Application Name	Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
33 (NASNI)	NAS-029	Industrial Storm Water	32° 42' 19"	117° 11' 11"	San Diego Bay
34 (NASNI)	NAS-030	Industrial Storm Water	32° 42' 18"	117° 11' 7"	San Diego Bay
35 (NASNI)	NAS-031	Industrial Storm Water	32° 42' 17"	117° 11' 4"	San Diego Bay
36 (NASNI)	NAS-032	Industrial Storm Water	32° 42' 16"	117° 11' 0"	San Diego Bay
37 (NASNI)	NAS-033	Industrial Storm Water	32° 42' 15"	117° 10' 57"	San Diego Bay
38 (NASNI)	NAS-034	Industrial Storm Water	32° 42' 14"	117° 10' 54"	San Diego Bay
39 (NASNI)	NAS-035	Industrial Storm Water	32° 42' 13"	117° 10' 52"	San Diego Bay
43 (NASNI)	NAS-036	Industrial Storm Water	32° 41' 24"	117° 12' 24"	Pacific Ocean
46 (NASNI)	NAS-037	Industrial Storm Water	32° 41' 43"	117° 13' 37"	San Diego Bay
50 (NASNI)	NAS-038	Non-Industrial Storm Water	32° 42' 31"	117° 13' 31"	San Diego Bay
53 (NASNI)	NAS-039	Industrial Storm Water	32° 42' 41"	117° 12' 53"	San Diego Bay
59 (NASNI)	NAS-040	Industrial Storm Water	32° 42' 53"	117° 12' 10"	San Diego Bay
62 (NASNI)	NAS-041	Industrial Storm Water	32° 42' 53"	117° 11' 56"	San Diego Bay
CVN1 (NASNI)	NAS-042	Industrial Storm Water	32° 42' 52"	117° 11' 41"	San Diego Bay
CVN2 (NASNI)	NAS-043	Industrial Storm Water	32° 42' 52"	117° 11' 37"	San Diego Bay
CVN4 (NASNI)	NAS-044	Industrial Storm Water	32° 42' 51"	117° 11' 37"	San Diego Bay
CVN5 (NASNI)	NAS-045	Industrial Storm Water	32° 42' 49"	117° 11' 33"	San Diego Bay
CVN6 (NASNI)	NAS-046	Industrial Storm Water	32° 42' 49"	117° 11' 29"	San Diego Bay
CVN8 (NASNI)	NAS-047	Industrial Storm Water	32° 42' 41"	117° 11' 18"	San Diego Bay
CVN9 (NASNI)	NAS-048	Industrial Storm Water	32° 42' 36"	117° 11' 20"	San Diego Bay
CVN12 (NASNI)	NAS-049	Industrial Storm Water	32° 42' 52"	117° 11' 43"	San Diego Bay
CVN13A (NASNI)	NAS-050	Industrial Storm Water	32° 42' 39"	117° 11' 19"	San Diego Bay
CVN13B (NASNI)	NAS-051	Industrial Storm Water	32° 42' 33"	117° 11' 22"	San Diego Bay
CVN14 (NASNI)	NAS-052	Industrial Storm Water	32° 42' 40"	117° 11' 18"	San Diego Bay
CVN15 (NASNI)	NAS-053	Industrial Storm Water	32° 42' 49"	117° 11' 29"	San Diego Bay
CVN16 (NASNI)	NAS-054	Industrial Storm Water	32° 42' 48"	117° 11' 27"	San Diego Bay
CVN17 (NASNI)	NAS-055	Industrial Storm Water	32° 42' 47"	117° 11' 25"	San Diego Bay
CVN18 (NASNI)	NAS-056	Industrial Storm Water	32° 42' 46"	117° 11' 23"	San Diego Bay
CVN20 (NASNI)	NAS-057	Industrial Storm Water	32° 42' 45"	117° 11' 22"	San Diego Bay
CVN21 (NASNI)	NAS-058	Industrial Storm Water	32° 42' 43"	117° 11' 18"	San Diego Bay
2 (NAB)	NAB-001	Industrial Storm Water	32° 40' 30"	117° 9' 58"	San Diego Bay
3 (NAB)	NAB-002	Industrial Storm Water	32° 40' 30"	117° 9' 54"	San Diego Bay
4 (NAB)	NAB-003	Industrial Storm Water	32° 40' 31"	117° 9' 52"	San Diego Bay
5 (NAB)	NAB-004	Industrial Storm Water	32° 40' 42"	117° 9' 37"	San Diego Bay
6 (NAB)	NAB-005	Industrial Storm Water	32° 40' 47"	117° 9' 31"	San Diego Bay
7 (NAB)	NAB-006	Industrial Storm Water	32° 40' 49"	117° 9' 28"	San Diego Bay
9 (NAB)	NAB-007	Industrial Storm Water	32° 40' 33"	117° 9' 18"	San Diego Bay
10 (NAB)	NAB-008	Industrial Storm Water	32° 40' 32"	117° 9' 19"	San Diego Bay
11 (NAB)	NAB-009	Industrial Storm Water	32° 40' 32"	117° 9' 20"	San Diego Bay
17 (NAB)	NAB-010	Industrial Storm Water	32° 40' 16"	117° 9' 37"	San Diego Bay
18 (NAB)	NAB-011	Industrial Storm Water	32° 40' 30"	117° 10' 1"	San Diego Bay
30 (NAB)	NAB-012	Industrial Storm Water	32° 40' 34"	117° 9' 47"	San Diego Bay
31 (NAB)	NAB-013	Industrial Storm Water	32° 40' 36"	117° 9' 45"	San Diego Bay
33 (NAB)	NAB-014	Industrial Storm Water	32° 40' 40"	117° 9' 39"	San Diego Bay
34 (NAB)	NAB-015	Industrial Storm Water	32° 40' 41"	117° 9' 38"	San Diego Bay
41 (NAB)	NAB-016	Industrial Storm Water	32° 40' 30"	117° 9' 56"	San Diego Bay
51 (NAB)	NAB-017	Industrial Storm Water	32° 40' 49"	117° 9' 26"	San Diego Bay

