

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

FACT SHEET

ORDER NO. R9-2002-0002
NPDES PERMIT NO. CA0109363

WASTE DISCHARGE REQUIREMENTS

FOR

U.S. NAVY

NAVAL BASE POINT LOMA COMPLEX

SAN DIEGO COUNTY

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Attachment A: Location Map, Naval Base Point Loma Complex

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Memorandum dated 22 July 2002; Hull Coating Leachate, underwater hull coating cleaning (*underwater ship husbandry*), and radioactivity concerns mentioned during workshop on 27 June 2002.

CONTACT INFORMATION

Regional Water Quality Control Board
Mr. Paul J. Richter, P.E.
Water Resource Control Engineer
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340
(858) 627-3929

Naval Base Point Loma
Captain Donald J. Boland
Commanding Officer, Naval Base Point Loma
Assistant Chief of Staff for Environmental
U.S. Navy
Naval Submarine Base
140 Sylvester Road
San Diego, California 92106-3521
(619) 553-7400

BACKGROUND

On December 5, 2001, the *U.S. Navy, Commander, Navy Region Southwest* (CNRSW) submitted a *Report of Waste Discharge* (RWD) for a *National Pollutant Discharge Elimination System* (NPDES) permit for the Naval Base Point Loma Complex. Over the past several years, the Navy has submitted various RWDs for NPDES permits for the different Naval Base operations in the San Diego Region. Previously, the Regional Board has adopted an NPDES permit, Order No. 98-53, for the Graving Dock operations at the 32nd Street Naval Facility. Tentative Order No. R9-2002-002 is the first NPDES permit developed for a complete Naval Base Complex operation in the San Diego area.

The administrative file for this Fact Sheet and for tentative Order No. R9-2002-0002, contains the RWD dated December 5, 2001; February 25, 1998; April 1, 1996; and August 15, 1991. All of the RWD were reviewed. The RWD dated December 5, 2001, was used for the development of this Fact Sheet and tentative Order.

Because of the comments from the April 10, 2002, Regional Board meeting regarding the Naval Base Point Loma and tentative Order No. R9-2002-002 and because of the comment letters received from the U.S. Navy, the Environmental Health Coalition, and various individuals concerning the tentative Order, this Fact Sheet and the tentative Order were modified. The 2 errata sheets for the tentative Order in the agenda for the April 10, 2002, Regional Board meeting were incorporated in the tentative Order. The

rationale for the changes made to the tentative Order is included in this Fact Sheet.

This Regional Board intends to schedule a hearing to consider the adoption of the tentative Order at its August 14, 2002, meeting. This Fact Sheet and tentative Order are the documents subject to review by the interested parties.

I. FACILITY DESCRIPTIONS

The U.S. Navy installations in the San Diego area fall under the CNRSW command structure and are aligned into 3 major complexes:

- *Naval Base Point Loma,*
- *Naval Base Coronado,* and
- *Naval Base San Diego.*

A separate NPDES Permit will be developed for each complex. This *Fact Sheet* is for tentative Order No. R9-2002-0002, which will regulate the discharges from the installations included as part of the *Naval Base Point Loma* (NBPL) Complex. The NBPL Complex includes the Navy installations listed below.

- Naval Submarine Base, San Diego (SUBASE)
- Magnetic Silencing Facility (MSF)
- Fleet Anti-Submarine Warfare Training Center, Pacific (FASW)
- Navy Public Works Center, Taylor Street Facility (PWC TSF)
- Space and Naval Warfare Systems Center, San Diego, Point Loma Campus (SSC San Diego PLC)
- Space and Naval Warfare Systems Center, Old Town Campus (SSC San Diego OTC)
- Fleet Combat Training Center, Pacific (FCTCPAC)
- Fleet and Industrial Supply Center (FISC), Point Loma

A location map showing the different NBPL installations is attached to this Fact Sheet as *Attachment A*.

Except for FASW, PWC TSF, and SSC San Diego OTC, the NBPL installations are located along the eastern shore, western shore, and the interior areas of the Point Loma Peninsula at the entrance to San Diego Bay. The 500 acre Point Loma Reserve is also included as part of NBPL. Other major occupants on the Point Loma Peninsula are the Ballast Point Coast Guard Station; Cabrillo National Monument; Fort Rosecrans National Cemetery; and the City of San Diego Point Loma Wastewater Treatment Plant (PLWTP).

a. Naval Submarine Base, San Diego (SUBASE)

Installation Location and Description

The SUBASE is located along the eastern shore of the Point Loma Peninsula at Ballast Point, San Diego, California. SUBASE is within the *Point Loma Hydrologic Area* (908.10) of the *Pueblo San Diego Hydrologic Unit* (908.00).

The SUBASE consists of 294 acres of predominantly moderately steep coastline. The majority of the SUBASE facilities are clustered on approximately 30 acres of relatively level land around *Ballast Point*. The remaining acreage is hillside rising to an elevation of approximately 350 feet at the crest of Point Loma. Most of SUBASE is undeveloped. Approximately 20% of the total area is impervious to storm water infiltration.

The mission of SUBASE is to provide support to the U.S. Pacific Fleet Submarine Force and other sea-going and shore-based tenant commands. SUBASE provides shore facilities, three deep draft piers, industrial maintenance support buildings, a floating drydock, bachelor quarters, dining facilities, submarine training facilities, torpedo retrievers and support craft, a torpedo and missile magazine complex, and the attendant support infrastructure of utilities, roads, and grounds.

The three piers at SUBASE are utilized to berth submarines, surface ships, and the ARCO, a floating drydock. The submarines and surface ships receive various ship support services such as supplies and minor repair or maintenance when berthed.

The ARCO supports full service ship repair activities. Ship repair activities include abrasive blasting, hydroblasting, metal grinding, painting, tank cleaning, removal of bilge and ballast water, removal of anti-fouling paint, sheet metal work, electrical work, mechanical repair, engine repair, hull repair, and sewage disposal. The ARCO contains all waste generated during ship repair activities in two separate 1500-gallon wastewater holding tanks. Storm water runoff from the ARCO floor is also collected in the wastewater holding tanks. The wastewater holding tanks discharge to the SUBASE *Bilge Oily Waste Treatment System* (BOWTS) for further treatment. Once treated by the BOWTS, wastewater and storm water is then directed to the sanitary sewer system.

The ship support services on the three piers include loading supplies and equipment onto the submarines and surface ships. Berth side maintenance (that is, maintenance while the vessel is

docked at the pier) of the submarines and surface ships may include all of the activities listed in the previous paragraph describing the ship repair activities. Berth side ship repair activities are generally less complex than the ship repair activities conducted in the floating drydock.

Ship repair activities may also be conducted on the piers. Boats, ship sections, or parts can be placed on the piers or adjacent lands for repairs. The ship repair activities may be conducted by Navy personnel (ships' force), civil service personnel, or by civilian contractors.

The discharges from ship repair and maintenance activities may result in industrial storm water discharges with a *high risk* potential to impact water quality. High risk areas are areas where wastes or pollutants from ship repair and maintenance activities (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.

The SUBASE also has several *Ship Intermediate Maintenance Activity* (SIMA) repair shops at the facility. The SIMA repair shops conduct repairs on various parts of the vessels, such as antenna repair or mechanical repairs.

The industrial activities at SUBASE include:

- Gasoline Service Station;
- Hazardous Substance Storage;
- Material Loading and Unloading;
- Material Storage;
- Metal Processing;
- Ordnance Storage;
- Recycling Collection Center;
- Ship Maintenance and Repair;
- Ship Support Services;
- Vehicle Repair and Maintenance;
- Water/Wastewater Treatment;
- Facility Maintenance; and
- Miscellaneous.

Storm Water Discharges

The industrial storm water discharges at SUBASE are subject to regulations in the tentative Order. Because of the high concentrations of copper and zinc in the industrial storm water

discharges from the SUBASE, effluent limitations for toxicity are included in the tentative Order. Additional information regarding the SUBASE industrial storm water discharge is included in *Storm Water Discharge* section of this Fact Sheet.

The *Storm Water Discharge* section of this *Fact Sheet* describes those discharges identified by the Navy in its industrial storm water monitoring reports required by the *State Water Resources Control Board (State Water Board)*, *Water Quality Order No 97-03-DWQ*, *National Pollutant Discharge Elimination System (NPDES)*, *General Permit No. CAS000001 (General Permit)*, *Waste Discharge Requirement (WDRS) for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (General Industrial Storm Water Permit)*.

Point Source Discharges

Point source discharges (ballast water, ship repair and maintenance activity, steam condensate, utility vault, and miscellaneous) from the SUBASE are described in the *Point Source Discharge* section of this *Fact Sheet*. The *Point Source Discharge* section describes those discharges identified by the CNSRW in its NPDES application or identified by the Regional Board during inspections of the NBPL Complex.

b. Magnetic Silencing Facility (MSF)

Installation Location and Description

The MSF is located on the northern portion of SUBASE property and is within the *Point Loma Hydrologic Area (908.10)* of the *Pueblo San Diego Hydrologic Unit (908.00)*. The MSF consists of 19.7 acres of predominantly moderately steep coastline. The MSF contains two piers that are used approximately five times per year as berths for Navy ships being degaussed (or demagnetized).

Degaussing operations involve covering the ship with a mesh and supplying an electrical current to the mesh. When the ships are berthed at the pier, they only receive maintenance or support services associated with the degaussing operations.

The Navy uses four diesel engines to supply electricity for the degaussing operations. The diesel engines use once-through cooling water to cool the engines. The once-through cooling water discharges are described in the *Point Source Discharge* section of this *Fact Sheet*.

The industrial activities at MSF include:

- Electrical Utilities;
- Hazardous Substance Storage;
- Facility Maintenance; and
- Miscellaneous.

Storm Water Discharges

The *Storm Water Discharge* section describes those discharges identified by the Navy in its industrial storm water monitoring reports submitted pursuant to the *General Industrial Storm Water Permit*. The industrial storm water discharges from the MSF are regulated by the tentative Order.

Point Source Discharges

The point source discharges (diesel engine cooling water, MSF pier wash waters, and miscellaneous) are described in the *Point Source Discharge* section of this report. The *Point Source Discharge* section describes those discharges identified by the CNSRW in its NPDES application.

c. Fleet Anti-Submarine Warfare Training Center, Pacific (FASW)

Installation Location and Description

The FASW is located at the intersection of North Harbor Drive and Nimitz Boulevard in San Diego, California. The FASW is located further north than SUBASE and west of the San Diego Airport. The FASW is in the *Point Loma Hydrologic Area* (908.10) of the *Pueblo San Diego Hydrologic Unit* (908.00). The FASW covers approximately 38 acres of mostly level land at the north end of San Diego Bay. Approximately 80% of the total area is impervious to storm water infiltration consisting mainly of buildings and paved areas.

The FASW is comprised of over 40 buildings and is the only facility on the west coast that trains personnel in the operation, maintenance, and tactical use of sonar and other anti-submarine warfare equipment. The buildings at FASW are non-industrial and are primarily living quarters and classroom areas.

There are three small piers at FASW. One of the piers is used for equipment loading and unloading for the *Explosive Ordinance Disposal* (EOD) Unit boats. The other two piers are utilized as a small marina to store recreational boats for the *Morale, Welfare, and Recreation Department* (MWR). Industrial activity at FASW is limited to facility maintenance, food preparation, and minor maintenance on small boats.

Storm Water Discharges

Storm water discharges from the FASW are considered to be non-industrial and have not been covered under the *General Industrial Storm Water Permit*. The storm water discharges are not regulated by the tentative Order. If industrial activities occur at the FASW installation, which produce an industrial storm water discharge then the discharges would be subject to the requirements in the tentative Order.

