



DEPARTMENT OF THE NAVY
COMMANDER NAVY REGION SOUTHWEST
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ITEM 9
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July 29, 2009

Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court
San Diego, CA 92123-4340

Mr. John Robertus:

SUBJECT: NAVY COMMENTS ON TENTATIVE ORDER NO.R9-2009-0100,
NPDES PERMIT NO.CA0109169, WASTE DISCHARGE REQUIREMENTS FOR THE
UNITED STATES DEPARTMENT OF THE NAVY, NAVAL BASE SAN DIEGO
(NBSD), SAN DIEGO COUNTY, DISCHARGE TO THE SAN DIEGO BAY

The Navy filed a petition on 9 July 2009 with the State Water Resources Control Board (SWRCB) requesting changes to provisions in the Naval Base Coronado Order issued on 10 June 2009. Because these same provisions are included in the tentative order, the Navy requests Tentative Order No.R9-2009-0100 be delayed until the SWRCB completes their review of the petition. In addition, the Navy has identified errors and inconsistencies in the tentative order resulting from the merging of two orders (Naval Base San Diego and Graving Dock) into a single order. For example, sections of the existing Graving Dock order were cut and pasted into the tentative order without clarifying the requirements are specific to the Graving Dock facility only. The Navy is therefore requesting additional time to review the permit to ensure all errors and inconsistencies have been identified.

The following are Navy comments and supporting documents regarding the subject tentative order for Naval Base San Diego (NBSD).

1. Storm Water Toxicity Requirements

The Navy's comments addressing the storm water toxicity requirements in the tentative order for Naval Base Coronado (Order No.R9-2009-0081) are also appropriate for this tentative order and are provided below. In addition, the Navy is

providing information in this section to address the Staff's responses to Navy comments on the NBC Order.

The Navy has a critical concern with the tentative order's storm water toxicity requirement. The toxicity requirement is inappropriately applied, excessively conservative, ignores toxic affects of area source pollutants, and given its inherent infeasibility to meet could result in upwards of \$300M in compliance costs to construct infrastructure to capture and divert storm water discharges. The following discussion provides the basic scientific facts and information supporting these comments as well as provides a rational alternative for compliance that is protective of San Diego Bay waters without causing undue regulation and cost.

Toxicity Study Conclusions

The Navy performed a comprehensive, peer reviewed, scientific study of storm water toxicity (Katz et al., 2006) that was requested by and presented to the Regional Board. The main conclusions of the study are as follows:

- **Storm water discharges from Navy industrial facilities rarely cause toxicity in bay waters.** There were only two instances of toxicity in over 200 receiving water tests (<1% observed toxicity). It is clear from this very large dataset, collected over the entire range of expected conditions, that storm water from Navy facilities has a negligible toxic impact on San Diego Bay waters. Current Best Management Practices (BMPs) and compliance efforts by the Navy are already meeting the goals of the order to maintain beneficial uses.
- **Toxicity measured in end-of-pipe storm water samples is not predictive of toxic impacts in bay waters.** This result, based on over 300 storm water and receiving water tests, showed that toxicity was almost never found in bay waters regardless of the toxicity level measured in end-of-pipe storm water samples. This is consistent with the EPA's Technical Support Document (TSD) (EPA's Technical Support Document for Water Quality-based Toxics Control, EPA, 1991), stating on page 9: "*there is a less likely chance for receiving water impacts to be observed in saltwater systems as predicted by toxicity tests*". It is apparent from the study results that failing an end-of-pipe storm

water sample toxicity test is not meaningful with regards to identifying potential bay impacts.

- **Storm water plumes from industrial outfalls are very short-lived, have a limited spatial extent and are very low in magnitude.** The volume of storm water discharged from Navy facilities is sufficiently small that it is observed only in the immediate vicinity of the discharge and is rapidly (<12 hours) assimilated. The low exposure conditions posed by the natural mixing of storm water plumes results in lack of toxic impacts. The use of whole effluent toxicity (WET) testing was intended to evaluate toxicity for large continuous discharge sources, and then, only after mixing with the receiving water was taken into account. This is consistent with EPA's TSD stating on page 11: *"The results, when linked together, clearly show that if toxicity is present after considering dilution, impact will also be present" or "Impact from toxics would only be suspected where effluent concentrations after dilution are at or above the toxicity effect concentration"*. The use of Whole Effluent Toxicity (WET) testing is therefore only appropriate if it is used as intended; that is, that it be conducted on receiving water samples or on end-of-pipe samples adjusted for the magnitude and duration of the discharge.
- **Copper and zinc are the primary toxicants of concern in the Navy's industrial storm water runoff.** Toxicity Identification Evaluations (TIEs) were conducted as part of the study. Data from the TIEs showed that copper and zinc were the primary cause of acute toxicity in Navy storm water discharges. This is particularly troublesome because significant sources of copper and zinc in storm water discharges are from area sources.

