

**Table F-9. WQBEL Calculations for Copper for Discharges of Steam Condensate (Discharge Point Nos. SC-001 through SC-066)**

	Acute	Chronic
Criteria (µg/L) <sup>1</sup>	5.78	3.73
Dilution Credit	No Dilution	No Dilution
ECA	5.78	3.73
ECA Multiplier	0.14	0.26
LTA	0.81	0.96
AMEL Multiplier (95 <sup>th</sup> %)	2.44	<sup>2</sup>
<b>AMEL (µg/L)</b>	<b>2.0</b>	<sup>2</sup>
MDEL Multiplier (99 <sup>th</sup> %)	7.11	<sup>2</sup>
<b>MDEL (µg/L)</b>	<b>5.8</b>	<sup>2</sup>

<sup>1</sup> CTR Aquatic Life Criteria

<sup>2</sup> Limitations based on acute LTA (Acute LTA < Chronic LTA)

**Table F-10. WQBEL Calculations for Copper for Discharges of Diesel Engine Cooling Water (Discharge Point Nos. CW-001 and CW-004)**

	Acute	Chronic
Criteria (µg/L) <sup>1</sup>	5.78	3.73
Dilution Credit	No Dilution	No Dilution
ECA	5.78	3.73
ECA Multiplier	0.19	0.35
LTA	1.11	1.31
AMEL Multiplier (95 <sup>th</sup> %)	2.01	<sup>2</sup>
<b>AMEL (µg/L)</b>	<b>2.2</b>	<sup>2</sup>
MDEL Multiplier (99 <sup>th</sup> %)	5.22	<sup>2</sup>
<b>MDEL (µg/L)</b>	<b>5.8</b>	<sup>2</sup>

<sup>1</sup> CTR Aquatic Life Criteria

<sup>2</sup> Limitations based on acute LTA (Acute LTA < Chronic LTA)

**Table F-11. WQBEL Calculations for Lead in Discharges of Steam Condensate (Discharge Point Nos. SC-001 through SC-066)**

	Acute	Chronic
Criteria (µg/L) <sup>1</sup>	220.82	8.52
Dilution Credit	No Dilution	No Dilution
ECA	220.82	8.52
ECA Multiplier	0.21	0.39
LTA	46.78	3.28
AMEL Multiplier (95 <sup>th</sup> %)	<sup>2</sup>	1.91
<b>AMEL (µg/L)</b>	<sup>2</sup>	<b>6.3</b>
MDEL Multiplier (99 <sup>th</sup> %)	<sup>2</sup>	4.72
<b>MDEL (µg/L)</b>	<sup>2</sup>	<b>15.5</b>

<sup>1</sup> CTR Aquatic Life Criteria

<sup>2</sup> Limitations based on chronic LTA (Chronic LTA < Acute LTA)

**Table F-12. WQBEL Calculations for Lead in Discharges of Diesel Engine Cooling Water (Discharge Point Nos. CW-001 and CW-004)**

	Acute	Chronic
Criteria (µg/L) <sup>1</sup>	220.82	8.52
Dilution Credit	No Dilution	No Dilution
ECA	220.82	8.52
ECA Multiplier	0.17	0.31
LTA	37.18	2.65
AMEL Multiplier (95 <sup>th</sup> %)	<sup>2</sup>	2.18
<b>AMEL (µg/L)</b>	<b>2</b>	<b>5.8</b>
MDEL Multiplier (99 <sup>th</sup> %)	<sup>2</sup>	5.94
<b>MDEL (µg/L)</b>	<b>2</b>	<b>15.8</b>

<sup>1</sup> CTR Aquatic Life Criteria

<sup>2</sup> Limitations based on chronic LTA (Chronic LTA < Acute LTA)

**Table F-13. WQBEL Calculations for Mercury in Discharges of Diesel Engine Cooling Water (Discharge Point Nos. CW-001 and CW-004)**

	Human Health
Criteria (µg/L) <sup>1</sup>	0.051
Dilution Credit	No Dilution
ECA	0.051
<b>AMEL (µg/L)<sup>2</sup></b>	<b>0.051</b>
MDEL/AMEL Multiplier <sup>3</sup>	2.01
<b>MDEL (µg/L)</b>	<b>0.102</b>

<sup>1</sup> CTR Criteria for Human Health (for Consumption of Organisms Only)

<sup>2</sup> AMEL = ECA per section 1.4.B, Step 6 of SIP

<sup>3</sup> Assumes sampling frequency n<=4. Calculated multiplier based on Step 6 of section 1.4 of the SIP.

**Table F-14. WQBEL Calculations for Zinc in Discharges of Diesel Engine Cooling Water (Discharge Point Nos. CW-001 and CW-004)**

	Acute	Chronic
Criteria (µg/L) <sup>1</sup>	95.14	85.62
Dilution Credit	No Dilution	No Dilution
ECA	95.14	85.62
ECA Multiplier	0.21	0.39
LTA	20.16	32.97
AMEL Multiplier (95 <sup>th</sup> %)	1.91	<sup>2</sup>
<b>AMEL (µg/L)</b>	<b>38.4</b>	<b>2</b>
MDEL Multiplier (99 <sup>th</sup> %)	4.72	<sup>2</sup>
<b>MDEL (µg/L)</b>	<b>95.1</b>	<b>2</b>

<sup>1</sup> CTR Aquatic Life Criteria

<sup>2</sup> Limitations based on acute LTA (Acute LTA < Chronic LTA)

**Table F-15. WQBEL Calculations for TCDD-Equivalents in Discharges of Steam Condensate and Diesel Engine Cooling**

**Water (Discharge Point Nos. SC-001 through SC-066, CW-001, and CW-004)**

	Human Health
Criteria ( $\mu\text{g/L}$ ) <sup>1</sup>	$1.40 \times 10^{-8}$
Dilution Credit	No Dilution
ECA	$1.40 \times 10^{-8}$
<b>AMEL (<math>\mu\text{g/L}</math>)<sup>2</sup></b>	<b><math>1.4 \times 10^{-8}</math></b>
MDEL/AMEL Multiplier <sup>3</sup>	2.01
<b>MDEL (<math>\mu\text{g/L}</math>)</b>	<b><math>2.8 \times 10^{-8}</math></b>

<sup>1</sup> CTR Criteria for Human Health (for Consumption of Organisms Only)

<sup>2</sup> AMEL = ECA per section 1.4.B, Step 6 of SIP

<sup>3</sup> Assumes sampling frequency  $n \leq 4$ . Calculated multiplier based on Step 6 of section 1.4 of the SIP.

**Table F-16. WQBEL Calculations for Bis (2-ethylhexyl) Phthalate in Discharges of Steam Condensate (Discharge Point Nos. SC-001 through SC-066)**

	Human Health
Criteria ( $\mu\text{g/L}$ ) <sup>1</sup>	5.9
Dilution Credit	No Dilution
ECA	5.9
<b>AMEL (<math>\mu\text{g/L}</math>)<sup>2</sup></b>	<b>5.9</b>
MDEL/AMEL Multiplier <sup>3</sup>	2.01
<b>MDEL (<math>\mu\text{g/L}</math>)</b>	<b>11.8</b>

<sup>1</sup> CTR Criteria for Human Health (for Consumption of Organisms Only)

<sup>2</sup> AMEL = ECA per section 1.4.B, Step 6 of SIP

<sup>3</sup> Assumes sampling frequency  $n \leq 4$ . Calculated multiplier based on Step 6 of section 1.4 of the SIP.