Application Name	Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
52 (NAB)	NAB-018	Industrial Storm Water	32° 40' 49"	117° 9' 26"	San Diego Bay
53 (NAB)	NAB-019	Industrial Storm Water	32° 40' 47"	117° 9' 24"	San Diego Bay
54 (NAB)	NAB-020	Industrial Storm Water	32° 40' 45"	117° 9' 21"	San Diego Bay
57 (NAB)	NAB-021	Industrial Storm Water	32° 40' 47"	117° 9' 31"	San Diego Bay
108 (NAB)	NAB-022	Industrial Storm Water	32° 40' 43"	117° 9' 35"	San Diego Bay
OLF 9 (NAB)	NAB-023	Industrial Storm Water	32° 40' 31"	117° 9' 18"	San Diego Bay
OLF 11 (NAB)	NAB-024	Non-Industrial Storm Water	32° 40' 33"	117° 9' 49"	San Diego Bay
OLF 12 (NAB)	NAB-025	Industrial Storm Water	32° 40' 34"	117° 9' 47"	San Diego Bay
OLF 13 (NAB)	NAB-026	Industrial Storm Water	32° 40' 35"	117° 9' 46"	San Diego Bay
OLF 15 (NAB)	NAB-027	Industrial Storm Water	32° 40' 37"	117° 9' 43"	San Diego Bay
OLF 16 (NAB)	NAB-028	Industrial Storm Water	32° 40' 38"	117° 9' 42"	San Diego Bay
OLF 18 (NAB)	NAB-029	Industrial Storm Water	32° 40' 39"	117° 9' 40"	San Diego Bay
OLF 19 (NAB)	NAB-030	Industrial Storm Water	32° 40' 43"	117° 9' 36"	San Diego Bay
OLF 20 (NAB)	NAB-031	Industrial Storm Water	32° 40' 90"	117° 9' 35"	San Diego Bay
OLF 21 (NAB)	NAB-032	Industrial Storm Water	32° 40' 37"	117° 9' 51"	San Diego Bay
OLF 22 (NAB)	NAB-033	Industrial Storm Water	32° 40' 38"	117° 9' 50"	San Diego Bay
OLF 23 (NAB)	NAB-034	Industrial Storm Water	32° 40' 38"	117° 9' 48"	San Diego Bay
OLF 24 (NAB)	NAB-035	Industrial Storm Water	32° 40' 39"	117° 9' 47"	San Diego Bay
OLF 25 (NAB)	NAB-036	Industrial Storm Water	32° 40' 39"	117° 9' 46"	San Diego Bay
OLF 26 (NAB)	NAB-037	Industrial Storm Water	32° 40' 40"	117° 9' 45"	San Diego Bay
OLF 27 (NAB)	NAB-038	Industrial Storm Water	32° 40' 41"	117° 9' 45"	San Diego Bay
OLF 28 (NAB)	NAB-039	Industrial Storm Water	32° 40' 42"	117° 9' 44"	San Diego Bay
OLF 29 (NAB)	NAB-040	Industrial Storm Water	32° 40' 42"	117° 9' 43"	San Diego Bay
OLF 30 (NAB)	NAB-041	Industrial Storm Water	32° 40' 43"	117° 9' 42"	San Diego Bay
OLF 31 (NAB)	NAB-042	Industrial Storm Water	32° 40' 44"	117° 9' 41"	San Diego Bay
OLF 33 (NAB)	NAB-043	Industrial Storm Water	32° 40' 45"	117° 9' 40"	San Diego Bay
OLF 34 (NAB)	NAB-044	Industrial Storm Water	32° 40' 45"	117° 9' 39"	San Diego Bay
OLF 35 (NAB)	NAB-045	Industrial Storm Water	32° 40' 46"	117° 9' 38"	San Diego Bay
OLF 36 (NAB)	NAB-046	Industrial Storm Water	32° 40' 44"	117° 9' 34"	San Diego Bay
OLF 37 (NAB)	NAB-047	Industrial Storm Water	32° 40' 29"	117° 9' 55"	San Diego Bay
OLF 39 (NAB)	NAB-048	Industrial Storm Water	32° 40' 32"	117° 9' 50"	San Diego Bay
OLF 42 (NAB)	NAB-049	Industrial Storm Water	32° 40' 30"	117° 9' 23"	San Diego Bay
OLF 43 (NAB)	NAB-050	Industrial Storm Water	32° 40' 49"	117° 9' 36"	San Diego Bay
OLF 44 (NAB)	NAB-051	Industrial Storm Water	32° 40' 49"	117° 9' 27"	San Diego Bay
OLF 45 (NAB)	NAB-052	Industrial Storm Water	32° 40' 47"	117° 9' 31"	San Diego Bay
2 (NOLF)	NOLF-001	Industrial Storm Water	32° 33' 50"	117° 6' 28"	Tijuana River
3 (NOLF)	NOLF-002	Industrial Storm Water	32° 33' 50"	117° 6' 25"	Tijuana River
4 (NOLF)	NOLF-003	Industrial Storm Water	32° 33' 51"	117° 6' 21"	Tijuana River
5 (NOLF)	NOLF-004	Industrial Storm Water	32° 33' 53"	117° 6' 14"	Tijuana River

[1] Discharge points for boom cleaning are primarily around the quay wall and the other two aircraft carrier piers at NASNI, but pier boom cleaning can occur at any point where pier booms are installed. The discharge point identified in the table represents a point along the quay wall at NASNI in the general area where most of the discharges occur.

[2] Discharges of product water from the ROWPU training exercises occur along the beaches both bayside and surfside (oceanside). The discharge point identified in the table represents a point along the shoreline on the southeastern side of the NAB peninsula in the general area where the discharges occur.

[3] Discharges from boat rinsing activities may occur at industrial outfalls depending on the actual location of the rinsing activity at NAB. The discharge points identified in the table represent the location of two boat ramps in the general area where most of the discharges occur.

[4] The discharge points identified in the table represent the location of the showers at NAB at Buildings 164 and 215.

[5] The discharge point identified in the table represents the general location of the marine mammal enclosures at NAB.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Discharge prohibitions contained in Order No. R9-2003-0008 are as follows:

   a. Discharge of the following wastes are prohibited:

      i. paint chips;
      ii. blasting materials;
      iii. paint over spray;
      iv. paint spills;
      v. water contaminated with abrasive blast materials, paint, oils, fuels, lubricants, solvents, or petroleum;
      vi. hydroblast water;
      vii. tank cleaning water from tank cleaning to remove sludge and/or dirt;
      viii. clarified water from oil and water separator, except for storm water discharges treated by an oil and water separator and reported by the Discharger to the Regional Board;
      ix. steam cleaning water;
      x. pipe and tank hydrostatic test water, unless regulated by an NPDES permit;
      xi. saltbox water;
      xii. hydraulic oil leaks and spills;
      xiii. fuel leaks and spills;
      xiv. trash;
      xv. miscellaneous refuse and rubbish;
      xvi. fibreglass dust;
      xvii. swept materials;
      xviii. ship repair and maintenance activity debris;
      xix. demineralizer and reverse osmosis brine; and
      xx. oily bilge water.

   b. The thermal waste discharge from *engine cooling/sprinkler water* discharges shall not be greater than 4°F above the natural temperature of the receiving water unless the Regional Board grants, and the State Water Resources Control Board concurs with, an exception to the 4°F temperature limit pursuant to the *General Water Quality Provisions of the Thermal Plan*.

   c. Compliance with the waste discharge prohibitions contained in the Basin Plan and as listed in Attachment C to Order No. R9-2003-0008 was required as a condition of the Order.

d. Discharges of wastes that have not been described in the Report of Waste Discharge (RWD) and Fact Sheet for Order No. R9-2003-0008, and discharges of waste in a manner or to a location that has not been specifically described in the RWD and Fact Sheet for Order No. R9-2003-0008 are prohibited unless regulated by applicable waste discharge requirements.

e. Except as allowed in the Storm Water Pollution Prevention Plan (SWPPP) requirements of Order No. R9-2003-0008, non-storm water discharges that discharge either directly or indirectly to waters of the United States are prohibited. Prohibited non-storm water discharges must be either eliminated or permitted by a separate NPDES permit.

f. Industrial storm water discharges and authorized or permitted non-storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance as defined in CWC Section 13050.

g. Wastes shall not be discharged into or adjacent to areas where the protection of beneficial uses requires spatial separation from waste fields as noted in the Enclosed Bay and Estuaries Policy.

