

## **ROYAL REEF RUNNERS – BETTER LIVING THROUGH CHEMISTRY - Don Greer BT3 (BTC ret.) and Mike Haloski BT3 (BT-1 ret.)**

When the FRANK KNOX ran aground the morning of 18 July 1965 Mike Haloski was on watch, his relief was late and just entering the after fireroom when the ship started running onto the reef. The initial shock was the sonar dome sheering off, then the bow began riding on the reef, up to 130 feet, before stopping. Haloski recalls it was “smooth going on the reef.” Greer was sleeping in after berthing, near the very back of the ship. The ship had stopped. There was an eerie silence. “I got dressed and went up to the forward fireroom where I stood watch the night before. The captain ordered all hands to their duty stations.”

Over the next few days, the ship began to flood forcing the engineers to abandon the forward engineering spaces and boilers 1 and 2. Engineering staff focused on boilers 3 and 4 and the after-engineering spaces. If boiler 3's leak could be sealed it could be kept in reserve. Boiler 4, already compromised with sea water contamination, was ordered to provide steam for ship's power and electrical generation. Greer explains, “Normally at sea we would blow down and empty the mud drum in a boiler once a day. The buildup in the mud drum of the boiler 4 now required a hard blow down every watch, six times a day.”

Boiler water chemistry is a balancing equation. When salt water is present a white “boiler compound. Must be mixed in a flask, the flask attached to the boiler feed water to reduce salt accumulation. The PH of the boiler feed needs to be in a range of 7-7.4ph recalls Greer. Water quality was monitored by the ship's Water King, a second-class petty officer. The KNOX did not have any Ph sensors. A water sample was taken regularly and tested in the ship's lab. ‘ Big Mike “ Haloski recalled mixing so much boiler compound “it seems like I was mixing compound every time I turned around. When we opened the number 4 boiler in the shipyard there was boiler compound everywhere, all the way up to here” he gestured. Greer and Haloski and other BT's kept number 4 boiler alive until a new assignment required them to mix new chemicals. “Around 4 August materials for mixing experimental foam arrived at the FRANK KNOX. Salvage personnel tested a foam made of resin, catalyst and Freon bubbles. When the mixed foam was sprayed into water filled spaces it expanded and squeezed water out of the space, adding strength to the space as well. The hardened foam provided a buoyancy ration of 10 to 1.

When materials were brought to the FRANK KNOX, it was placed near the ship's torpedo tubes, between number 1 and 2 stacks, on the O1 level a popular sleeping area in fair weather. Greer, Haloski and two others were instructed to use the equipment and materials. Six-hundred-pound flasks were filled, one with resin the other with catalyst. Freon was added to the resin and catalyst in each flask. Then each flask was hand rolled for 30 minutes to ensure absorption of the Freon with the liquids. Flasks were paired then charged with nitrogen, a propellant, and ready for use. Each 1000 pounds of material would displace around 10 tons of water. Greer, Haloski and two others worked separate 6-hour shifts. They mixed 152 pairs of flasks equal to 76 tons

of foam from the raw material. Divers and salvage personnel applied the foam using Alamite spray gun nozzles connected by hose to the tanks. Foam was applied to spaces up to the last day sealing and reinforcing the strength of the ship. The Urofroth foam and catalyst arrived on the KNOX in 55-gallon drums. Catalyst and foam was scooped into separate flasks, topped with freon, sealed and moved in pairs to hoses with nitrogen propellant. Greer and Haloski recall the foam smelled "Like AFFF", (Aqueous Film Forming Foam used in petroleum firefighting). "It was sticky, and we made a mess of the 01 level." The popular fair-weather sleeping area was abandoned.

After, six plus hours of mixing foam Greer would eat the evening meal, trying to get to the food while it was still warm. After meals he would assist in other areas to help the short-handed crew. Sleeping in the 100-degree heat on the reef was difficult. Greer would get up around midnight and sit with the ship's corpsman (medical) who was assigned monitoring on the cables attached to tugs or beach gear anchors. The tension on these cables needed to stay within limits; a braking cable could easily kill or seriously injure several shipmates. Greer spent the hours midnight to first light keeping the corpsman company and recording tension readings. Greer says everyone filled in to assist or replace someone called away for other work.

During the period of greatest buffeting by the Typhoon Gilda Greer and other engineers were issued survival knives, a life preserver, and a water repellent flashlight. The great concern was the KNOX would split in two sections, forcing the engineers into the ocean near the reef. Greer always carried his knife and survival gear. He still has the knife and flashlight. The life preserver was for Greer, the light for recognition at night in the water. "The knife was for sharks", recalls Greer.

The life preserver was also a pillow substitute. Sleeping compartments forward and aft were flooded and uncomfortably moist to sleep in. Temperatures on the reef during typhoon season were near 100 degrees. Bob Harp, an electrician's mate, said you had to be near dead to sleep in a compartment. The best choice was outside during clear weather, on the 01 level or aft on the helicopter deck above the after-gun mount. During frequent storms, sleeping was best inside in open areas like the mess decks. Messengers, looking for the next watch to wake, had to know where to find each watch stander.

The reopening of the ship's store, selling cigarettes and candy lifted spirits. Another lift came when each man was offered a "holiday" on one of the large support ships. The "holiday" included two nights aboard included freshwater showers, clean sheets and a proper bunk, regular hot meals, dessert, laundry and uninterrupted rest. There was no fresh water for showers, or hot water, on the grounded destroyer. After two days you returned to the KNOX by boat or helicopter. Most men received two holidays during 38 days on the reef.

Swim call during calm weather allowed experienced swimmers a chance to swim in the ocean off the stern of the KNOX. An armed shark watch was always set. Greer did

not join swim call. I wasn't a strong swimmer, so I passed on swim call," he recalled. Why jump off a perfectly good ship to swim with sharks was a thought shared by many Royal Reef Runners.