

Windward Yacht Center

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12th May 2014

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor, Sacramento, CA 95814

Subject: Opposed to Proposed Amendment to the Los Angeles Regional Basin Plan to Revise the Total Maximum Daily Loads (TMDL) for Marina Del Rey Toxic Pollutants.

As the General Manager of Windward Yacht Center, one of the 2 major boatyards in Marina Del Rey I wish to revisit my comments submitted earlier for the Los Angeles Regional Water Quality Board (LARWQB) meeting held on February 24th 2014.

In light of AB 425 (Atkins) study and the Department of Pesticides Regulation to work with Paint manufacturers to reformulate paints to include lower leaching rates, and the expected use of the Biotic Ligand Model (BLM) for testing saltwater bodies when the EPA can approve this. I believe we should delay the implementation of the LARWQB recommended adoption of 3.1 ug/l (micro grams/liter) until more significant testing has been carried out. The current options for Non Cooper/Non Biocide paints as recommended by the study by Port of San Diego are very limited, and the options that we can use in Marina Del Rey are not effective as antifoulants. If lower leaching Copper Paints are made permissible, we would have some more options as there are already lower leaching paints available, and probably would not necessitate having to strip/remove the existing bottom coatings to apply the lower leach rate coatings.

In the Economic Impact assessment for complying with copper load allocations assigned to discharges from boats in the Marina del Rey, reviewed by Gerald Horner, Economist. Distributed by LARWQB. It states that most boats must be stripped of antifouling as part of routine maintenance every 7 to 10 years. I take issue with this statement. Stripping of antifouling paint is necessary on a case by case basis. Generally boat bottoms need to be stripped when there is a build up of too many layers of paint and it is starting to fail, If the type of paint is being changed, or if there are blister problems with the fiberglass. In 2013, Windward Yacht Center Hauled/launched 649 boats, 233/649 for antifouling painting, 7/233 had to be stripped of the antifouling. There is nothing about stripping of antifouling paint that relates to routine maintenance. The nature of many antifouling paints enables them to ablate (wear away) during their life span, thus leaving no significant build up of paint layers.

Also in the Economic Impact assessment, it uses the figure \$150 per foot for stripping the bottom, in recent conversations I have had with the boatyards in San Diego they are charging \$200 per foot up to 50 feet and 300 per foot above 50 ft. When Greg Schem (CEO of The Boatyard) and myself researched our costs for the same work we came up with \$334 per foot for a 40 foot boat. There are some differences between the yards in San Diego and Marina del Rey because of our AQMD restrictions, so our techniques for removing the existing paints are more limited.

The timeline of 10 years for stripping/painting necessary to comply with the reduction of copper as required by LARWQB is not achievable, this timeline was a hypothetical proposition supposed if both Windward Yacht Center and the The Boatyard did no other work than strip/repaint boat bottoms. As you can see from my 2013 statistics, only 233 of the 649 boats hauled were for painting, approx 50 %, it is not feasible to expect us to discontinue our regular repairs/maintenance to our customers to concentrate on just stripping and repainting boats.

We need the State Water Board to take our comments seriously and bring a more balanced approach to this issue.

Simon Landt. General Manager, Windward Yacht Center, Marina del Rey

Marina del Rey Boat Yard Capabilities – Facts, Fiction, and TMDL's

There are two major boat yards in Marina del Rey ("MDR") and a third smaller facility which handles mainly smaller trailerable vessels. When it comes to bottom paint, however, the vast majority of work is done at either The BoatYard or Windward Yacht Center. Both of those facilities are professionally staffed and have multiple Marine Travelifts and haul-out ways and together are capable of accommodating almost every one of the more than 4,500 vessels moored in Marina del Rey. Both yards have been in existence for over 50 years and are family owned small businesses with a strong reputation for excellent customer service.

In connection with Regional Water Quality Control Board's ("RWQCB") recent efforts to adopt new TMDL's there has been much conjecture and misinformation promulgated with respect to the capability of these boat yards as well as with respect to the real world effectiveness of commercially available paints. In addition, there has been little attention paid to the importance of utilizing proven marine products combined with speculative reliance on unsubstantiated claims as to the effectiveness of alternative products, paints, and procedures.

