



6/6/2014



# Value Proposition and NSPS

*A Canadian Success Story?*



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## *A Canadian Success Story?*

The NSPS program has been proclaimed as a breakthrough for the future of shipbuilding in Canada. I heartedly agree. Shipbuilding in Canada has for many years suffered from the boom and bust cycle, forcing every shipyard to compete for every Government of Canada program with no certainty of success and not allowing shipbuilding companies to provide the investment required to become competitive and thus remain relevant internationally as well as domestically. Protecting the Canadian shipyards and their expertise allows them the stability needed to retain the skillsets in Canada, protecting the Canadian Governments fleets source of supply and sovereignty over such. Admirable goal and what appears at this point to be a program that should accomplish this for the shipyards and thus Canada. But what about all those other industries that support the Government fleet- Navy and Coast Guard? It is obvious that

they will be needed during the NSPS fleet renewal. There should be significant work in every area of expertise- so why should I ask ?

Let's go back in time a little when IRBs were IRBs and were not yet renamed and refocused into ITB's or value propositions, before KICs were proposed by Emerson or Jenkins. In 1983 the last Canadian naval shipbuilding contract for the Canadian Patrol Frigates Program (CPF) was signed. Saint John Shipbuilding Ltd (SJSL) (the jewel in Irving Shipbuilding at the time but since closed due to pre NSPS uncertainty) as the prime contractor was entrusted under the fleet renewal of the time to design and build 6 (later increased to 12) frigates. As part of that program CANADA (not just DND) required some brave new technologies be produced to catapult the RCN into the forefront of the current day naval capabilities. Canada had set their sights on a level of integration and fault tolerance not yet seen in Naval systems. All required Local Area Networks (LANs) of some degree. LANs at the time were bleeding edge- the first reported commercial LAN was in fact installed in 1977 in the Chase Manhattan Bank. This LAN was solely used to access common data base and printers from multiple terminals. In the US the Mitre Corporation was investigating the use of a multiple-bus local area network architecture for making tactical command and control systems more survivable and had developed an experimental survivable network, SURVNET. A paper was published on such at the Military Communications Conference held in October 1983.

Canada's ambitions were higher- the Shipboard Integrated (SHIN) systems- SHINCOM- Integrated Communications, SHINMACS- Integrated



Canadian Patrol Frigate (HMCS St. John's)

Machinery Control and SHINPADS- Integrated processing and Display systems were all specified to be developed in Canada to not only share information but control significant systems while providing increased decision aids to the naval operators as well as providing the survivability that was only being studied elsewhere. The gestation of some of these had come from Canadian Government personnel in various internally funded projects in the mid to late 1970's. In fact SHINPADS technology was exported even before it was used in a Canadian system (by Sperry now LM). The US Airborne Command and Control System (ACCS) and the Marine Air Traffic Control and Landing System (MATCAL) were the first systems fielded with this revolutionary redundant and distributed computer architecture. Remember that in 1983 military processors were just being passed by the commercial desktop in performance. IBMs XT just hit the market in March 1983 (a blast from the past for the older crowd) and the TCP/IP standard was just introduced. The ARPANET was just being used for civilian research programs (forerunner to the internet. (The world wide web did not open for business until 1991)

These systems were not only developed for the CPF program but many saw significant commercial success outside of it. L-3 MAPPS with SHINMACS (currently branded IPMS) and DRS with SHINCOM have carved out international markets and have for some time. Although the SHINPADS concept was Canadian by birth, significant technology transfer from the US was necessary on the CPF program to ensure the idea became reality, to bring it fully into production. Other technologies have also come from the Canadian Patrol Frigate program- from IR suppression and prediction (Davis

engineering) to hanger doors and helo hauldowns (DAF INDALL). The CPF program advanced many Canadian Technologies and companies into the limelight.

This Naval technology timeline is a continuum. The Halifax Class Modernization/ Frigate Life Extension (HCM/FELEX) program embraces the technologies from the CPF program with obvious modernizations- upgrade to the proprietary LANs to embrace open standards as well as COTS equipment with increased modernized functionalities. DRS Shincom, L3MAPPS IPMS, LMC modernized SHINPADS now CMS330 have all been brought forward into HCM. Other Canadian naval technologies have also become obvious as well- OSI since CPF has captured a world market in Navigation and electronic chart systems , IBM Canada has benefitted from a technology transfer of Data Link technology and now holds a product mandate for export of Multi Link systems with a significant multi link lab in Canada, Infield Scientific has become internationally recognized as Naval Electromagnetic Environment experts, and CAE Long established and known for flight training systems has established itself in the Naval training market as well with their recent Naval Warfare Training System contract in Sweden.

I am proud to say that the SHINPADS legacy held by the company I work for (LM Canada) has recently achieved some modicum of international success as the new variant (CMS 330) is part of the recent contract signing (April 29, 2014) with the RNZN to upgrade two of their frigates. This is a success for LM Canada but there are other Canadian companies benefitting as well: IBM Canada's Multi link, Infield Scientific's EME expertise are also part of the program. It is likely that the option for

DRS Canada's Shincom will be taken up . and due to the confidence placed in SEASPAN by the NSPS and FELEX programs the refits will likely occur in Victoria at VicShips, a Canadian Shipyard export.

These have all been originated under the previous IRB mandates. The new ITB / value proposition approach should be seen as a fall out of the Jenkins and Emerson reports. They will and should impact all NSPS programs going forward:

1. Identify the Key Industrial capabilities
2. Protect the capabilities in country
3. Define the new areas of technology needed by Canada in areas of concern to sovereignty
4. Use the ITB/value prop program as part of NSPS to focus on such.

Number 2 above can be interpreted to conflict with the "compete at all cost" mentality that has crept into many Canadian procurement decisions.

Remember my first sentiments about the NSPS program:

" Shipbuilding in Canada has for many years suffered from the boom and bust cycle not allowing shipbuilding companies to provide the investment required to become competitive and thus remain relevant internationally as well as domestically. Protecting the Canadian shipyards, their expertise and allowing them the stability needed to retain the skillsets also protects the Canadian Governments fleets source of supply and sovereignty over such."

Lets replace” shipbuilding” with defence, in particular **naval defence industry** :

“**Naval defence industry** in Canada has for many years suffered from the boom and bust cycle not allowing **naval defence industry** companies to provide the investment required to remain competitive and thus remain relevant internationally as well as domestically. Protecting the **naval defence industry**, their expertise and allowing them the stability needed to retain the skillsets also protects the Canadian Government’s fleets source of supply and sovereignty over such.”

This sentiment has been heard in the bazaars of industry over the past years. Not because they are afraid to compete but because many offshore companies do benefit from Government subsidies and protection that can place Canadian defence industry companies at a disadvantage internationally and in many cases domestically. Canadian procurement policies have been that competition is the only value proposition that returns benefits to the taxpayer. Any advantage inherent in being Canadian must be dismissed to level the playing field to ensure there is a competition. It does beg a couple of questions:

**“Should the Canadian investment in the currently existing KICs , the technologies that current Canadian companies have sustained from various IRB programs , be recognized/ protected instead of simply providing the right to compete?”**

**And**

**“How do we (Canada) ensure that the teaming constructs that industry has put or is putting into place currently to prepare for NSPS programs will honour such and at least allow the current KICs to compete?”**