

Phil Riise

Please see attached file for comments.



Seaview West Boatyard

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Boatyard and Drinking Water Facility General Permits
Water Quality Program
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Dear Mr. Hovis

First of all I want to extend to you and your fellow staff team members along with George Harris and Peter Schrappen my appreciation to share my views and take questions from you and others during our phone conference regarding the proposed 2021 Boatyard General Permit. These are from an owner /operator that will be celebrating 50yrs of being in business next year.

We at Seaview, which is a family run business believe that our core beliefs and values are to be embraced both personally and professionally - our mission statement says as much. This is why from the very 1st Boatyard Permit was issued in the late 80's. Then fast forwarding to 2008, the Seaview Yards have been committed to environmental compliance - installing Stormwater media systems way ahead of what was required. The reason is simple - from our perspective there was no way to get to the DMR benchmarks without systems! Candidly - it was the right thing to do!

Along the way, we have learned and applied from our experiences. We have made mistakes as well and take full accountability for those mis steps. As a result, we have nearly eliminated all zinc anodes and replaced with aluminum anodes.(circa 2008) Our passive filtration systems and media have evolved over time to produce overall excellent results. Elimination of DIY work below the waterline has proven to be the best "BMP" measures we have enacted (2019) along with employing a full time staff member who does nothing but serve as a boatyard concierge - pressure wash vessels cleaning yard as well as cleaning the pw pad at the end of each day!



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All that being said and as I shared in the phone conference on Wednesday - we are "boots on the ground" boatyard owner/operators. We watch and react much more swiftly than even the boatyard checklist requires of us all. Our method is simple, it's called "head on a swivel" and it works! Tiel (son) and I believe being proactive delivers results! If you are a pig upstream, it puts a lot of pressure on the expensive media and it shortens the life span.

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In addition to what was just stated above and our phone conference, during a stormwater event we look at the outfalls in close proximity to ours (parking lot & streets) and are struck by the vast difference in clarity. I must say, it does make one pause and think - is this just because we are point source polluters.

As our conversation continued, I mentioned DIBW and the Divers activities. I truly believe both of these operations need to cease and desist. Certainly, the DIBW didn't happen but it was strongly being considered until we teamed up with PSKA and put an end to it! Divers need to meet the same fate.

James, at one point in the phone conference it was asked if the Seaview yards could attain the copper benchmark of 15ug/l? My reply was "we have tickled with those numbers but to attain them on a regular basis would be a very high bar"!

Seaview has (3) yards. The Fairhaven site is essentially a storage yard because of periodical king tide flooding therefore no media system will work. As a result, there is NO work allowed below the waterline and we signed a consent decree to that affect. The same site has downspout filters, coupled with no bottom painting and our seasonal avg is about 100 ug/l still.

Our other two facilities, as you know have the passive media filtration systems - over the last several years the seasonal avg (100 ug/l) is about the same. To that we feel pretty good about our results. Frankly, we would have to install a whole new layer of filtration systems to deliver what the new permit requires a great expense!!

As a recap - Seaview's investments in our boatyards are second to none in the industry. We continue to strive to bring the best of ourselves in the boatyard and boat repair business. In the last 2 years we have invested well over \$150,000.00 in enhanced stormwater best management practices (BMPs) and treatment systems. Regardless of any Boatyard Permit condition, Seaview is committed to both providing excellent service while being a good steward of our planet! As a 50-year tenant to Port of Seattle, they can also attest to our long history of environmental stewardship.



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Seaview has also consulted with its environmental consultant Landau Associates and Northwest Marine Trade Association (NMTA) in its review of Ecology's proposed changes to the 2021 draft Boatyard General Permit (Permit). Our review comments on draft Permit and Fact Sheet are provided below.

S2.D Objection to Deviation from AKART and Technology-Based Copper Benchmark Approach; Fact Sheet Pages 19-24; Fact Sheet Economic Impact Analysis Page 38

Ecology appears to have inappropriately moved away from the joint agreement between Northwest Marine Trade Association (NMTA) and Puget Soundkeeper Alliance in 2007 and the associated research study that provided technical assessment of applicable stormwater treatment technologies with the proposed adoption of a questionably-derived water quality-based copper benchmark of 15 µg/L versus the current technology-based copper benchmark of 147 µg/L daily maximum and 50 µg/L seasonal average. The technology assessment report "Boatyard Stormwater Treatment Study" issued by Taylor Associates, Inc. in 2008 showed that multimedia filtration was effective to remove copper and zinc from stormwater. In August 2008, following the treatment study report, the NMTA and PSA sent a draft permit to Ecology that they said was mutually acceptable, and which Ecology agreed and subsequently incorporated/adopted. As later stated by Ecology in the draft Fact Sheet, "In 2010, Ecology deemed the level of performance from multimedia filtration as AKART," with AKART being an acronym for All Known, Available and Reasonable methods of prevention, control and Treatment. However, even before Ecology formally acknowledged multimedia filtration as AKART for boatyards, Seaview was the first boatyard to purchase and install that stormwater treatment system, the Aquip® filter produced by StormwaterRx®.