Point Source Discharges

The point source discharges (utility vault, steam condensate, and miscellaneous) are described in the *Point Source Discharge* section of this report. The *Point Source Discharge* section describes those discharges identified by the CNSRW in its NPDES application.

d. Navy Public Works Center, Taylor Street Facility (PWC TSF)

Installation Location and Description

The PWC TSF is located at 4635 Pacific Highway, San Diego, California. The PWC TSF is located near the intersection of Pacific Highway and Taylor Street, adjacent to the Interstate 5 and Interstate 8 Interchange. The PWC TSF is in the *Mission San Diego Hydrologic Sub Area (907.11)* of the *Lower San Diego Hydrologic Area (907.10)* of the *San Diego Hydrologic Unit (907.00)*. The PWC TSF covers approximately 3.2 acres of land that is relatively flat. Approximately 75% of PWC TSF is impervious to storm water infiltration. The impervious areas include buildings and paved surfaces.

The PWC TSF is used as office and shop areas for facility maintenance activities. Industrial activities are limited to facility maintenance.

Storm Water Discharges

The activities at PWC TSF and the associated storm water discharges are limited to facility maintenance, which is not subject to the *General Industrial Storm Water Permit*. The storm water discharges are not regulated by the tentative Order. If industrial activities occur at the PWC TSF installation, which produce an industrial storm water discharge then the discharges would be subject to the requirements in the tentative Order.

Point Source Discharges

The point source discharges (landscape runoff, potable water and fire system maintenance) are described in the *Point Source Discharge* section of this report. The *Point Source Discharge*

section describes those discharges identified by the CNSR in its NPDES application.

e. Space and Naval Warfare Systems Center, San Diego, Point Loma Campus (SSC San Diego PLC)

Installation Location and Description

The SSC San Diego PLC is located along the east shore, west shore, and interior areas of the Point Loma Peninsula. The SSC San Diego PLC is within the *Point Loma Hydrologic Area* (908.10) of the *Pueblo San Diego Hydrologic Unit* (908.00). SSC San Diego PLC consists of 740 acres, 117 of which is developed. It's mission is to be the Navy's full-spectrum research, development, test and evaluation, engineering and fleet support center for command, control and communication systems and ocean surveillance and the integration of those systems.

The facility has four piers. The piers are used to berth small boats, a research submarine, barges, and dolphin and seal pens (mammal program). The piers are used to load and unload materials. Minor ship repair and maintenance work is performed on the piers. This could include removal of barnacles, minor scraping/sanding and brush and roller painting. Major ship repair and maintenance work is performed at the *Naval Station, San Diego Graving Dock* facility.

Industrial activities at SSC San Diego PLC include:

- Electrical Utilities;
- Electronics Assembly and Testing;
- Material Loading and Unloading;
- Material Storage;
- Metal Finishing/Electroplating;
- Ship Support Services; and
- Vehicle and Equipment Maintenance.

Storm Water Discharges

The industrial storm water discharges from SCC San Diego PLC are regulated by the tentative Order. The *Storm Water Discharge* section describes those discharges identified by the Navy in its industrial storm water monitoring reports required by the *General Industrial Storm Water Permit*.

Point Source Discharges

The point source discharges (utility vault, dolphin pools, unused San Diego Bay water, abalone tanks & bioassay trailer, ship repair and maintenance, mammal enclosure cleaning, small boat

rinsing, and miscellaneous) from SSC San Diego PLC are described in the *Point Source Discharge* section of this report. The *Point Source Discharge* section describes those discharges identified by the CNSRW in its NPDES application or identified by the Regional Board when conducting inspections of the NBPL Complex.

f. Space and Naval Warfare System Center, San Diego, Old Town Campus (SSC San Diego OTC)

Installation Description and Location

The SSC San Diego OTC is located at 4297 Pacific Highway in San Diego, California. It is situated north of San Diego International Airport, south of Mission Bay, and between Interstate Highway 5 and Pacific Highway. Interstate Highway 5 borders the facility on the north and east, and Pacific Highway forms the southern and western boundaries. The SSC San Diego OTC is within the *Lindberg Hydrologic Sub Area* (908.21) of the *San Diego Mesa Hydrologic Area* (908.20) of the *Pueblo San Diego Hydrologic Unit* (908.00). The SSC San Diego OTC consists of approximately 70 acres. The facility is mostly flat, with gently sloping surface drainage. Most of the facility is impervious (95%).

SSC San Diego OTC's mission is to provide Naval personnel with knowledge superiority by developing, delivering, and maintaining effective, capable, and integrated command, control, communications, computer, intelligence, and surveillance systems. The SSC San Diego OTC provides information technology and space systems for today's Navy and Defense Department activities while planning and designing for the future.

The current occupants of the facility are the Navy and Lockheed Martin. Lockheed Martin occupies Building 3 and manufactures fuel tanks, and welding assemblies for expendable launch vehicles. Lockheed Martin occupies the Hazardous Waste Storage Yard (Building 73) and areas surrounding Buildings 5 and 8. The Navy and/or its contractors use the remaining areas of the facility for warehousing, minor assembly, equipment storage, or administrative functions.

Industrial activities at SSC San Diego OTC include:

- Electronics Assembly and Testing;
- Material Loading and Unloading;
- Material Storage;
- Metal Processing;

- Facility Maintenance; and
- Miscellaneous.

Storm Water Discharges

The industrial storm water discharges from SCC San Diego OTC are regulated by the tentative Order. The *Storm Water Discharge* section describes those discharges identified by the Navy in its industrial storm water monitoring reports required by the *General Industrial Storm Water Permit*.

Point Source Discharges

The point source discharges (miscellaneous) are described in the *Point Source Discharge* section of this report. The *Point Source Discharge* section describes those discharges identified by the CNSRW in its NPDES application.

g. Fleet Combat Training Center, Pacific (FCTCPAC)

Installation Location and Description

The FCTCPAC is located along the west side of the Point Loma Peninsula at 200 Catalina Boulevard, San Diego, California. The FCTCPAC is bordered by the Pacific Ocean to the west, Catalina Boulevard to the east, Point Loma College to the north and SSC San Diego PLC to the south and it is within the *Point Loma Hydrologic Area* (908.10) of the *Pueblo San Diego Hydrologic Unit* (908.00). The FCTCPAC consists of 91.3 acres of moderately steep, undeveloped, native coastline on the west side of Point Loma.

The FCTCPAC's primary mission is to provide electronic training facilities in support of the Pacific Fleet. The majority of the buildings are clustered adjacent to Catalina Boulevard near the crest of the peninsula at an elevation of approximately 350 feet. Industrial activities at the facility are limited to facility maintenance and material storage.

Storm Water Discharges

The activities at FCTCPAC and the associated storm water discharges are limited to facility maintenance, which is not subject to the *General Industrial Storm Water Permit*. The storm water discharges are not regulated by the tentative Order. If industrial activities occur at the FCTCPAC installation, which produce an industrial storm water discharge then the discharges would be subject to the requirements in the tentative Order.

Point Source Discharges

The point source discharges (miscellaneous) are described in the *Point Source Discharge* section of this report. The *Point Source Discharge* section describes those discharges identified by the CNSRW in its NPDES application.

h. Fleet Industrial Supply Center (FISC), Point Loma

Installation Location and Description

The FISC Pt. Loma is located along the east side of the Point Loma Peninsula adjacent to San Diego Bay. The FISC Pt. Loma is within the *Point Loma Hydrologic Area* (908.10) of the *Pueblo San Diego Hydrologic Unit* (908.00) and it consists of 200 acres of predominantly moderately steep, mostly undeveloped, native coastline. The majority of buildings are clustered on land at the shoreline.

The FISC Pt. Loma is an integral part of the fuel storage and transportation functions of the U.S. Navy in the vicinity of San Diego. Its primary purpose is bulk storage and transportation of petroleum products to *Marine Corps Air Station Miramar*, *Naval Air Station North Island*, and *Naval Submarine Base, San Diego*.

Diesel fuel marine (DFM), lube oil, and aviation fuel (JP-5) are delivered to FISC Pt. Loma by ocean vessels, trucks, and underground fuel lines. The FISC Pt. Loma has thirty-eight storage tanks, six fuel oil reclaimed tanks, two runoff collection tanks, one batch change tank, and six oily waste tanks of various construction and age, located above and below ground, varying in capacity from 200 gallons to 2.225 million gallons. Eleven miles of pipeline are within the tank farm area with the majority of the lines buried. Additional facilities include administrative offices, piers (large fueling pier and small boat pier), maintenance shops, pump houses, truck loading racks, oil reclamation plant, chemical laboratory, and tank farm operations buildings.

Storm Water Discharges

The industrial storm water discharges from FISC Pt. Loma are regulated by the tentative Order. The *Storm Water Discharge* section describes those discharges identified by the Navy in its industrial storm water monitoring reports required by the *General Industrial Storm Water Permit*.

Point Source Discharges

The point source discharges (miscellaneous, and pier boom cleaning) are described in the *Point Source Discharge* section of

this report. The *Point Source Discharge* section describes those discharges identified by the CNSRW in its NPDES application.

II. POINT SOURCE DISCHARGES

The *point source* discharges as identified in the RWD are grouped into twelve general industrial processes:

- Utility Vault & Manhole Dewatering;
- Steam Condensate;
- Cooling Water;
- ARCO Ballast Tanks;
- MSF Pier Washing;
- Dolphin Pools;
- Unused San Diego Bay Water;
- Abalone Tanks & Bioassay Trailer Discharges;
- Pier Boom Cleaning;
- Mammal Enclosure Cleaning;
- Small Boat Rinsing; and
- Miscellaneous Discharges (landscape watering runoff, potable water & fire system maintenance).

Latitude and longitude coordinates for *Point Source* discharges were included in the RWD for the NBPL. The latitude and longitude coordinates and maps identifying the discharge locations are included in *Attachment B* of this Fact Sheet. Reporting limits for the *Point Source* sample analyses discussed in this Fact Sheet are also included in the RWD.

An additional waste discharge included in this Fact Sheet and prohibited in tentative Order No. R9-2002-0002 are discharges associated with:

- Ship repair and maintenance activities.

The additional discharge is based on the information contained in the Regional Board's administrative records. The administrative records include inspection reports for the Navy complexes in San Diego; Notice of Violation (NOV) No. 2000-118, dated May 24, 2000, issued to the Navy for paint chip discharges from the USS Essex; and storm water annual monitoring reports for NBPL and commercial shipyards in San Diego (i.e. National Steel & Ship Building Co., SouthWest Marine, Continental Maritime, and the Navy Graving Dock).

The diverse discharges from ship repair and maintenance activities could occur at several locations, including aboard ship when docked, on the piers, in the drydock, or on shore locations.

Descriptions of the waste discharges from the NBPL are provided below. The descriptions are from the information in the administrative record as explained above, and from the waste discharges identified in the RWD submitted by the Navy.

a. SHIP REPAIR AND MAINTENANCE ACTIVITIES

Ship repair and maintenance activities include abrasive blasting, hydroblasting, metal grinding, painting, tank cleaning, removal of bilge and ballast water, removal of anti-fouling paint, sheet metal work, electrical work, mechanical repair, engine repair, hull repair, and sewage disposal.

The ship repair and maintenance activities may be conducted by Navy personnel (ships' force), civil service personnel, or by civilian contractors. The specifications, prohibitions, and monitoring requirements in tentative Order No. R9-2002-002 applies to all ship repair and maintenance activities at NBPL conducted under the control of the U.S. Navy including Navy personnel (ships' force), civil service personnel, and civilian contractors.

Berth side maintenance on the submarines and surface ships may include all of the activities listed in the previous paragraph describing the ship repair activities. Berth side ship repair activities are generally less complex than the ship repair activities conducted in the floating drydock. Ship repair activities may also be conducted on the piers. Boats, ship sections, or parts can be placed on the piers or adjacent lands for repairs.