Area source pollutants contributing to toxicity

The toxicity requirements fail to recognize that contaminants causing toxicity in storm water discharges are found in all urban areas largely as a result of atmospheric and direct deposition from automobile sources such as brake pads and tire wear. Numerous scientific studies identify the role of automotive sources and other industrial plant generation of these contaminants. For instance, the City of San Diego has recently estimated that these sources provide an overwhelming majority of copper to the Chollas Creek watershed (Weston Solutions, 2009). These contaminants have been shown to routinely cause toxicity in parking lot runoff (Greenstein et al., 2003) including the Regional Board's own parking lot,

indicating the ubiquitous nature of problem. With these findings, the City of San Diego has sponsored SB 346 (Kehoe) which would require the design of brake pads to remove contaminants of concern including copper and zinc. The Senate Environmental Quality Committee analysis of this bill, Enclosure (3), noted:

"Scientific studies have shown that a major source of copper in highly urbanized watersheds is material worn off vehicle brake pads. It is estimated that about one-half of the copper found in run-off is attributed to brake pads."

"The ubiquity of copper in the urban environment, and the technical difficulty and impracticality of treating storm water to remove it, means that compliance with copper TMDLs will not be feasible without source reduction of copper. Cost could go into the billions of dollars to remediate if source reduction measures are not taken."

Further evidence that copper and zinc sources are wide spread comes from the 2006 Air Toxics "Hot Spots" Program Report for San Diego County (August 2007). Table 1 of this report lists 451,827 lbs/year of zinc and 90,132 lbs/year of copper emissions from all sources in San Diego. Of this total, 99.0% of zinc and 97.3% of copper comes from mobile, area, and natural emission sources. The remainder, 1.0% for zinc and 2.7% for copper comes from industrial sources.

This offers an explanation why the Regional Board's parking lot and facility continue to fail the same toxicity test applied to the proposed order.

Unlike the Navy's study referenced above, the Regional Board has not offered scientific based evidence demonstrating that storm water runoff from Navy installations is having an adverse impact on San Diego Bay; nor has the Regional Board provided scientific based findings that, given the amount of contaminants from area sources, and their small particle size, that it is possible/feasible for end of pipe compliance with the storm water toxicity requirements.

In addition, the most recent scientific data show that storm water from all sources, not just Navy outfalls, is a minor source of copper and zinc to San Diego Bay. The most recent mass loading data (Chadwick et al., 2004) show that storm water from all sources accounts for only 7% of the copper loading to the bay. The Navy's storm water contribution is on the order of 10% of the total storm water loading, and is thus a minor fraction (~1%) of the overall Bay budget.

The proposed toxicity standard is not feasible

The Navy has continued to investigate and employ a number of BMPs to reduce the release of toxic contaminants from its activities. Moreover, the Navy and others continue to investigate treatment technologies. Despite these efforts, however, there has been no evidence to date that BMPs or treatment technologies can consistently pass the toxicity requirements proposed in the order. The only demonstrated consistent manner to satisfy the requirement is to divert the storm water flow to the City of San Diego sanitary sewer system. For Navy installations the cost to divert storm water runoff is estimated at over \$300 million. It is not clear that (1) sufficient funds could be available to implement this measure short of major appropriations from Congress, and (2) whether there is sufficient land on installations to build the required infrastructure without significant disruption of critical missions.

It is also very unlikely, due to capacity constraints, that the City of San Diego could accommodate storm water runoff from large naval installations as they have for the smaller shipyard and boatyard facilities. Therefore, any findings of feasibility that the Regional Board may have made for the shipyard permits are not applicable to the Navy permits and should be supplemented with clear findings that the proposed conditions are economically feasible.