**Table F-17. WQBEL Calculations for 4,4-DDE in Discharges of Diesel Engine Cooling Water (Discharge Point Nos. CW-001 and CW-004)**

	Human Health
Criteria ( $\mu\text{g/L}$ ) <sup>1</sup>	0.00059
Dilution Credit	No Dilution
ECA	0.00059
<b>AMEL (<math>\mu\text{g/L}</math>)<sup>2</sup></b>	<b>0.00059</b>
MDEL/AMEL Multiplier <sup>3</sup>	2.01
<b>MDEL (<math>\mu\text{g/L}</math>)</b>	<b>0.00118</b>

<sup>1</sup> CTR Criteria for Human Health (for Consumption of Organisms Only)

<sup>2</sup> AMEL = ECA per section 1.4.B, Step 6 of SIP

<sup>3</sup> Assumes sampling frequency  $n \leq 4$ . Calculated multiplier based on Step 6 of section 1.4 of the SIP.

f. **Effluent Limitation Calculations for Discharges to the Pacific Ocean.** From the Table B water quality objectives of the Ocean Plan, effluent limitations are calculated according to the following equation:

$$C_e = C_o + D_m (C_o - C_s) \text{ where,}$$

$C_e$  = the effluent limitation ( $\mu\text{g/L}$ )

$C_o$  = the water quality objective ( $\mu\text{g/L}$ )

$C_s$  = background seawater concentration ( $\mu\text{g/L}$ )

$D_m$  = minimum probable initial dilution expressed as parts seawater per part wastewater

In the absence of available information to calculate dilution, the Regional Water Board assumed a  $D_m$  of 0 for the purposes of calculating WQBELs. In accordance with Table C of section III.C.4.a of the Ocean Plan, the Regional Water Board used a  $C_s$  of 0  $\mu\text{g/L}$  for all Table B parameters, except the following:

**Table F-18. Background Seawater Concentrations**

Parameter	Units	Background Seawater Concentration ( $C_s$ )
Arsenic	$\mu\text{g/L}$	3
Copper	$\mu\text{g/L}$	2
Mercury	$\mu\text{g/L}$	0.0005
Silver	$\mu\text{g/L}$	0.16
Zinc	$\mu\text{g/L}$	8

As an example, the calculation of the effluent limitations for copper and DDT are shown below.

Water quality objectives from the Ocean Plan are:

**Table F-19. Copper and 4,4-DDE Ocean Plan Objectives**

Parameter	6-Month Median	Daily Maximum	Instantaneous Maximum	30-Day Average
	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$
Copper	3	12	30	--
DDT <sup>1</sup>	--	--	--	0.00017

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

Using the equation,  $C_e = C_o + D_m (C_o - C_s)$ , the following calculations were made before rounding to two significant digits:

Copper

$$C_e = 3 + 0 (3 - 2) = 3 \text{ (6-Month Median)}$$

$$C_e = 12 + 0 (12 - 2) = 3 \text{ (Daily Maximum)}$$

$$C_e = 30 + 0 (30 - 2) = 30 \text{ (Instantaneous Maximum)}$$

DDT

$$C_e = 0.00017 + 0 (0.00017 - 0) = 0.00017 \text{ (30-Day Average)}$$

Based on the implementation procedures described above, effluent limitations have been calculated for pollutants that demonstrate reasonable potential to exceed the water quality objectives contained in Table B of the Ocean Plan.

g. A summary of the applicable WQBELs are summarized below:

**Table F-20. Summary of Water Quality-based Effluent Limitations for Discharges of Steam Condensate from Discharge Point Nos. SC-001 through SC-066**

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	2.0	5.8	--	--
Lead, Total Recoverable	µg/L	6.3	15.5	--	--
TCDD-Equivalents	µg/L	$1.4 \times 10^{-8}$	$2.8 \times 10^{-8}$	--	--
Bis (2-ethylhexyl) Phthalate	µg/L	5.9	11.8	--	--
pH	standard units	--	--	7.0	9.0
Temperature	°F	--	--	--	1

<sup>1</sup> At no time shall any discharge be greater than 20°F over the natural temperature of the receiving water.

**Table F-21. Summary of Water Quality-based Effluent Limitations for Discharges of Diesel Engine Cooling Water from Discharge Point Nos. CW-001 and CW-004**

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	2.2	5.8	--	--
Lead, Total Recoverable	µg/L	5.8	15.8	--	--
Mercury, Total Recoverable	µg/L	0.051	0.102	--	--
Zinc, Total Recoverable	µg/L	38.4	95.1	--	--
TCDD-Equivalents	µg/L	$1.4 \times 10^{-8}$	$2.8 \times 10^{-8}$	--	--
4,4-DDE	µg/L	0.00059	0.00118	--	--
pH	standard units	--	--	7.0	9.0

**Table F-22. Summary of Water Quality-based Effluent Limitations for Discharges of Diesel Engine Cooling Water from Discharge Point Nos. CW-002 and CW-003**

Parameter	Units	Effluent Limitations				
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Arsenic, Total Recoverable	µg/L	8	--	32	--	80
Cadmium, Total Recoverable	µg/L	1	--	4	--	10
Chromium, Total Recoverable	µg/L	2	--	8	--	20
Copper, Total Recoverable	µg/L	3	--	12	--	30
Lead, Total Recoverable	µg/L	2	--	8	--	20
Mercury, Total Recoverable	µg/L	0.04	--	0.16	--	0.4
Nickel, Total Recoverable	µg/L	5	--	20	--	50
Zinc, Total Recoverable	µg/L	20	--	80	--	200
TCDD <sup>1</sup> Equivalents	µg/L	--	3.9 x 10 <sup>-9</sup>	--	--	--
DDT <sup>1</sup>	µg/L	--	0.00017	--	--	--
pH	standard units	--	--	--	7.0	9.0

<sup>1</sup> 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. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

The acute toxicity effluent limitation established in Order No. R9-2003-0008 was established to implement the Basin Plan water quality objective for toxicity in receiving waters and was derived from, and is essentially the same as, the acute toxicity discharge standard contained in the 1974 State Water Board Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Bays and Estuaries Policy) which applies to discharges exempted from the Bays and Estuaries Policy acute toxicity discharge standard prohibition of discharges of wastewaters and process waters. The Bays and Estuaries Policy acute toxicity discharge standard applied directly to wastes being discharged, similar to USEPA's technology-based effluent limitations, and was intended to be a

minimum standard to prevent water quality degradation and protect beneficial uses of enclosed bays and estuaries.

During the renewal of the Discharger's NPDES permits for the Facility, NBSD, and NBPL, the Discharger challenged the acute toxicity limitation and has asserted that the acute toxicity limitation is not based on scientific data, that it is overly stringent for protecting water quality, and that diversion of all storm water runoff to the sanitary sewer is the only effective BAT/BCT for meeting the effluent limitation.