Additional information regarding the industrial storm water discharges associated with the ship repair and maintenance activities is included in the Industrial Storm Water Discharges section for SUBASE.

Prohibited discharges—Ship repair and maintenance activities result or have the potential to result in discharges to San Diego Bay of wastes and pollutants which are likely to cause or threaten to cause pollution, contamination, or nuisance; adversely impact human health or the environment; cause or contribute to violation of an applicable water quality objective; or otherwise adversely affect the water quality or beneficial

uses of waters of the state and waters of the United States. Such discharges include, but are not limited to, the following:

- water contaminated with abrasive blast materials, paint, oils, fuels, lubricants, solvents, or petroleum;
- hydroblast water;
- tank cleaning water from tank cleaning to remove sludge and/or dirt;
- clarified water from oil/water separator;
- steam cleaning water;
- demineralizer and reverse osmosis brine;
- water from the floating drydock's holding tanks when the drydock is in use as a work area;
- oily bilge water;
- vessel washdown water;
- floating drydock submergence and emergence water;
- pipe and tank hydrostatic test water;
- miscellaneous low-volume water;
- saltbox water;
- paint chips;
- paint over spray;
- paint spills;
- hydraulic oil leaks and spills;
- fuel leaks and spills;
- abrasive blast materials;
- trash;
- miscellaneous refuse and rubbish;
- fiberglass dust;
- swept materials; and
- ship repair and maintenance activity debris.

b. UTILITY VAULT & MANHOLE DEWATERING

The NPDES application for NBPL identifies discharges associated with electrical and steam utility vaults and manholes. Utility companies, or agencies, such as the Public Works Center (PWC) for the NBPL, supply resources, excluding water, as necessary for day-to-day living and operations. This includes, but is not limited to suppliers of natural gas, electricity, and telephone service. Electrical and steam utilities are owned and maintained by the Navy Public Works Center (PWC). The utility vault discharges are short-term intermittent discharges of pollutants from utility vaults and underground structures.

Typically, utility companies, the PWC for the NBPL, must de-water the vaults and underground structures prior to performing any repair, maintenance and/or installation of equipment for safety reasons. Water is pumped from the vaults or structures when the amount of water interferes with the safety or quality of the work to be done. The volume of discharge could vary from a few gallons to thousands of gallons. The duration of discharge and pump rates for the discharge could also vary greatly.

Navy installations in San Diego require electrical power for both shore and afloat operations. The on-base electrical power is carried through an extensive underground conduit system. Electrical utility vaults and manholes contain high voltage electrical equipment, transformers, switchgear, and/or below grade cables. High-pressure steam lines are also located in underground conduit systems and are accessed through utility manholes.

There are fourteen electrical vaults located at NBPL that can have point source discharges. Of the fourteen vaults, nine vaults are located on the three piers at SUBASE. The pier vaults are subject to Bay water intrusion and can also accumulate storm water during rain events. Automatic sump pumps are installed in each vault and discharge the accumulated water directly to San Diego Bay.

The remaining five vaults are located on land, inside buildings and are associated with electrical switching or substations. Similar to the pier vaults, the vaults on land can also accumulate ground water and storm water and are dewatered using automatic sump pumps. The sump pumps discharge the water on to the ground surface around the vault building. Depending on the discharge volume these discharges could reach a storm drain inlet and discharge to San Diego Bay.

In addition to the vaults, electrical utility manholes are located on all of the NBPL installations. Steam utility manholes are located on SUBASE and FASW. Both the electrical and steam utility manholes can accumulate groundwater and storm water that must be removed when maintenance or emergency work is required. The steam utility manholes can also accumulate steam condensate water. All manholes at the NBPL are manually dewatered using a portable pump or pump truck. For over two years, PWC has implemented procedures to eliminate manhole dewatering discharges to surface waters. PWC either pumps the water into an adjacent utility manhole or transfers the water to the sanitary sewer system. Although there could be an emergency situation that would require dewatering a manhole onto the ground surface, PWC has not had to do this in over two years.

The discharges from the NBPL electrical utility vaults are regulated by *California State Water Resources Control Board, Water Quality Order No. 2001-11-DWQ, Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges from Utility Vaults and Underground Structure to Surface Waters, General Permit No. CAG990002, Waste Discharge Requirements (General Utility Vault Permit)*.

In accordance with the *General Utility Vault Permit*, the PWC has developed pollution prevention practices for utility vault and manhole discharges. The pollution prevention practices include inspections of utility vaults and manholes for potential pollutant sources and the dewatering of utility manholes into adjacent utility manholes or the sanitary sewer system. A case study will be performed during the 2001/2002 wet season to characterize any discharges from the utility vaults and manholes. During 2001 there were no discharges observed from the electrical vaults at NBPL and manhole dewatering was only to other manholes or the sanitary sewer system. PWC personnel estimate that any discharges from the NBPL electrical utility vaults would be infrequent and very low in volume. During inspections of the vaults, water has not been observed in the vaults.

Tentative Order No. R9-2002-0002 incorporates the pertinent specifications, limitations, and monitoring requirements of the *General Utility Vault Permit*. By including the discharges from the Utility Vaults in the tentative Order, the NBPL will have 1 NPDES permit for all of its surface water discharges.

The State Board, in Finding 13 of the *General Utility Vault permit*, granted the utility vault discharges an exception to *Sections 1.3 and 1.4 of the Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Implementation Policy)* because numeric effluent limits are infeasible for discharges from vaults and underground structures. The tentative Order does not require monitoring of the Utility Vault discharges for the requirements in the *Implementation Policy*.

Tentative MRP No. R9-2002-0002 includes monitoring for chemicals, and requires the submittal of a log of the discharges to identify any potential impacts to beneficial uses.

c. STEAM CONDENSATE

The U.S. Navy uses a pressurized steam system for both shore and afloat operations. Within NBPL, only the Naval Submarine Base, San Diego (SUBASE) and Fleet Anti-Submarine Warfare Center (FASW) have an on-base steam system. The steam system at SUBASE

produces steam condensate that is discharged to San Diego Bay. The FASW system does not discharge steam condensate to the Bay.

Steam is produced by on-base boiler plants. The plants are operated by the Navy Public Works Center (PWC). During the production of steam, oxygen scavengers, boiler additives, and boiler neutralizer chemicals may be added to the boiler for process control, corrosion control, or pH adjustments.

After leaving the plant, the steam enters the distribution system, which consists of high-pressure steam lines, pressure reducing valve stations, and expansion joints to provide service to buildings and submarines. The steam system has traps in the steam lines designed to discharge steam condensate so the steam supplied to users is free of condensate. When condensate water collects in the steam lines it is essential for the system to remove the water as soon as possible.

The only steam condensate discharge from SUBASE to San Diego Bay is from Pier 5000. The steam line on Pier 5000 releases steam condensate from two traps in a cloud of steam that has a temperature in excess of 100° Celsius. A portion of the steam evaporates prior to condensing and discharging to the bay. The estimated discharge rate for the steam line is one ounce per minute or two ounces per minute for both traps. Based on this estimate the total discharge volume per day is estimated to be 45 gallons.

As shown in *Table 1. Steam Condensate Discharge Analyses*, the NPDES application included laboratory analyses for the steam condensate discharges from Pier 5000.

Table 1. Steam Condensate Discharge Analyses.

Analytical Parameters	Steam Condensate 8/10/00	Steam Condensate 8/24/00
Cadmium (mg/L)	ND	ND
Copper (mg/L)	ND	ND
Lead (mg/L)	ND	ND
Mercury (mg/L)	ND	ND
Nickel (mg/L)	ND	ND
Zinc (mg/L)	ND	ND
Ammonia as N (mg/L)	0.36	0.16

Analytical Parameters	Steam Condensate 8/10/00	Steam Condensate 8/24/00
BOD	13.0	ND
COD	110.0	2290.0
pH	8.35	8.7
TPH Diesel (mg/L)	ND	NA
Temp. °C	27.1	26.9
TOC (mg/L)	17.0	1680.0
TSS (mg/L)	ND	ND

NA = not applicable, not tested
 ND = not detected

Any steam condensate that is discharged from a vault or manhole is regulated as a utility vault discharge as described in the previous section on utility vaults.

The low volume steam discharges could be subject to regulations in the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

Tentative MRP No. R9-2002-0002 requires annual monitoring of the steam condensate discharge for certain chemicals to monitor the quality of the discharge and to evaluate potential impacts to water quality.

d. DIESEL ENGINE COOLING WATER

The Naval Undersea Warfare Center operates a degaussing (or demagnetizing) facility known as the *Magnetic Silencing Facility* (MSF) in Building 2, within the NBPL Complex. The degaussing operation creates a diesel engine cooling water discharge to San Diego Bay.

The degaussing operation uses single-pass, non-contact cooling water for the four diesel engines that power the degaussing operation. The engines are submarine diesel engines that were obtained from the decommissioning of the *USS Trepang* in 1946. Degaussing is not a process that needs to be performed frequently. All U.S. Navy surface ships entering San Diego Bay are analyzed to ensure they have not become magnetized. Generally, only newly commissioned ships or ships that have

undergone large-scale repairs require degaussing. It is estimated that last year, the diesel engines operated less than 40 hours. The degaussing process requires engine use for approximately eight hours.

MSF operations use one of two identical pumps rated at 2,500 gallons per minute (gpm) to supply cooling water. These pumps draw San Diego Bay water into a 12-inch PVC pipe directly under the pier. The water is pumped approximately 350 feet to Building 2. The last 50 feet of 12-inch piping to the diesel engines is steel. After circulating through the heat exchange system, the single-pass cooling water is discharged through PVC piping into San Diego Bay approximately 30 feet off shore.

Assuming the engines run eight hours for the degaussing process with a maximum discharge rate of 2,500 gpm, the discharge for a degaussing operation would be approximately 1.2 million gallons. Assuming 40 hours of operation per year the annual discharge volume would be 6.0 million gallons.

As shown in *Table 2. Diesel Engine Cooling Water Discharge Analyses*, the NPDES application included laboratory analyses for the diesel cooling water discharge.

Table 2. Diesel Engine Cooling Water Discharge Analyses.

Parameter & Units	Cooling Water 3/21/00	Cooling Water 4/5/00	Cooling Water 1/4/01
Cd (mg/L)	ND	ND	ND
Cu (mg/L)	0.04	ND	ND
Pb (mg/L)	ND	ND	ND
Hg (mg/L)	ND	ND	ND
Ni (mg/L)	ND	ND	ND
Zn (mg/L)	ND	ND	0.02
Ammonia as N (mg/L)	NA	NA	ND
BOD (mg/L)	NA	NA	ND
COD (mg/L)	NA	NA	ND
pH	7.85	8.23	8.23
TPH Gas (mg/L)	ND	ND	ND
TPH Diesel (mg/L)	ND	ND	ND
Temp. °C	16.1	14.9	14.9
TOC(mg/L)	NA	NA	1.6
TSS(mg/L)	NA	NA	17

NA = not applicable, not tested
 ND = not detected

The discharge event for the once through, non-contact cooling water is subject to regulations in the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

Tentative MRP No. R9-2002-0002 does require semiannual monitoring of the diesel cooling water discharge for certain chemicals to monitor the quality of the discharge and to evaluate potential impacts to water quality.

The discharge of thermal waste must comply with the *SWRCB, Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan). The *Specific Water Quality Objectives for Enclosed Bays* from the Thermal Plan (pp. 4 & 5) for the discharge of thermal waste states the following:

A. Existing discharges

(1) *Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.*

B. New discharges

(1) *Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses. The maximum temperature of waste discharges shall not exceed the natural temperature of the receiving waters by more than 20°F.*

(2) *Thermal waste discharges having a maximum temperature greater than 4°F above the natural temperature of the receiving water are prohibited.*

Since the discharge of the diesel cooling water is not included in the definition for an existing discharge in the Thermal Plan, the discharge is a new discharge.

