be minimized to an extent but cannot be completely obviated. Despite the organizational and technological sophistication of the US command and control, embarrassing incidents have afflicted the country. The flight of

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the US bomber carrying nuclear weapons without the knowledge of the crew or the ground staff is of recent vintage and still in public memory. Few, however, remember the collision of two US nuclear powered submarines on March 19, 1998 off Long Island, New York, or the several others between US and USSR submarines that have occurred in the past. The most recent incident of collision, however, yet again draws attention to the dangers that accompany nuclear weapons wherever they exist. There is a lesson here for those who argue that some countries are more responsible and hence have a greater right to holding nuclear weapons in perpetuity. On the contrary, nuclear dangers are common to all those who hold nuclear weapons.

Secondly, the collision also brings into the glare a reality that was known, but never openly confronted since the end of the Cold War: the fact that countries still maintain Cold War type nuclear vigil despite the substantial change in security environment. In fact, both the UK and France lay a lot of stress on the sea-based dimension of their nuclear deterrent and one submarine each from both sides remains at sea at all times. USA and Russia have not bucked their old habits either. Rather, nuclear deterrence remains at the heart of national security strategies of all nuclear weapon states. Current nuclear doctrines hold the weapons as "insurance" against uncertain future eventualities¹, thus investing them with a salience that inevitably enhances their attraction for others too. In the absence of a genuine movement towards universal elimination of nuclear weapons, non-proliferation cannot be sustainable.

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A third related issue that this incident draws attention to is the growing importance of the sea-based dimension of deterrence. It is well established that deployment of strategic weapons at sea meets the criterion of survivability much better than other options. And, survivability of the nuclear arsenal for nations desirous of building *credible* nuclear deterrence is critical. This is even more so in the case of countries that have a no first use nuclear doctrine in order to credibly convey to the adversary the message that assured punishment would follow his use of the nuclear weapon. Therefore, the trend towards sea based deterrence, and hence a certain increase in the number of SSBNs is understandable and inevitable. This is evident in the case of all states with nuclear weapons, as is briefly brought out in the following paragraphs. The United States being far ahead in this game, however, is excluded from this discussion.

The UK maintains only submarines for nuclear weapons delivery. The country, in fact, debated the very need and role of an independent British nuclear deterrent in 2006-07. Several, including from the Labour Party, argued against any such requirement and urged the government instead to fulfill its commitment towards nuclear disarmament under Article VI of the NPT. However, in October 2006, then Prime Minister Tony Blair, in a White Paper entitled "The Future of UK's Strategic Deterrent", underlined his government's belief that "an independent British nuclear deterrent is an essential part of our insurance against the uncertainties and risks of the future."² He stated in Parliament, "The government's judgment, on balance, is that though the Cold War is over, we cannot be certain in the decades ahead that a major nuclear threat to our strategic interest will not emerge." So, Blair reiterated the need for nuclear deterrence as a key "insurance policy in an uncertain world", inhabited by states like North Korea and Iran, and by non-state terrorist organizations.

Having settled the debate in favour of retention of the nuclear deterrent, the British Parliament then approved on 14 March 2007,

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France too, meanwhile, lays a great score by its nuclear-armed submarine fleet. Having dismantled its land-based nuclear missile silos in 1996, the French nuclear deterrent is now based only on a dyad of submarine and aircraft. While inaugurating a new generation nuclear submarine of the *Triumphant* class in March 2008, President Sarkozy had justified the need for his country's arsenal on the basis of the new range of threats, including from potential ICBMs from Iran.

the replacement of the country's submarine based nuclear deterrent since the existing SSBNs would become obsolete by the mid-2020s and it would take until then to design, build and deploy new versions. To placate the significant opposition to the need to replace the existing four Vanguard submarines and the Trident missile systems mounted on them, the government conceded the possibility of reducing the number of submarines from four to three, and the stockpiled warheads by 20 per cent from 200 or so to 160, in order to reduce potential replacement costs.