In summary, the Navy has provided substantial scientific evidence to support the fact that bay water beneficial uses are currently protected, that toxicity measured at the end-of-pipe is not a meaningful metric to evaluate potential impacts to bay waters, and that conducting WET tests on end-of-pipe samples does not appropriately take into account natural exposure conditions in bay waters. There is additional scientific evidence, and emerging recognition by the California Legislature, that the primary sources of copper and zinc in urban settings come from automobiles and atmospheric deposition and that storm water from urban areas such as parking lots will also fail toxicity tests for the same reasons explained above. Navy compliance, if feasible at all, with the proposed toxicity requirements would cost millions of dollars. To restate this, the tentative order's toxicity requirement is:

- **Inappropriate**-WET testing methods are designed to account for exposure conditions in receiving waters
- **Overly protective**-storm water rarely (<1%) causes toxicity in bay waters

- **Will not improve beneficial uses**-beneficial uses are already being met.
- **Costly and Infeasible to meet** - compliance will require storm water capture and diversion measures that are costly and may not be feasible.

Rational Alternative for Toxicity Requirement

Though the Navy believes that toxicity measurements made in the receiving water alone are sufficient to assess impacts to beneficial uses, and continues to question the high cost of the current end-of-pipe monitoring given its limited scientific value, the Navy recommends that the following changes be made to the tentative permit to create a realistic monitoring requirement that will provide the necessary information to accurately evaluate whether or not beneficial uses of San Diego Bay are being protected. This change is necessary as the current toxicity test applied to end-of-pipe characterizes most storm water, including urban runoff, as toxic. This results from the emerging consensus discussed above that toxic constituents in storm water like copper and zinc are ubiquitous. The Navy believes that such overstatement of toxicity makes its use alone as a measure of compliance inappropriate and inequitably singles out Navy storm water for toxicity while ignoring similar toxicity from urban sources, including those impacting our sites from aerial deposition beyond our boundaries.

The Navy's toxicity study was based on evaluating paired samples of storm water and bay water collected immediately outside outfalls to assess impacts. This methodology allowed for an assessment of the effluent as well as its impact directly in the bay. The Navy proposes that this methodology be followed in the permit so that the information derived from end-of-pipe toxicity testing can be clearly tied to a receiving water impact.

Specifically the Navy recommends that:

- 1) The definition of a toxicity failure be redefined
- 2) The accelerated testing requirement be eliminated

The tentative permit could continue to require that toxicity be measured in 100% effluent. If a sample toxicity result is declared toxic (significantly different from the control at 95% confidence level), then during a subsequent storm event a 100% effluent sample and a receiving water sample from immediately outside of that outfall should be collected. If both the 100% effluent and receiving water samples collected during the second storm are declared toxic (significantly

different from the control at 95% confidence level), then the outcome would be a failure of meeting the order. Failure to meet the order shall then trigger a TRE to assess the causes of the failure.

This requirement gets to the heart of the issue, whether the end-of-pipe storm water effluent is sufficiently toxic to cause a toxic impact in the bay. Additional end-of-pipe measurements alone (accelerated testing requirement) are insufficient to make this assessment.

Current Language in Tentative Permit (Attachment E, Section V.A.2, p.E-13):

The Discharger shall conduct 96-hour static renewal toxicity tests with the following vertebrate species:

- The topsmelt, *Atherinops affinis* [(Larval Survival and Growth Test Method 1006.0 (Daily observations for mortality make it possible to calculate acute toxicity for desired exposure periods (i.e., 96-hour Pass-Fail test)] in the first edition of Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995) (specific to Pacific Coast waters);

Navy Comment: Because test species are commonly unavailable for use and there are so few qualifying storms, the Navy recommends adding the following:

- The Inland silverside, *Menidia beryllina*, only if *Atherinops affinis* is not available.

If the tentative permit continues to require the use of "most sensitive species" (Section V.A.1, P E-13 described above), then the language in this section must be changed to accommodate a potential change in test species.

Current Language in Tentative Permit (Attachment E, Section V.a.5, p.E-15):

Accelerated Toxicity Testing and TRE/TIE Process

1. If the results of acute toxicity monitoring are reported as "Fail" and the likely source of toxicity is known (e.g., a temporary plant upset), then the Discharger shall conduct one additional toxicity test using the same species and

test method. This test shall begin at the next storm event. If the additional toxicity test does not result in a determination of "Fail", then the Discharger may return to their regular testing frequency. The determination of the likely source of toxicity must be demonstrated by implementing the first two parts of the TRE work plan (VI.C.2.a.i. (a) and (b) of this Order.

2. If the results of acute toxicity monitoring are reported as "Fail" and the source of toxicity is not known, then the Discharger shall conduct accelerated toxicity testing using the same species and test method. The accelerated toxicity monitoring shall include monitoring of the next 4 storm events. This testing shall begin at the next storm event. If none of the additional toxicity tests result in a determination of "Fail", then the Discharger may return to the regular testing frequency.