2. Discharge specifications contained in Order No. R9-2003-0008 are as follows:

a. The Discharger shall not cause pollution, contamination, or nuisance, as those terms are defined in CWC section 13050, as a result of the treatment or discharge of wastes.

b. Whenever the analyses of an industrial storm water discharge from any industrial activity contains a copper concentration greater than 63.6 µg/L or a zinc concentration greater than 117 µg/L, the Discharger shall perform the following task:

i. review and modify the SWPPP as necessary to reduce the concentrations of copper and zinc;
ii. after modifying the SWPPP, sample and analyze the next two storm water runoff events;
iii. document the review and the modifications to the SWPPP, and document the sampling analysis.

c. For NASNI and NAB, the discharge of the first ¼ inch of storm water runoff from all high risk areas[1] shall be terminated no later than 2 years after the adoption of Order No. R9-2003-0008.

d. For NASNI and NAB, effective 4 years after the adoption of Order No. R9-2003-0008, in a 96-hour static or continuous flow bioassay (toxicity) test, undiluted storm water runoff associated with industrial activity shall not produce less than

[1] *High-risk areas* are areas where wastes or pollutants (including abrasive blast grit material, primer, paint, paint chips, solvents, oils, fuels, sludges, detergents, cleaners, hazardous substances, toxic pollutants, non-conventional pollutants, materials of petroleum origin, or other substances of water quality significance) are subject to precipitation and runoff.

90% survival, 50% of the time, and not less than 70 percent survival, 10% of the time, using standard test species and protocol.

e. During the 4-year period before the effective date of the toxicity limit set forth in the above specification, the Discharger shall conduct a study of the toxicity in storm water discharges from all areas of NASNI and NAB at which industrial activities are undertaken and shall recommend a scientifically valid survival rate for acute exposure to discharges of storm water from industrial areas at NASNI and NAB. The study may include a Toxicity Identification Evaluation (TIE), or a Toxicity Reduction Evaluation (TRE).

f. All waste treatment, containment and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County Flood Control Agency.

g. All waste treatment, containment and disposal facilities shall be protected against erosion, overland runoff and other impacts resulting from a 100-year frequency 24-hour storm.

h. Collected screenings, sludges, and other solids removed from liquid wastes, shall be disposed of in compliance with appropriate local, regional, state, and federal regulations or statutes.

i. Waste discharges shall be essentially free of:

i. Material that is floatable or will become floatable upon discharge.
ii. Settleable material or substances that may form sediments from which will degrade benthic communities or other aquatic life.
iii. Substances which will accumulate to toxic levels in marine waters, sediments, or biota.
iv. Materials that result in aesthetically undesirable discoloration of receiving waters.
v. Substances that significantly decrease the natural light to benthic communities and other marine life.

3. Provisions contained in Order No. R9-2003-0008 required the Discharger to do the following:

a. The Discharger shall reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm water discharges through implementation of *best available technology economically achievable* (BAT) for toxic and non-conventional pollutants, and *best conventional pollutant control technology* (BCT) for conventional pollutants.

b. The Discharger shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that complies with the requirements in Attachment D, Section A of Order No. R9-2003-0008 and that includes *Best Mangagement Practices* (BMPs) that achieve BAT and BCT.

4. Order No. R9-2003-0008 established special conditions for utility vault and manhole dewatering discharges. The special conditions included reducing or preventing pollutants associated with these discharges through the implementation of BAT and BCT; development and implementation of a *Pollution Prevention Plan* (PLAN) with all of the required elements that includes BMPs that achieve BAT and BCT; and actions to be taken as a result of an exceedance of Receiving Water Limitations by a utility vault or manhole dewatering discharge.

D. Compliance Summary

1. On April 13, 2004, the Facility was inspected by a USEPA contractor to determine compliance with Order No. R9-2003-0008. Major findings reported from that inspection include:

   a. The laboratory analytical results did not contain the name or initials of the analysts as required by MRP R9-2003-0008 A.6.d.

   b. Hazardous material stored on the Stennis Pier did not have adequate secondary containment and thus create the potential for an unpermitted discharge and a threat to cause pollution of a surface water (Permit A.5, 5; BMP 115).

   c. Scrap metal storage containers did not have covers to prevent materials, such as copper and zinc, from washing into the storm sewer system (Permit A.5, 6; BMP 061).

   d. Scrap metal storage containers did not have covers to prevent precipitation from washing materials into the storm water system (BMP 061).

   e. Reported sample pH readings were taken at the contract laboratory and thus do not meet the requirements of 40 CFR Part 136 which requires pH to be performed in situ or within 15 minutes of taking the sample (MRP R9-2003-0008 A.2).

2. On December 12, 2007, the Facility was inspected by a USEPA contractor to determine compliance with Order No. R9-2003-0008. Major findings reported from that inspection include:

   a. Monitoring and Reporting Program No. R9-2003-0008, Section C.4, Evaluation Monitoring of the Aquashield™, Aquaswirl Stormwater Treatment System, states that the discharger shall submit an evaluation of the treatment systems annually. The evaluation must include the following: maintenance records, volume or quantity of captured materials removed, a description of materials removed, the percent removal for the monitored parameters, and a description of the storm events that were sampled. This information was not provided in the 2006/2007 Annual Stormwater Monitoring Report.

   b. Monitoring and Reporting Program No. R9-2003-0008, Sections C.7.d and C.7.f, Stormwater Discharges and Other Visual Observations, state that "*Monthly, the Discharger shall visually observe stormwater storage and containment areas...*",

and "*The Discharger shall maintain records of all visual observations, personnel, observation dates/locations, and corrective actions…*", respectively. Monthly stormwater observations were conducted; however, no records of observations, personnel, corrective actions, etc. were provided for the storage and containment areas.

c. Regional Water Board Order No. R9-2003-0008, Attachment D, Section A.4.e, requires that "*activity which may have potential pollutant sources*" be identified on the Site Map. The portable toilets were not identified on the Site Map. Specifically five portable toilets were stored at east end of Juliet Pier near the office trailers and Outfall No. CVN8.

d. Regional Water Board Order No. R9-2003-0008, Attachment D, Section A.9.d, states that the Discharger shall conduct an Annual Comprehensive Site Compliance Evaluation with an evaluation report that includes the following (among other items): the dates of all significant corrective actions of any incidents of noncompliance and a certification that the discharger has completed the annual inspection and is complying with this Order. This information was not provided in the 2006/2007 Annual Stormwater Monitoring Report.

e. Regional Water Board Order no. R9-2003-0008, Provision D.2, requires the Discharger to implement a SWPPP that includes BMPs that achieve best conventional pollutant control technology (BCT). It was observed during the facility inspection that 55-gallon drums were not stored in accordance with the site-specific SWPPP (Section 4.6.70) on the eastern portion of the berth Juliet Pier. Specifically, three 55-gallon drums were observed stored on a plastic constructed secondary containment system. BMP 055 of the site-specific SWPPP, requires the use of overpack containers or containment pallets for the storage of 55-gallon drums outside of designated storage areas that are provided with permanent secondary containment. In addition, the practice of using the constructed secondary plastic in place of specified secondary containment practices did not comply with the Stormwater BMPs Guidance for Contractors Working on Navy Piers, dated August 2005. This guidance document is provided to each contractor working on the piers according to Mr. Chichester (Water Program Manager). Specifically, Section 3 of the guidance manual, Materials Waste/Labeling, Storage and Handling Procedures, requires that the "secondary containment must be large enough to contain materials/waste from the largest container plus rainwater."