Due to the nature of stormwater runoff associated with industrial activity and in the absence of a numeric toxicity water quality objective for San Diego Bay from which numeric toxicity effluent limitations can be derived, the Regional Water Board maintains that use of the Bays and Estuaries Policy acute toxicity minimum discharge requirement is an appropriate approach to implement the Basin Plan narrative water quality objective for toxicity in receiving waters. Nonetheless, the Discharger's NPDES permits contained provisions which allowed the Discharger to recommend, after conducting a required study, alternative scientifically valid survival rates for acute exposure to discharges of storm water from industrial areas at the Discharger's facilities.

The Discharger was tasked with a study to develop a scientifically defensible, and appropriate, toxicity limitation for industrial storm water discharges from Naval facilities to San Diego Bay. The results of the study were summarized in a Final Report, *Storm Water Toxicity Evaluation Conducted at: Naval Station San Diego, Naval Submarine Base San Diego, Naval Amphibious Base Coronado, and Naval Air Station North Island*, dated May 2006.

The Discharger's final recommendations included in the report are summarized below:

- The use of appropriate USEPA WET test methods and data evaluation when declaring a test result as toxic.
- Acknowledge of WET method variable and the minimum significant difference that laboratory testing can provide in declaring a toxic result.
- Consideration of realistic exposure conditions when using WET testing to infer toxicity in the receiving water.

In addition, the Discharger has submitted comments regarding the current acute toxicity requirements. Comments of significant importance are summarized below:

- The Discharger has requested that the existing storm water toxicity testing language be revised to require a statistical comparison of discharge toxicity results with control sample toxicity results using a student t-test, to determine whether a discharge is toxic or not.

- The Discharger has requested that the existing storm water toxicity testing language be revised to require the use of percent minimum significant difference, using the 10<sup>th</sup> and 75<sup>th</sup> percentiles as lower and upper bounds, respectively, to account for inherent variability of toxicity testing procedures to determine whether a discharge is toxic or not.
- The Discharger has requested that the existing storm water toxicity discharge specification language be revised according to two proposed alternatives that presumably consider realistic exposure conditions to infer toxicity in the receiving water.

Regional Water Board staff have previously stated in a memorandum to the Executive Officer dated August 22, 2006 that the Discharger's proposed toxicity alternatives not be adopted in their entirety and: "*Toxicity in storm water discharges should not be ignored just because the causative agent is diluted in bay water. Testing times should not be shortened to ensure that the variability inherent to storm water discharges is not causing low level toxicity that may be missed in an acute test.*"

Considering the study performed by the Discharger, comments received from the Discharger, and the interpretation of State regulations, the implementation of acute limits for storm water shall be based on a calculated statistical difference through the use of a student t-test, in survival between the 100 percent concentration of storm water and the control (receiving water). This method is preferable in that it takes into account the performance of the control, and defines statistical confidence in test results. This approach accounts for inherent variability of toxicity testing procedures to determine whether a discharge is toxic or not with the use of a percent minimum significant difference (PMSD). USEPA's guidance document recommends using the 10<sup>th</sup> and 90<sup>th</sup> percentile PMSD for a given test species for comparison with the PMSD of the discharge sample, and because the PMSD should be used in conjunction with the statistical comparison to controls, the use of the 75<sup>th</sup> percentile PMSD as suggested by the Discharger is not supported.

For this Order, the determination of Pass or Fail from a single-effluent-concentration (paired) acute toxicity test is determined using a one-tailed hypothesis test called a t-test. The objective of a Pass or Fail test is to determine if survival in the single treatment (100% effluent) is significantly different from survival in the control (0% effluent). Following Section 11.3 in the fifth edition of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012, 2002), the t statistic for the single-effluent concentration acute toxicity test shall be calculated and compared with the critical t set at the 5% level of significance. If the calculated t does not exceed the critical t, then the mean responses for the single treatment and control are declared "not statistically different" and the Discharger shall report "Pass" on the DMR form. If the calculated t does exceed the critical t, then the mean responses for the single treatment and control are declared "statistically different" and the Discharger shall report "Fail" on the DMR form. This Order requires additional toxicity testing if the

effluent limitation for acute toxicity is reported as "Fail" as specified in the Monitoring and Reporting Program.

The use of a difference between a control and a critical concentration (100% in this case) is statistically defensible and protective of the Basin Plan's toxicity objective.

**D. Final Effluent Limitations**

**1. Final Effluent Limitations**

Applicable technology-based effluent limitations and WQBELs for pH, described in sections IV.B and IV.C, have been applied in this Order. Both technology-based effluent limitations and WQBELs were applicable to the discharges (6.0 – 9.0 standard units and 7.0 – 9.0 standard units, respectively). To ensure the protection of water quality, the more stringent lower and upper limitations for pH have been applied as the final effluent limitations in this Order.

Discharges of steam condensate to the San Diego Bay from Discharge Point Nos. SC-001 through SC-066 shall not exceed the effluent limitations summarized below:

**Table F-23. Effluent Limitations for Discharges of Steam Condensate from Discharge Point Nos. SC-001 through SC-066**

Parameter	Units	Effluent Limitations				
		Average Monthly	Weekly Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<b>Conventional Pollutants</b>						
Oil and Grease	mg/L	25	40	--	--	75
pH	pH units	--	--	--	7.0	9.0
<b>Priority Pollutants</b>						
Copper, Total Recoverable	µg/L	2.0	--	5.8	--	--
Lead, Total Recoverable	µg/L	6.3	--	15.5	--	--
TCDD-Equivalents	µg/L	1.4 x 10 <sup>-8</sup>	--	2.8 x 10 <sup>-8</sup>	--	--
Bis (2-ethylhexyl) Phthalate	µg/L	5.9	--	11.8	--	--
<b>Non-Conventional Pollutants</b>						
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Temperature	° F	--	--	--	--	--
Turbidity	NTU	75	100	--	--	225

At no time shall any discharge be greater than 20° F over the natural temperature of the receiving water.

Discharges of diesel engine cooling water to San Diego Bay from Discharge Point Nos. CW-001 and CW-004 shall not exceed the effluent limitations summarized below:

**Table F-24. Effluent Limitations for Discharges of Diesel Engine Cooling Water from Discharge Point Nos. CW-001 and CW-004**

Parameter	Units	Effluent Limitations				
		Average Monthly	Weekly Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<b>Conventional Pollutants</b>						
Oil and Grease	mg/L	25	40	--	--	75
pH	pH units	--	--	--	7.0	9.0
<b>Priority Pollutants</b>						
Copper, Total Recoverable	µg/L	2.2	--	5.8	--	--
Lead, Total Recoverable	µg/L	5.8	--	15.8	--	--
Mercury, Total Recoverable	µg/L	0.051	--	0.102	--	--
Zinc, Total Recoverable	µg/L	38.4	--	95.1	--	--
TCDD-Equivalents	µg/L	1.4 x 10 <sup>-8</sup>	--	2.8 x 10 <sup>-8</sup>	--	--
4,4-DDE	µg/L	0.00059	--	0.00118	--	--
<b>Non-Conventional Pollutants</b>						
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225

Discharges of diesel engine cooling water to the Pacific Ocean from Discharge Point Nos. CW-002 and CW-003 shall not exceed the effluent limitations summarized below:

**Table F-25. Effluent Limitations for Discharges of Diesel Engine Cooling Water from Discharge Point Nos. CW-002 and CW-003**

Parameter	Units	Effluent Limitations					
		6-Month Median	Average Monthly	Weekly Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<b>Conventional Pollutants</b>							
Oil and Grease	mg/L	--	25	40	--	--	75
pH	pH units	--	--	--	--	7.0	9.0
<b>Ocean Plan Pollutants</b>							
Arsenic, Total Recoverable	µg/L	8	--	--	32	--	80
Cadmium, Total Recoverable	µg/L	1	--	--	4	--	10
Chromium, Total Recoverable	µg/L	2	--	--	8	--	20
Copper, Total Recoverable	µg/L	3	--	--	12	--	30
Lead, Total Recoverable	µg/L	2	--	--	8	--	20

Parameter	Units	Effluent Limitations					
		6-Month Median	Average Monthly	Weekly Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Mercury, Total Recoverable	µg/L	0.04	--	--	0.16	--	0.4
Nickel, Total Recoverable	µg/L	5	--	--	20	--	50
Zinc, Total Recoverable	µg/L	20	--	--	80	--	200
DDT <sup>1</sup>	µg/L	--	0.00017	--	--	--	--
TCDD-Equivalents	µg/L	--	3.9 x 10 <sup>-9</sup>	--	--	--	--
<b>Non-Conventional Pollutants</b>							
Settleable Solids	ml/L	--	1.0	1.5	--	--	3.0
Turbidity	NTU	--	75	100	--	--	225

<sup>1</sup> Applies to the sum of 4,4-DDT, 2,4-DDT, 4,4-DDE, 2,4-DDE, 4,4-DDD, and 2,4-DDD.

Discharges of ROWPU product water to the Pacific Ocean and the San Diego Bay from Discharge Point No. RO-001 shall not exceed the effluent limitations summarized below:

**Table F-26. Effluent Limitations for Discharges of ROWPU Product Water from Discharge Point No. RO-001**

Parameter	Units	Effluent Limitations				
		Average Monthly	Weekly Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<b>Conventional Pollutants</b>						
Oil and Grease	mg/L	25	40	--	--	75
pH	pH units	--	--	--	7.0	9.0
<b>Non-Conventional Pollutants</b>						
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225

Discharges of storm water at Discharge Point Nos. NAS-001 through NAS-058, NAB-001 through NAB-052, and NOLF-001 through NOLF-003 shall achieve a rating of "Pass" for acute toxicity with compliance determined as specified in section VII.H of this Order.

## 2. Satisfaction of Anti-Backsliding Requirements

All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R9-2003-0008 and meet State and federal anti-backsliding requirements.

### 3. Satisfaction of Antidegradation Policy

Waste Discharge Requirements for the Discharger must conform with federal and state antidegradation policies provided at 40 CFR 131.12 and in State Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the Regional Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), Antidegradation Policy Implementation for NPDES Permitting.

The Discharger reported in the application discharges of wastewater from pier boom cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning, which were not regulated under Order No. R9-2003-0008. The Regional Water Board conducted RPAs which indicate that these discharges have the reasonable potential to exceed water quality objectives. In lieu of numeric effluent limitations, this Order requires the Discharger to implement BMPs to control and abate the discharge of pollutants from the discharges. Due to the low volume and frequency of these discharges, the implementation of the proper BMPs is expected to sufficiently reduce the discharge of pollutants and the addition of Discharge Point Nos. BW-001, BR-001, BR-002, SR-001, SR-002, and ME-001 is not expected to negatively affect/impact the receiving water.

The Discharger also requested in the application to discharge up to 3,000 gallons of ROWPU brine, backwash, and product water to the Pacific Ocean and the San Diego Bay during training exercises that occur four times per year. The discharge of reverse osmosis brine was prohibited in Order No. R9-2003-0008. Due to the high concentrations of pollutants expected in discharges of reverse osmosis brine and backwash water, and because the Discharger has not submitted priority pollutant monitoring for these discharges, the discharge of ROWPU brine and backwash water is not authorized by this Order. However, due to the low volume and high quality of the reverse osmosis product water, the discharge of ROWPU product water from RO-001 is authorized by this Order and technology-based effluent limitations based on the Ocean Plan have been established. The addition of Discharge Point No. RO-001 is not expected to negatively affect/impact the receiving water. This Order requires priority pollutant monitoring, which shall be used to conduct a complete RPA. Should the discharge exhibit reasonable potential to exceed water quality objectives, this Order may be reopened and new effluent limitations added.

The Discharger has requested that two additional discharges of diesel engine cooling water from the pump stations at Buildings 1362 and 1440 (Discharge Point

Nos. CW-003 and CW-004) be authorized to discharge. Previously, diesel engine cooling water was discharged from pump stations in Buildings 186, 499, 812, 1357, 348, and 554. However, the Discharger no longer discharges wastewater from the stations at Buildings 186, 499, 348, or 554. Considering the elimination of four discharges of diesel engine cooling water to the receiving water, and the fact that the additional effluent streams are similar to the current discharges of diesel engine cooling water, the addition of Discharge Point Nos. CW-003 and CW-004 for diesel engine cooling water is not expected to negatively affect/impact the receiving water. Additionally, this Order establishes WQBELs more stringent than established in Order No. R9-2003-0008 which shall be protective of water quality objectives.

The limitations and requirements of this Order are more stringent than established in Order No. R9-2003-0008. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

#### **4. Stringency of Requirements for Individual Pollutants**

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations applied in the Order consist of restrictions on oil and grease, suspended solids, settleable solids, turbidity, and pH as specified in Table A of the Ocean Plan; a requirement to continue to implement a PLAN for utility vault and manhole dewatering discharges; a requirement to develop and maintain a BMP Plan for discharges from pier boom cleaning, pier cleaning, boat rinsing, swimmer rinsing, and marine mammal enclosure cleaning; and a requirement to continue to implement a SWPPP for toxic pollutants and hazardous substances in storm water runoff. These restrictions and requirements are discussed in section IV.B.2. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants for discharges to the San Diego Bay are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. The scientific procedures for calculating the individual WQBELs for constituents contained in Table B of the Ocean Plan for discharges to the Pacific Ocean are based on the Ocean Plan, which was approved by the USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan and the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are

nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

#### E. Interim Effluent Limitations

Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC and calculated AMEL and 6-month median values shows that the Discharger may be unable to consistently comply with effluent limitations established in this Order for copper, lead, TCDD-equivalents, and bis (2-ethylhexyl) phthalate at Discharge Point Nos. SC-001 through SC-066; copper, lead, mercury, zinc, TCDD-equivalents, and 4,4-DDE at Discharge Point Nos. CW-001 and CW-004; and arsenic, cadmium, chromium, copper, lead, mercury, zinc, DDT, and TCDD-equivalents at Discharge Point Nos. CW-002 and CW-003. As a result, this Order contains interim limitations for the parameters at Discharge Point Nos. SC-001 through SC-066, CW-001, and CW-004 and a compliance schedule that allows the Discharger until May 18, 2010 to comply with the final effluent limitations. This Order also contains interim limitations for the parameters at Discharge Point Nos. CW-002 and CW-003 and a compliance schedule that allows the Discharger until June 25, 2011, to comply with the final effluent limitations.