While Seaview has that core commitment to environmental protection, Seaview also wants the benchmarks to be properly developed and based on valid real-world data. Seaview is concerned that Ecology appears to now want to align the Boatyard general Permit with the conditions in the Industrial Stormwater General Permit, including use of the same procedure to derive a copper benchmark. However, the Boatyard Permit is separate and distinct from the ISGP for good reason and that is because the pollutant sources, applicable Best Management Practices (BMPs), and stormwater treatment needs are different for a boatyard facility compared to the typical ISGP facility. Those are the reasons why Ecology had created a separate general permit for boatyards.



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If the questionably-derived 15 µg/L copper benchmark in the draft Permit is allowed to become final, then Seaview would need to make significant modifications to its stormwater infrastructure and treatment systems in order to consistently meet that proposed copper benchmark value.

The draft Permit Fact Sheet refers to the Economic Impact Analysis report commissioned by Ecology, but that report does not adequately identify what infrastructure improvements and treatment technologies were assumed to be the basis for its estimated range of costs. The report concludes “it is likely that the costs of compliance with the draft permit are disproportional.” Despite that conclusion, Ecology appears to have taken no reasonable effort to more closely examine its basis for deriving its proposed water quality-based copper benchmark (as discussed further below) or to collect a truly representative set of data for that calculation.

S2.D, Table 2 Stormwater Benchmarks; Fact Sheet Page 24

As indicated above, the main issue that Seaview has with the draft Permit is the dramatic change in the benchmark value for copper from 147 µg/L daily maximum and 50 µg/L seasonal average benchmark all the way down to 15 µg/L. Seaview has specific concern that Ecology appears have made invalid assumptions or used invalid data when calculating this proposed water quality-based benchmark. It is understood that Ecology must select the lower of the water quality-based benchmark value and the technology-based benchmark value, but Ecology must have a valid scientific basis for its determination of the water-quality-based benchmark value before using that in place of the developed technology-based benchmark value that has been in the current and prior boatyard permits.

The apparently invalid technical basis for determining the copper benchmark becomes especially dangerous with the anti-backsliding provision of the NPDES permit development process, such that a change to an erroneously low benchmark value for copper would never be allowed to increase back to a properly-derived value, even if later there are determined to be flaws or shortcomings with how that value was calculated.

Ecology should more carefully reevaluate its basis for the water-quality-based benchmark value for copper, considering such parameters as the dilution factor of 5, the ratio of dissolved copper to total copper (i.e., translator value), and the overall statistical



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method that was used as part of the Industrial Stormwater General Permit (ISGP) benchmark development. For example, considering that the 4.8 µg/L water quality criterion for copper in marine water per WAC 173-201A-240 is based on dissolved copper, and with most all of the boatyards having installed stormwater treatment to meet the current copper benchmarks of 147 µg/L daily maximum and 50 µg/L seasonal average, it is likely that the truly dissolved (i.e., in ionic form and biologically available) has been removed by the multimedia filtration. The filtration media has effective bonding sites to remove positively charged copper ions from stormwater, and the copper measured in the total copper analytical testing of the discharged stormwater is likely to be in a very small particulate form or in another non-ionic chemically-complexed form that is not biologically available, even if it can pass through a 0.45-micron filter as part of the standard dissolved metal testing protocol. Further, it is likely that the small particulate or chemically-complexed copper that is less reactive to the adsorptive media and that does pass through the multimedia filter is resistant to leaching or breakdown to an ionic bio-available form in the receiving water within a short timeframe. This brings into question both Ecology's use of dissolved copper translator value and the use of a low dilution factor of only 5. Rather than use copper translator values that are derived from dissolved to total copper ratio measurements in Washington State receiving water bodies (with that average ratio appearing to be high at approximately 0.82 based on the EIM database), Ecology should perform additional testing and analysis to better determine the actual form of copper and bioavailability/toxicity in treated stormwater from boatyards, or at a minimum allow the boatyards to conduct such a study, prior to implementing a permit with drastic consequences that follows from assumptions that do not have a proper scientific basis or correspond to actual boatyard treated stormwater characteristics. There would be adequate time during the upcoming Boatyard Permit cycle to investigate and more properly determine appropriate translator values and use a scientifically valid basis for developing water quality-based copper benchmark for boatyards, and to determine if in fact that would be lower than the technology-based benchmark value. That is a standard practice in the NPDES permit program, for where there are identified potential data gaps, to collect valid and applicable data within a 5-year permit cycle **before** establishing effluent limitations for the following permit.