This paper has been prepared jointly by The BoatYard and Windward Yacht Center which together have in excess of 100 years of experience painting bottoms in Marina del Rey and as such should be accepted as the best source of real world data on the subject. It is our hope that the information presented herein shall be used in connection with the regulations and policy being developed by the RWQCB so that a realistic approach to the copper TMDL may be achieved.

Current Capacity

Between the two yards, approximately 1,550 boats are hauled annually. Out of this total, about 925 (60%) are hauled for routine bottom painting. The typical period between haul-outs for bottom paint for the average vessel in MDR is about 3-4 years. Bottom stripping is relatively rare as only about 40 vessels are stripped annually between the two yards, implying an actual stripping frequency of over 100 years.

Stripping

Most vessels should be stripped about every 25 years as old paint applications begin to flake off after about 7-8 coats, however, many are never stripped as it is expensive and beyond the affordability for many small vessel owners. In addition, if boat bottoms are aggressively cleaned by divers, the ablative nature of most bottom paints render stripping unnecessary as most of the paint is removed in the water. If a bottom is not stripped when recommended by the yard, there is typically no warranty provided for the new paint application and excessive

flaking may occur. Other reasons for stripping include blister repair or in order to switch to a different type of paint which will not properly adhere to the existing copper bottom paint.

Stripping Fiction: Boats in MDR do not have their bottoms stripped every 7-10 years as a part of normal boat maintenance. Their bottoms are repainted about every 3-4 years not every 1-3 years.

Non-Toxic paints

Although there have been many new non-copper bottom paints introduced to the market containing alternative biocides as their active ingredients, none of the existing commercially available biocide-free (non-toxic) bottom paint products serve as an acceptable alternative.

The simple fact is that without a biocide, bottom paints do not deter the recruitment of marine fouling organisms to the bottoms of boats. Instead, biocide-free paints rely on mechanical means for keeping the boat bottom clean. These mechanical means include manual cleaning as well as by the force of water moving past the hull while underway. In order to maintain a clean and functional bottom, boats would need to be cleaned weekly during the summer months and every two weeks during the winter, greatly increasing related expenses.

Biocide-free paints such as hard epoxy bottoms are not conducive to permanently moored vessels in MDR. These paints are only viable for racing vessels and go-fast boats which are removed from the marine environment after use. Soft bottom paints such as silicates require the stripping of the existing copper paint prior to application, are prone to physical damage, last only about a third to half as long as copper paints, require specialized and more frequent cleaning, are difficult to apply, and are about three times more expensive per gallon. As the representative for Interlux Paint Company testified at the RWQCB hearing this February, these paints, such as Intersleek 900, are designed for ocean going container ships that continuously ply the oceans at high speeds which provide the desired self-cleaning effect.

The MDR boat yards have little or no experience in applying silicate paints and estimate that due to increased drying time, moisture considerations, and AQMD regulations they will require significant investment in paint booth infrastructure, training, and permitting. In addition, the manufacturers of major silicate paints require owners to sign an end-use waiver and boat yards will not offer a standard warranty as their effectiveness is not likely to provide a high level of customer satisfaction. For these reasons and without any substantial real world experience with these paints on small boats, few boat yard customers will voluntarily convert to non-biocide paints.

Non-Toxic Fiction: There are no viable, biocide-free bottom paints commercially available for MDR vessels.

Boat Yard Capacity

As noted above, the two major boat yards haul approximately 1,550 boats annually and are currently operating near peak capacity. We estimate that it would be feasible that each yard could handle an additional 1-2 boats per week for complete hull stripping and painting. This means that an additional 100 to 200 boats could be stripped for conversion to biocide free paints by the two yards each year while maintaining the same level of existing work. At that rate, it would take 22 to 45 years to complete work on 4,500 boats.

In addition, the process of applying biocide free paints such as Intersleek 900 is much more complicated than applying copper based paints. Whereas copper paints can be applied and the boat launched within hours of application, silicate paints require a 24-48 hour drying time between coats and temperature and humidity control are much more critical. The average time to strip and paint an average 40-foot boat will be about 2-3 weeks compared to 3-4 days for the haul-out and launch after repainting with copper paints.

Boat Yard Capacity Fiction: It will not be feasible for the two major boat yards in MDR to strip and apply a biocide free paint to every boat within 10 years.

