Appendix F: Potential Treaty Limitations on a Scientific Submarine in the Antarctic

As noted briefly in Chapter 4, there is potential scientific value in using a submarine to conduct oceanographic and geophysical research in the oceans surrounding Antarctica. Scientific studies, and exploration in general, of this region are scarce and have been historically hampered by the region’s remoteness and extreme weather conditions. The physical conditions in the seas surrounding Antarctica are in fact so hazardous that large areas are bathymetrically uncharted, and even the location of the continental margin is unknown in places. Operation of surface research vessels is often restricted to only a few months per year. While it would be feasible for a SSN 637-class submarine to operate in these waters, we have not considered the potential scientific benefits of Antarctic missions because of potential limitations associated with the Antarctic Treaty.

International activity in the Antarctic region is subject to the Antarctic Treaty and related law.¹ The Antarctic treaty, its regulatory measures, and subsequent international agreements on seals, fisheries, and conservation constitute what is informally called the Antarctic Treaty System. The Antarctic Treaty, signed in Washington, D.C., in 1959 by twelve countries including the United States, grew out of the political momentum of international scientific cooperation in Antarctica initiated by the United Nation’s International Geophysical Year of 1957–58. The Antarctic Treaty’s primary aims are to insure that the Antarctic continent is to be used solely for peaceful purposes, to promote international scientific cooperation in the area, and to stabilize the area politically by precluding actions for or against territorial claims. The Antarctic Treaty applies to the physical area south of 60°S latitude, known as the Antarctic Treaty Area, which includes all land areas and ice shelves. The Antarctic Treaty specifically prohibits activities of a military nature in the Area, except for military logistical support of open, non-military science and other peaceful purposes. The Antarctic Treaty and related law are restrictive in several ways as to the use of military hardware.

With respect to possible conduct of scientific activity using a nuclear-powered submarine, the Antarctic Treaty and its amended Consultative Measures constitute the principal, applicable international law distinctive to the Area. The Antarctic Treaty’s 12 original signatories and the many more acceding states that are active in the Area are termed Consultative Parties, who meet from time to time to recommend Measures in furtherance of the Treaty. As of 1998, there were a total of 27 Consultative Parties nations, consisting of Argentina, Australia, Belgium, Brazil, Bulgaria, Chile, China, Ecuador, Finland, France, Germany, India, Italy, Japan, the Republic of Korea, Netherlands, New Zealand, Norway, Peru, Poland, Russia, South Africa, Spain, Sweden, the United Kingdom, Uruguay, and the United States. Seventeen more states have acceded to the Treaty but are not Consultative Parties, and hence are non-voting members. The Consultative Measures are recommended by consensus and become

¹Many legal details in this section were elucidated for us in private communications by Gerald Schatz, to whom we are very grateful. Further details on the Antarctic Treaty can be found in his article in International Legal Materials, V. 35, No. 5 (Sept. 1996) p. 165.
binding upon unanimous approval by the states that were eligible to attend the Consultative Meeting that recommended them. The Antarctic Treaty has no secretariat, but the U.S. Department of State is the depository for the treaty documents, and does distribute information regarding it. There is no international organization to enforce the Antarctic Treaty per se, rather each signatory country must write and enforce its own laws to implement the treaties.

Of the original articles of the Antarctic Treaty, Article I explicitly prohibits the conduct of any military operations within the Area; however, the use of military personnel or equipment “for scientific or any other peaceful purpose” is explicitly allowed. In addition, Article V prohibits “all nuclear explosions in Antarctica and disposal of radioactive waste.” U.S. submarines do not discharge radioactive wastes at sea; hence, operation of a nuclear-powered submarine would not be directly prohibited by the treaty.

However, there exist several additional Measures that may have national security consequences for a U.S. Navy nuclear submarine operating in this region. To be specific, Article VII states that “all areas of Antarctica, including all stations, installations and equipment, and all ships...at points of discharging or embarking cargoes or personnel, shall be open at all times to inspection” by international observers. Under the Treaty, any of the Consultative Party nations may appoint observers which have complete freedom to inspect any region or equipment within the Area. Other articles and measures that pertain in this regard are:

- Article VII, paragraph 5, which requires “advance notice of all expeditions to and within the Antarctic Treaty Area on the part of its ships or nationals and....of any military personnel or equipment intended to be introduced into Antarctica.”