3. If one of the additional toxicity tests (in section V.E.1 or V.E.2) are reported as "Fail" for acute toxicity, then, at the next storm event, the Discharger shall initiate a TRE as specified in section VI.C.2.a.ii of the Order.

4. Any TIE conducted as a part of the TRE as specified in section VI.C.2.a of this Order shall be based on the same sample that exhibited toxicity and from samples collected during subsequent storm events. Therefore, the discharger shall collect additional sample volume, sufficient for a TIE, when in an accelerated testing phase.

Navy Comment: The Navy recommends dropping the accelerated toxicity testing and TRE/TIE process requirement. The Navy believes that the permit requirement to retest toxicity after a failure provides no benefit unless the Navy has the time and ability to implement changes identified in the TRE that may alter the likelihood of a different future result. The requirement to retest is a contradiction of the EPA's TRE guidance that identifies that testing be conducted after an alternative approach has been implemented. Retesting before implementation will provide no useful data and create undue monitoring costs.

Navy Information Addressing Staff's Response to Comments for NBC Order

Navy Comment 2: Toxicity measured in end-of-pipe storm water samples is not predictive of toxic impacts in bay waters.

RWQCB Response: Measuring toxicity in an end-of-pipe storm water sample is the only way to evaluate the potential toxicity effects from the discharge. Measuring toxicity in the receiving water evaluates toxicity inputs from many sources, and not just the discharge(s) regulated by the order. The TSD states "*there is a less likely chance for receiving water impacts to be observed in saltwater systems as predicted by toxicity tests*", but the saltwater systems evaluated had a greater dilution than the freshwater systems. This section of the concludes: "*The results of the studies at these four sites indicates a 94 percent accuracy when using the marine and estuarine toxicity tests to predict receiving water impacts.*" The TSD conclusion is that marine and estuarine toxicity tests are valid in predicting receiving water impacts.

Navy Response: The section of the TSD referenced in the original Navy comment and staff's response relates to measurements made in ambient waters only after accounting for dilution. A key element for the predictive success of the studies evaluated by the EPA was the fact that the testing accounted for mixing and dilution in the receiving environment. The TSD states "*The results, when linked together, clearly show that if toxicity is present after considering dilution, impact will also be present.*" The Navy study showed that not accounting for mixing and dilution in the receiving water leads to an erroneous result.

Navy Comment 3: Storm water plumes from industrial outfalls are very short lived, have a limited spatial extent and are very low in magnitude.

RWQCB Response: The Fact Sheet, section IV.C.2.c. states "The Discharger has not submitted information regarding available dilution for the discharges from the Facility. Thus, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are applied end-of-pipe with no allowance for dilution within the receiving water." Using a dilution of zero is very protective of the beneficial uses. However, the TSD

state on page 11 "*Biological, physical, and chemical factors of the community can influence the actual effects that effluent toxicity may cause in the receiving water*" Because these factors as well as other discharges can affect the toxicity of the receiving water, the toxicity testing is required on the end-of-pipe samples. It is not appropriate to limit considerations on determining appropriate toxicity limitations in the permit to the magnitude and duration of the discharge. Even a limited volume short term duration toxic discharge is prohibited by the Basin Plan toxicity objective.

Navy Response: The discharger has in fact submitted information regarding available dilution for the discharges from the Facility. The discharger's 2006 Toxicity Study (Katz et al., 2006) provided ample evidence that receiving waters were protected from toxicological impacts in almost every instance. The discharger provided abundant data that clearly showed that there was no receiving water toxicity, even using one of the most sensitive toxicological endpoints available, as close in as 5' outside the discharger's outfalls pipes. Thus, even a very minimal mixing zone of only several feet is sufficient to assimilate the discharge and render it harmless to bay waters.

Staff's comment about "other factors" in the receiving water influencing toxicity may somehow mislead the results is contrary to the notion of being protective. One would certainly want to know if combined discharges to a water body would result in toxicity even if a single discharge alone does not. Ambient testing clearly identifies the combined effects of all discharges and thus provides a high level of protection.