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For further reference, in the Ecology study Puget Sound Boatyards – Zinc, Copper, Lead, and Hardness Concentrations in Receiving Water (October 2009, Publication No. 09-03-051) it is stated:

One objective of this study was to measure the ratio of dissolved to total metals, particularly for copper. By federal regulation, effluent limits must be expressed as the total amount. A “translator” must therefore be used to convert dissolved metals criteria into an effluent limitation (EPA, 1996a). Because Ecology had no boatyard data, a copper translator of 0.30 (30% dissolved) was used in the Boatyard General Permit, derived from data on shipyard discharges.

This 30% dissolved copper translator value would be more applicable than the apparent 0.82 value used from the receiving waters but is likely still high compared to stormwater discharge from Washington State boatyards given the near universal use of media filtration at the boatyards, as discussed above. Therefore, a specific study on dissolved/total copper ratio in boatyard treated stormwater and/or bioassay toxicity testing of treated effluent would be appropriate to collect the applicable data for boatyards. That point is emphasized in the June 1996 EPA document The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion (EPA 823-B-96-007). In that document it is stated:

As the effluent mixes with the receiving water, the chemical properties of the mixture will determine the fraction of the metal that is dissolved and the fraction of the metal that is in particulate form (typically adsorbed to surfaces of other compounds). Many different properties influence this dissolved to total recoverable metal ratio. Important factors include water temperature, pH, hardness, concentrations of metal binding sites such as concentrations of total suspended solids (TSS), particulate organic carbon (POC), and dissolved organic carbon (DOC), as well as concentrations of other metals and organic compounds that compete with the metal ions for the binding sites. It is difficult to predict the result of such complex chemistry. The most straightforward approach is to analyze the mixture to determine the dissolved and total recoverable metal fractions. This ratio of dissolved to total recoverable metal concentrations can then be used to translate from a dissolved concentration in the water column downstream of the effluent discharge (the criterion concentration) to the total recoverable metal concentration in the effluent that will not exceed that dissolved concentration in the water column.

Beyond potential errors in the dissolved copper translator value used, there are concerns with other elements of the copper benchmark calculation. In its method for determining the copper benchmark value, Ecology relies on and repeats the calculation



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method from a 2009 report titled Water Quality Risk Evaluation for Proposed Benchmarks/Action Levels in the Industrial Stormwater General Permit (Herrera, February 9, 2009). In this report it is noted that “The actual risk level that is deemed acceptable for exceeding water quality standards is a policy issue that must be resolved by Ecology with input from other stakeholders associated with the ISWGP. In connection with ongoing discussions between Ecology and the external stakeholder workgroup, proposed benchmarks and action levels are being considered based on a dilution factor of 5, and a 10 percent risk threshold for exceeding the applicable water quality standard for each metal.” Given the significant logistical and financial impact to boatyards from this proposed copper benchmark change, it is incumbent on Ecology to avoid using arbitrary and/or excessively conservative criteria that have no clear basis in federal or state laws or regulations. To penalize boatyards with having to carry out onerous response actions based on a stormwater copper discharge concentration that even by Ecology’s conservative and likely inappropriate calculation has little more than 10 percent chance of temporarily exceeding state water quality criterion, seems to be excessive.

S7. Inadequacy of Adaptive Management Provisions

With conducting a proposed 6 stormwater sampling events within an 8-month monitoring period there is obviously inadequate time after receiving the analytical results to complete a Level One response and then observe its effects before the next monitoring event. Even with diligent implementation of pollutant source controls at our boatyard and diligent attention to operating, maintaining, and optimizing our stormwater media filtration we would likely exceed the copper benchmark each monitoring period and trigger a Level 3 response within the first year of the new permit. The adaptive management strategies that are in the permit would be of no use to avoid a large cost for needing to install new infrastructure new treatment equipment within the first year of the Permit.