- Consultative Measure I-VI, which requires the international exchange of information regarding any military equipment to be introduced into Antarctica, including “names, types, numbers, description, and armaments of ships.”

- Consultative Measure I-XIII, which requires the international exchange of information regarding the “application of nuclear equipment and techniques in the Antarctic Treaty Area.”

The most direct effect of these regulations would be that putting to port within Antarctica proper would leave the submarine open to international inspection. In addition, open sea operation within the Antarctic Treaty Area would likely require a detailed disclosure of the submarine’s mission, equipment, personnel, and armament. These points could create a serious issue for submarine operations, since the U.S. Navy may view such inspections as a potential security risk. Similarly the disclosure of such information as technical or design specifications would need to be carefully considered.

Providing that SSN 686 would avoid putting to port in Antarctica proper, operations in the seas surrounding the continent could also pose similar issues, not only with regard to potential inspections, but also with respect to international consent. For example, the ice shelves (and the ocean and sea bottom beneath) are considered as land mass for the purposes of the Treaty, hence use of the submarine for ice draft surveying could potentially leave it open to inspection. In addition, even more complicated issues arise with regard to operation in the territorial seas surrounding Antarctica. Article VI of the Antarctic Treaty states that “nothing in the Treaty shall affect the rights, or exercise of the rights, of any state under international law with regard to the high seas within that area.” Hence, operations in
the surrounding oceans must make reference to the legal regime defined by the international treaties regarding the Law of the Sea (LoS). Unfortunately, this treaty itself is not entirely without ambiguity, specifically with regard to marine scientific activities.

A very useful discussion of the interaction between the Law of the Sea and the Antarctic Treaty is given by Oxman.\textsuperscript{2} The Third United Nations Convention on the Law of the Sea (1982) established a new legal regime for regulating maritime operations, which has for the most part been internationally accepted. In essence, this treaty established three different regulatory areas for the oceans: a Territorial Sea, which may be established by any government of a coastal state and extends from its land area into neighboring ocean out to a distance of 12 nautical miles; the Exclusive Economic Zone, which a government may establish out to a distance of 200 miles; and the “High Seas,” which are areas of the world’s oceans not included in either of the above. These three areas incur differing rights and responsibilities for both the coastal states and international maritime traffic within them. The Territorial Sea is, in effect, treated as part of the originating coastal state’s land area, and the state has complete authority to regulate marine activity, except for the “right of free passage” of innocent traffic. While navigation through an area is considered innocent passage, marine scientific research is specifically not categorized as such. Within the Exclusive Economic Zone, the limits of state authority are still somewhat disputed internationally,\textsuperscript{3} however, for the most part, high seas freedoms exist throughout, except that marine scientific research may be explicitly denied by the owning coastal state (and permission must be requested at least six months beforehand). Research operations within the high seas are for the most part unregulated, except for various environmental restrictions and a vague restriction that the “seas be used for peaceful purposes.”

With respect to operation of a nuclear-powered submarine within this legal regime, a principal question is whether the right to claim a Territorial Sea or Exclusive Economic Zone even exists in the Antarctic region. Various countries now assert claims to portions of Antarctica, and those states could potentially assert restrictions to operations within their own respective Territorial Sea and Exclusive Economic Zones; however, Oxman asserts that these individual claims likely could not hold up to international pressure. More acceptable from the viewpoint of international law would be a joint action on the part of all Consultative Parties in the Treaty Area to assert regulation. However, enforcing this jurisdiction in practice would require a collective action on the part of the Consultative Parties, an action that would likely require considerable time and effort from a negotiations standpoint. Additionally, such joint action would be bound by the Articles of the Antarctic Treaty, which freely permits scientific activity, under the restriction of disclosure and potential inspection. Oxman’s view is that the Antarctic Treaty indeed applies to a collective Territorial Sea and Exclusive Economic Zone, i.e. “in principal, the Treaty applies to areas of coastal state jurisdiction.” Therefore, if such joint action were achieved, the Consultative Parties could require onboard inspections of the submarine in both the Territorial Sea and Exclusive Economic Zone surrounding all of Antarctica.