The more stringent prohibition of . . . *having a maximum temperature greater than 4°F above the natural temperature of the receiving water* . . . has been included in the Prohibitions of tentative Order No. R9-2002-0002.

The tentative MRP No. R9-2002-002 includes monitoring requirements for the discharge and the receiving waters to assess compliance with the thermal specification.

e. SUBASE ARCO

The ARCO is a floating drydock that is berthed at the southern pier of the submarine base. It is used to conduct repairs on submarines and other Navy ships and boats. The ship repair activities on the ARCO are conducted in a manner that prohibits all waste discharges to surface waters. The wastes are directed to the sanitary sewer system. There are two 1500-gallon tanks on the ARCO, which contain the waste discharges associated with the ship repair activities. All waste discharges and storm water runoff is collected in the holding tanks and then discharged to the SUBASE *Bilge Oily Waste Treatment System* (BOWTS) for further treatment. Once treated by the BOWTS, wastewater and storm water is then discharged to the sanitary sewer system.

Any discharges from ship repair and maintenance activities at the ARCO are subject to the conditions explained previously in the *Ship Repair and Maintenance* section.

Ballast Waters

The ballast waters from the ARCO are the only identified discharges in the RWD for the ARCO. All other liquid wastes, including storm water from the working surface of the ARCO are diverted to the sanitary sewer system. The ARCO has 20 ballast tanks, 10 are on the port side and 10 are on the starboard side. Each of the ballast tanks contains zinc anodes. The total volume of the tanks is 880,000 cubic feet or approximately 24,425 long tons of water. When deballasting approximately 2/3 of the tank is emptied; therefore, each discharge event is approximately 4.4 million gallons. On average, the drydock deballasting occurs approximately 12 to 14 times per year. Therefore the annual discharge is approximately 53 to 61 million gallons.

The ballast tanks are primarily intended to submerge the drydock to a depth that allows an incoming vessel to enter. The vessel being repaired is then positioned over keel and bilge blocks upon which the vessel will rest during repair operations and the ballast water is discharged causing the drydock to float. The drydock is considered *burdened* when a ship is on the blocks and it is deballasted to an outside draft of fourteen (14) feet six (6) inches.

As shown in *Table 3. Ballast Water Discharge Analyses*, the NPDES permit application included the following laboratory analyses for water discharged from the ballast tanks.

Table 3. Ballast Water Discharge Analyses.

Parameter & Units	Port 1&2		Port 4&5	Port 5&6	Port 9&10		Starboard Port	
	4/19/00	1/5/01	1/5/01	4/19/00	4/19/00	1/5/01	4/19/00	1/5/01
Cd (mg/L)	ND	ND	ND	ND	ND	ND	ND	ND
Cu (mg/L)	ND	0.37	0.69	0.19	0.15	0.38	0.08	0.45
Pb (mg/L)	ND	ND	ND	ND	ND	ND	ND	ND
Hg (mg/L)	ND	ND	ND	ND	ND	ND	ND	ND
Ni (mg/L)	ND	0.09	0.26	0.05	0.03	0.06	0.02	0.15
Zn (mg/L)	0.04	0.10	0.09	0.06	0.05	0.13	0.05	0.11
Ammonia as N (mg/L)	NA	ND	ND	NA	NA	ND	NA	ND
BOD (mg/L)	NA	ND	ND	NA	NA	ND	NA	ND
COD (mg/L)	NA	ND	ND	NA	NA	ND	NA	ND
pH	NA	8.55	8.23	NA	NA	8.33	NA	8.23
TPH Diesel (mg/L)	NA	ND	ND	NA	NA	ND	NA	ND
Temp. °C	NA	16.2	16.4	NA	NA	15.6	NA	15.9
TOC (mg/L)	NA	2.0	1.4	NA	NA	1.4	NA	1.6
TSS (mg/L)	NA	14.0	12.0	NA	NA	11.0	NA	11.0

NA = not applicable, not tested
 ND = not detected

The ballast waters identified in the NPDES application are defined by the *Uniform National Discharge Standards (UNDS) for Armed Forces Vessels as a clean ballast*. Pursuant to Section 312 of the Clean Water Act, the USEPA and the DOD are developing marine pollution control devices (MPCD) to mitigate adverse impacts on the marine environment (FWPCA Sec. 312(n)(2)(A)). The discharge of clean ballast is being reviewed pursuant to UNDS. Tentative Order No. R9-2002-0002 requires the Navy to implement the MPCD requirements when they are developed pursuant to the UNDS.

Tentative Monitoring and Reporting Program (MRP) No. R9-2002-0002 requires the Navy to provide a written notification to the Executive Officer at least 48 hours prior to the flooding of the ARCO. The tentative MRP requires the Navy to record on VHS videotape the condition of the floating drydock immediately prior

to each flooding in order to evaluate the cleanliness, and the BMP implementations at the floating dry dock, and to confirm the presence of an environmental person at the floating drydock when it is flooded. The videotape recordings shall include the beginning period of the flooding of the floating drydock.

f. MSF PIER CLEANING

The pier at the *Magnetic Silencing Facility* (MSF) is located just inside of the bait barges, which supply bait for the commercial fishing operations for San Diego Bay fishermen. Consequently, the area has a significant marine bird population. The marine birds roost at the MSF pier and create a significant amount of guano. To minimize health and safety issues resulting for the accumulated guano, the pier is washed with Bay water three times per week.

The pier is swept with a street sweeper prior to the wash down. A pump located on the pier is used to supply San Diego Bay water for the wash down. The pump is rated at 240 gpm and the pier washing takes approximately 90 minutes to complete. The discharge volume for the pier is approximately 21,600 gallons for each washing, 64,800 gallons per week, and 3.4 million gallons annually. The wash water discharges to the Bay from several 3-inch drains located on the pier.

As shown in *Table 4. Pier Cleaning Water Discharge Analyses*, the NPDES application included laboratory analyses for the wash water used to remove the guano from the pier.

Table 4. Pier Cleaning Water Discharge Analyses.

Parameters & Units	Pier Cleaning Water 1 11/9/01	Pier Cleaning Water 2 11/9/01
Cadmium (mg/L)	ND	ND
Copper (mg/L)	ND	ND
Lead (mg/L)	ND	ND
Mercury (mg/L)	ND	ND
Nickel (mg/L)	ND	ND
Zinc (mg/L)	0.02	ND
Ammonia as N (mg/L)	1.4	0.06

Parameters & Units	Pier Cleaning Water 1 11/9/01	Pier Cleaning Water 2 11/9/01
BOD	20	ND
COD	ND	ND
TPH Gas (mg/L)	ND	ND
TPH Diesel (mg/L)	ND	ND
pH	7.78	7.91
TOC (mg/L)	7.9	4.0
TSS (mg/L)	37	9
Total Coliform MPN/100mL	>1600	>1600
Fecal Coliform MPN/100mL	>1600	>1600

ND = not detected

The discharge of pier wash water is subject to the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

The tentative MRP No. R9-2002-0002 requires notification and monitoring of the pier wash water discharge to protect water quality.

g. DOLPHIN POOLS

There are two installations within the NBPL Complex that have similar processes associated with the training of dolphins. These two installations, the MSF and the SSC San Diego PLC, use temporary holding pools for dolphins and discharge pool water to San Diego Bay.

At MSF, there are three dolphin pools, each with a capacity of 10,000 gallons. At SSC San Diego PLC, there are three 10,000-gallon capacity pools and one larger pool with a capacity of 23,500 gallons. All of the pools are operated in the same manner. When dolphins are in the pools, fresh seawater is continuously pumped from San Diego Bay, circulated throughout the pools, and discharged back to the Bay. The dolphins occupy the pools approximately half of the time. The remaining time the pools are drained. The Bay water is not processed in any way, and no chemicals are added to the pool system.

When the dolphin pools are in use, sea water is circulated through the pools using one pump for each facility (MSF & SSC San Diego PLC). The maximum discharge rate for each pump is 100 gallons per minute. At each facility there is typically only one or two pools in operation at any one time, therefore the average flow is approximately 50 gpm at each facility. The pools are used on average about 10 hours per day. Based on a 50-gpm discharge rate for 10 hours per day, the daily discharge from each separate facility is 30,000 gallons. The total discharge volume for both facilities is approximately 60,000 gallons per day. If the pools are operated for half the time per year, the annual flow is approximately 11 million gallons.

The piping used for the pool influent and effluent is a combination of 4-inch polyvinyl chloride (PVC) and 2-inch plastic flexible hoses. The effluent flexible hoses either discharge directly into the Bay or onto the rip rap rock next to the Bay. There are also small amounts of spillage from the pools that discharge onto the concrete surfaces around the pools and then into drains that flow to the bay. In addition, the pools are drained to the Bay when not in use.

As shown in *Table 5. Dolphin Pool Discharge Analyses*, and *Table 6. Historical Dolphin Pool Discharge Analyses* the NPDES permit application included laboratory analyses for the dolphin pool discharges.

Table 5. Dolphin Pool Discharge Analyses.

Analytical Parameters	Dolphin Pool 1 MSF		Dolphin Pool 2 MSF		Dolphin Pool 3 MSF	
	3/22/00	4/5/00	3/22/00	4/5/00	3/22/00	4/5/00
Ammonia as N mg/L	0.09	0.06	0.15	0.05	0.06	0.93
BOD mg/L	ND	NA	ND	NA	NA	ND
COD mg/L	160	129	130	141	149	128
pH	7.84	8.13	7.96	8.08	7.96	8.16
Temperature °C	15.4	15.4	15.4	15.6	15.7	15.3
TOC mg/L	1.1	1.7	1.0	1.5	1.6	1.4
TSS mg/L	106	10	114	9	66	18

Analytical Parameters	Dolphin Pool 1 MSF		Dolphin Pool 2 MSF		Dolphin Pool 3 MSF	
	3/22/00	4/5/00	3/22/00	4/5/00	3/22/00	4/5/00
Total Coliform MPN/100	<2	14	<2	8	<2	8
Fecal Coliform MPN/1000 ml	< 2	6	< 2	8	<2	8

NA = not applicable, not tested
 ND = not detected

Table 6. Historical Dolphin Pool Discharge Analyses.

Analytical Parameters (mg/L)	Dolphin Pool MSF 5/17/94
Ammonia as N mg/L	ND
BOD mg/L	2.4
COD mg/L	395
pH	7.82
Temperature °C	18
TOC mg/L	7.7
TSS mg/L	294
Fecal Coliform MPN/1000 ml	30

The discharge of dolphin pool water is subject to the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

Annual reporting of any significant changes in the discharge is required by the tentative MRP.

h. UNUSED SAN DIEGO BAY WATER

The SSC San Diego PLC uses San Diego Bay water to supply water for the Building 111 laboratory tanks. Excess unused Bay water is discharged back into San Diego Bay.

Bay water is continually pumped from the San Diego Bay via 2-inch polyvinyl chloride (PVC) piping into a 500 gallon flow through tank on the roof of Building 111. The Bay water is piped into Building 111 and, after use inside the building, is discharged to the sanitary sewer. Unused water continually flows from the roof top tank to prevent stagnation in the tank. This water is discharged via 2-inch PVC piping to the storm drain system that discharges to the Bay. The unused Bay water effluent travels approximately 40 feet in 2-inch PVC piping from Building 111 to the storm drain. The tank pump is rated at 25 gpm, and the discharge occurs 24 hours a day, 365 days a year. The daily discharge volume is approximately 36,000 gallons. The annual flow is approximately 13 million gallons. The discharged unused San Diego Bay water is not treated or processed in any way.

