Given the cost, a decision to buy nuclear submarines would possibly pre-empt follow-on purchases of the Canadian Patrol Frigate, including, perhaps, the cancellation of the programme after delivery of the first six. It would be a decision likely to produce considerable debate, however, since at best it might leave the Canadian navy in 1999, say, with 10 surface ships, four of which were at the end of their useful life — and six to ten submarines. An alternative, therefore, is to emphasize *passive* detection systems in the Canadian Arctic with stronger declaratory positions on the use of the waters of the Canadian archipelago. There seem to be few, if any, experts who disagree with the proposal that, given the relatively few navigable channels into the waters of the Canadian Arctic Archipelago, a passive acoustic surveillance system could be easily developed and quickly installed. It might also be supplemented by ice-penetrating sonar buoys dropped by aircraft. If passive detection under ice is feasible at relatively low cost, the need for ice-capable (i.e. nuclear) submarines would take a different turn: in effect, the requirement would be for active wartime engagement of Soviet SSNs and SSBNs, presumably in co-operation with the United States, and with the implication that Canadian nuclear submarines would reinforce the forward strategy of the US navy.

Alternatively, if the result of passive detection systems were to provide the Canadian Government with full knowledge of the use of the Canadian ice-covered waters by foreign submarines, the position of the Government would then be comparable to that of Sweden, which has been able to detect many encroachments in Swedish waters, but, for obvious reasons, has been unwilling to risk the international incidents that would follow if Swedish ASW forces were to destroy intruding submarines in their effort to force them to the surface. In this respect, however, the Canadian Government may have a stronger hand. There may be powerful reasons on all sides to put an end to the increasing use of the Canadian Arctic by military vessels. From the point of view of the United States, and as discussed in section III, reassurance that Soviet SSNs were neither patrolling within the Canadian Arctic waters armed with long-range SLCMs, nor transiting to the Atlantic, would be a valuable contribution to the US defence effort. It would be particularly so in time of crisis, when it would be especially important to know whether there was an increase in submarine traffic to stations from which SLCMs could be used. In exchange for this the United States would give up the use of Canadian Arctic waters for purposes of transit to the Polar Basin and hence the Norwegian and Greenland Seas.

Such a policy would, in effect, constitute the unilateral declaration of a 'peacetime submerged vessels keep-out zone' in the waters of the Canadian Arctic. As such, the success of the zone would lie in the perception on all sides that it was mutually valuable. Enforcement in time of crisis, however, would not be impossible. The mining of the channels could also