S2.D. Monitoring Requirements; Fact Sheet Pages 20, 23-24, 32

Ecology has presented no data or compelling rationale in its Fact Sheet for why a 6th sampling event in March needed to be added to the permit. On Page 20 of the draft Fact states that *Ecology has determined that the additional month of sampling in March is need to necessary to verify the effectiveness of best management practices during a*



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month that typically sees high boatyard activity and rainfall. However, it seems that could be more appropriately addressed by simply moving one of the other 5 monitoring months to March, without increasing the burden of permit compliance above and beyond that of other industries in the state under the ISGP (which only requires sampling 4 times per year). On Page 32 of the draft Fact Sheet is stated *the new permit has replaced the “seasonal average” measurement and benchmark and replaced it with an additional sampling month of March.* However, that is not at all an equivalent replacement, with an additional sampling event having added sampling labor, DMR reporting requirement, as well as the non-insignificant external lab costs associated with the proposed expanded 6 benchmark parameters.

Regarding the addition of pH, turbidity, and petroleum hydrocarbons, we have not had problems with any of these 3 parameters at our boatyard. Suspended solids and turbidity obviously must be controlled effectively otherwise there is no chance to meet the copper and zinc benchmarks. Therefore, copper and zinc benchmarks have been an appropriate indicator parameter for other pollutants under the current and prior Boatyard Permits. Beyond there not being any significant handling of acids, caustics, oils, and fuels at our boatyard, our stormwater treatment media filter would act to buffer pH and would absorb fuel or oil from the stormwater. Seaview requests that Ecology not include these proposed additional monitoring requirements for these added parameters in the final Permit. If Ecology does unexpectedly have evidence that these added parameters are a threat to the environment from boatyards, Seaview would request that the Permit also include a “consistent attainment” provision similar to the ISGP where sampling for a parameter can be discontinued if there 8 consecutive samples that meet benchmarks.

Draft Permit Conditions are Disproportionate to Boatyards Versus Other Industries

In apparently wanting to align the Boatyard Permit with the ISGP, Ecology has incorporated changes to the Boatyard Permit that in fact make it disproportionately more onerous to boatyards as compared to an industrial facility under the ISGP. Examples of this disproportionate impact are listed in the following table:

Permit Condition	ISGP	Draft Boatyard Permit
S2.D Sampling frequency	4 times per year, flexible selection of sampling months in the 4 quarters (other than the first fall sample)	6 times per year, specific sampling months dictated
S7.A Benchmark exceedances that count toward Level 2 or Level 3 response actions	Reset to zero each calendar year	"...are counted during the effective term of the permit and do not reset annually."
S2.D Benchmark value for zinc	117 µg/L	90 µg/L
S2.D Benchmark value for pH	5-9	6-9
S2.D Sampling requirements for stormwater discharge to ground	None	6 samples per year, in selected months
S2.D Maximum concentration limits for infiltration to ground	None	Concentration limits for both copper and zinc
S2.D Pretreatment requirement for infiltration basin/trench	None	Absorptive media required
S2.D Ability to discontinue sampling for a parameter	"Consistent attainment" achieved after 8 consecutive samples meeting benchmark	No established path to discontinue sampling through "consistent attainment"

Given the above more restrictive elements of the draft permit compared to the ISGP, which all have potential cost impacts to boatyards, how can Ecology justify the statement from its Economic Impact Analysis that "Ecology has determined there is no opportunity to significantly reduce the costs of this permit..."? Rather, it seems that Ecology has many reasonable opportunities to reduce the costs of complying with this permit. That is especially so when also considering the potentially inappropriate data and assumptions that Ecology used when determining the water quality-based benchmark value for copper, as discussed earlier in this comment letter.



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Overall Adequacy of the Permit Fact Sheet

According to the U.S. E.P.A., the public is entitled to “a clear and transparent record of the permit decision making process.” In Washington, a Permit Fact Sheet must include, among other things, “[t]he legal and technical grounds for the draft permit determination.” WAC 173-220-060(1). According to Washington’s Pollution Control Hearings Board that oversees Ecology’s permit development, Fact Sheets are provided to enable the public to actively participate in permit development. The draft Fact Sheet lacks the details necessary to understand the methodology, assumptions, and the data that went into the copper water quality-based benchmark calculation.

Respectfully Submitted,

Phil Riise,

CEO

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