As shown in *Table 7. Unused Bay Water Discharge Analyses*, the NPDES application included laboratory analyses for the discharge of the tank holding water.

Table 7. Unused Bay Water Discharge Analyses.

Analytical Parameter	Bldg. 111 Results 8/3/00
Cd (mg/L)	ND
Cu (mg/L)	ND
Pb (mg/L)	ND
Hg (mg/L)	ND
Ni (mg/L)	ND
Zn (mg/L)	ND
Ammonia as N (mg/L)	0.13
BOD (mg/L)	ND
COD (mg/L)	37
pH	8.19
TPH Gasoline (mg/L)	ND
TPH Diesel (mg/L)	ND

Analytical Parameter	Bldg. 111 Results 8/3/00
Temp. °C	17.8
TOC (mg/L)	1.6
TSS (mg/L)	6.0

ND = not detected

The discharge of unused Bay water is subject to the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

Annual reporting of any significant changes in the discharge is required by the tentative MRP.

i. ABALONE TANKS & BIOASSAY TRAILER

The SSC San Diego PLC command has two operations, abalone tanks and a bioassay trailer, located at MSF that utilize San Diego Bay seawater and discharge flow-through water to the Bay. Outside the bioassay trailer there are two 3-horsepower pumps rated at 25 gpm that draw water approximately 25 feet via 3-inch PVC pipe from San Diego Bay. This water is used in the trailer laboratory operation and the abalone breeding and maturation tanks. Only one pump is used at a time, while the second pump serves as a backup. Water is continually pumped to the roof of the trailer to two in-line 55-gallon tanks. The Bay water flows into the first holding tank and then into a second tank which splits the water into three separate discharges. The water that is not needed for the operations is diverted from the roof top tanks and discharged to the Bay through approximately 15 feet of 2-inch PVC pipe.

There are three separate discharges from this area; the Bay water used at the bioassay trailer laboratory is discharged to the sanitary sewer system; the discharge from the abalone breeding and maturation tanks is discharged to the Bay at approximately 9 gpm; and the unused overflow from the roof top tank system discharges to the Bay at approximately 6 gpm. The total daily discharge is 21,600 gallons. The annual discharge is approximately 8 million gallons.

As shown in *Table 8. Bioassay Tank Water Discharge Analyses*, the NPDES application included laboratory analyses for the discharge of the tank holding water.

Table 8. Bioassay Tank Water Discharge Analyses.

Analytical Parameter	Abalone Maturation Tanks 1/5/01
Cd (mg/L)	ND
Cu (mg/L)	ND
Pb (mg/L)	ND
Hg (mg/L)	ND
Ni (mg/L)	ND
Zn (mg/L)	ND
Ammonia as N (mg/L)	ND
BOD (mg/L)	ND
COD (mg/L)	ND
pH	8.1
TPH Diesel (mg/L)	ND
Temp. °C	17.1
TOC (mg/L)	1.4
TSS (mg/L)	5.0

ND = not detected

The discharge of abalone tank & bioassay trailer water is subject to the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

Annual reporting of any significant changes in the discharge is required by the tentative MRP.

j. PIER BOOM CLEANING

The oil containment booms placed around the submarines and other ships or piers at the Point Loma Complex have marine growth on them. The marine growth is washed off with high-pressure potable water.

All booms are cleaned twice per year on a quarterly rotational basis. The high pressure washer discharges 5 gpm and operates six hours/day for 2-3 weeks per quarter for a total annual discharge of approximately 0.108 million gallons per year.

After a response to an oil spill, the oily booms are removed from the Bay by barge and transported to the 32nd Street Naval Station for cleaning at a designated cleaning area. The cleaning water from the designated cleaning area discharges to the sanitary sewer system.

The discharge of high-pressure wash water for boom cleaning is subject to the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

An annual reporting log of boom cleaning activity and the removal of any oily booms to the 32nd Street Naval Station for cleaning is required by the tentative Order.

k. MAMMAL ENCLOSURE CLEANING

The *Space and Naval Warfare Systems Center San Diego, Point Loma Campus* (SSC San Diego PLC) uses high pressure heated potable water to remove fecal matter from the deck areas within the Sea Lion enclosures. Saltwater is also used to clean the decks leading to and surrounding the mammal enclosures and mammal enclosure netting. Water from the cleaning process discharges directly into the San Diego Bay.

The deck areas within the sea lion enclosures are cleaned daily. High pressure heated potable water (maximum: 170°F) and/or broom cleaning is used as necessary to make sure areas are kept clean/sanitary for the well being of the mammals. Sea lion fecal matter is especially oily and hard to remove without high-pressure heated water. No chemicals are used to clean decks. The maximum discharge rate for sea lion enclosure cleaning is 3.2 gallons per minute. At approximately 2.5 hours per day flushing, gives 480 gallons per day.

The deck areas leading to and surrounding the mammal enclosures are cleaned as necessary with saltwater. No chemicals are used to clean the decks. The maximum discharge rate for the deck areas leading to and surrounding sea lion enclosure cleaning is 20 gallons per minute. The cleaning takes approximately 1.5 hours per day. The daily discharge is 1,800 gallons.

Below the water surface, the mammal enclosure netting is cleaned as necessary to provide for the safety and well being of the

mammals. Excess growth of marine life is removed from the nets with high pressure saltwater. No chemicals are used to clean the nets. The maximum discharge rate for mammal enclosure net cleaning is 250 gallons per minute. The cleaning takes approximately 1 hour per day. The daily discharge is 15,000 gallons.

Pollutants that may be found in the discharge include:

- (1) contaminants in the potable water,
- (2) fecal coliform from the sea lion feces, and
- (3) pollutants that could be picked up as the water passes through the high-pressure heated water system.

The discharge water from mammal pen cleaning was not analyzed but was reported as being similar to the analytical results listed in this Fact Sheet, section *g. Dolphin Pools, Table 5. Dolphin Pool Discharge Analyses* and *Table 6. Historical Dolphin Pool Analyses*.

The discharge of mammal pen cleaning water is subject to the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

Annual reporting of any significant changes in the discharge is required by the tentative MRP.

1. SMALL BOAT RINSING

The Space and Naval Warfare Systems Center San Diego, Point Loma Campus (SSC San Diego PLC) uses high pressure heated potable water to remove fecal matter from inside boats used to transport marine mammals. Potable water is also used to rinse salt and marine growth from small boats and to flush salt water from the boat engine's cooling system. Water from the cleaning and rinsing processes discharge into the San Diego Bay.

Boats used to transport the mammals are rinsed off with potable water at the Pier 160 Boat ramp. High pressure heated potable water (maximum: 170°F) is used as necessary to remove marine growth and any mammal fecal matter from the boats. The maximum discharge rate for rinsing of boats is 2.2 gallons per minute. The rinsing occurs for approximately 6.5 hours per day. The daily discharge rate is 858 gallons.

Boats engines used to transport the mammals are flushed with potable water to remove salt water from their cooling systems. The maximum discharge rate for boat engine flushing is 8 gallons per minute. The boat engine flushing occurs for approximately 3

hours per day. The daily discharge is approximately 1,440 gallons.

Pollutants that may be found in the discharge include:

- (1) contaminants in the potable water,
- (2) fecal coliform from the sea lion feces,
- (3) pollutants that could be picked up as the water passes through the high-pressure heated water system, and
- (4) oils that could be picked up in the cooling water during engine flushing. The discharge water from the engine flushing was not sampled but is expected to be the same as non-regulated private boat engines.

The discharge water from small boat rinsing was not analyzed but was reported as being similar to the analytical results listed in this Fact Sheet, Section *g. Dolphin Pools, Table 5. Dolphin Pool Discharge Analyses* and *Table 6. Historical Dolphin Pool Analyses*.

The discharge of small boat rinsing water is subject to the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

Annual reporting of any significant changes in the discharge is required by the tentative MRP.

m. MISCELLANEOUS

The following miscellaneous discharges can occur at the NBPL Complex:

- Fire hydrant flushing;
- Fire suppression sprinkler system flushing;
- Potable water system operation, maintenance, and testing;
- Emergency eye wash/shower station maintenance;
- Air conditioner condensate;
- Landscape watering; and
- Sea water infiltration where the sea water is discharged back to the sea water source.

Best Management Practices have been developed to reduce or eliminated pollutants in these discharges. The discharges identified above are subject to the Implementation Policy. Tentative MRP No. R9-2002-0002 requires monitoring for evaluating compliance with the Implementation Policy.

Annual reporting of any significant changes in these discharges is required by the tentative MRP.

III. INDUSTRIAL STORM WATER DISCHARGES

The NBPL Complex includes eight Navy installations. The Navy submitted Notices of Intent (NOI) to comply with the *State Water Resources Control Board (State Water Board), Water Quality Order No. 97-03-DWQ, National Pollutant Discharge Elimination System (NPDES), General Permit No. CAS000001 (General Permit), Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (General Industrial Storm Water Permit)* for five of the eight installations.

The General Industrial Storm Water Permit established NPDES waste discharge requirements for industrial storm water discharges and requires the discharger to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) and a Monitoring and Reporting Program. The tentative Order continues the requirement for the development of SWPPP as specified in the General Industrial Storm Water Permit. The tentative Order includes SWPPP requirements and regulates all industrial storm water discharges as an individual storm water permit. The tentative Order will continue the requirements in the General Industrial Storm Water Permit. The tentative Order will include additional specifications and monitoring requirement which were not required by the General Industrial Storm Water Permit.

Storm water discharges from the following *Installations* are non-industrial in nature and do not have facilities or operations requiring regulation by an Industrial Storm Water Permit:

- Fleet Anti-Submarine Warfare Training Center, Pacific (FASW);
- Navy Public Works Center, Taylor Street Facility (PWC TSF);
- Fleet Combat Training Center, Pacific (FCTCPAC).

Industrial storm water discharges occur from the following *Installations* and are regulated by the General Industrial Storm Water Permit:

- Naval Submarine Base, San Diego (SUBASE);
- Magnetic Silencing Facility (MSF);
- Space and Naval Warfare Systems Center, San Diego, Point Loma Campus (SSC San Diego, PLC);

- Space and Naval Warfare Systems Center, Old Town Campus (SSC San Diego, OTC); and
- Fleet and Industrial Supply Center (FISC) Pt. Loma.

A summary of the industrial activities; a brief description of the Navy's storm water group; a discussion of the USEPA Multi-Sector permit; and a description of certain storm water monitoring analysis data follows the descriptions below of the industrial storm water drainage systems at each facility.

a. Naval Submarine Base, San Diego (SUBASE)

There are 33 outfalls that drain storm water runoff from all areas of SUBASE. Several of these outfalls have multiple discharge points (e.g. pier scuppers). Fourteen of the 33 outfalls discharge storm water associated with industrial activities. SUBASE developed and has implemented an industrial storm water pollution prevention plan and a monitoring program since 1994.

The discharges from ship repair and maintenance activities may result in industrial storm water discharges with a *high risk* potential to impact water quality. *High risk areas* are areas where significant quantities of 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.

The tentative Order requires the SUBASE facility to terminate the first ¼ inch of industrial storm water discharges from all high risk areas within 2 years of adoption.