An even more controversial point with regards to the general operation of a submarine would be its classification as either a civilian scientific mission or military survey mission. Under the LoS, civilian

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research vessels and military survey vessels are treated somewhat differently with regard to disclosure and right of passage. Civilian vessels conducting marine scientific research in either a Territorial Sea or Exclusive Economic Zone are required to request permission from the coastal state under authority to do so; and the latter may deny this. Generally, since 1983 the United States has requested permission from coastal states to perform civilian marine scientific research through its diplomatic channels. The case of military vessels conducting potential survey research is much more controversial, and in theory may be unlawful depending on the interpretation of the LoS by the individual coastal state. However, the United States has historically not asked permission for such activities by its military vessels, and in fact a variety of international disputes have arisen because of this. Within the Antarctic Treaty Area, the perception of the nuclear-powered submarine as a military research vessel could in fact be argued to violate the “peaceful purposes” measures, and result in joint action by the Consultative Parties to deny access.

It is important to note that most of the above restrictions with regard to the LoS carry over into ocean areas worldwide. In fact, without the guarantee of freedom of scientific research provided for by the Antarctic Treaty, the regulation of civilian research activities by the submarine in foreign Territorial Sea or Exclusive Economic Zone becomes even more restrictive. In such areas, LoS Article 249 allows coastal states the right to refuse access altogether or otherwise require participation by coastal state scientists, to have free access to any data generated by such activities, to provide assistance in interpreting collected data, and generally to allow the participation of the coastal state in the project. On the other hand, operation of the submarine in accordance with the historical precedence of U.S. military vessels would implicate its mission as being military in nature. While the application of LoS restrictions to research conducted by warships is controversial, the potential political ramifications of conducting marine survey research by military vessels are even more severe.

Although many legal aspects of operating a nuclear-powered submarine in the Antarctic Treaty Area could be debated, clearly the larger international political consequences of doing so should take precedence. A primary aim of the Antarctic Treaty has been to reconcile or sidestep altogether the complicated network of conflicting territorial claims in the Antarctic, which are potentially inflammatory. The operation of a nuclear-powered submarine in this region, as discussed above, could put to test some of these compromises. Obviously, it would not be in the best interest of the United States to perform purely scientific operations in a fashion that would precipitate international discord or distrust. A surprising number of potential controversies could be involved in the Antarctic region, deriving from such diverse sources as: any U.S.-New Zealand understanding concerning nuclear and naval issues; potential objections by Russia concerning introduction of a U.S. nuclear warship into the Antarctic Treaty Area; similar objections by third-world nations, particularly India; and reaction in the United States and abroad by Greenpeace and allied organizations.

Worldwide operation of the submarine in Territorial Sea or Exclusive Economic Zones has similar potential for political conflicts. According to Douglas Brubaker of the Fridtjof Nansen Institute, additional issues in these areas include: the international perception that the mission of the submarine

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5 Douglas Brubaker, private communication.
would be primarily military; the general controversy that arises whenever a nuclear-powered vessel comes to a foreign port and the special agreements required between parties; the issues of liability and compensation that arise because of a potential nuclear accident when operating in foreign territorial waters; and the fact that an SSN 637-class submarine could cause more than usual concern.

The extent of such concerns over the operations of a dedicated scientific submarine in the Antarctic could possibly lessen after several years of favorable international experience with operations in the Arctic. Nonetheless, in attempting to avoid potential complications, transparency of motives and mission objectives would be a prudent guideline for the Antarctic operations of SSN 686. Prior and full disclosure to the international community of equipment, crew, and operational plans, even to the extent of limited inspection, would do much to allay any potential controversy. The inclusion of scientists or scientific equipment from the international community on a routine basis may also reduce concerns from other nations. Whether or not this would create an unacceptable security risk to the U.S. Navy would then have to be considered as part of the potential risks and benefits of operating a nuclear-powered submarine for unclassified research throughout the world’s oceans.