



DND photo ISD01-9632a by Master Corporal Brian Walsh.

HMCS *Preserver* enroute to the Arabian Gulf, 2001.

THE JOINT SUPPORT SHIP REVISITED

Over the past twenty-or-so years, the navy's Auxiliary Oiler Replenishment (AOR) ship replacement project has become, in some respects, the 'Rodney Dangerfield' of Canadian defence procurement. Renamed, repackaged, and re-imagined on occasions almost too numerous to count, and seemingly unable to generate the type of sustained, high-level political and other support necessary to actually put ships in the water on a timely basis, the AOR replacement effort has suffered the further indignity of near-invisibility on the country's political, media, and public radar screens. Admittedly, the limelight is not always a comfortable or desirable location—recall, for example, the disquieting political and media histrionics surrounding *Sea King* replacement and the abortive acquisition of the EH101 maritime helicopter in the early 1990s—but securing fewer column inches and media air time than a host of smaller capital projects might well be interpreted as a 'Dangerfieldesque' lack of respect for an important maritime capability.

The replacement of Canada's replenishment ships—originally a troika consisting of one *Provider*-class AOR (HMCS *Provider*, commissioned in 1963, decommissioned in 1998) and two newer and more capable *Protecteur*-class AORs (HMCS *Protecteur*, commissioned in 1969, and HMCS *Preserver*, commissioned in 1970)—has been a tortured process. In-house planning, late Cold War, envisaged their eventual replacement with three new AORs. The Senate Sub-

Committee on National Defence, which published the results of a comprehensive review of Canada's maritime defence in 1983, advocated many additions to the country's maritime force structure, but was content with 'one-for-one' replacement of the existing AORs. Both of the two major policy statements on defence published in the early post-Cold War period (i.e., the Mulroney statement of 1992 and the Chrétien white paper of 1994) took note of the radically altered geo-strategic environment, the changing nature of peacekeeping and related operations, and the need for a more versatile, multi-purpose Canadian defence establishment, but neither had much to say about future AOR (or sealift and related) requirements. The 1992 document, for example, noted that HMCS *Provider* would be decommissioned, but did not include AORs or related vessels in its inventory of future capital requirements (it *did* include a new fleet of corvettes and a new diving support ship). The 1994 white paper declared: "... [that] to maintain sufficient capability to sealift troops, equipment and supplies for multilateral operations, the support ship HMCS *Provider* (initially slated to be paid off in 1996), will be retained in service, and plans for the eventual replacement of the existing fleet will be considered."

The requirement for a more versatile ship, in essence, some form of hybrid incorporating both replenishment and sealift capabilities, had nevertheless been identified in a number of quarters. Several of the reports prepared by the academic community in the run-up to the 1994 white paper

broached this issue. In *Canada 21: Canada and Common Security in the Twenty-First Century*, for instance, the Canada 21 Council recommended that the existing AORs be replaced by "... three multi-role and replenishment ships for peace-keeping support." On the shipbuilding front, MIL Systems was fast off the mark with its proposed Multi-Role Aid and Support Ship (MASS), quickly followed by the larger and more versatile Strategic Multi-Role Aid and Replenishment Transport (SMART) ship. The firm's initial attention appeared to focus on a design that could replace *Provider* and supplement the newer *Protecteur* and *Preserver*.

Armed with the 1994 white paper's pledge to consider replacements for the existing AORs, the navy moved forward with the conceptual development of an Afloat Logistics and Sealift Capability (ALSC). A valuable insight into the navy's thinking, and a glimpse of 'potential solutions,' was provided by Lieutenant-Commander Bruce T. Irvine in a thought-provoking 1997 article in *Canadian Defence Quarterly*. Irvine noted that "... recent world events have effected a fundamental shift in naval operations from protection of 'Sea Lines of Communication' and large-scale operations to participation in combined and joint operations of limited scope. This has resulted in a more balanced naval emphasis on underway support, support to forces ashore and sealift to meet the needs of the Canadian Forces." The navy consequently envisaged "... a hybrid ship, combining the features of a tanker with those of a roll-on/roll-off (RO/RO) ferry," to meet five main roles: (a) underway support to naval forces at sea; (b) in-theatre support to joint forces ashore; (c) sealift; (d) humanitarian operations; and (e) sovereignty enforcement and surveillance. This "innovative concept," posited Irvine, would be consistent with the objectives and priorities of the 1994 white paper and "... [would] provide a platform with an inherent flexibility to respond to a broad range of military or humanitarian taskings. Operating costs would be lower than for the existing fleet of AORs due to the reduced crew size and improved fuel efficiency, while a combination of intelligently applied commercial standards, project management and support requirement techniques and careful trade-off analyses would contribute to controlling acquisition costs."