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Turning to Russia, it may only be highlighted that among some of the other major modernization efforts underway in the country's strategic capabilities, the launch of a new generation nuclear submarine in April 2007 stands out not only because it seeks to upgrade Russia's undersea nuclear strike force, but because it is for the first time in 17 years that the country has launched such a vessel.

China's strategic modernization too envisions the operationalization of a new class of SSBNs. Acknowledging the vulnerability of land-based missiles despite the best survivability measures, Admiral Liu Huaqing of the Chinese Navy had concluded before the start of the new millennium, "In the face of a large scale nuclear attack, only less than 10 per cent of the coastal launching silos will survive, whereas submarines armed with ballistic missiles can use the surface of the sea to protect and cover themselves, preserve the nuclear

offensive force and play a deterrent and containment role.⁴ Hence, the focus on sea based deterrence for greater survivability. The sea leg of the Chinese nuclear triad would credibly rest on Julang 2 (JL 2), a second generation SLBM that would be deployed on an indigenous Type 094 submarine that is expected to become operational by the end of this decade. One Xia class SSBN with 12 JL 1 missiles of 2150 kms range has been operational since 1988. But given its problems of high noise levels, radiation leaks and the ability to carry only SRBMs with single warhead, it has never been considered a viable second strike deterrent.⁵ New inductions are, therefore, considered critical for deterrence based on a counterstrike doctrine.

The Indian nuclear doctrine too indicates the country's aspiration for a triad. Given the security scenario in the neighbourhood, the eventual induction of the SLBMs is considered essential for a higher guarantee of survivability. For a peninsular nation like India, the vast seas around it do provide large areas where SSBNs could remain hidden for long periods of time to mount retaliation if and when necessary. In fact, credibility of a counterstrike is ensured once an adversary knows that a fully armed SSBN is out at sea. This reinforces the certainty of retaliation by making counterstrike almost automatic, in case the country has been attacked with nuclear weapons. The Indian Navy, therefore plans to have three SSBNs by 2015, of which one would be kept in reserve while two remain out at sea by rotation⁶.

The likely addition of operational SSBNs in the waters around India leads to some specific issues pertinent to the country and the region especially in the wake of the recent collision. One of the reasons being put forth for this accident is the lack of communication between France and NATO nations on the patrol areas of their submarines. NATO operates a traffic control system that alerts allied nations to the deployment zones of friendly submarines in order to avoid any accidents. There are certain operating areas reserved for American, British, Norwegian, Dutch and Canadian vessels and information is shared on their movements, including in areas other than designated as their own. This helps in averting mishaps. But, France is not part of NATO's military command structure and hence does not receive or provide information on the likely operating area or position of its submarines. In fact, France is slated to re-join the NATO command structure soon, but even at the time of expressing its desire to join the security grouping, it had mentioned that it would reserve the right

to share information on the movement of its SSBN fleet. That stand might call for a re-think after this incident.

The larger issue here, however, is of adequate communication between nations operating such capabilities, and a general understanding on rules and areas of operation. Is that practically possible? Within the security architecture of the kind that NATO is, it may be feasible. But why would nations otherwise offer to share information on the movement of their SSBNs since the primary purpose of this capability is to remain hidden and to evade detection? Not surprisingly, therefore, SSBNs (as also SSNs, conventional submarines as well as surface vessels) have bumped into each other in the past. In fact, a google search on collisions or near-collisions fetches up a frighteningly large list of such incidents, including between adversarial nations such as the USA and USSR during the Cold War and between China and the USA in more recent times.

Given that India and China will both have operational SSBNs conducting regular patrols within the next decade, how can such eventualities be avoided? In the case of these two nascent SSBN nations, it may be mentioned that the problems would be of a different nature and stature for three reasons. One, the technological capabilities of their sensors (sonars) to detect other vessels in the area could be much lesser than in the more advanced navies. Even in the case of the latter,

the technical capabilities of sonars have failed especially in situations where a submarine attempts to trail another covertly and collisions have taken place. Second, given the novelty of the SSBNs, the Indian and Chinese navies will want to build their information bank to familiarize themselves with the adversary capability. Therefore, it would be logical to assume that they would indulge in some trailing and snooping activities. The USSR and US routinely carried out such tasks during the Cold War years and did suffer collisions. For instance, in 1992 USS Baton Rouge made an attempt to trail a Russian Sierra class attack submarine and met with a collision. Other such incidents abound. Third, the Indian and Chinese SSBNs would be operating in a relatively constrained area of activity. The Bay of Bengal – Malacca Straits – South China Sea maritime space is an area "witness to dense fishing activity and shipping that is expected to rise from the current 60,000 vessels to 110,000 vessels by 2010".⁷ The far-reaching implications of an accident involving SSBNs in this region hardly need to be elaborated.