f. The Facility exceeded effluent limitations specified in Regional Water Board Order No. R9-2003-0008, Section B.2 at Outfall No. 14 for both samples taken during the 2006/2007 sampling period. The Order specifies effluent limits of 63.6 µg/L of total copper and 117 µg/L of zinc at Outfall No. 14. The Facility reported the following exceedances of these effluent limitations on their SMRs submitted to the Regional Water Board.

i. December 27, 2007 – 76 µg/L, total copper;
ii. December 27, 2007 – 210 µg/L, total zinc;

iii. April 20, 2007 – 610 µg/L, total copper; and
iv. April 20, 2007 – 3,800 µg/L, total zinc.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) on September 8, 1994, and last amended on April 25, 2007. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Requirements of this Order implement the Basin Plan. Beneficial uses applicable to the Pacific Ocean, the San Diego Bay, and the Tijuana River are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
CW-002, CW-003, RO-001, NAS-001 through NAS-004, and NAS-036	Pacific Ocean	Existing: Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; preservation of rare, threatened or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting
SC-001 through SC-066, CW-001, CW-004, BW-001, UV-001 through UV-036, PW-001, RO-001, BR-001, BR-002, SR-001, SR-002, ME-001, NAS-005 through NAS-035 and NAS-37 through NAS-058, and NAB-001 through NAB-52	San Diego Bay	Existing: Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; estuarine habitat; wildlife habitat; preservation of rare, threatened or endangered species; marine habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting
NOLF-001 through NOLF-003	Tijuana River (within the Tijuana River Estuary)	Existing: Contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; estuarine habitat; wildlife habitat; preservation of rare, threatened or endangered species; marine habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting

Requirements of this Order implement the Basin Plan.

2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table F-4. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
CW-002, CW-003, RO-001, NAS-001 through NAS-004, and NAS-036	Pacific Ocean	Existing Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

3. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975.

   The Thermal Plan defines *thermal waste* as "*cooling water and industrial process water used for the purpose of transporting waste.*" The Thermal Plan also defines a *new discharge* as "*any discharge (a) which is not presently taking place unless waste discharge requirements have been established and construction as defined in Paragraph 10 has commenced prior to adoption of this plan or (b) which is presently taking place and for which a material change is proposed but no construction as defined in Paragraph 10 has commenced prior to adoption of this plan.*" Because the discharge of diesel engine cooling water meets the criteria of a thermal waste and because the diesel-engine-powered fire protection system was constructed subsequent to adoption of the Thermal Plan (May 18, 1972), the diesel engine cooling water is considered a new discharge of thermal waste for the purposes of this Order.

   The Thermal Plan defines *elevated temperature waste* as "*liquid, solid, or gaseous material including thermal waste discharged at a temperature higher than the natural temperature of receiving water.*" Because the discharges of steam condensate with temperatures in excess of 100°C and boat rinse water and marine mammal enclosure cleaning water with temperatures in excess of 170°F meet the criteria of an elevated temperature waste, and because these discharges commenced subsequent to adoption of the Thermal Plan, discharges of steam condensate, boat rinse water, and marine mammal enclosure cleaning water are considered new discharges of elevated temperature waste for the purposes of this Order.

   This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

4. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants which are discharged to inland surface waters, bays, and estuaries.

5. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant

criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

6. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

7. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

8. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[1] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

9. **Atomic Energy Act.** Pursuant to the *Atomic Energy Act*, the Regional Water Board does not have jurisdictional authority to regulate the discharge of radioactive wastes. The Fact Sheet for Order No. R9-2003-0008 included an attached memorandum dated July 22, 2002 which was written for the Fact Sheet for Order No. R9-2002-0002. The memorandum specifies that radioactive discharges are not subject to regulation by the Regional Water Board and that the Navy and the Department of Energy have jurisdiction for discharges of radioactive material. The memorandum also specified that radioactivity monitoring was not to be included in the Order. The Regional Water Board finds that the memorandum is applicable to the Facility.

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

Consistent with the memorandum, this Order does not regulate the discharge of radioactive wastes and does not include monitoring for radioactivity.

D. Impaired Water Bodies on CWA 303(d) List

Under section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On November 30, 2006 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. The San Diego Bay, as a whole, is listed as impaired for polychlorinated biphenyls (PCBs). Additionally, a portion of the San Diego Bay, "San Diego Bay Shoreline, Glorietta Bay," is adjacent to NAB and is listed in the 303(d) list as impaired for copper.

An applicable Total Maximum Daily Load (TMDL) has not yet been adopted by the Regional Water Board and approved by USEPA. In the event that a TMDL is finalized during the term of this Order, the Regional Water Board reserves the right to reopen and revise this Order as necessary to comply with the applicable TMDL.

E. Other Plans, Polices and Regulations

1. **Bays and Estuaries Policy.** The State Water Board adopted a Water Quality Control Policy for Enclosed Bays and Estuaries of California (Bays and Estuaries Policy) on May 16, 1974 (last amended in 1995). 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.

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

      i. 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 Water Board only when the Regional Water 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 non-municipal wastewater such as clear brines, washwater, and pool drains are not necessarily considered industrial process wastes, and may be allowed by Regional Water Boards under discharge requirements that provide protection to the beneficial uses of the receiving water.

ii. The Bays and Estuaries Policy also prohibits the discharge or by-passing of untreated wastes. This Order prohibits the discharge and by-passing of untreated waste except for steam condensate, diesel engine cooling water, pier boom cleaning, utility vault and manhole dewatering, pier cleaning, ROWPU product water discharges, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning. For the purpose of the Bays and Estuaries Policy and this Order, the discharges of steam condensate, diesel engine cooling water, pier boom cleaning, utility vault and manhole dewatering, pier cleaning, ROWPU product water discharges, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning will be considered innocuous non-municipal wastewaters and, as such, will not be considered industrial process wastes.

b. The following Principles for the Management of Water Quality in Enclosed Bays and Estuaries, as stated in the Bays and Estuaries Policy, apply to all of California's enclosed bays and estuaries including San Diego Bay:

i. Persistent or cumulative toxic substances shall be removed from the waste to the maximum extent practicable through source control or adequate treatment prior to discharge.

ii. Bay or estuarine outfall and diffuser systems shall be designed to achieve the most rapid initial dilution practicable to minimize concentrations of substances not removed by source control or treatment.

iii. Wastes shall not be discharged into or adjacent to areas where the protection of beneficial uses requires spatial separation from waste fields.

iv. Waste discharges shall not cause a blockage of zones of passage required for the migration of anadromous fish.

v. Non-point sources of pollutants shall be controlled to the maximum practicable extent.

This Regional Water Board has considered the Principle for the Management of Water Quality in Enclosed Bays in Estuaries, in adopting this Order. The terms and conditions of this Order are consistent with the Principles for the Management of Water Quality in Enclosed Bays and Estuaries.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations (CFR): 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section

122.44(d) requires that permits include water quality-based effluent limitations (WQBEL) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

1. Ship repair and maintenance activities may result in the discharge of pollutants and wastes to waters of the United States. Discharge Prohibition III.A prohibits the discharge of wastes from ship repair and maintenance activities. This prohibition is based on the requirements of the Enclosed Bays and Estuaries Policy and is retained from Order No. R9-2003-0008.

