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**KKMI**  
**HENRI AMEL**  
**SOFT WING SAILS**  
**ACCELERATIONS, Part 1**



# KKMI: The Business of Clean

In its two successful service yards on San Francisco Bay, a company meets the challenging standards of California's tough regulatory climate.

## Text and photographs by Aaron Porter

**Above**—To meet KKMI's strict environmental protocols, old paint must be removed from a boat's bottom with vacuum sanders in a temporary shelter, and when applying new paint (shown here) crew are required to wear a respirator and a full Tyvek suit.

Increasingly strict environmental and safety regulations come close behind fires, hurricanes, and luxury taxes in the list of worries that keep boat builders and yard operators up at night—and for good reason. In the last three decades, amended air-quality regulations in most North American and European jurisdictions have required fundamental changes to construction methods and shop practices for builders in materials from wood or

steel to advanced composites, and have limited the options for boat propulsion in some places. During the same period, rules to safeguard water quality have reduced the active ingredients in antifouling paint, restricted the areas black and gray water may be discharged, and demanded containment and treatment of yard runoff from pressure washing and rain. More relaxed environmental and safety standards in developing countries are



Due in part to the 25' (7.6m) dredged depth along much of KKMI's Point Richmond waterfront, the company got an early reputation as a service yard for large racing sailboats and other deep-draft vessels when the facility opened in 1996.

cited as determining factors in the relocation of some large boat manufacturers to South Africa and China, or the out-sourcing of construction and maintenance to yards in Central and South America.

Boatbuilders and materials suppliers in the U.S. complain that pending regulatory actions at state and federal levels leave them uncertain what standards they will have to meet in just a few years. They tend to look to California as the best indicator of the future regulatory landscape, and more often than not, they don't like what they see.

In 1988, California was the first state to impose tighter air-quality regulations (see *Professional BoatBuilder* No. 25, page 8) with Rule 1162, which drove composite boatbuilders in many states to explore low-styrene resins, elimination of acetone as a solvent, limited spraying, and adoption of closed-molding techniques. More recently, service yards and paint manufacturers everywhere have been scrambling for alternatives as they face the threat of a ban on copper antifouling paint in California waters that is bound to be copied in other jurisdictions (Washington State is already pursuing similar legislation). Other concerns about water quality include meeting regulations by various state and regional Water Resource Control Boards over storm-water runoff, as well as satisfying hazardous-waste-disposal requirements and strict workplace health and safety standards. The practicality and efficacy of specific regulations aside, accepted industry wisdom says you don't want to have to do business

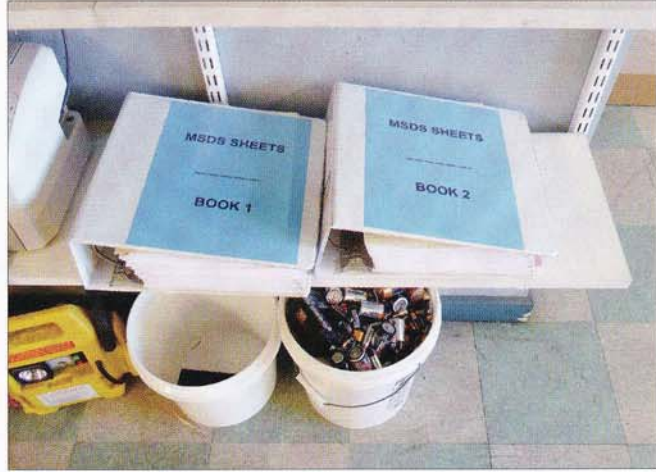
under California rules.

Contrary to that attitude, Keefe Kaplan Maritime Inc. (KKMI) studied the state's regulatory climate, embraced it, and became a thriving San Francisco Bay Area business. In May 2012, I visited its service yards in Sausalito and Point Richmond to take a closer look.