However, it must be equally pointed out that the risks for Indian and Chinese operational SSBNs would also be

However, it must be equally pointed out that the risks for Indian and Chinese operational SSBNs would also be reduced for the reason that both will be operating what may be termed 'first generation' nuclear submarines, which will not be as sophisticated (in terms of their stealth features) as those engaged in the recent collision.

reduced for the reason that both will be operating what may be termed 'first generation' nuclear submarines, which will not be as sophisticated (in terms of their stealth features) as those engaged in the recent collision. It has been surmised that the anti-sonar devices that hide submarines and which were on board the Vanguard and Le Triumphant were just "too effective" in concealing one from the other.

Indian and Chinese submarines would not have to contend with this liability of overly stealthy systems.

Nevertheless, it would do well to acknowledge that new dangers would accompany the new capability. In anticipation of these, and given that neither side could afford the loss of an SSBN to an accident – materially, politically, psychologically, or environmentally – it would be critical that both Navies

and nations develop some understanding of the challenges and potential dangers, and if possible, work out an agreement so as to avoid stepping on the other's newly painted nuclear toes. In this context it would be instructive to study the US-USSR bilateral "Agreement on the Prevention of Incidents on and Over the High Seas" or the INCSEA Agreement. Signed at the peak of the Cold War in 1972 and put into force a year later, it arose out a desire to prevent accidents and unnecessary loss of life. It would be prudent for India and China to arrive at some version of this.

One hurdle to such negotiations, of course, is the fact that China does not accept the need for undertaking any nuclear confidence building measures with India since it still does not acknowledge its nuclear weapons state status. This Chinese stance would most likely change once India acquires a more credible deterrence and the SSBN will be one manifestation of that. Yet, it will require some effort

by both sides to initiate and meaningfully conclude negotiations on the sensitive subject. India must take cognizance of these issues well in time, especially since the Chinese would have 'really' operational SSBNs before India gets its own out to sea.

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Therefore, to avoid, or at least minimize, the risks of unwanted and dangerous close encounters of the nuclear kind at sea certain steps must be taken. India and China could use their SSBN activity as a meaningful risk reduction measure and also as a means of building confidence between the two. The collision of the submarines far away in the Atlantic Ocean holds pointers for India and China and it would do well to consider them seriously.

Notes:

¹ For more on contemporary nuclear thinking and strategies see Manpreet Sethi, "Trends in Nuclear Weapons Thinking and Strategies", in Satish Kumar, ed., *India's National Security Annual Review 2007* (New Delhi: Knowledge World, 2007), pp. 305-329.

² Richard Cobbold, "Comment: A Debating Society", *RUSI Journal*, vol. 152, no. 1, February 2007.

³ Steven Erlanger, "Sarkozy Defends France's Nuclear Arsenal", *International Herald Tribune*, 21 March 2008.

⁴ As cited in J You, *The Armed Forces of China* (Canberra: Allen & Unwin, 1999), pp. 96-97.

⁵ For more on this see Lin Changshneg, "The Combat Power of China's Nuclear Submarine", as quoted in Andrew S Erickson, "China's Future Nuclear Submarine Force: Insights from Chinese Writings", *Naval War College Review*, Winter 2007.

⁶ Sandeep Unnithan, "The Secret Undersea Weapon", *India Today*, 28 Jan 2008, p.52.

⁷ Vijay Sakhujia, "Submarine Frenzy in Southeast Asia", *Asian Defence and Diplomacy*, July 2007. The author aptly describes this as the problem of "congested geography".



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