Effluent limits are included in the tentative Order for industrial storm water discharges from the SUBASE. The effluent limit requires the industrial storm water discharges from the SUBASE be free from toxic materials in toxic amounts (CWA, Section 101(a)(3)). The specifications for storm water toxicity are a performance goal for 4 years and are an enforceable limit after 4 years from the adoption of the tentative Order.

b. Magnetic Silencing Facility (MSF)

There are ten outfalls that drain storm water runoff from all areas of MSF. Several of these outfalls have multiple discharge

points, e.g. cutouts on piers. Storm water associated with the industrial activities discharge at seven outfalls. MSF developed and has implemented an industrial storm water pollution prevention plan and a monitoring program since 1994.

c. Space and Naval Warfare Systems Center, San Diego, Point Loma Campus (SSC San Diego PLC)

Storm water runoff from industrial activities is collected and leaves the property at 16 outfalls. Several of these outfalls have multiple discharge points, e.g. cutouts on piers. SSC San Diego PLC developed and has implemented a storm water pollution prevention plan and monitoring program since 1994.

d. Space and Naval Warfare Systems Center, San Diego, Old Town Campus (SSC San Diego OTC)

Storm water runoff that contacts industrial activities is collected and leaves the property at 4 outfalls. The SSC San Diego OTC developed and implemented a storm water pollution prevention plan and monitoring program since 1994.

e. Fleet and Industrial Supply Center (FISC) Pt. Loma

There are 12 outfalls that drain storm water runoff from all areas of FISC Pt. Loma. Several of these outfalls have multiple discharge points, e.g. cutouts on piers. Of the 12 outfalls, 9 outfalls discharge storm water associated with industrial activities. The FISC Pt. Loma developed and implemented a storm water pollution prevention plan and monitoring program since 1994.

f. Summary of Industrial Activities

The following industrial activities at NBPL have been identified by the CNRSW:

- Gasoline Service Station;
- Hazardous Substance Storage;
- Material Loading and Unloading;
- Material Storage;
- Metal Processing;

- Ordnance Storage;
- Recycling Collection Center;
- Ship Support Services;
- Water/Wastewater Treatment;
- Facility Maintenance;
- Electrical/Steam/Various Utilities;
- Electronics Assembly and Testing;
- Metal Finishing/Electroplating;
- Vehicle and Equipment Maintenance;
- Bulk Fuel Management/Storage; and
- Miscellaneous.

g. Storm Water Working Group

To improve the Navy's storm water management program in the San Diego area, CNRSW has formed a *Storm Water Working Group* (SWWG). The SWWG meets on a quarterly basis to discuss storm water issues. The SWWG membership includes a wide spectrum of Navy activities including personnel associated with environmental compliance, port operations, facility maintenance, ship support services, ship operations, facility planning and others. Through the SWWG, the Navy has developed a storm water geographic information system (GIS) for all of the bases in San Diego covered by the General Industrial Storm Water Permit. The SWWG is also testing the use of new BMP such as storm water filtration systems and mechanical sweepers and scrubbers.

CNRSW has surveyed the storm water conveyance systems associated with industrial storm water discharges to identify illicit connections. The surveys included dye and smoke testing, and the use of video cameras. Based on those surveys, all known illicit connections have been eliminated.

h. Multi-Sector Permit and Industrial Storm Water Monitoring Data

The USEPA has adopted a *general industrial storm water permit* for various industrial facilities under its jurisdiction. The USEPA permit, the *Final Reissuance of National Pollutant Discharge Elimination System (NPDES) Storm Water, Multi-Sector General Permit for Industrial Activities, Federal Register, Monday, October 30, 2000*, (Multi-Sector Permit) can be used to evaluate the significance of the chemical concentrations in NBPL's industrial storm water discharge to San Diego Bay.

The Multi-Sector Permit, Sector R, includes requirements for *Ship and Boat Building or Repair Yards*. According to the Multi-Sector Permit (p. 64766-69), when the industrial storm water discharge has concentrations greater than the *USEPA Benchmark Values* (p. 64767, Table 3), the industrial facility is required to increase monitoring frequencies. Additionally, the Multi-Sector Permit states that the facility operators should review and modify their storm water pollution prevention plans (SWPPP) and best management practices (BMP) at their facility to try to improve the quality of the storm water discharge when discharge concentrations are greater than the *USEPA Benchmark Values*.

While the *USEPA Benchmark Values* are not an enforceable numeric limit, they are used to indicate concentrations of concern and to alert the regulated discharger to take actions to lower the concentrations in its discharge. When comparing the chemical concentrations identified in the NBPL's storm water discharges to the *USEPA Benchmark Values*, some of the copper and zinc concentrations were significant. The USEPA Benchmark Value for copper concentrations is 63.6 µg/L. The USEPA Benchmark Value for zinc is 117 µg/L.

The CNSWR has submitted monitoring reports pursuant to the General Industrial Storm Water Permit. From a review of the monitoring reports, copper and zinc concentrations at the NBPL are of concern. As shown in *Table 9. Submarine Base, Industrial Storm Water Discharge Analyses, 1999/2000 and 2000/2001*, the copper and zinc concentrations in the storm water discharges at the SUBASE often exceed the USEPA Benchmark Values. When compared to the USEPA Benchmark Values for copper and zinc concentrations, the certain industrial storm water discharges from the SUBASE had significantly higher concentrations.

Table 9. Submarine Base, Industrial Storm Water Discharge Analyses, 1999/2000 and 2000/2001.

Outfall Date of event	Copper (µg/L)	Zinc (µg/L)	Location & Name
5 10/27/2000 1/8/2001	26.3 28.8	175 187	36 inch diameter pipe in concrete casing located in SD Bay east of fire station, (Bldg 539); Auto hobby shop, car wash, exchange service & auto repair station, etc.

Outfall Date of event	Copper (µg/L)	Zinc (µg/L)	Location & Name
11A 2/12/00 4/17/00 10/27/00 1/8/01	62.9 63 276 185	291 94.3 619 768	Catch basin north of waterfront operations area (Bldg 551), and Air compression plant (Bldg 618) Waterfront operations storage, & air compressor plant
13 2/12/00 4/17/00 10/27/00 1/8/01	-- -- -- --	92.1 55.3 54.3 224	42-inch diameter concrete pipe located near pier 5003, discharges to SD Bay Steam plant
18 2/10/00 4/17/00 10/27/00 1/8/01	49.7 14.7 18.7 79.5	143 34.6 95.3 311	30-inch diameter RCP discharging to SD Bay southeast of Bldg 4 at Magnetic Silencing Facility Recycling collection center
23C 2/21/00 4/17/00 1/26/01	18.4 32.6 21.3	293 423 455	10 concrete swales & eroded channels located at the curb east of Bldgs 511, 532, & 538 identified as 23A-23J Bilge & Oily water treatment, & hazardous material storage facility
23E 2/23/00 4/17/00 10/27/00 1/26/01	20.6 33.3 39.8 38.9	312 426 920 418	10 concrete swales & eroded channels located at the curb east of Bldgs 511, 532, & 538 identified as 23A-23J Submarine Squadron Eleven Ship spares/storage
24 2/12/00 4/17/00 1/8/01 1/24/01	28.7 28.9 1710 971	71 38.6 3340 1200	4-inch by 12-inch cutouts located at regular intervals along both sides of pier 5003 identified as 24A1-17 & 24B1-17 Pier 5003 November (north)
26 2/12/00 4/17/00 10/27/00 1/24/01	517 87.5 1350 1940	679 140 628 2120	Drain cutouts located at regular intervals along both sides and down the middle of Pier 5002 Identified as 26A1-40, 26B1-48, & 26C1-24 Pier 5002 Sierra (south)
27 10/27/00	1150	3560	Drain cutouts on the south side of Pier 5002 near Bldg 633

Outfall Date of event	Copper (µg/L)	Zinc (µg/L)	Location & Name
1/24/01	2860	9350	Identified as 27-1 through 27-20 Workshops
28 10/27/00 1/24/01	4080 3610	2850 3400	Drain cutouts located on the easternmost end of Pier 5002 along both sides and down the middle of the pier Identified as 28A1-3, 28B1-3, & 28C1-3 ARCO ARDM-5 Dry dock

The industrial storm water requirements and specifications in tentative Order No. R9-2002-0002 are based on the General Industrial Storm Water Permit. The discharge of industrial storm water containing copper concentrations greater than 63.6 µg/L and zinc concentrations greater than 117 µg/L are a significant concern.

Storm water monitoring data submitted by other industries located along San Diego Bay can be used to evaluate the significance of the chemical concentrations in SUBASE's industrial storm water discharge to San Diego Bay. The commercial shipyards are subject to NPDES permits that require monitoring of storm water discharges and include toxicity specifications (e.g. Order No. 97-36, and Order No. 97-37).

The SUBASE industrial storm water discharges with copper or zinc concentrations significantly greater than the USEPA Benchmark Values are not expected to achieve a 90% survival rate when the undiluted industrial storm water is subject to toxicity analyses using standard test species and methods. Data for a comparison of the SUBASE copper and zinc concentrations and toxicity can be found in three reports; *Analysis of Administrative Civil Liability for Complaint No. 2001-24, National Steel and Shipbuilding Company*; *Analysis of Administrative Civil Liability for Complaint No. 2001-138, SouthWest Marine*; and *Analysis of Administrative Civil Liability for Complaint No. 2001-113, Continental Maritime*.

The storm water monitoring data from the SUBASE and from the shipyards in the San Diego Region indicates that the concentrations of copper and zinc in the storm water from the SUBASE are toxic. The tentative Order requires that industrial storm water discharges from the SUBASE achieve a toxicity

survival rate of 90% survival, 50% of the time and not less than 70% survival, 10% of the time. The tentative Order allows the SUBASE 4 years from the adoption date of the tentative Order to achieve the specified toxicity survival rate. For the interim period, the specified toxicity survival rate is a performance goal.

The industrial storm water discharge toxicity requirement and monitoring program is similar to the requirements included in the NPDES permits for the commercial shipyards in the San Diego Region.

Tentative Order No. R9-2002-0002 includes monitoring requirements for determining the quality of the industrial storm water discharges and requires the discharger to perform an evaluation of the discharges. Whenever the analyses of an industrial storm water discharge from a particular catchment basin contains a copper concentration greater than 63.3 µg/L or a zinc concentration greater than 117 µg/L, the tentative Order requires the discharger to perform the following tasks:

- a) review and modify the SWPPP as necessary to reduce the concentrations of copper and zinc;
- b) after modifying the SWPPP, sample and analyze the next 2 storm water runoff events;
- c) document the review and the modifications to the SWPPP, and document the sampling analysis.

IV. RATING

Pursuant to the *NPDES Permit Rating Worksheet*, the proposed discharge from the Point Loma Naval Base Complex has a point score of 539.5. The Point Score includes a rationale to make the facility a *discretionary major*. The rationale for a discretionary major classification is that the facility has 10 point source discharges; potentially numerous point source discharges associated with ship repair and maintenance activities; and significant industrial storm water discharges.

Accordingly, the NBPL Complex is classified as an NPDES *Major Discharger*. Pursuant to *Title 23, Section 2200* of the California Code of Regulations, the discharger has been identified as having a *Threat to Water Quality and Complexity* (TTWQ/CPLX) rating of 1/A.

V. BASIS FOR CONDITIONS IN THE TENTATIVE WASTE DISCHARGE REQUIREMENTS (WDR)

a. Enclosed Bays and Estuaries Policy, Nonmunicipal Waste Discharge

The State Water Resources Control Board (hereinafter State Board) adopted a *Water Quality Control Policy for Enclosed Bays and Estuaries of California (Bays and Estuaries Policy)* on May 16, 1974. The *Bays and Estuaries Policy* establishes principles for management of water quality, quality requirements for waste discharges, discharge prohibitions, and general provisions to prevent water quality degradation and to protect the beneficial uses of waters of enclosed bays and estuaries. These principles, requirements, prohibitions, and provisions have been incorporated into this Order.

The *Bays and Estuaries Policy* contains the following principle for management of water quality in enclosed bays and estuaries, which includes San Diego Bay:

The discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge. For the purpose of this policy, treated ballast waters and innocuous nonmunicipal wastewater such as clear brines, washwater, and pool drains are not necessarily considered industrial process wastes, and may be allowed by Regional Boards under discharge requirements that provide protection to the beneficial uses of the receiving water.