KKMI's yards seemed familiar enough: Travelifts, building sheds, shrouded paint bays, old engines, rigs, keels, a crane, jackstands, metal shop, wood shop, office, crew bustling about on myriad jobs. But I saw something that's not common. Workers stopped often to pluck things from the ground—old tie wraps, cotter pins, bits of tape and plastic, all the detritus of repairwork—and they dropped them in the many waste barrels on-site. Picking up litter might not seem like a major breakthrough in running a clean boatyard, but I'd never seen it done so naturally and universally in any other yard I've visited, and it's just one of many measures, small and large, KKMI has taken to meet the letter and spirit of federal and state environmental regulations since opening the 6-acre (2.4-hectare) Point Richmond yard in May 1996.

*Translucent walls and roof allow natural light in this paint room, where spars from the 1920s-vintage Bird Boat-class sloop Kookaburra are being varnished.*





Proper disposal of all materials and recycling where possible are standard practices at KKMI. **Left**—Paint cans and lids are allowed to dry before being compacted and sent for recycling. **Right**—Plastic buckets in the yard store collect the spent batteries that workers come in to replace. Just inside the doors, also note the binders of MSDS (material safety data sheets) for all potentially harmful substances stocked in the store.

## Creating KKMI

"I always thought I was going to be involved in marine sciences," said co-owner Paul Kaplan as we toured the Point Richmond facility. He recalled sailing to the Galápagos with *Sail and Inc.* magazine founder Bernie Goldhirsh, who told the young Kaplan a career in marine biology would mean living "grant to grant." After a detour into yacht brokerage in the early '70s (KKMI still represents Nautor's Swan on the West Coast) and

a lucrative business career in San Francisco, he has returned to his undergraduate interests, except now his water- and air-quality studies are good business as well as good science.

While reviewing the bafflingly complex regulations for boatyards, Kaplan realized the risk that noncompliance posed to any marine business. He also saw how easy it would be to think you were operating in compliance with provisions of, say, the Federal Clean Water Act, but in the absence of adequate inspectors to monitor all the permits in the bay, to find yourself subject to crippling fines and corrective actions if a violation were discovered. And discovery is becoming more likely.

"We were such a small industry that no one was worried about

us. Now, 40 years after the Clean Water Act we are being subjected to what other businesses were decades ago," Kaplan said. In light of that history, KKMI's policy is that the company is ultimately responsible for ensuring compliance with all regulations, and it is bad business to do otherwise.

Kaplan and business partner Ken Keefe, an accomplished sailor and yacht broker, were looking for a yard in the mid-1990s when the Point Richmond property became available. It was home to the smaller Sanford-Wood boatyard then. They were relieved to find no legacy of a toxic late-Victorian industry, since the industrial site had been around only since WWII—when the Santa Fe Channel was dredged out to 25' (7.6m) to accommodate the victory ships built in the Kaiser Shipyards.

The dredged water depth quickly pigeonholed the yard as a big-boat facility. When it hosted five maxis during the September 1996 big-boat race series on San Francisco Bay, the reputation became even more ingrained. More big-boat action came as Oracle Racing ramped up its Golden Gate Yacht Club-based challenge for the 2002 *America's Cup*, and in 2003 the yard hosted *USA 76* (see the sidebar on page 22) and *Alinghi* (winner of the 2002 cup) when they sailed a series on the bay. Kaplan said it's nice to be known as a yard respected by some of the world's most serious sailors, but the size association isn't always useful. They have



Due to limitations on new buildings built within 100' (30.4m) of the high-water mark, many of KKMI's shelters for larger boats are temporary fabric-covered structures such as this one for a 1970s motor-yacht in for core repairs and a paint job.

## DIY Waning

**T**raditionally, Keefe Kaplan Maritime (KKMI) has allowed owners to do some work on their own boats in its Point Richmond, California, yard. It was such an important part of its core business that the company hosted a series of technical seminars on engines, marine electrical systems, and rigging for DIY clients. But the yard's new environmental protocols make the practice a less comfortable fit, because DIY owners need to adhere to the same practices as the yard crew.

"Someone just coming in to work on their bottom doesn't want to invest the 5 to 20 hours needed to get up to speed," co-owner Paul Kaplan said.