   The Discharger requested in their application to discharge reverse osmosis brine, backwash, and product water from ROWPU training exercises to the Pacific Ocean and the San Diego Bay. Reverse osmosis brine water was prohibited in Order No. R9-2003-0008. Due to the high concentrations of pollutants expected in reverse osmosis brine and backwash water, and because priority pollutant monitoring has not been conducted for these discharges, the discharge of ROWPU brine and backwash water is not authorized by this Order. This Order includes a reopener that allows the Discharger to conduct a study to determine the effects of discharges of ROWPU brine and backwash water on the beneficial uses of the receiving waters. Subsequent to the submission of the study, if the Regional Water Board finds that the discharges of reverse osmosis brine and backwash water from the ROWPU will not negatively affect/impact the beneficial uses of the receiving water, this Order may be reopened for the authorization of ROWPU brine and backwash water and the addition of effluent limitations and/or discharge specifications for these discharges.

2. As discussed in section III.C.3 of this Fact Sheet, the discharge of diesel engine cooling water is considered a new discharge of thermal waste. The specific water quality objectives for enclosed bays for new discharges contained in the Thermal Plan states that "*thermal waste discharges having a maximum temperature greater than 4°F above the natural temperature of the receiving water are prohibited.*" Discharge Prohibition III.B is based on the requirements of the Thermal Plan and is retained from Order No. R9-2003-0008.

3. As discussed in section III.C.3 of this Fact Sheet, the discharges from boat rinsing and marine mammal enclosure cleaning are considered a new discharge of elevated temperature waste. The specific water quality objective for enclosed bays for new discharges contained in the Thermal Plan states that "*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.*" Discharge Prohibition III.C is based on the requirements of the Thermal Plan.

4. The Basin Plan prohibitions are incorporated by reference in the Order. Prohibitions III.D, III.E, III.F, and III.G are retained from Order No. R9-2003-0008 and require the Discharger to comply with the Basin Plan prohibitions.

5. Discharge Prohibition III.H is based on the requirements of the Bays and Estuaries Policy and is retained from Order No. R9-2003-0008.

6. Waste discharges from ship repair and maintenance activities on ships, piers, and shoreside facilities can cause high concentrations of copper, zinc, other metals, and oil and grease in industrial storm water runoff. High concentrations of these pollutants in the industrial storm water runoff can be toxic to aquatic organisms. Discharge Prohibition III.I is based on the toxicity requirements contained in the Basin Plan and prohibits the discharge of the first ¼ inch (first flush) of storm water runoff from high risk areas.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR 125.3.

2. Applicable Technology-Based Effluent Limitations

a. The State Water Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on April 21, 2005, which became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Wastewater is discharged through Discharge Point Nos. CW-002, CW-003, and RO-001 to the Pacific Ocean which are therefore subject to the Ocean Plan.

Although the Ocean Plan is not directly applicable to enclosed bays, such as San Diego Bay, the salinity and beneficial uses of San Diego Bay are similar to those of the ocean waters of the State. Therefore, in order to protect the beneficial uses of San Diego Bay, the Ocean Plan can be used as a reference for developing discharge specifications, receiving water prohibitions, and narrative limitations and to supplement the provisions contained in the CTR, the SIP, and the Bays and Estuaries Policy. Therefore, the Regional Water Board finds that the requirements of the Ocean Plan are applicable to Discharge Point Nos. SC-001 through SC-066, CW-001, CW-004, and RO-001, which discharge to the San Diego Bay.

The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table A of the Ocean Plan establishes technology-based effluent limitations for industrial discharges for which ELGs have not been established pursuant to sections 301, 302, 304, or 306 of the federal CWA. Storm water discharges are not considered to be industrial discharges for the purposes of the Ocean Plan and therefore are not subject to the effluent limitations contained in Table A of the Ocean Plan.

Numeric effluent limitations based on Table A of the Ocean Plan are being established in this Order for discharges of steam condensate, diesel engine cooling water, and ROWPU product water from Discharge Point Nos. SC-001 through SC-066, CW-001 through CW-004, and RO-001. The applicable technology-based effluent limitations are summarized below:

Table F-5. Numeric Technology-based Effluent Limitations for Discharge Point Nos. SC-001 through SC-066, CW-001 through CW-004, and RO-001

Parameter	Units	Effluent Limitations		
		Average Monthly	Weekly Average	Instantaneous Maximum
Oil and Grease	mg/L	25	40	75
Settleable Solids	ml/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	standard units	--	--	[1]

[1] Within limits of 6.0 – 9.0 at all times.

b. The State Water Board found in Section V.B.2 of the Fact Sheet to Order No. 2006-0008-DWQ that it is not feasible to establish numeric effluent limitations for pollutants in discharges from utility vaults and underground structures. Instead, the State Water Board included a provision in Order No. 2006-0008-DWQ requiring implementation of pollution prevention practices to control and abate the discharge of pollutants to surface waters, achieve compliance utilizing BAT and BCT requirements, and achieve compliance with applicable water quality standards. Federal Regulations at 40 CFR 122.44(k)(3) and (4) authorize the Regional Water Board to require BMPs to control or abate the discharge of pollutants when numeric effluent limitations are infeasible and when the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. Consistent with the requirements of the Order No. 2006-0008-DWQ and Order No. R9-2003-0008, and as described in section VII.B.3.a of this Fact Sheet, this Order includes a provision requiring the Discharger to continue the implementation and maintenance of their Pollution Prevention Plan (PLAN) which includes BMPs to reduce the discharge of pollutants from utility vault and manhole dewatering. The PLAN requirements have been revised from Order No. R9-2003-0008 to reflect the PLAN requirements included in Order No. 2006-0008-DWQ.

c. Due to the nature of activities associated with discharges of pier boom cleaning, pier cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning, it is impractical to collect and treat the associated wastewaters prior to discharge. Therefore, the Regional Water Board finds that it is not feasible to establish numeric effluent limitations for pollutants in discharges from pier boom cleaning, pier cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning. In accordance with 40 CFR 122.44(k)(3) and (4), the Regional Water Board finds that the implementation of BMPs in lieu of numeric effluent limitations are appropriate. As described in section VII.B.3.b of this Fact Sheet, this Order includes a provision requiring the implementation of BMPs to control and abate the discharge of pollutants from pier boom cleaning, pier cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning.

d. In accordance with 40 CFR 122.44(k), Order No. R9-2003-0008 determined that the implementation of BMPs for the discharge of industrial storm water

were appropriate. To carry out the purpose and intent of the CWA, Order No. R9-2003-0008 required the Discharger to develop and implement a SWPPP, as authorized by CWA section 304(e) and section 402(p), for toxic pollutants and hazardous substances, and for the control of storm water discharges. As discussed further in section VII.B.3.c, the requirement to implement an appropriate SWPPP is retained from Order No. R9-2003-0008.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the Pacific Ocean, San Diego Bay, and the Tijuana River within the Tijuana River Estuary contained in the Basin Plan are summarized in section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving waters.

The CTR promulgated toxics criteria for California and, in addition, incorporated the previously adopted National Toxics Rule criteria that were applicable in the State. Priority pollutant water quality criteria in the CTR are applicable to discharges to the San Diego Bay. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist

between freshwater and saltwater aquatic communities, the following apply: In accordance with section 131.38(c)(3), freshwater criteria apply to areas where salinities are at or below 1 part per thousand (ppt) 95 percent or more of the time. The Regional Water Board determined that because the discharges are within a bay, saltwater CTR criteria are applicable. The CTR criteria for saltwater aquatic life or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of the San Diego Bay, a water of the United States in the vicinity of the discharges.