Navy Comment 4: Copper and zinc are the primary toxicants of concern in the Navy's industrial storm water runoff and area source pollutants contribute to toxicity

RWQCB Response: Regional Board staff agrees that area sources can contribute to storm water toxicity. To address this issue, the high risk areas as defined in the Order could be isolated so that storm water from low risk areas does not mix with storm water from high risk areas. Once these high risk areas are isolated, additional BMPs can be more readily implemented. One possible BMP for these isolated, small, high risk areas could be to capture and treat the "high risk:" storm water flows or divert them to the sanitary sewer system. The Order defines high risk areas as areas where wastes or pollutants (including abrasive blast grit material, primer, paint, paint chips, solvents, oils, fuels, sludges, detergents, cleaners, hazardous

substances, toxic pollutants, non-conventional pollutants, materials of petroleum origin, or other substances of water quality significance) are subject to exposure to precipitation and runoff. These high risk areas should be minimized and isolated so effective BMPs can be implemented. It should be noted that in the Regional Board is currently engaged in proceedings to consider the issuance of a cleanup and abatement order to a number of parties, including the US Navy for discharging waste which contributed to the accumulation of pollutants in marine sediment at the Shipyard Sediment Site in San Diego Bay to levels, which that cause, and threaten to cause, conditions of pollution, contamination, and nuisance by exceeding applicable water quality objectives for toxic pollutants in San Diego Bay. In those proceedings it is alleged that the U.S. Navy discharged excessive concentrations of copper, lead, and zinc through its municipal separate storm sewer system (MS4) at NAVSTA San Diego to Chollas Creek and San Diego Bay in violation of waste discharge requirements. Technical reports by the U.S. Navy and others indicate that Chollas Creek outflows during storm events convey elevated sediment and urban runoff chemical pollutant loading and its associated toxicity up to 1.2 kilometers into San Diego Bay over an area including the Shipyard Sediment Site. While the Regional Board has not made a final determination in the matter the allegations do not support the conclusion that storm water discharges from Naval Installations do not have the potential to adversely affect toxicity levels in san Diego Bay.

Navy Response: Isolation of high risk areas has already been completed by the Navy. This comment assumes that runoff from non-high risk areas will meet the end-of-pipe toxicity standard. There is no data to support this assumption and it is unlikely that storm water runoff from any industrial areas, regardless of the BMPs, will consistently meet the toxicity standard.

While the RWQCB staff in the clean-up and abatement order makes allegations as to the Navy's contribution to the Shipyard Sediment Site, the Navy vigorously defends its position that it's contribution to the site is de minimus.

EPA: Recital No. 5

We have reviewed the 27 May 2009 letter from the Navy criticizing the proposed acute toxicity requirements. This letter refers to the Navy's 2006 comprehensive study of storm water toxicity. While EPA appreciates the Navy's work on this study, and believes that the collected data are valuable, EPA does not agree with the all of the conclusions reached by the

Navy based on these data. For example, the Navy's conclusion that there was less than 1% observed toxicity is based on statistical methods which are inconsistent with EPA's whole effluent toxicity methods manuals. The Navy's testing approach appears to be biased toward not finding toxicity in situations where a test shows significantly reduced survival relative to control samples. We also disagree that the proposed permits are somehow inconsistent with EPA's March, 1991 "Technical Support Document for Water Quality-based Toxics Control", as implied by the Navy's May 27, 2009 letter. We'd like to reiterate that the proposed permits' provisions on acute toxicity are consistent with current EPA policies and regulations.

Navy Response: The Navy completely disagrees with EPA's conclusion: *"For example, the Navy's conclusion that there was less than 1% observed toxicity is based on statistical methods which are inconsistent with EPA's whole effluent toxicity methods manuals. The Navy's testing approach appears to be biased toward not finding toxicity in situations where a test shows significantly reduced survival relative to control samples."*

The conclusion and accusation of bias are simply not true. No "statistics" were used to arrive at the Navy's conclusion that "1% of receiving water toxicity samples exhibited toxicity" (page 137 of Navy's Study). The Navy's statement was based on simple math: Two toxicity test results out of a total of 202 receiving water toxicity tests were significantly different from their controls ($2/202 < 1\%$).

2. Prohibition on Underwater Hull Cleaning (III. Discharge Prohibitions, item N, Page 23)

The Discharge Prohibition section of the tentative order prohibits discharges from underwater hull cleaning activities. This prohibition appears to have been cut and pasted from the Graving Dock Order into the tentative Naval Base San Diego (NBSD) Order when the two orders were merged. Underwater hull cleaning associated with DoD vessels should not be regulated under the tentative order. This discharge is listed in the Underwater Ship Husbandry category that is regulated under the Uniform National Discharge Standards (UNDS) program.