In the smaller Sausalito yard, there's very little DIY work permitted. Ken Keefe said you can wax your hull in the yard, and there's one client who varnishes his transom, but that's it. The liability of a DIY owner being injured in a fall or violating environmental laws is just too much to overlook, he said with regret. "Liability is a big part of the business that wasn't as prominent 10 to 20 years ago."

As much as he'd like to continue to offer the opportunity, Kaplan said the risks are growing too large and that DIY at the yard may become a thing of the past.

—Aaron Porter

to work to attract smaller-boat clients.

The average boat length at KKMI is 42' (12.8m) and increasing. With an eye on the business and market demographics, KKMI can only get so big, because the bay is pretty small for anything larger than 80' (24.4m) and boats large enough to head offshore tend to be serviced in Mexico or Seattle at rates KKMI can't easily match. This leaves the roughly 20,000 boats berthed in the bay, half of them at municipal marinas, which means slip fees at private marinas can't rise much higher than their municipal competition. (Much of KKMI's limited slip space is tailored to the deep-draft boats other marinas can't accommodate.)

Regardless of boat sizes, the fleet is aging, Kaplan said, and "the service needs for those boats is only going to get greater and greater." Betting on that trend, KKMI opened a second, smaller yard on a 68,000-sq-ft (6,317m<sup>2</sup>) property leased from Clipper Yacht Harbor in nearby Sausalito. Before choosing the Point Richmond site, the partners had looked at the property back in 1994. When the service yard there didn't renew its lease in 2009, KKMI jumped at the opportunity. "If someone had said the economy is going to go upside down, we'd still have done it," Kaplan said.

The Sausalito yard is on a nice yacht harbor just 10 minutes from the St. Francis Yacht Club and closer to San Francisco proper, but it was built

on infill in the 1940s. Since then, Kaplan said, the site has been steadily sinking, now at a rate of about ½" (12.7mm) per year. As we walked the approach to the yard, Kaplan explained that the entire area floods on an extreme tide. True, a permitted yard had been operating there, but the case was an example of Kaplan's rule that just because a facility is operating with permits doesn't mean it couldn't be found in violation. KKMI's interpretation of the relevant standards as they had come to understand them from operations in Point Richmond revealed that the company could be held responsible for managing any runoff during a flood. In addition, the Sausalito site is in a microclimate with about twice the annual rainfall of Point Richmond.

The plan to address rain and flood-water runoff, as well as processing

water from pressure washing and other yard operations, started with regrading, and surfacing the entire site with concrete surrounded by 4' (1.2m) reinforced-concrete walls on deep footings. The gated openings that allow traffic access are fitted for heavy drop boards, or flood gates, that stop water at the same height as the walls. On top of the wall a chain-link fence with curtains keeps yard dust from blowing into neighboring sites.

From outside, the yard looks moderately fortified. From inside, it appears that the crew of 16 is operating in an expansive empty wading pool. Nothing, Kaplan assured me, drains off this site directly to the bay or the sewer. "If you don't sweep it up, it's going to go somewhere. It used to go into the bay; now it goes in our filter system, and you have to shovel it out later [for disposal]," said Keefe, who oversees the Sausalito yard. "Everybody's shocked, because we have this closed system, how much stuff used to go into the bay. As they see it, it just becomes common sense, second nature to pick things up."

If a truck drips oil in the Sausalito yard, someone dumps sawdust on it, and the absorbed oil gets shoveled into hazardous-materials disposal.

Before any of the protocols and cultural changes I saw could come about, Kaplan and Keefe had to conceive of a facility that would take into account all the environmental limitations and still serve as a fully functioning boatyard, which includes noise, dust, oil, solvents, resins, machined metal, biological waste, and toxic materials such as antifouling paint. "There are a lot of things we've done that we just couldn't go to a book and look up. We had to innovate," Kaplan said.

*From the outside, KKMI's Sausalito yard appears moderately fortified. The 4' (1.2m) concrete walls are designed to keep storm surge out so the company can control the water quality of any runoff from its site. At the gate, slots in the concrete accommodate drop boards when flood conditions threaten.*