The SIP procedures for implementation of CTR and NTR criteria are not applicable to storm water discharges. However, the toxicity objectives contained in the Basin Plan and the Bays and Estuary Policy are applicable to the discharge of storm water from the Facility to the Bay. The applicable toxicity limitations are discussed in section IV.C.5 of this Fact Sheet.

The SIP procedures for implementation of CTR and NTR criteria are applicable to non-storm water discharges. The non-storm water discharges from the Facility to San Diego Bay include steam condensate; diesel engine cooling water; pier boom cleaning; utility vault and manhole dewatering; pier cleaning; ROWPU product water; boat rinsing; swimmer rinsing; marine mammal enclosure cleaning; and miscellaneous discharges associated with facility maintenance.

Representative monitoring of the steam condensate discharges was conducted at four locations and submitted in the annual reports for years 2003, 2004, 2005, and 2006 and in the application for a total of 10 sampling events. Monitoring of the San Diego Bay in the vicinity of the discharges was submitted in the application. This data was used to conduct the RPA for steam condensate discharges.

Representative monitoring of the diesel engine cooling water discharges was conducted at the stations in Buildings 186, 348, 499, 554, 1357, 1362, and 1440 and was submitted in the annual reports for years 2003, 2004, 2005, and 2006 and in the application for a total of 16 sampling events. Monitoring of the San Diego Bay in the vicinity of the discharge from the station at Building 499 was submitted in the application. Although the discharge from the stations in Buildings 186, 348, 499, and 554 have been discontinued, the data from these stations is considered to be representative of the discharges of diesel engine cooling water at the Facility and was used to conduct the RPA.

Representative monitoring of utility vault and manhole dewatering discharges was conducted at eight locations and submitted in the annual reports for years 2003, 2004, 2005, and 2006 and in the Discharger's *Case Study for Utility Vault and Manhole Dewatering Discharges at Naval Base Point Loma, Naval Base San Diego, and Naval Base Coronado* for a total of 17 sampling events. Receiving water in the vicinity of the discharges was not conducted.

Monitoring for priority pollutants in the discharge water from similar discharges

for boom cleaning, pier cleaning, boat rinsing, and marine mammal enclosure cleaning at NBPL and NBSD and receiving water monitoring was conducted and submitted in the Discharger's application. In the absence of monitoring data from the Facility for these types of discharges, the Regional Water Board conducted the RPA using data from NBPL and NBSD. However, this Order requires the Discharger to monitor the boom cleaning, pier cleaning, boat rinsing, and marine mammal enclosure cleaning discharges to accurately characterize the discharges at the Facility.

Data for discharges of ROWPU product water and from swimmer rinsing were not available. Monitoring requirements for these discharges for the CTR priority pollutants have been established in the Monitoring and Reporting Program to aid the Regional Water Board in determining if reasonable potential exists for these discharges to exceed water quality criteria exists. This Order may be reopened by the Regional Water Board for revisions as allowed in Provision VI.C.1.d (reopener), for the addition of effluent limitations, prohibitions, and additional monitoring requirements, based on the findings of the priority pollutant monitoring.

An RPA was conducted for the non-storm water discharges to the San Diego Bay using all the available data. The table below summarizes the applicable water quality criteria/objectives for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the RPAs for this Order.

Table F-6. Applicable CTR/NTR Water Quality Criteria

Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
		Freshwater		Saltwater		Human Health for Consumption of:	
		Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms Only
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Antimony, Total Recoverable	4,300	Not Applicable		--	--	Not Applicable	4,300
Arsenic, Total Recoverable	36.00			69.00	36.00		--
Beryllium, Total Recoverable	No Criteria			--	--		--
Cadmium, Total Recoverable	9.36			42.25	9.36		--
Chromium (III)	No Criteria			--	--		--
Chromium (VI)	50			1,100	50		--
Copper, Total Recoverable	3.73			5.78	3.73		--
Lead, Total Recoverable	8.52			220.82	8.52		--
Mercury, Total Recoverable	0.051			--	--		0.051
Nickel, Total Recoverable	8.28			74.75	8.28		--

Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
		Freshwater		Saltwater		Human Health for Consumption of:	
		Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms Only
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Silver, Total Recoverable	2.24			2.24	--		--
Selenium, Total Recoverable	71			290	71		--
Thallium, Total Recoverable	6.3			--	--		6.3
Zinc, Total Recoverable	85.62			95.14	85.62		--
TCDD-Equivalents	1.40×10^{-8}			--	--		1.40×10^{-8}
Benzene	71			--	--		71
Bromoform	360			--	--		360
Chlorobenzene	21,000			--	--		21,000
Chlorodibromomethane	34			--	--		34
Chloroform	No Criteria			--	--		--
Dichlorobromomethane	46			--	--		46
Methyl Chloride	No Criteria			--	--		--
Methylene Chloride	1,600			--	--		1,600
Toluene	200,000			--	--		200,000
Pentachlorophenol	7.9			13	7.9		8.2
Phenol	4,600,000			--	--		4,600,000
Acenaphthene	2,700			--	--		2,700
Acenaphthylene	No Criteria			--	--		--
Anthracene	110,000			--	--		110,000
Benzo (a) Anthracene	0.049			--	--		0.049
Benzo (a) Pyrene	0.049			--	--		0.049
Benzo (b) Fluoranthene	0.049			--	--		0.049
Benzo (ghi) Perylene	No Criteria			--	--		--
Benzo (k) Fluoranthene	0.049			--	--		0.049
Bis (2-ethylhexyl) Phthalate	5.9			--	--		5.9
Butylbenzyl Phthalate	5,200			--	--		5,200
Chrysene	0.049			--	--		0.049
Dibenzo (a,h) Anthracene	0.049			--	--		0.049
Diethyl Phthalate	120,000			--	--		120,000
Dimethyl Phthalate	2,900,000			--	--		2,900,000
Di-n-butyl Phthalate	12,000			--	--		12,000
Di-n-octyl Phthalate	No Criteria			--	--		--
Fluoranthene	370			--	--		370
Fluorene	14,000			--	--		14,000
Indeno (1,2,3-cd) Pyrene	0.049			--	--		0.049
Naphthalene	No Criteria			--	--		--

Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
		Freshwater		Saltwater		Human Health for Consumption of:	
		Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms Only
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
N-nitrosodiphenylamine	16			--	--		16
Phenanthrene	No Criteria			--	--		--
Pyrene	11,000			--	--		11,000
1,2,4-Trichlorobenzene	No Criteria			--	--		--
4,4-DDE	0.00059			--	--		0.00059

b. The Ocean Plan designates beneficial uses for all ocean waters of the State, as summarized in section III.C.2 of this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, toxicity, and radioactivity.

Table B of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

i. 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life;

ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health;

iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health; and

iv. Daily maximum objectives for acute toxicity and chronic toxicity.