Total Cost to Convert

The total initial cost for a typical 40-foot boat to strip and re-paint with Intersleek 900 is estimated to include the following:

Cost to Strip ¹ :	\$4,000
Haul Out	\$ 200
Launch	\$ 600
Hazmat Fees:	\$1,000
Barrier Coats (2) & Tie Coat:	\$2,300
Two Coats of Intersleek (4 gal @ \$780/gal):	\$3,120
Additional Lay-days (5 days):	\$ 646
Parts and Labor	<u>\$1,500</u>
Total Initial Cost to Convert:	\$13,366 (\$334/ft)

Once converted to a non-toxic bottom paint, the boat will require weekly cleaning in the summer and bi-weekly in the winter by a trained diver for a total of 39 cleanings per year. Since there are no divers yet trained in this procedure at MDR we estimate the cost to be about \$15 per cleaning higher than for copper paints.

¹ Stripping costs in the South Coast Regional Air District are significantly higher than other locations (i.e. San Diego) as sand or soda blasting is not permitted under current AQMD regulations in light of the current Federal nonattainment status for particulate matter. Chemical removal of existing copper paints is used at this time.

Weekly Bottom Cleaning Costs (trained diver):	\$3,315	(\$85 x 39 times/yr)
Less: Normal Bottom Cleaning Costs (9 times per year):	<u>\$(630)</u>	(\$70 x 9 times/yr)
Total Additional Annual Cost to Clean:	\$2,685	

Since biocide free silicate bottom paints will only last about 18-24 months, repainting will be required 2 to 3 times more frequently at greater costs as shown above. For comparison purposes we will use a 10-year operating period during which the copper painted boat would require 2 additional paint jobs and the biocide-free silicate would require between 4 and 6 additional paint jobs.

10-Year Scheduled Bottom Painting for Copper Paints:

Haul & Launch	\$400
Hazmat Fees:	\$ 45
Paint & Labor:	<u>\$2,056</u>
Total:	\$2,501 x 2 = \$5,002

10-Year Scheduled Bottom Painting for Silicate Paints:

Haul & Launch	\$1,200
Hazmat Fees:	\$ 750
Primer & Solvent	\$ 500
Paint & Labor:	<u>\$4,620</u>
Total:	\$7,070 x 5 = \$35,350

(Assuming the average estimated paint life and that stripping is not required between paint jobs)

Total Additional Paint Cost Over 10-Year Schedule: \$30,348 (35,350 – 5,002)

Summary of Total Conversion Cost Over 10-Year Schedule

Initial Cost to Convert to Biocide-Free Paint:	\$13,366
Additional Annual Cleaning Costs:	\$26,850 (\$2,685 x 10)
Additional Paint Costs	<u>\$30,348</u>
Total Additional Costs to Convert Over 9-Year Schedule:	\$70,564

Total Conversion Cost Fiction: It will not be economically insignificant to convert from copper paints to biocide-free paints on existing boat bottoms. The estimated ADDITIONAL cost for an average 40-foot boat will be about \$70,564 over ten years. This estimate excludes inflationary costs which could raise this amount significantly, and is believed to be accurate within a 10% margin.

Summary

Boats in MDR are not stripped every 7-10 years as a part of normal boat maintenance. On average, boat bottoms are painted every 3-4 years and are more typically never stripped although recommended procedure would be every 25 years. Converting all MDR boats to a non-toxic, biocide-free bottom paints such Intersleek 900 will take the existing boat yards between 22 and 45 years and require significant investment in additional boat yard infrastructure and training.

The total additional cost to convert to and maintain a bottom with non-toxic paints is estimated at about \$70,564 over a 10-year schedule. Neither boat yard has any significant experience with this product type so these estimates may be optimistic. The analysis contained herein is based upon actual experience at the two yards and discussions with the paint manufacturers as well as with boat yards in San Diego which offer biocide-free paint options.

Neither the boat yards nor the manufacturer will provide a standard warranty for the small vessel utilization of silicate paints as they have not been proven for this type of application. There are currently no viable, biocide-free paints available for use in MDR and little or no demand from customers to utilize any unproven products.

We believe that there is a more feasible approach which can achieve the desired reduction in bio-available copper in MDR harbor. This approach would include the adoption of the Biotic Ligand Model in order to recognize site-specific considerations and local water chemistry, the utilization of low copper and alternative biocide paints, training and licensing of bottom cleaners, increasing the time to achieve compliance, and improved outreach to the boating community for education and for adoption of Best Management Practices.