In Title 40 of the Code of Federal Regulations (CFR) Part 1700, Congress passed legislation amending the Clean Water Act to control discharges that are incidental to the normal operation of armed forces vessels. Under 40 CFR Sec. 1700.2

(b), Congress prohibited states from regulating discharges from US Navy vessels: *"This part prohibits States and their political subdivisions from adopting or enforcing State or local statutes or regulations controlling the discharges from Armed Forces vessels listed in Secs. 1700.4 and 1700.5 according to the timing provisions in Sec. 1700.6."* UNDS specifically identifies Underwater Hull Cleaning of Armed Forces vessels as subject to UNDS.

Underwater Hull Cleaning is critical aspect of sustaining the operational readiness of the fleet. Removing biofouling from vessel hulls reduces drag resulting in decreased fuel consumption and air emissions. Biofouling also effects vessel performance by decreasing maneuverability and diminishing sonar system efficiency and range. In addition, biofouling increases the roughness of the hull surface creating more noise underway making the ship easier to detect by other vessels.

Because the discharge is regulated under the UNDS program The Navy requests the prohibition on underwater hull cleaning be deleted from the tentative order. The Navy could not comply with this prohibition without adversely impacting fleet operational readiness.

3. Prohibiton on Vessel Washdown Water (Fact sheet, Page F-14)

The Fact Sheet on page F-14 lists vessel washdown water as a prohibited discharge. Vessel washdown water associated with DoD vessels should not be regulated under the tentative order. This discharge is listed in the Deck Runoff category that is regulated under the Uniform National Discharge Standards (UNDS) program. Navy personnel use fresh water to remove salt from surfaces of the vessel to reduce corrosion. The Navy requests vessel washdown water be removed from the order.

4. Section V. Receiving Water Limitations, A.1.7 (page 33)

This section includes a thermal limitation prohibiting discharges greater than 20⁰ F over the natural temperature of the receiving water. The Navy assumes this limitation is the "new" discharge standard from the California Thermal Plan (Thermal Plan). The Thermal Plan applies different standards to "existing" and "new" discharges. The Navy believes this limitation should not be applied across the entire facility and should be applied to specific discharges in accordance with the Thermal Plan. It also seems inappropriate to place what is

clearly an effluent limit in the receiving water section of the order. The Navy requests this limitation be deleted.

5. Steam Condensate - Thermal Effluent Limitation

The tentative draft order provides an effluent limitation for temperature applicable to steam condensate discharges. Immediately below Table 6 on page 25 the order states "At no time shall any discharge be greater than 20⁰F over the natural temperature of the receiving water". This limitation is overly conservative and unnecessary to protect San Diego Bay beneficial uses. Steam condensate discharges at Naval Base San Diego (NBSD) are "existing discharges" as defined in the "California Thermal Plan", are low in volume and dispersed over a wide area, and have negligible affect on the ambient receiving water temperature.

The California Thermal Plan defines *existing discharges* as "Any discharge (a) which is presently taking place, or (b) for which waste discharge requirements have been established and construction commenced prior to adoption of this plan, or (c) any material change in an existing discharge for which construction has commenced prior to the adoption of this plan." Steam condensate discharges at NBSD are "existing discharges" that have occurred since prior to 1971, the year the California Thermal Plan was originally adopted. Page F-37 of the order incorrectly states that steam condensate discharges at NBSD commenced after the Thermal Plan was adopted. The California Thermal Plan requires existing discharges into enclosed bays "... comply with limitations necessary to assure protection of beneficial uses." Because steam condensate discharges at NBSD are low in volume and dispersed over a wide area they will not adversely affect beneficial uses.

The cost to install any type of system to either eliminate the discharges or reduce their temperature is not justified because the discharges have negligible affect on the receiving water temperature and will not adversely affect beneficial uses. Therefore the Navy proposes the temperature limitation be removed from the tentative order and a requirement be added to the Monitoring and Reporting Program (MRP) to measure the receiving water temperature to verify there are no significant changes in the ambient water temperature. This monitoring will provide the Regional Board staff data to evaluate the necessity of a temperature limitation to protect beneficial uses prior to imposing a standard that will cost tax payers millions of dollars and several years to implement.

Enclosure (1) are drawings of the NBSD steam system that demonstrate the system was installed in the 1940s and is evidence that the steam condensate discharges are "existing" discharges as defined in the California Thermal Plan.