The Ocean Plan is applicable to discharges to the Pacific Ocean. The discharges from the Facility to the Pacific Ocean include diesel engine cooling water from the stations in Buildings 1357 and 1362 and ROWPU product water from Discharge Point Nos. CW-002, CW-003, and RO-001. Representative monitoring of the diesel engine cooling water discharges was conducted at the stations in Buildings 186, 348, 499, 554, 1357, 1362, and1440 and was submitted in the annual reports for years 2003, 2004, 2005, and 2006 and in the application for a total of 16 sampling events. Although the discharge from the stations in Buildings 186, 348, 499, and 554 have been discontinued, the data from these stations is considered to be representative of the discharges of diesel engine cooling water at the Facility and was used to conduct the RPA.

Data for discharges of ROWPU product water was not available. Monitoring requirements for these discharges for the Ocean Plan constituents have been

established in the Monitoring and Reporting Program to aid the Regional Water Board in determining if reasonable potential for these discharges to exceed water quality criteria exists. This Order may be reopened by the Regional Water Board for revisions as allowed in Provision VI.C.1.d (reopener), for the addition of effluent limitations, prohibitions, and additional monitoring requirements, based on the findings of the monitoring.

An RPA was conducted for the diesel engine cooling water discharges to the Pacific Ocean using all the available data. The table below summarizes the applicable water quality criteria/objectives for pollutants reported in detectable concentrations in the effluent. These criteria were used in conducting the RPA for this Order.

Table F-7. Applicable Ocean Plan Water Quality Objectives

Constituent	Selected Criteria	Ocean Plan Water Quality Criteria			
		6-Month Median	Daily Maximum	Instantaneous Maximum	30-Day Average
	µg/L	µg/L	µg/L	µg/L	µg/L
Antimony	1,200	--	--	--	1,200
Arsenic	8	8	32	80	--
Cadmium	1	1	4	10	--
Chromium, Total	2	2	8	20	--
Copper	3	3	12	30	--
Lead	2	2	8	20	--
Mercury	0.04	0.04	0.16	0.4	--
Nickel	5	5	20	50	--
Selenium	15	15	60	150	--
Silver	0.7	0.7	2.8	7	--
Thallium	2	--	--	--	2
Zinc	20	20	80	200	--
Chlorodibromomethane	8.6	--	--	--	8.6
Chloroform	130	--	--	--	130
Dichlorobromomethane	6.2	--	--	--	6.2
Bis (2-ethylhexyl) Phthalate	3.5	--	--	--	3.5
Diethyl Phthalate	33,000	--	--	--	33,000
Dimethyl Phthalate	820,000	--	--	--	820,000
Di-n-butyl Phthalate	3,500	--	--	--	3,500
Fluoranthene	15	--	--	--	15
DDT[1]	0.00017	--	--	--	0.00017

[1] Applies to the sum of 4,4-DDT, 2,4-DDT, 4,4-DDE, 2,4-DDE, 4,4-DDD, and 2,4-DDD.

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

Section III.C.4 of the Ocean Plan allows for the use of dilution credits in the calculation of effluent limitations for constituents contained in Table B of the Ocean Plan. Additionally, the Ocean Plan specifies that "*for the purpose of this Plan, minimum initial dilution is the lowest average initial dilution within any single*

month of the year. Dilution estimates shall be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents, of sufficient strength to influence the initial dilution process, flow across the discharge structure."

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

3. Determining the Need for WQBELs

a. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board finds that the discharges summarized below have reasonable potential to cause or contribute to an in-stream excursion above a water quality standard at one or more of the discharge locations for arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, TCDD-equivalents, benzo (a) anthracene, benzo (a) pyrene, benzo (b) fluoranthene, benzo (ghi) perylene, benzo (k) fluoranthene, bis (2-ethylhexyl) phthalate, chrysene, dibenzo (a,h) anthracene, indeno (1,2,3-cd) pyrene, 4,4-DDE, and DDT.

The Regional Water Board conducted the RPA for discharges to the San Diego Bay in accordance with section 1.3 of the SIP.

The RPA for discharges to the Pacific Ocean was conducted in accordance with 40 CFR 122.44(d) and using guidance for statistically determining reasonable potential to exceed water quality objectives, as outlined in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the California Ocean Plan RPA Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited number of effluent data points to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable dilution) can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. The Ocean Plan RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the Regional Water Board may require monitoring; and 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent

limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants inclusion.

The RPA for discharges to the Pacific Ocean was conducted using the RPcalc 2.0 software tool developed by the State Water Board for conducting an RPA, the applicable Table B water quality objectives, no allowed dilution, and the maximum concentrations of pollutants contained in the diesel engine cooling water discharge for which water quality objectives exist in Table B of the Ocean Plan.

A summary of the results for the parameters which demonstrated reasonable potential, for each applicable discharge, is provided in the table below.

Table F-8. Summary of RPA Results[1]

Discharge Location No.	Parameter	MEC µg/L	B µg/L	C µg/L	Reason
Steam Condensate (SC-001 through SC-066)	Copper, Total Recoverable	370	2.63	3.73	MEC > C
	Lead, Total Recoverable	22.80	0.43	8.52	MEC > C
	TCDD-Equivalents	5.72×10^{-8}	2.33×10^{-8}	1.40×10^{-8}	MEC & B > C
	Bis (2-ethylhexyl) Phthalate	6.28	0.0955	5.9	MEC > C
Diesel Engine Cooling Water (CW-001 and CW-004)	Copper, Total Recoverable	97	9.08	3.73	MEC & B > C
	Lead, Total Recoverable	23	2.65	8.52	MEC > C
	Mercury, Total Recoverable	0.44	0.02	0.051	MEC > C
	Zinc, Total Recoverable	150	13.50	85.62	MEC > C
	TCDD-Equivalents	7.15×10^{-7}	1.22×10^{-7}	1.40×10^{-8}	MEC & B > C
	4,4-DDE	0.0126	<0.001	0.00059	MEC > C
Diesel Engine Cooling Water (CW-002 and CW-003)	Arsenic, Total Recoverable	14	3[2]	8	MEC > C
	Cadmium, Total Recoverable	1.1	0[2]	1	MEC > C
	Chromium, Total Recoverable	3.695	0[2]	2	MEC > C
	Copper, Total Recoverable	97	2[2]	3	MEC > C
	Lead, Total Recoverable	23	0[2]	2	MEC > C
	Mercury, Total Recoverable	0.44	0.0005[2]	0.04	MEC > C
	Nickel, Total Recoverable	3.5	0[2]	5	[3]
	Zinc, Total Recoverable	150	8[2]	20	MEC > C
	DDT[4]	0.0126[5]	0[2]	0.00017	MEC > C
	TCDD-Equivalents	7.15×10^{-7}	0[2]	3.9×10^{-9}	MEC > C
Pier Boom Cleaning (BW-001)	Copper, Total Recoverable	52.08	5.22	3.73	MEC & B > C
	TCDD-Equivalents	2.88×10^{-7}	2.92×10^{-8}	1.40×10^{-8}	MEC & B > C
	Benzo (b) Fluoranthene	0.0710	0.0031	0.049	MEC > C