40 CFR section 131.38(e) provides conditions under which interim effluent limitations and compliance schedules may be issued. The SIP allows inclusion of an interim limitation with a specific compliance schedule included in an NPDES permit for priority pollutants if the limitation for the priority pollutant is based on CTR criteria and the Discharger demonstrates that it is infeasible to achieve immediate compliance with the effluent limitations. Based on existing data, it appears that it is infeasible for the Discharger to immediately comply with the CTR-based effluent limitations for copper, lead, TCDD-equivalents, and bis (2-ethylhexyl) phthalate at Discharge Point Nos. SC-001 through SC-066 and copper, lead, mercury, zinc, TCDD-equivalents, and 4,4-DDE at Discharge Point Nos. CW-001 and CW-004. Interim effluent limitations and compliance schedules are included in the Order for the parameters where data indicates it is infeasible for the Discharger to achieve immediate compliance with the final effluent limitations.

The Basin Plan allows inclusion of an interim limitation with a specific compliance schedule in an NPDES permit if the Regional Water Board determines that, for an existing Discharger, achieving immediate compliance in a discharge with new or more stringent WQBELs that resulted from new knowledge on the characteristics and impacts of the discharge is infeasible. New knowledge about the characteristics and impacts of the discharge that can result in new or more stringent WQBELs includes situations where pollutants previously unregulated in an existing discharge are newly regulated because the new information indicates a reasonable potential for the discharge to exceed an applicable water quality objective in the receiving water. Based on existing data, it appears that it is infeasible for the Discharger to immediately comply with the Ocean Plan-based effluent limitations for arsenic, cadmium, chromium, copper, lead, mercury, zinc, DDT, and TCDD-equivalents at Discharge Point Nos. CW-002 and CW-003. Interim effluent limitations and compliance schedules are included in the Order for

parameters where data indicates it is infeasible for the Discharger to achieve immediate compliance with the final effluent limitations.

Pursuant to the SIP (section 2.2.1, Interim Requirements under a Compliance Schedule) and the Basin Plan, when compliance schedules are established in an Order, interim limitations must be included based on current treatment facility performance or existing permit limitations, whichever is more stringent to maintain existing water quality. There is insufficient data to perform a meaningful statistical analysis to develop interim limitations and effluent limitations were not established in Order No. R9-2003-0008. Thus, the individual MECs for each discharge location shall serve as the interim effluent limitation concentration for the constituents. However, in the event that the maximum daily effluent limitation and/or the instantaneous maximum effluent limitation is greater than the MEC for a parameter at a specific location, the maximum daily effluent limitation and/or instantaneous maximum effluent limitation is applicable immediately as the interim limitation (which is the case for the effluent limitations for bis (2-ethylhexyl) phthalate at Discharge Point Nos. SC-001 through SC-066 and arsenic, cadmium, chromium, and zinc at Discharge Point Nos. CW-003 and CW-004).

It should be noted that the Regional Water Board might take appropriate enforcement actions if interim limitations and requirements are not met.

The SIP requires that the Regional Water Board establish other interim requirements such as requiring the Discharger to develop a pollutant minimization plan and/or source control measures and participate in the activities necessary to achieve the final effluent limitations. This Order requires the Discharger to prepare and implement a pollution prevention plan for copper, lead, TCDD-equivalents, and bis (2-ethylhexyl) phthalate at Discharge Point Nos. SC-001 through SC-066; copper, lead, mercury, zinc, TCDD-equivalents, and 4,4-DDE at Discharge Point Nos. CW-001 and CW-004; and arsenic, cadmium, chromium, copper, lead, mercury, zinc, DDT, and TCDD-equivalents at Discharge Point Nos. CW-002 and CW-003 in accordance with CWC section 13263.3(d)(2).

The following interim limitations shall be effective until May 18, 2010, after which, the Discharger shall demonstrate compliance with the final effluent limitations.

**Table F-27. Interim Effluent Limitations for Discharges of Steam Condensate at Discharge Point Nos. SC-001 through SC-066**

Parameter	Units	Maximum Daily
Copper, Total Recoverable	µg/L	370
Lead, Total Recoverable	µg/L	22.8
TCDD-equivalents	µg/L	5.7 x 10 <sup>-8</sup>
Bis (2-ethylhexyl) Phthalate	µg/L	11.8

**Table F-28. Interim Effluent Limitations for Discharges of Diesel Engine Cooling Water at Discharge Point Nos. CW-001 and CW-004**

Parameter	Units	Maximum Daily
Copper, Total Recoverable	µg/L	97

Parameter	Units	Maximum Daily
Lead, Total Recoverable	µg/L	23
Mercury, Total Recoverable	µg/L	0.44
Zinc, Total Recoverable	µg/L	150
TCDD-equivalents	µg/L	$7.15 \times 10^{-8}$
4,4-DDE	µg/L	0.0126

The following interim limitations shall be effective until June 25, 2011, after which, the Discharger shall demonstrate compliance with the final effluent limitations.

**Table F-29. Interim Effluent Limitations for Discharges of Diesel Engine Cooling Water at Discharge Point Nos. CW-002 and CW-003**

Parameter	Units	Maximum Daily	Instantaneous Maximum
Arsenic, Total Recoverable	µg/L	32	80
Cadmium, Total Recoverable	µg/L	4	10
Chromium, Total Recoverable	µg/L	8	20
Copper, Total Recoverable	µg/L	97	--
Lead, Total Recoverable	µg/L	23	--
Mercury, Total Recoverable	µg/L	0.44	--
Zinc, Total Recoverable	µg/L	150	200
DDT <sup>1</sup>	µg/L	0.0126	--
TCDD-Equivalents	µg/L	$7.15 \times 10^{-8}$	--

<sup>1</sup> Applies to the sum of 4,4-DDT, 2,4-DDT, 4,4-DDE, 2,4-DDE, 4,4-DDD, and 2,4-DDD.

**F. Land Discharge Specifications**

[Not Applicable]

**G. Reclamation Specifications**

[Not Applicable]

**V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

**A. Surface Water**

Receiving water limitations in this Order are derived from the water quality objectives for bays and estuaries established by the Basin Plan (1994), the Bays and Estuaries Policy (1974), the California Toxics Rule (2000), and the State Implementation Policy (2005).

**B. Groundwater**

[Not Applicable]

## VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

### A. Influent Monitoring

[Not Applicable]

### B. Effluent Monitoring

Pursuant to the requirements of 40 CFR §122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of BMPs and pollution prevention plans, to assess the impacts of the discharge on the receiving water, and determine compliance with effluent limitations.