As explained in the *Point Source Discharge* section, the point source discharges, other than industrial storm water runoff, and ballast water discharges can be considered to be innocuous because of the nature of the discharges or the volume of the discharges. If a significant or material change occurs in the discharges (i.e. chemical concentrations, physical properties, location, volume, or frequency), the potential impact to beneficial uses may change or cause a violation of the tentative Order No. R9-2002-0002. Any change in either the nature or volume of the discharges can be readily identified and evaluated

through the monitoring requirements specified in tentative *Monitoring and Reporting Program No. R9-2002-0002*.

For the purpose of the *Bays and Estuaries Policy* and tentative Order No. R9-2002-0002, the discharge of the following wastes will be considered innocuous nonmunicipal wastewaters and, as such, will not be considered industrial process wastes:

- Utility Vault & Manhole Dewatering;
- Steam Condensate;
- Diesel Engine Cooling Water;
- Magnetic Silencing Facility Pier Washing;
- Dolphin Pools;
- Unused San Diego Bay Water;
- Abalone Tanks & Bioassay Trailer Discharges;
- Pier Boom Cleaning;
- Mammal Enclosure Cleaning;
- Small Boat Rinsing; and
- Miscellaneous Discharges (landscape watering runoff, potable water & fire system maintenance).

Therefore, the discharges of such wastes may be allowed by the Regional Board under waste discharge requirements that provide protection of the beneficial uses of the receiving waters. Tentative Order No. R9-2002-0002 includes requirements, prohibitions, provisions, and monitoring that protect the beneficial uses of the receiving waters.

b. Beneficial Uses for San Diego Bay

The Basin Plan (p. 2-47, *Table 2-3. Beneficial Uses of Coastal Waters*) established the following beneficial uses for the waters of San Diego Bay:

- a. Industrial Service Supply;
- b. Navigation;
- c. Contact Water Recreation;
- d. Non-contact Water Recreation;
- e. Commercial and Sport Fishing;
- f. Preservation of Biological Habitats of Special Significance;
- g. Estuarine Habitat;
- h. Wildlife Habitat;
- i. Rare, Threatened, or Endangered Species;
- j. Marine Habitat;
- k. Migration of Aquatic Organisms; and

1. Shellfish Harvesting.

c. California Toxics Rule and Implementation Policy

On May 18, 2000, the U.S. Environmental Protection Agency (USEPA) promulgated the *California Toxic Rule (CTR)*, 40 CFR 131.38. The CTR restored California's water quality standards for inland surface waters. The previous inland surface waters plan, which contained water quality criteria for priority toxic pollutants, was dismissed in 1994 when a State court overturned the State Board's plan.

The water quality criteria established in the CTR, 40 CFR 131.38, is legally applicable in the State of California for inland surface waters, and enclosed bays and estuaries for all purposes and programs under the Clean Water Act.

On March 2, 2000, the State Board, in *Resolution No. 2000-15*, adopted a *Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Implementation Policy)*. The Implementation Policy implements the criteria for the 126 priority pollutants in the CTR. The State Board's Policy became effective on April 28, 2000, as applied to the *National Toxics Rule* and then to the CTR.

The Implementation Policy establishes:

- a) implementation provisions for priority pollutant criteria promulgated by the USEPA through the National Toxic Rule (NTR) and the CTR, and for priority pollutant objectives established in the Basin Plan;
- b) monitoring requirements for 2,3,7,8-TCDD (tetrachlorodibenzo-p-dioxin) equivalents; and
- c) Chronic toxicity control provisions.

Tentative MRP No. R9-2002-0002 requires the discharger to conduct an initial sampling of the discharges and the receiving waters for the priority pollutants and dioxin congeners as specified in the Implementation Policy. The discharger shall conduct one initial sample analyses of the discharge for the pollutants listed in the Implementation Policy.

The discharger is required to conduct sampling analyses of the following discharges and receiving waters:

- Steam Condensate;

- Diesel Engine Cooling Water;
- Magnetic Silencing Facility Pier Cleaning
- Dolphin Pools;
- Unused Bay Water;
- Abalone and Bioassay Tank;
- Boom Cleaning;
- Mammal Enclosure Cleaning
- Small Boat Rinsing; and
- Miscellaneous.

Once the monitoring for the priority pollutants is submitted to and evaluated by the Regional Board, the Regional Board may either:

- request additional priority pollutant monitoring pursuant to Section 13267 of the Porter-Cologne Water Quality Control Act;
- determine that there is no reasonable potential for the discharge to cause an exceedence of the water quality criteria; or
- reopen the tentative WDR and recommend discharge limits for priority pollutants in the discharge that have a reasonable potential to cause an exceedence of the water quality criteria.

Pursuant to *Section 1.4.4 Intake Water Credits* (p.17) of the Implementation Policy, a Regional Board may consider priority pollutants in the intake water on a pollutant-by-pollutant and discharge-by-discharge basis when establishing water quality-based effluent limitations. Certain discharges from the NBPL may qualify for Intake Water Credits.

d. 303(d) List

In February 1998, the Regional Board included the San Diego Bay near the SUBASE as an impaired water body pursuant to the Clean Water Act, Section 303(d). The listing was the result of information gathered for the *Chemistry, Toxicity and Benthic Community Conditions in Sediments of the San Diego Bay Region, Final Report, September 1996* (commonly know as the report for the *Bay Protection and Toxic Cleanup Program (BPTCP)*).

The data gathered pursuant to the BPTCP caused the Regional Board to declare 16 acres of the SUBASE area impaired because of elevated levels of polynuclear aromatic hydrocarbons (PAH).

Tentative MRP No. R9-2002-0002 requires monitoring for PAH.

e. Metals

The metal concentrations in the industrial storm water discharges from SUBASE are significant and are a potential impact to water quality and beneficial uses of San Diego Bay.

Industrial storm water discharge requirements and specifications, and storm water monitoring and reporting requirements are included in tentative Order No. R9-2002-0002. The requirements are described in the *Industrial Storm Water* section of this Fact Sheet.

At the April 10, 2002, Regional Board meeting, the Navy indicated that they are currently participating in monitoring for total maximum daily load (TMDL) at the 32nd Street Naval Station; they have participated in the BPTCP; and have existing sediment monitoring programs. The tentative Order does not require sediment monitoring. The Navy will conduct sediment monitoring around San Diego Bay pursuant to the Regional Board's process for the development of a TMDL.

f. Toxicity

The Basin Plan includes the following narrative as a water quality objective, which is applicable to the discharge:

Water Quality Objectives for Toxicity:

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.

The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with requirements specified in

U.S. EPA, State Water Resources Control Board or other protocol authorized by the Regional Board. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour acute bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.

Toxicity monitoring for the point source discharges is not necessary. Toxicity monitoring for the industrial storm water discharges is explained in the *Industrial Storm Water Discharges* section of this Fact Sheet. The toxicity requirements and monitoring program are similar to those previously developed for the industrial storm water discharges from the commercial shipyard in the San Diego Region.

g. Prohibitions

As noted previously, the Basin Plan, and the Enclosed Bays and Estuary Policy directly apply to the proposed discharges. The applicable prohibitions from the *Basin Plan*, and the *Enclosed Bays and Estuary Policy* are incorporated into the tentative Order.

h. Public Hearing

Tentative Order No. R9-2002-0002 will be considered by the San Diego Regional Board at a public hearing on:

August 14, 2002, beginning at 0900 at the following location:

Regional Water Quality Control Board, San Diego
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

i. Waste Discharge Requirements Review

Any person may petition the State Board to review the decision of the Regional Board regarding the final Order. A petition must be made within 30 days of the Regional Board hearing.

FOR ADDITIONAL INFORMATION

For additional information regarding tentative Order No. R9-2002-0002, interested persons may write to the following address or call Mr. Paul J. Richter of the Regional Board staff at (858) 627-3929.

Regional Water Quality Control Board, San Diego
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340
858 627-3929
e-mail: richp@rb9.swrcb.ca.gov

VII. REFERENCES

1. Analysis of Administrative Civil Liability, Complaint No. 2001-24, National Steel and Shipbuilding Company, January 30, 2001.
2. Analysis of Administrative Civil Liability, Complaint No. 2001-138, SouthWest Marine, May 14, 2001.
3. Analysis of Administrative Civil Liability, Complaint No. 2001-113, Continental Maritime of San Diego, June 15, 2001.
4. California Toxics Rule, 40 CFR 131.38.
5. Chemistry, Toxicity and Benthic Community Conditions in Sediments of the San Diego Bay Region, Final Report, September 1996.
6. Department of Defense, UNDS Homepage, <http://unds.bah.com>.
7. Fact Sheet, Phase 1, Uniform National Discharge Standards (UNDS) for Vessels of the Armed Forces, EPA-821-F-99-009, April 1999.
8. Final Reissuance of National Pollutant Discharge Elimination System (NPDES) Storm Water, Multi-Sector General Permit for Industrial Activities, Federal Register, Monday, October 30, 2000, (Multi-Sector Permit).
9. Notice of Violation No. 2000-118; Request for Information; letter from Regional Board, May 24, 2000, J.H. Robertus.
10. Phase I, Uniform National Discharge Standards for Vessels of the Armed Forces, Technical Development Document, EPA 821-R-99-001.

11. Plan for California's Nonpoint Source Pollution Control Program, State Water Resources Control Board, California Coastal Commission, January 2000.
12. *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Phase I of the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan) 2000, State Water Resources Control Board.
13. Regional Board file number 03-538.02/03, for U.S. Navy, Naval Base Point Loma.
14. Regional Board file number 11-0058.02, for U.S. Navy, Navy Public Works Center (Utility Vault file).
15. Regional Board Inspection Reports
 - Naval Station 32nd Street, inspection conducted on April 24, 2000, P.J. Richter.
 - North Island Naval Air Station, inspection conducted on July 12, 200, P.J. Richter.
 - Navy Base, Point Loma, inspection on July 26, 2000, P.J. Richter.
 - Naval Station 32nd Street, inspection conducted on August 8, 2000, P.J. Richter.
 - Naval Station 32nd Street, inspection conducted on September 6, 2000, P.J. Richter.
 - Navy Graving Dock-Sediment Sampling, inspection conducted on March 15, 2001, P.J. Richter.
 - Naval Base, Point Loma, inspection conducted on April 16, 2002, P.J. Richter.
16. Regional Board's Industrial Storm Water Files:
 - Naval Submarine Base, file number 10-002604;
 - Magnetic Silencing Facility, file number 10-002389;
 - Fleet and Industrial Supply Center, file number 10-001987;
 - Space and Naval Warfare Systems Center, San Diego, Point Loma Campus, file number 10-001321; and
 - Space and Naval Warfare Systems Center, San Diego, Old Town Campus, file number 10-004294.
17. Report of Waste Discharge and supplemental information received on December 5, 2001: *Commander, Navy Region Southwest, National Pollutant Discharge Elimination System (NPDES) Permit Application and California Application/Report*

*of Waste Discharge for Naval Base Point Loma; Submitted to:
Regional Water Quality Control Board, San Diego Region.*

18. SWRCB, Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan).
19. SWRCB, Water Quality Order No. 02-01-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001 (General Permit), Waste Discharge Requirements (WDRs) for Discharges of Storm Water Associated With Industrial Activities Excluding Construction Activities.
20. SWRCB, Water Quality Order No. 2001-11-DWQ, Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges from Utility Vaults and Underground Structures to Surface Waters (General Permit), General Permit No. CAG990002, Waste Discharge Requirements.
21. USEPA NPDES Permit Writers' Manual, EPA/833/B-96/003, December 1996.
22. Water Quality Control Plan for the San Diego Basin (9), 1994, as amended (Basin Plan).