The fortunes of the ALSC ship, later rechristened the Joint Support Ship (JSS), waxed and waned in the following years. At some junctures, up to four ships, replete with floodable docking wells, were envisaged; at others, capability walk-backs (i.e., reductions in lane-meters of deck space) were the order of the day. Internal and external debate continued throughout, not so much over the need for replenishment and sealift capabilities, but over the best means of quantifying and meeting those requirements. To its proponents, the JSS was a cost-effective means of meeting Canada's diverse military and other needs in a geo-strategic environment made even more complex and less predictable by the events of 9/11. The design was indeed innovative, but had not Canada's navy triumphed with earlier innovations, including the operation of large maritime helicopters from comparatively small warships, and the concept of 'one-stop' AOR-style replenishment? The JSS, they added, would reduce Canada's reliance upon chartered commercial vessels, concomitantly reducing the poten-

tial for future *Katie*-style embarrassments. They also wondered if a hybrid design was the only way to secure the renewal of Canada's replenishment-at-sea capability. Would a naval request for standard or essentially standard AORs not stoke political fears that the navy had reverted to Cold War and Battle of the Atlantic-type scenarios?

The critics of the JSS pointed to the painful design trade-offs inherent in a hybrid vessel and wondered, more to the point, if the resulting ship would deliver the worst of both worlds—that is, a mediocre replenishment capability and a sealifter confined to tactically dubious off-loads of comparatively small penny packets of army vehicles and equipment. Would not all of the Joint Support Ships be simultaneously required in-theatre to generate worthwhile sealift capacity? Far better, they suggested, would be a mixed fleet of perhaps two AOR/AOR+ vessels optimized for the replenishment role and at least one—and preferably two—vessels optimized for the sealift, support to forces ashore and related roles. There was no real consensus on what form the latter type might take. While some analysts touted through-deck LHD (Landing Helicopter Dock) type vessels (later exemplified by Spain's *Juan Carlos I* and Australia's Canberra-class), others preferred something akin to the USN's *San Antonio*-class LPD (Landing Platform Dock) or—more modestly—the Dutch *Rotterdam*-class LPD or the *British Bay*-class Large Auxiliary Landing Ship. Others argued that the new AOR/AOR+-type ships needed only to be supplemented, as required, by chartered commercial vessels. Yet another option favoured supplementing two JSS-type ships with two naval sealifters—type to be determined.



Standing NATO Maritime Group ships sailing in formation, June 2006. FGS *Berlin* is at extreme rear.

DND photo SL2006-0082-37 by Master Corporal Charis Barber

After further debate and analysis, the JSS project was finally ‘greenlighted’ by the Martin government in 2004. It fell to the newly-elected Harper government, however, to more formally launch (or perhaps re-launch) the project as an integral part of a military mobility package unveiled in June of 2006. As envisaged at that time, the JSS would provide underway support to naval forces at sea (including fuel, food, spares and ammunition, and medical, dental and repair facilities), support for forces operating shore (i.e., by providing a Joint Task Force Headquarters), and sealift (with both roll-on/roll-off and lift-on/lift-off capabilities). The ships would include “... a covered multi-purpose deck space for vehicles and containers with space for additional containers on the upper decks,” and be able to operate in first-year Arctic ice up to 0.7 metres thick. The overall JSS project cost was pegged at \$2.9 billion, with a ‘base cost’ \$2.1 billion for three ships, and an estimated \$800 million in contracted in-service support over 20 years. After competitive bidding, two consortia (ThyssenKrupp Marine Systems and SNC-Lavalin Profac) received contracts for the project definition phase.

In an August 2008 ‘bombshell’—in retrospect, perhaps not all that much of a bombshell—Ottawa terminated the process, noting that the two industry proposals were not compliant with the basic terms of the Request for Proposals. Among other compliance failures, “... both bids were significantly over the established budget provisions.” Subsequent reports indicated that one bidder had offered to build two ships for the available funding while the other had offered three, but at a cost significantly higher than the budget provisions. Still further review was followed by the July 2010 decision to relaunch the JSS project in modified form. The project now includes two ships, with an option to acquire a third, and a revised set of capabilities that includes underway support to naval task groups, the ability to deliver a “limited” amount of cargo ashore, and space and weight allocations for “... the potential future inclusion of a limited joint task force headquarters for command and control of forces deployed ashore.” Truly detailed information on the capability ‘walk-backs’ has yet to reach the public domain, but it is apparent that the 2006 version of the JSS, let alone some earlier versions, has now morphed into some form of AOR+. Indeed, one could challenge the retention of the JSS acronym for these ships. Total project cost was pegged at \$2.6 billion in the July 2010 statement, but no breakdown was provided. Both new (i.e., in-house) and existing designs will be examined.

Subsequently, an October 2010 Advance Contract Award Notice (ACAN) announced Ottawa’s intention “... to award two separate contracts, one to ThyssenKrupp Marine Systems Canada Inc. (TKMS) and the other to Navantia, S.A. (Navantia), to conduct risk reduction studies to ascertain the feasibility of adapting these designs to meet Canadian requirements, to provide the historical cost of building these ships,

and to deliver a proposal for the development of suitable modifications to their respective designs and the delivery of a data package for use by a Canadian shipyard to build the ships, a technology transfer agreement and the right for Canada to use the design and all data for the construction, use and in-service support of these ships.” The ACAN further indicated that “... if one of these designs is selected for the JSS, Canada will amend the contract with that designer to implement its proposal.”