#### 1. Steam Condensate Monitoring (Monitoring Locations SC-001 through SC-066)

- a. Annual effluent flow monitoring has been revised to monthly to more accurately determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Annual effluent monitoring of total suspended solids has been revised to quarterly in order to better characterize the discharge of steam condensate from the Facility into the San Diego Bay.
- c. Effluent limitations for oil and grease, settleable solids, turbidity, and pH are established in this Order based on Table A of the Ocean Plan. Annual monitoring for these parameters has been revised to quarterly in order to determine compliance with effluent limitations.
- d. The Regional Water Board finds that the steam condensate discharges are elevated temperature wastes. In order to determine the effects of the discharge on the beneficial uses of the San Diego Bay, annual monitoring for temperature has been revised to quarterly.
- e. Monitoring data submitted by the Discharger during the term of Order No. R9-2003-0008 indicates that the discharge has the reasonable potential to exceed water quality criteria for bis (2-ethylhexyl) phthalate, copper, lead, and TCDD-equivalents. Monthly monitoring using grab samples is required to determine compliance with the applicable effluent limitations.

- f. Monitoring once in Year One and once in Year Five of steam condensate discharges for the remaining CTR priority pollutants has been included to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP. Monitoring for arsenic, cadmium, chromium, mercury, nickel, silver, and zinc are included in this CTR monitoring and are no longer specified individually in the MRP.
- 2. Diesel Engine Cooling Water Monitoring (Monitoring Locations CW-001 through CW-004)**
- a. Semi-annual effluent flow monitoring has been revised to quarterly to more accurately determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Semi-annual effluent monitoring of total petroleum hydrocarbons (diesel range), salinity, and total suspended solids has been revised to monthly in order to better characterize the discharge of diesel engine cooling water from the Facility into the San Diego Bay.
- c. Effluent limitations for oil and grease, settleable solids, turbidity, and pH are established in this Order based on Table A of the Ocean Plan. Annual monitoring for these parameters has been revised to quarterly in order to determine compliance with effluent limitations.
- d. The Regional Water Board finds that the discharges of diesel engine cooling water are thermal wastes. In order to determine the effects of the discharge on the beneficial uses of the San Diego Bay and determine compliance with Prohibition III.B, semi-annual monitoring for temperature has been revised to quarterly.
- e. Semi-annual monitoring for arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc has been revised to monthly and monthly monitoring for TCDD-equivalents and DDT has been established because the discharge has been determined to have reasonable potential to exceed water quality criteria for these parameters. Increased monitoring is necessary to better characterize the discharge of diesel engine cooling water from the Facility into the San Diego Bay, and to determine compliance with effluent limitations.
- f. Annual monitoring of diesel engine cooling water for the remaining CTR priority pollutants has been included to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP. Annual monitoring for silver and polynuclear aromatic hydrocarbons (PAHs) are included in this annual CTR monitoring and are no longer specified individually in the MRP.
- g. Table B of the Ocean Plan includes water quality objectives for a number of pollutants. In Order to determine if reasonable potential exists for the discharges to the Pacific Ocean to exceed the water quality objectives of the Ocean Plan, this Order establishes annual monitoring for ammonia, chlorine residual,

chlorinated phenolics, phenolic compounds, and tributyltin. The remaining Table B pollutants will be included in the annual CTR monitoring.

**3. Pier Boom Cleaning Monitoring (Monitoring Location BW-001)**

- a. Quarterly effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Table A of the Ocean Plan includes technology-based requirements for oil and grease, settleable solids, turbidity, and pH. Although the Ocean Plan is only applicable to ocean discharges, the Regional Water Board finds that it can be used as a reference for discharges to the San Diego Bay, which has similar characteristics. Due to the nature of pier boom cleaning activities, the Regional Water Board finds that the implementation of BMPs is more appropriate than establishing numeric effluent limitations. In order to determine the effectiveness of the BMPs, quarterly monitoring for the Table A parameters is established in this Order.
- c. Monitoring data submitted by the Discharger for similar pier boom cleaning activities at NBSD and NBPL indicates that the discharge has the reasonable potential to exceed water quality criteria for copper, benzo (b) fluoranthene, benzo (k) fluoranthene, chrysene, and TCDD-equivalents. Quarterly monitoring using grab samples is required to better characterize the pier boom cleaning discharges from the Facility into the San Diego Bay, and to determine the effectiveness of the Discharger's BMPs.
- d. The Discharger submitted monitoring data for similar pier boom cleaning activities at NBSD and NBPL. Monitoring once in Year One and once in Year Five of pier boom cleaning discharges for the remaining CTR priority pollutants has been included to accurately characterize the discharges at the Facility and to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP.

**4. Utility Vault and Manhole Dewatering Monitoring (Monitoring Locations UV-001 through UV-036)**

- a. Quarterly effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Annual effluent monitoring of electrical conductivity, total petroleum hydrocarbons, and total suspended solids has been revised to quarterly in order to better characterize the discharge of utility vault and manhole dewatering from the Facility into the San Diego Bay.
- c. Table A of the Ocean Plan includes technology-based requirements for oil and grease, settleable solids, turbidity, and pH. Although the Ocean Plan is only applicable to ocean discharges, the Regional Water Board finds that it can be used as a reference for discharges to the San Diego Bay, which has similar

characteristics. Due to the nature of utility vault and manhole dewatering, the Regional Water Board finds that the implementation of BMPs is more appropriate than establishing numeric effluent limitations. In order to determine the effectiveness of the BMPs, quarterly monitoring for the Table A parameters is established in this Order.

- d. Annual monitoring for arsenic, copper, lead, mercury, nickel, silver, and zinc has been revised to quarterly and quarterly monitoring for benzo (a) anthracene, benzo (a) pyrene, benzo (b) fluoranthene, benzo (k) fluoranthene, chrysene, dibenzo (a,h) anthracene, and indeno (1,2,3-cd) pyrene has been established because the discharge has been determined to have reasonable potential to exceed water quality criteria for these parameters. Increased monitoring is necessary to better characterize the discharge from utility vault and manhole dewatering at the Facility into the San Diego Bay, and to determine the effectiveness of the Discharger's BMPs.
- e. Annual monitoring of utility vault and manhole dewatering discharges for the remaining CTR priority pollutants and TCDD-equivalents has been included to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP. Annual monitoring for cadmium, chromium, and PAHs are included in this annual CTR monitoring and are no longer specified individually in the MRP.

#### **5. Pier Washing Monitoring (Monitoring Location PW-001)**

- a. Quarterly effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Table A of the Ocean Plan includes technology-based requirements for oil and grease, settleable solids, turbidity, and pH. Although the Ocean Plan is only applicable to ocean discharges, the Regional Water Board finds that it can be used as a reference for discharges to the San Diego Bay, which has similar characteristics. Due to the nature of pier washing activities, the Regional Water Board finds that the implementation of BMPs is more appropriate than establishing numeric effluent limitations. In order to determine the effectiveness of the BMPs, quarterly monitoring for the Table A parameters is established in this Order.
- c. Monitoring data submitted by the Discharger for similar pier washing activities at NBPL indicates that the discharge has the reasonable potential to exceed water quality criteria for arsenic, copper, mercury, nickel, and zinc. Quarterly monitoring using grab samples is required to better characterize the pier washing discharges from the Facility into the San Diego Bay, and to determine the effectiveness of the Discharger's BMPs.
- d. The Discharger submitted monitoring data for similar pier washing activities at NBPL. Annual monitoring of pier washing discharges for the remaining CTR priority pollutants and TCDD-equivalents has been included to accurately

characterize the discharges at the Facility and to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP.

