



# NEWS

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## DDH-280 Sea Sparrow Trials

By Pat Barnhouse

Our 2018 interview with retired **Captain(N) Norm Smyth** revisited his time as trials director for the testing and evaluation of the Sea Sparrow missile system fitted in the four DDH-280 ships in the early 1970s. The following excerpts from the interview have been abridged and edited:

“What existed in the world at that time was basically an air-to-air missile that was adapted for a surface-to-air role by the US Navy. Reloading the four-, or eight-cell box launcher was a time-consuming operation that took hours, and Canada wanted a faster response system for the Raytheon missile and launcher. Raytheon Canada developed a unique launcher concept that could reload in a minute. It entailed a fairly large enclosure at the front end of the ship to house a pair of four-missile launchers that could emerge port and starboard on a rotating arm to launch missiles in the direction of the intercept point. The missiles could fly around a corner if the intercept point was beyond the arc of motion of the launcher, up to something like 45 degrees, so if a target was coming in from somewhere ahead, both launchers could engage simultaneously. If the target was coming in from abeam or abaft the beam, that side's launcher could engage. With the box launcher, you'd need a couple of boxes fore and aft to cover this off...”

“Running a missile launcher project is pretty straightforward – you get smart, you develop a relationship with industry, and you do your thing. But when, all of a sudden, the equipment is turned over to the Navy, you have to look around for the talent to evaluate it. What saved the day for us was a bunch of can-do people at Defence Research Establishment Suffield who we engaged to do blast trials on the DDH-280. When we launched these missiles, we needed to know what effect the rocket motors would have on the



DND image of a fully loaded DDH-280 Sea Sparrow missile launcher from the documentary film, *Sisters of the Space Age*.

structure of the ship, and on the launchers themselves, and what would happen if a missile got locked up and never released. We also had to figure out how we were going to test that the electromagnetic radiation we were providing as a rear reference signal for the missile was in fact getting out to 20,000-30,000 yards from the ship...

“We ended up running a year-long technical evaluation program that could not have occurred without the instrumentation that the guys at Suffield designed for us, nor without the willingness of those people to help our engineers develop a trials program. Industry had done their part in delivering the launcher system, and now we needed to kick the hell out of it and understand it. It was a very complicated system, and we had to make sure that the fire-control radar was working to the extent of its capability, that the illuminations were getting out there, that the missile was responding, that the launcher was tracking, that the computations for the intercept point were correct – everything. At the end of the day we had fantastic success with HMCS *Athabaskan* on the missile range at Puerto Rico, and it astounded all of us how well the system performed.”



HMCS *Athabaskan* on the missile range.