Fact Sheet

For

Order No. R9-2002-0002

Discharge Coordinates

Table 1. Discharge coordinates for SUBASE.

Discharge	Latitude	Longitude
Steam Condensate Pier 5000, Steam 1	32°41'19" north	117°14'16" west
Steam Condensate Pier 5000, Steam 2	32°41'20" north	117°14'14" west
Industrial storm water discharges, middle pier location	32°41'20" north	117°14'14" west
ARCO ballast water	32°41'16" north	117°14'8" west
Boom cleaning water, middle pier location	32°41'20" north	117°14'14" west
Utility Vault, Pier 5000, Vault 1	32°41'20" north	117°14'15" west
Utility Vault, Pier 5000, Vault 2	32°41'20" north	117°14'14" west
Utility Vault, Pier 5000, Vault 3	32°41'21" north	117°14'12" west
Utility Vault, Pier 5000, Vault 4	32°41'22" north	117°14'10" west
Utility Vault, Pier 5000, Vault 5	32°41'23" north	117°14'8" west
Utility Vault, Pier 5002, Vault 2	32°41'17" north	117°14'7" west
Utility Vault, Pier 5002, Vault 3	32°41'17" north	117°14'6" west
Utility Vault, Pier 5003, Vault 1	32°41'25" north	117°14'16" west
Utility Vault, Pier 5003, Vault 2	32°41'25" north	117°14'15" west
Manhole dewatering, landscape runoff, potable water, and fire system may occur	several locations, coordinates not included in the	several locations, coordinates not included in the

Discharge	Latitude	Longitude
	RWD	RWD

Table 2. Discharge coordinates for MSF.

Discharge	Latitude	Longitude
Diesel engine cooling water	32°41'42" north	117°14'20" west
Industrial storm water	several locations, coordinates not included in the RWD	several locations, coordinates not included in the RWD
Pier cleaning water occurs at several locations along the pier	32°41'42" north	117°14'20" west
Dolphin pool	32°41'42" north	117°14'20" west
Abalone and bioassay**	32°41'42" north	117°14'20" west
Manhole dewatering, landscape runoff, potable water, and fire system may occur	several locations, coordinates not included in the RWD	several locations, coordinates not included in the RWD

**Personnel from SCC San Diego PLC manage the abalone and bioassay facilities and discharges.

Table 3. Discharge coordinates for SSC San Diego PLC.

Discharge	Latitude	Longitude
Dolphin pool	32°41'34" north	117°14'22" west
Industrial storm water	several locations, coordinates not included in the RWD	several locations, coordinates not included in the RWD
Small boat rinsing	32°42'13" north	117°14'7" west
Mammal enclosure cleaning	32°42'13" north	117°14'7" west
Unused Bay water	32°42'18" north	117°14'16" west
Manhole dewatering, landscape runoff, potable water, and fire system may occur	several locations, coordinates not included in the RWD	several locations, coordinates not included in the RWD



California Regional Water Quality Control Board

San Diego Region



Gray Davis
Governor

Winston H. Hickox
Secretary for
Environmental
Protection

Internet Address: <http://www.swrcb.ca.gov/rwqcb9/>
9174 Sky Park Court, Suite 100, San Diego, California 92123
Phone (858) 467-2952 • FAX (858) 571-6972

TO: Attachment to Fact Sheet for tentative Order No. R9-2002-0002

File #03-538.02
U.S. Navy, Naval Base Point Loma (NBPL)

FROM: Paul J. Richter, WRCE
SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

DATE: 22 July 2002

SUBJECT: Hull coating leachate, underwater hull cleaning (*underwater ship husbandry*), and radioactivity concerns mentioned during workshop on 27 June 2002

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This memorandum will be attached to the Fact Sheet for tentative Order No. R9-2002-0002. During the workshop for the Naval Base Point Loma, the interested parties discussed hull coating leachate, underwater ship husbandry, and radioactive discharges.

Regulation and monitoring of hull coating leachate, and underwater ship husbandry will not be included in the tentative Order. Hull coating leachate, and underwater ship husbandry will be regulated pursuant to the *Uniform National Discharge Standards for Vessels of the Armed Forces*.

Radioactive discharges are not subject to regulation by the Regional Board. The Navy and the Department of Energy have jurisdiction for discharges of radioactive material. The *Naval Nuclear Propulsion Program* has a quarterly monitoring program for radioactive discharges. The United States Environmental Protection Agency (USEPA) has also conducted a separate, one-time monitoring program for radioactivity.

The monitoring conducted by the *Naval Nuclear Propulsion Program*, and by the USEPA identified radioactivity at naturally occurring background levels, at levels from atmospheric nuclear testing, and at levels associated with the Chernobyl reactor accident in 1986. Low level cobalt radioactivity was found in one sediment core sample at the Submarine Base (SUBASE) at the Naval Base Point Loma complex. The radioactivity level found at SUBASE was not at a level that would pose a threat to the environment or human health.

Radioactivity monitoring will not be included in the tentative Order. The *Naval Nuclear Propulsion Program* conducts quarterly monitoring of

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sediments, surface water, and marine life for its environmental monitoring program for the nuclear propulsion program. The Regional Board can review the *Naval Nuclear Propulsion Program* reports.

Provided below is a brief description of the documents reviewed and included in the Regional Board's administrative file regarding hull coating leachate, underwater ship husbandry, and radioactive discharges and monitoring.

Hull Coating Leachate

Phase I of the Uniform National Discharge Standards for Vessels of the Armed Forces (UNDS) has identified *hull coating leachate*, and *underwater ship husbandry* as discharges determined to require a *marine pollution control devise (MPCD)*.

Hull coating leachate is the ablative discharge of anti-corrosion (AC) and anti-fouling (AF) paints from ship hulls to the surrounding waters. In the UNDS, Phase I study, three bays: San Diego, CA; Mayport, FL; and Pearl Harbor, HI, were analyzed and were included in calculations to determine the increase of copper concentrations from Navy Vessels for the respective Bay. The increase was based upon the calculated copper and zinc ablative discharges from the hull surfaces and upon the tidal prism of the respective Bay. The MPCD for hull coating leachate is being developed in Phase II of the UNDS.

For San Diego Bay, the increase of copper from hull coating leachate was calculated to be 0.19 µg/L. For San Diego Bay, the increase of zinc from hull coating leachate was calculated to be 0.074 µg/L (*Nature of Discharge (NOD) report, Hull Coating Leachate, Table 5. Estimated Copper and Zinc Contributions to Some Ports of the Armed Forces, . . . Technical Development Document.*)

Underwater ship husbandry discharges include underwater hull cleaning, propulsor (i.e., propeller) lay-up, welding, sonar dome repair, non-destructive testing, masker belt repair, and painting operations. These ship husbandry operations are normally conducted pierside.

Underwater hull cleaning and propulsor lay-up are the most frequent husbandry operations and have the highest potential for water quality impacts. The other ship husbandry operations were identified as having a low potential impact to water quality.

Divers using mechanical brush systems conduct underwater hull cleaning. According to the Phase I study, copper and zinc are released during the cleaning at concentrations that may exceed State water quality standards. The copper and zinc discharges are from the



AC and AF hull coatings. The UNDS has identified this discharge as needing MPCD. The underwater hull cleaning will be regulated as an *underwater ship husbandry discharge* pursuant to UNDS.

Propulsor lay-up requires the placement of a vinyl cover over the propulsor to reduce fouling of the propulsor when the vessel is in port for extended periods. Chlorine-produced oxidants are generated from impressed current cathodic protection systems and can buildup within the cover. The discharges from the propulsor lay-up are infrequent and low volume. The propulsor lay-up will be regulated as an *underwater ship husbandry discharge* pursuant to UNDS.

In UNDS, Phase II, the EPA and other federal and state organizations shall develop MPCD (performance standards) for the 25 identified discharges, which include underwater hull cleaning and underwater ship husbandry. The MPCD performance standards may include best management practices (BMP), administrative practices, or engineered systems.

In UNDS, Phase III, the MPCD performance standards will be codified. Upon the completion of UNDS, Phase III, the States or local political subdivisions, may not adopt or enforce any State or local statute or regulations with respect to the discharges identified as requiring MPCD, except to establish a no discharge zone (CWA §312(n)(6)).

Radioactivity

Navy Monitoring Program

The U.S. Navy has an environmental monitoring program to assess the effect of disposal of radioactive wastes from U.S. naval nuclear propulsion plants and their support facilities. The *Naval Nuclear Propulsion Program* monitoring program consists of analyzing sediment, surface water, and marine life samples for radioactivity associated with naval nuclear propulsion plants and their support facilities. The sampling is conducted quarterly. Additionally, shore facilities are continually monitored for airborne gamma-emitting radioactivity.

San Diego Bay is one of the harbors included in the Navy's nuclear monitoring program. The most current radiological monitoring results were published in *Environmental Monitoring and Disposal of Radioactive Wastes from U.S. Naval Nuclear-Powered Ships and Their Support Facilities, Report NT-02-01, March 2002*. The monitoring data was collected in 2001.

The radioactive material expected to be released and detected in the environment is cobalt 60 and other gamma-emitting radionuclides. In



and around the Point Loma SUBASE, the U.S. Navy monitored 25 sediment locations, 8 water sampling locations, and 2 marine life sampling locations. Numerous shore line locations were also monitored for airborne gamma-emitting radioactivity (see attached Figures 1 through 3).

According to the environmental monitoring data, the naval nuclear propulsion plants and their support facilities have not caused a measurable increase in the general background radioactivity in the surface water environment of San Diego Bay. Low level cobalt 60 radioactivity in a core sediment sample was identified at the SUBASE. The low level cobalt 60 radioactivity level was not considered a threat to the environment or human health.

USEPA Radiological Survey

The USEPA conducted a radiological survey of San Diego Bay. The results were published in *Radiological Survey of Naval Facilities on San Diego Bay, EPA-402-R-98-011, January 1999*. Conclusion #6, from the USEPA is copied below.

6. Based on this Radiological survey, practices regarding nuclear-powered warship operations at San Diego Harbor have resulted in no increases in radioactivity causing significant population exposure or contamination of the environment.

The USEPA survey included surface water samples, harbor sediment and shoreline samples, sediment core samples, drinking water samples, and biota samples. These samples were taken at the U.S. Naval installations where nuclear propulsion vessels are located and where nuclear support facilities exist. Background sample locations were selected to be representative of levels of naturally occurring or existing radionuclides were present but not related to the U.S. Navy facilities. A total of 132 sample were collected. Many samples were split for independent comparisons by the Navy. For approximately 5% of each type of sample, a quality control duplicate sample was collected.

The USEPA survey also indicated that a sediment core sample from the piers at SUBASE contained low-level cobalt 60 radioactivity. The levels were not considered a significant threat to the environment or human health.



References

Environmental Monitoring and Disposal of Radioactive Wastes from Nuclear Powered Ships and Their Support Facilities; Report NT-96-1, March 1996; Report NT-97-1, March 1997; Report NT-98-1, February 1998; Report NT-99-1, March 1999; Report NT-02-01, March 2002.

Phase I, Uniform National Discharge Standards for Vessels of the Armed Forces, Technical Development Document, EPA 821-R-99-001, April 1999.

Occupational Radiation Exposure from U.S. Naval Nuclear Plants and Their Support Facilities; Report NT-98-2, February 1998; Report NT-99-2, March 1999.

Radiological Survey of Naval Facilities on San Diego Bay, EPA-402-98-011, January 1999.

The United States Naval Nuclear Propulsion Program, Over 114 Million Miles Safely Steamed on Nuclear Power, August 1998.

The United States Naval Nuclear Propulsion Program, Over 124 Million Miles Safely Steamed on Nuclear Power, March 2002.