#### **6. ROWPU Product Water Monitoring (Monitoring Location RO-001)**

- a. Quarterly effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Effluent limitations for oil and grease, settleable solids, turbidity, and pH are established in this Order based on Table A of the Ocean Plan. Quarterly monitoring for these parameters has established in order to determine compliance with effluent limitations.
- c. Monitoring for CTR priority pollutants was not submitted in the Discharger's application and therefore an RPA for discharges of ROWPU product water could not be conducted. Monitoring once in Year One and once in Year Five of discharges of ROWPU product water for the remaining CTR priority pollutants has been included to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP.
- d. Table B of the Ocean Plan includes water quality objectives for a number of pollutants. In Order to determine if reasonable potential exists for the discharges to the Pacific Ocean to exceed the water quality objectives of the Ocean Plan, this Order establishes monitoring once in Year One and once in Year Five for ammonia, chlorine residual, chlorinated phenolics, phenolic compounds, and tributyltin. The remaining Table B pollutants will be included in the CTR monitoring once in Year One and once in Year Five.

#### **7. Boat Rinsing Monitoring (Monitoring Locations BR-001 and BR-002)**

- a. Quarterly effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Table A of the Ocean Plan includes technology-based requirements for oil and grease, settleable solids, turbidity, and pH. Although the Ocean Plan is only applicable to ocean discharges, the Regional Water Board finds that it can be used as a reference for discharges to the San Diego Bay, which has similar characteristics. Due to the nature of boat rinsing activities, the Regional Water Board finds that the implementation of BMPs is more appropriate than establishing numeric effluent limitations. In order to determine the effectiveness of the BMPs, quarterly monitoring for the Table A parameters is established in this Order.
- c. The Regional Water Board finds that the boat rinsing discharges are elevated temperature wastes. In order to determine the effects of the discharge on the beneficial uses of the San Diego Bay, quarterly monitoring for temperature has been established in this Order.

- d. Monitoring data submitted by the Discharger for similar boat rinsing activities at NBPL indicates that the discharge has the reasonable potential to exceed water quality criteria for copper, lead, mercury, nickel, zinc, , benzo (a) anthracene, benzo (a) pyrene, benzo (b) fluoranthene, benzo (k) fluoranthene, bis (2-ethylhexyl) phthalate, chrysene, dibenzo (a,h) anthracene, and indeno (1,2,3-cd) pyrene. Quarterly monitoring using grab samples is required to better characterize the boat rinsing discharges from the Facility into the San Diego Bay, and to determine the effectiveness of the Discharger's BMPs. Annual monitoring has been included for TCDD-equivalents.
- e. The Discharger submitted monitoring data for similar boat rinsing activities at NBPL. Monitoring once in Year One and once in Year Five of boat rinsing discharges for the remaining CTR priority pollutants has been included to accurately characterize the discharges at the Facility and to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP.

#### **8. Swimmer Rinsing Monitoring (Monitoring Locations SR-001 and SR-002)**

- a. Quarterly effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Table A of the Ocean Plan includes technology-based requirements for oil and grease, settleable solids, turbidity, and pH. Although the Ocean Plan is only applicable to ocean discharges, the Regional Water Board finds that it can be used as a reference for discharges to the San Diego Bay, which has similar characteristics. Due to the nature of the swimmer rinsing discharges, the Regional Water Board finds that the implementation of BMPs is more appropriate than establishing numeric effluent limitations. In order to determine the effectiveness of the BMPs, quarterly monitoring for the Table A parameters is established in this Order.
- c. Monitoring for CTR priority pollutants and TCDD-equivalents was not submitted in the Discharger's application and therefore an RPA for discharges from swimmer rinsing could not be conducted. Monitoring once in Year One and once in Year Five of discharges from swimmer rinsing for the remaining CTR priority pollutants and TCDD-equivalents has been included to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP.

#### **9. Marine Mammal Enclosure Cleaning Monitoring (Monitoring Location ME-001)**

- a. Annual effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Table A of the Ocean Plan includes technology-based requirements for oil and grease, settleable solids, turbidity, and pH. Although the Ocean Plan is only applicable to ocean discharges, the Regional Water Board finds that it can be

used as a reference for discharges to the San Diego Bay, which has similar characteristics. Due to the nature of marine mammal enclosure cleaning activities, the Regional Water Board finds that the implementation of BMPs is more appropriate than establishing numeric effluent limitations. In order to determine the effectiveness of the BMPs, annual monitoring for the Table A parameters is established in this Order.

- c. The Regional Water Board finds that the marine mammal enclosure cleaning discharges are elevated temperature wastes. In order to determine the effects of the discharge on the beneficial uses of the San Diego Bay, annual monitoring for temperature has been established in this Order.
- d. Monitoring data submitted by the Discharger for similar marine mammal enclosure cleaning activities at NBPL indicates that the discharge has the reasonable potential to exceed water quality criteria for copper and TCDD-equivalents. Monitoring once in Year One and once in Year Five using grab samples is required to better characterize the marine mammal enclosure cleaning discharges from the Facility into the San Diego Bay, and to determine the effectiveness of the Discharger's BMPs.
- e. The Discharger submitted monitoring data for similar marine mammal enclosure cleaning activities at NBPL. Monitoring once in Year One and once in Year Five of marine mammal enclosure cleaning discharges for the remaining CTR priority pollutants has been included to accurately characterize the discharges at the Facility and to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP.

#### **10. Miscellaneous Discharge Monitoring (Monitoring Location MISC-001 through MISC-004)**

- a. Annual effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the San Diego Bay.
- b. Monitoring once in Year One and once in Year Five of the miscellaneous discharges for the CTR priority pollutants and TCDD-equivalents has been included to determine if reasonable potential exists for the discharges to exceed water quality criteria, as specified in section 1.3 of the SIP.

#### **C. Whole Effluent Toxicity Testing Requirements**

For the first 4 years of the permit term, Order No. R9-2003-0008 required the Discharger to analyze at least one industrial storm water discharge event at a minimum of three representative locations for acute toxicity survival annually or to analyze industrial storm water discharges according to a toxicity study plan. After the 4<sup>th</sup> year of the permit term, Order No. R9-2003-0008 required the Discharger to analyze a representative sample from each area at NASNI and NAB at which industrial activities are conducted for acute toxicity during at least one storm water discharge event annually using a 96-hour static or continuous flow bioassay (toxicity) test of undiluted

storm water runoff associated with industrial activity. Order No. R9-2003-0008 required the Discharger to use the testing protocol contained in the 2001 Ocean Plan.

This Order requires the Discharger to analyze a representative sample from each area at the Facility at which industrial activities are conducted for acute toxicity during at least one storm event annually using grab effluent samples and both acute and chronic toxicity during at least once in five years for non-storm water discharges using grab effluent samples. The Discharger submitted the Storm Water Toxicity Evaluation Conducted at Naval Station San Diego, Naval Submarine Base San Diego, Naval Amphibious Base Coronado, and Naval Air Station North Island in May 2006. Based on the findings of the study, the Regional Water Board finds that these requirements are appropriate.