6. High Risk Definition, Page A-3

The definition for high risk areas was intended to apply to industrial areas at Navy installations and other non-Navy facilities. The Navy requests the definition be revised so it clearly states it applies to industrial activities.

7. First Flush Definition, Page A-3

The existing NBSD order requires the discharge of first $\frac{1}{4}$ inch of runoff from high risk areas be terminated. In this tentative order the definition for first flush has been changed to runoff from the first 1 inch of precipitation. The Navy has already designed and implemented programs to capture the first $\frac{1}{4}$ inch of runoff from high risk areas in accordance with the existing permit and so requests the definition for first flush in the tentative order be revised to $\frac{1}{4}$ inch or prohibition H. on page 23 be changed so it is consistent with the existing permit in requiring termination of runoff from the first $\frac{1}{4}$ inch of precipitation. The Fact Sheet, on page F-41, item 4, regarding high risk areas states "...prohibits the discharge of the first $\frac{1}{4}$ inch (first flush) of storm water runoff from high risk areas...".

8. Weight Test Water Discharge Eliminated

The Weight Test Water discharge at NBSD has been eliminated. Although this discharge consists of bay water collected in a canvas bag and then discharge back to the bay, the costs of monitoring this discharge is sufficiently high that the Navy will now discharge the water to the sanitary sewer or have it trucked off the base for disposal. The Navy will no longer discharge Weight Test Water to San Diego Bay. The Navy request this discharge be removed from the NBSD permit.

9. Monitoring and Reporting Program (MRP)

The MRP requirements for discharges at NBSD can be reduced and still be effective in evaluating compliance, and protecting water quality and beneficial uses. Reducing monitoring and reporting will conserve resources (staff time and funding) and allow more resources to be directed towards implementing

programs to improve water quality, such as testing and implementation of additional BMPs. The Navy requests the following changes be included in the MRP.

Steam Condensate

- Eliminate the requirement for monthly estimates of the flow volume and instead require an engineering estimate of average flow volumes covering the entire year. Monthly estimates will not change because the Navy can not meter steam condensate discharges and it is impractical to measure flows from over a hundred discharge locations every month. The resources required each month would be enormous to send people to the field to collect drips of steam condensate. An updated engineering estimate that takes into account maintenance schedules and other factors would provide more accurate data for determining flow volumes. The Navy could complete an updated engineering estimate within 120 days of the permit adoption. The estimate could be renewed annually to provide the most accurate flow volume information. This comment was developed after discussions with Navy Utility Department Engineers with expertise on the NBSD steam distribution system.
- Change the sampling frequency for copper, lead, mercury, zinc, and TCDD equivalents from 1/month to 1/quarter. The process generating this discharge is very consistent and the discharge volume is low. The Navy has adequately characterized this discharge and provided analytical data on the priority pollutants and a list of boiler chemicals used in the steam generating process. The permit already includes a provision for the Navy to report all process changes that could affect the character of the discharge. The boiler chemicals do not contain the pollutants listed above and the only sources of these pollutants would be from potable water delivered to the installation, or the boiler or distribution piping system. Changing the sampling frequency from 1/month to 1/quarter will provide sufficient data for the Navy and Regional Water Board staff to evaluate compliance, pollutant loading to the bay, and determine if BMPs are effective. Request Table E-2 be revised to require 1/quarter sampling. If this request is not granted request a provision be added to the permit allowing the sampling frequency to be reduced after the first year of monitoring if Regional Board staff determine quarterly sampling will provide sufficient data and not increase risk to beneficial uses.

Self Monitoring Reports - The MRP requires the monthly submittal of self monitoring reports. Reducing this reporting frequency from monthly to quarterly will conserve resources (staff time and funding) and allow more resources to be directed towards implementing programs to improve water quality, such as testing and implementation of additional BMPs, rather than on report writing. This will also reduce the work load for Regional Water Board staff by reducing the number of reports requiring review. Quarterly self monitoring reports will provide the identical data as submitted in monthly reports for use in evaluating compliance and potential impacts to beneficial uses. Because the order already includes a "Standard Provision" (page 35) requiring the Navy to notify the Regional Water Board within 24 hours of violating any condition of the order, including effluent limitations, the change from monthly to quarterly will not affect prompt notification for any violations of the order. This change would also be consistent with the reporting requirements in the recently issued Naval Base Coronado Order.