Discharge Location No.	Parameter	MEC µg/L	B µg/L	C µg/L	Reason
	Benzo (k) Fluoranthene	0.057	0.0023	0.049	MEC > C
	Chrysene	0.1264	0.0032	0.049	MEC > C
Utility Vault and Manhole Dewatering (UV-001 through UV-036)	Arsenic, Total Recoverable	140	NA	36	MEC > C
	Copper, Total Recoverable	140	NA	3.73	MEC > C
	Lead, Total Recoverable	34	NA	8.52	MEC > C
	Mercury, Total Recoverable	0.068	NA	0.051	MEC > C
	Nickel, Total Recoverable	27	NA	8.28	MEC > C
	Silver, Total Recoverable	2.6	NA	2.24	MEC > C
	Zinc, Total Recoverable	380	NA	85.62	MEC > C
	Benzo (a) Anthracene	0.804	NA	0.049	MEC > C
	Benzo (a) Pyrene	0.724	NA	0.049	MEC > C
	Benzo (b) Fluoranthene	0.84	NA	0.049	MEC > C
	Benzo (k) Fluoranthene	0.609	NA	0.049	MEC > C
	Chrysene	0.76	NA	0.049	MEC > C
	Dibenzo (a,h) Anthracene	0.094	NA	0.049	MEC > C
	Indeno (1,2,3-cd) Pyrene	0.764	NA	0.049	MEC > C
Pier Cleaning (PW-001)	Arsenic, Total Recoverable	140.3	1.51	36	MEC > C
	Copper, Total Recoverable	119.3	0.79	3.73	MEC > C
	Mercury, Total Recoverable	0.2	<0.01	0.051	MEC > C
	Nickel, Total Recoverable	10.7	0.28	8.28	MEC > C
	Zinc, Total Recoverable	364.6	2.95	85.62	MEC > C
	TCDD-Equivalents	9.27×10^{-7}	1.15×10^{-8}	1.40×10^{-8}	MEC > C

Discharge Location No.	Parameter	MEC µg/L	B µg/L	C µg/L	Reason
Boat Rinsing (BR-001 and BR-002)	Copper, Total Recoverable	102.86	4.98	3.73	MEC & B > C
	Lead, Total Recoverable	424.689	0.22	8.52	MEC > C
	Mercury, Total Recoverable	0.11	<0.1	0.051	MEC > C
	Nickel, Total Recoverable	17.653	0.358	8.28	MEC > C
	Zinc, Total Recoverable	522.009	6.053	85.62	MEC > C
	TCDD-Equivalents	2.76×10^{-5}	5.17×10^{-7}	1.40×10^{-8}	MEC & B > C
	Benzo (a) Anthracene	0.6764	0.0047	0.049	MEC > C
	Benzo (a) Pyrene	0.8165	0.0049	0.049	MEC > C
	Benzo (b) Fluoranthene	1.1084	0.0049	0.049	MEC > C
	Benzo (k) Fluoranthene	0.1177	0.0079	0.049	MEC > C
	Bis (2-ethylhexyl) Phthalate	816.369	1.4286	5.9	MEC > C
	Chrysene	1.5452	0.0107	0.049	MEC > C
	Dibenzo (a,h) Anthracene	0.1394	0.001	0.049	MEC > C
	Indeno (1,2,3-cd) Pyrene	0.6792	0.0043	0.049	MEC > C
Marine Mammal Enclosure Cleaning (ME-001)	Copper, Total Recoverable	6.4	2.62	3.73	MEC > C
	TCDD-Equivalents	4.00×10^{-8}	2.40×10^{-8}	1.40×10^{-8}	MEC & B > C

NA – Not Available

[1] MEC = Maximum Effluent Concentration
B = Background Concentration
C = Criterion

[2] From Table C of the Ocean Plan.

[3] Parametric RPA found the lognormal upper one-sided confidence bound (upper 95% confidence bound for the 95th population percentile with N = 16) of 8.3255 exceeds the criterion of 5 µg/L.

[4] Applies to the sum of 4,4-DDT, 2,4-DDT, 4,4-DDE, 2,4-DDE, 4,4-DDD, and 2,4-DDD.

[5] Based on detection of 4,4-DDE.

4. WQBEL Calculations

a. As shown in Table F-8, the Regional Water Board finds that discharges from utility vault and manhole dewatering have the reasonable potential to exceed water quality criteria for several priority pollutants. However, section V.C.3 of the Fact Sheet to Order No. 2006-0008-DWQ states that "*establishment of numeric effluent limitations for pollutants from utility vaults and underground structures is not feasible because: (1) utility companies have numerous short duration intermittent releases of water to surface waters from many different locations, and (2) treatment of all these releases to meet numeric effluent limitations would be impractical.*" Consistent with Order No. 2006-0008-DWQ and Order No. R9-2003-0008, the Regional Water Board is not establishing effluent limitations for utility vaults and manholes in this Order. However, as described in section VII.B.3.a of this Fact Sheet, this Order includes a provision requiring the Discharger to continue the implementation and maintenance of their Pollution

Prevention Plan (PLAN) which includes BMPs to reduce the discharge of pollutants from utility vault and manhole dewatering.

b. As shown in Table F-8, the Regional Water Board finds that discharges from pier boom cleaning, pier cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning exhibit reasonable potential to exceed water quality criteria for a number of priority pollutants. However, as discussed in section IV.B.2.c of this Fact Sheet, the Regional Water Board finds that it is not feasible to establish numeric effluent limitations for pollutants in discharges from pier boom cleaning, pier cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning. In lieu of numeric effluent limitations, the Regional Water Board finds that the implementation of BMPs are appropriate. As described in section VII.B.3.b of this Fact Sheet, this Order includes a provision requiring the implementation of best management practices to control and abate the discharge of pollutants from pier boom cleaning, pier cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning.

c. The WQBEL for pH is based on the water quality objective contained in the Basin Plan, which states, "*In bays and estuaries the pH shall not be depressed below 7.0 nor raised above 9.0.*"

d. As discussed in section III.C.3, above, steam condensate discharges are considered new discharges of elevated temperature wastes. The specific water quality objective for enclosed bays for new discharges contained in the Thermal Plan states that "*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.*" This water quality objective is established as a WQBEL for discharges of steam condensate from Discharge Point Nos. SC-001 through SC-066 and is based on the requirements of the Thermal Plan.

e. **Effluent Limitation Calculations for Discharges to San Diego Bay.** Effluent limitations for copper, lead, mercury, zinc, TCDD-equivalents, bis (2-ethylhexyl) phthalate, and 4,4-DDE at Discharge Point Nos. SC-001 through SC-066, CW-001, and CW-004 were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations for these parameters.

In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

For the human health, agriculture, or other long-term criterion/objective, a dilution credit can be applied. The ECA is calculated as follows:

$$ECA_{HH} = HH + D(HH - B)$$

where:

ECA_{acute} = effluent concentration allowance for acute (1-hour average) toxicity criterion

$ECA_{chronic}$ = effluent concentration allowance for chronic (4-day average) toxicity criterion

ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective

CMC = criteria maximum concentration (1-hour average)

CCC = criteria continuous concentration (4-day average, unless otherwise noted)

HH = human health, agriculture, or other long-term criterion/objective

D = dilution credit

B = maximum receiving water concentration

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL).

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$AMEL = mult_{AMEL}\left[\min\left(\underbrace{M_A ECA_{acute}}_{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(\underbrace{M_A ECA_{acute}}_{LTA_{chronic}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where: $mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL

$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL

M_A = statistical multiplier converting CMC to LTA

M_C = statistical multiplier converting CCC to LTA

WQBELs were calculated for copper, lead, mercury, zinc, TCDD-equivalents, bis (2-ethylhexyl) phthalate, and 4,4-DDE as follows in Tables F-9 through F-17, below.