#### **D. Receiving Water Monitoring**

##### **1. Surface Water**

- a. Monitoring of the receiving water is necessary to determine if the discharges from the Facility are impacting the receiving waters, applicable beneficial uses, and aquatic life.
- b. Annual monitoring of the remaining CTR priority pollutants at a single location in the Pacific Ocean and the San Diego Bay outside the influence of all Facility discharges has been established to determine compliance with receiving water limitations and to help determine reasonable potential, as specified in section 1.3 of the SIP, for future permitting efforts.
- c. Monthly temperature monitoring has been established in order to determine compliance with Prohibition III.B for diesel engine cooling waters and the effluent limitations for temperature for discharges of steam condensate, boat-rinsing, and marine mammal enclosure cleaning.

##### **2. Groundwater**

[Not Applicable]

#### **E. Other Monitoring Requirements**

1. The discharge of contact storm water to the Pacific Ocean, the San Diego Bay, and the Tijuana River may contain pollutants from the surrounding area which could contribute to the exceedance of the water quality criteria/objectives of the receiving waters. Storm water monitoring requirements have been retained from Order No. R9-2003-0008 to determine the effects of storm water discharges on the receiving water and monitor the effectiveness of the SWPPP.
2. The Regional Harbor Monitoring Program is being developed to obtain critical ambient water quality data from the four harbors in the San Diego Region. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the

pooled scientific resources of the region. During these coordinated sampling efforts, the discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of waste and storm water to the four harbors in the San Diego Region. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. If predictable relationships among the biological, water quality and effluent monitoring variables can be demonstrated, it may be appropriate to decrease the discharger's sampling effort. Conversely, the monitoring program may be intensified if it appears that the objectives cannot be achieved through the discharger's existing monitoring program. These changes will improve the overall effectiveness of monitoring in the four harbors in the San Diego Region.

## VII. RATIONALE FOR PROVISIONS

### A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR section 122.42.

40 CFR section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

### B. Special Provisions

#### 1. Reopener Provisions

- a. The Order may be reopened and modified in accordance with NPDES regulations at 40 CFR Parts 122 and 124, as necessary, to include additional conditions or limitations based on newly available information or to implement any USEPA approved, new, State water quality objective.

This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- i. Violations of any terms or conditions of this Order

- ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts.
  - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- b. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.
  - c. This Order may be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.
  - d. This Order may be re-opened and modified, to incorporate additional limitations, prohibitions, and requirements, based on the results of additional monitoring required by the MRP.
  - e. The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.
  - f. **ROWPU Brine and Backwash Water Study.** This reopener allows the Regional Water Board to reopen the Order for the authorization to discharge ROWPU brine and backwash water based on a review of studies on the effects of these discharges on the receiving waters.

## 2. Special Studies and Additional Monitoring Requirements

### a. Toxicity Reduction Requirements

The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page 3-29.) The storm water monitoring data from NASNI and NAB and from shipyards in the San Diego Region indicate that high concentrations of copper and zinc are toxic. This provision requires the Discharger to develop an Initial Investigative TRE Workplan in accordance with USEPA guidance which shall include steps the Discharger intends to follow if toxicity is measured above the effluent limitation for acute toxicity. This provision also includes requirements to initiate the TRE/TIE process if the results of acute toxicity testing exceed the effluent limitation for acute toxicity.

### 3. Best Management Practices and Pollution Prevention

- a. **Pollution Prevention Plan (PLAN) for Utility Vault and Manhole Dewatering Discharges.** As discussed in sections IV.B.2.b and IV.C.4.b of this Fact Sheet, the Regional Water Board finds that numerical effluent limitations are not feasible for discharges from utility vault and manhole dewatering discharges. 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.

The development of pollution prevention practices provides the flexibility necessary to establish controls which can appropriately address the various utility vault and manhole dewatering discharges. The pollution prevention practices have two major objectives:

- i. To identify situations which allow water to collect in the vault or underground structure and lead to a discharge; and
- ii. To describe and ensure the implementation of practices that will reduce pollutants in the discharge from normal operations of utility companies.

Similar to BMPs, pollution prevention practices are designed to prevent or control the discharge of pollutants. They may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. A PLAN is a written document that describes the operator's activities to comply with the requirements of this Order. The Plan is intended to evaluate potential pollutant sources at the site and select and implement appropriate measures designed to prevent or control the discharge of pollutants. Order No. R9-2003-0008 incorporated the pertinent requirements of Order No. 2001-11-DWQ, including the requirement to develop and implement a PLAN that included BMPs to achieve BAT and BCT. According to the *Case Study for Utility Vault and Manhole Dewatering Discharges at Naval Base Point Loma, Naval Base San Diego, and Naval Base Coronado* submitted by the Discharger in May 2007, the Discharger has maintained and implemented the *Pollution Prevention Plan for Utility Vault Dewatering Discharges* as required by Order No. R9-2003-0008, which describes the types of discharges, prohibited discharges, pollution prevention practices and BMPs, and monitoring and inspections of utility vault and manhole discharges. Additionally, the case study states that the Discharger has implemented procedures to eliminate manhole dewatering discharges to surface waters and either pumps the water into an adjacent utility manhole or transfers the water to the sanitary sewer system. However, the Discharger acknowledges the potential for rare emergency situations that would require dewatering of a utility vault or manhole onto the ground surface.

Order No. 2006-0008-DWQ includes additional specifications for PLANs for dischargers of utility and manhole dewatering discharges. This Order

incorporates the additional specifications from Order No. 2006-0008-DWQ. The Discharger is required to maintain and implement their PLAN in accordance with the requirements of Provision VI.C.3.a of this Order. For assistance in developing the PLAN, the Discharger may refer to the *California Stormwater BMP Handbook – Industrial/Commercial (January 2003 Edition)*, published by the California Stormwater Quality Association, which includes references the Discharger may find useful.

- b. **BMP Plan for Pier Boom Cleaning, Pier Cleaning, Boat Rinsing, Swimmer Rinsing, and Marine Mammal Enclosure Cleaning Discharges.** 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. This Order requires the Discharger to develop and implement a BMP Plan that includes, at a minimum, the requirements contained in Attachment I to prevent, or minimize the potential for, the release of pollutants to waters of the State and waters of the United States.
- c. **Storm Water Pollution Prevention Plan (SWPPP).** Prior to the adoption of Order No. 2003-0008, the storm water discharges at the Facility were regulated by the State Water Board's General Order for Discharges of Storm Water Associated with industrial Activities Excluding Construction Activities (Order No. 97-03-DWQ, NPDES No. CAG000001). Order No. 97-03-DWQ found that numeric effluent limitations for storm water are infeasible. To carry out the purpose and intent of the CWA, Order No. 97-03-DWQ and subsequently 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. Consistent with Order No. 97-03-DWQ and Order No. R9-2003-0008, this Order requires the Discharger to continue to implement and regularly update an adequate SWPPP as specified in Attachment G.
- d. **Benchmark Values.** The USEPA adopted 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) which can be used to evaluate the significance of the chemical concentrations in the Facility's storm water discharges to the Pacific Ocean, San Diego Bay, and Tijuana River.

Sector R of the Multi-Sector Permit includes requirements for ship and boat building or repair yards. According to the Multi-Sector Permit (pages 64766-69), when the industrial storm water discharge has concentrations greater than the USEPA Benchmark Values (page 64767, Table 3), the industrial facility is