10. Graving Dock Reporting Requirements, Pages E-27 to E-28

Several sections of the existing Graving Dock Order No.R9-2003-0265 were cut and pasted into the NBSD order without language clarifying the requirements only apply to the Graving Dock facility. The Navy requests that the requirements for the Spill and Illicit Discharge Log, Chemical Utilization Audit, and Waste Hauling Log be revised so it is clear the requirements apply to the Graving Dock facility and not all areas of NBSD.

11. TCDD Equivalents

The SIP on pages 28 and 29, only requires 2,3,7,8-tetrachlorodibenzo-p-dioxon (2,3,7,8-TCDD) be evaluated to determine if Water Quality Based Effluent Limitations (WQBELs) are required and not other TCDD congeners. The SIP requires monitoring for other TCDD congeners with the stated purpose of assessing the presence and amounts of congeners discharged so that future multi-media control strategies can be developed. In addition, WQBELs were inappropriately established for all TCDD equivalents using the California Toxics Rule (CTR) criteria established for 2,3,7,8-TCDD. Table F-7 on page F-48 of the fact sheet incorrectly lists the 2,3,7,8-TCDD CTR criteria as the criteria for all TCDD equivalents. This resulted in a final WQBEL that is overly conservative for TCDD equivalents and not based on the actual toxicity of the pollutant. Other factors that argue against effluent limits for TCDD equivalents include

laboratory uncertainty at the very low detection limits required by the permit and the likely probability that sources of the congeners are not be under the direct control of the discharger (i.e. atmospheric deposition, intake water). For these reasons we request the reasonable potential analysis (RPA) and WQBEL (if required) be limited to 2,3,7,8-TCDD to meet, but not exceed, the minimum SIP requirements. The effluent limitation for TCDD equivalents should be deleted from the order. The Navy also request that the RPA be re-accomplished and the Summary of RPA Results and any other applicable sections of the order be updated.

12. Dilution Credits

Dilution credits should be applied when calculating Water Quality Based Effluent Limits (WQBELs). The SIP (page 15) allows the use of dilution credits when calculating WQBELs. Dilution credits are appropriate for the listed Navy discharges because the discharges are relatively low in volume and total pollutant loading will not cause or contribute to a water quality criteria/objective exceedance, and will not adversely impact designated beneficial uses. The Navy, therefore, requests dilution credits be applied when calculating WQBELs for discharges at NBC.

Page F-49 of the tentative order states "*Dilution Credits. Section 1.4.2 of the SIP establishes procedures for granting mixing zones and the assimilative capacity of the receiving water. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge.*"

The Discharger has not submitted information regarding available dilution for the discharges from the Facility. Thus, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are applied end-of-pipe with no allowance for dilution within the receiving water."

The Navy (discharger) has in fact submitted information regarding available dilution for the discharges from NBSD. The discharger's 2006 Toxicity Study (Katz et al., 2006) provided ample evidence that receiving waters were protected from toxicological impacts in almost every instance. The discharger provided abundant data that clearly showed that there was no receiving water toxicity, even using one of the most sensitive toxicological endpoints available, as close in as 5' outside the

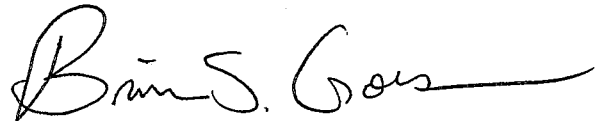
discharger's outfalls pipes. Thus, even a very minimal mixing zone of only several feet is sufficient to assimilate the discharge and render it harmless to bay waters.

13. Editorial Revisions

- Table 1, Discharger Information - Change address Zip Code to 92136-5084.
- Page F-8 states that there are dry docks (plural) at NBSD. There is only a single dry dock at NBSD. Please revise this section so it accurately states dry "dock" (singular).
- Attachment F, Page F-9 - "Sithe Energy" has been replaced by "Primary Energy". Please make correction.
- Attachment G, Page G-2 - Sections B.2 and B.3 are the same requirements.
- Attachment F, Page F-25 - this paragraph states letter was sent to "Southwest Marina (currently US Navy)". Believe this should have stated to "Southwest Marine (currently BAE)". Please correct this statement.
- Attachment I, Page I-1 - bottom of page remove pier cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning. These activities do not occur at NBSD.

If there are any questions regarding this submittal please feel free to contact me at (619) 532-2273.

Sincerely,



Brian S. Gordon
Director, Compliance and
Technical Division
By direction

Enclosures: (1) Drawings of NBSD Steam System

**LARGE
SCALE
MAP
ATTACHED**

Navy Comment letter
NBSD Order
Enclosure 1