The German tanker FGS *Berlin* refuels HMCS *Athabaskan* in June 2006.

DND photo SL2006-0081-31 by Master Corporal Charles Barber

Commissioned in 2001 and 2002, respectively, the first two ships of the *Berlin*-class (i.e., *Berlin* and *Frankfurt am Main*) are essentially AORs but incorporate a number of additional features. These include a crane, deck space and utilities to support a substantial (and removable) containerized medical facility as well as a crane and deck space for shipping containers. Now under construction, the third ship of the class, the *Bonn*, incorporates lessons learned from a decade of experience with her sister ships, including the humanitarian support provided by the *Berlin* following the 2005 tsunami in Southeast Asia. As such, the *Bonn* incorporates a substantially enlarged superstructure, davit-mounted landing craft and other enhancements. Spain’s *Cantabria*-class AOR, commissioned in 2010, is essentially an enlarged, improved and more versatile version of the somewhat smaller *Patino*-class AOR that entered service in 1995. The *Cantabria* carries two RIBs and an array of pollution containment and dispersant equipment, as well as offering sufficient deck space for 20 containers. Jointly developed by Spain and the Netherlands (which operates one similar *Amsterdam*-class vessel), the *Patino* incorporated some multi-role features, including additional accommodation for special forces personnel.

The fact that DND’s search for modern fleet replenishment vessels suitable for adaptation turned up only two candidates in the navies of NATO allies is not surprising but it is instructive. In part, it reflects the longstanding reality that navies would much prefer to expend valuable fiscal resources on major (and often minor) surface combatants and subma-

rines than on comparatively mundane replenishment vessels. The latter, consequently, often soldier on for extended periods of time. The peace dividend of the immediate post-Cold War era, and the steep reductions in defence spending prompted by the current recession, have served to reinforce this predisposition. In other cases, NATO navies have opted for replenishment vessels that are incompatible with the long-standing Canadian approach, either acquiring vessels too small and short-legged for Canadian requirements, or acquiring specialized oilers and specialized stores ships.

paratively modest resources on its replenishment fleet—the 1986-vintage *Success*, based on the French *Durance*-class AOR, and now being double-hulled in Singapore, and the 2006-vintage *Sirius*, a conversion of a commercial tanker—but it has spared no expense on the acquisition of two very capable *Canberra*-class LHDs from Navantia. Even Germany, which has pursued the AOR/AOR+ path with more persistence than most countries, remains strongly interested in the acquisition of one or more large multi-role amphibious ships (i.e., the *Mehrzweckesinsatzschiff*).

Photo courtesy of Navantia



The Navantia Spanish Combat Support Ship.

Ottawa’s decision to move forward with at least two AOR+ vessels is most welcome in that it will resuscitate Canada’s core underway replenishment capability—a capability that is crucial to naval operations both overseas and in waters closer to home—but one cannot help but be troubled by the steady slippage in schedule, the lack of specificity on cost (at this rate, critics could soon be targeting the perceived “billion dollar oilers”), the potential impact of the National Shipbuilding Procurement Strategy, the uncertainty surrounding the third vessel (Canada’s track record on taking up options on military hardware is not good), and the watering down of the sealift, support to joint forces ashore, and related capabilities of the new ships. Given that the latter are relevant to a broad range of military, quasi-military and non-military contingencies, both at home and

Another international trend—a potentially embarrassing trend, given that Canada spent the better part of two decades trying to develop a genuine joint support ship, only to return to a comparatively modest AOR+—has been the diversion of attention from replenishment vessels to what are seen as more relevant, or more urgently required, vessels. The Dutch, for example, have opted to replace their oldest AOR, the 1975-vintage *Zuiderkruis*, not with an AOR or an AOR+ but with their own Joint Support Ship (i.e., the *Karel Doorman*). The latter, notes its builder, Damen, “...has the facilities for loading and unloading operations of materiel and goods in harbors, near the shore or at open sea, two Replenishment at Sea masts, a deck crane, a roll-on/roll-off facility for vehicles and a steel beach stern construction for accommodating cargo transfer via landing craft.” The *Karel Doorman* additionally offers “... 2000 lane metres for transport of materiel, a helicopter deck with landing spots for operating two [*Chinooks*], and a hangar with a storage capacity of up to [six] helicopters.” Dominated by a large flight deck, the Dutch Joint Support Ship should not be confused in design or *raison d’être* with its Canadian namesake, but will clearly be a most capable ship, particularly when operating in company with one or both of the Dutch *Rotterdam*-class LPDs. Also intriguing is the Australian experience. Currently in the midst of a large-scale naval modernization programme, Australia has been expending com-

abroad, it is sobering to note the extent of the gap between the Canadian Navy and the Dutch, Australian, and other ‘benchmarkable’ navies. Taking up the option on the third ship could be a step in the right direction, but perhaps that third ship should be a Joint Support Ship, Dutch-style.



HMCS *Preserver* passes the Rock of Gibraltar on the way to the Arabian Sea, October 2001.

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