

US EPA ARCHIVE DOCUMENT



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105**

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

NPDES PERMIT NO. GU0020362

In compliance with the provisions of the Clean Water Act (CWA) (Public Law 92-500, as amended, 33 U.S.C. 1251 et seq.), the following discharger is authorized to discharge from the identified facility at the outfall location(s) specified below, in accordance with the effluent limits, monitoring requirements, and other conditions set forth in this permit:

Discharger Name	Guam Shipyard
Discharger Address	P.O. Box 13010 (Naval Activities) Santa Rita, GU 96915
Facility Name	Guam Shipyard
Facility Address	Apra Harbor Naval Complex Santa Rita, GU 96915
Facility Rating	Minor

Outfall Number	General Type of Waste Discharged	Outfall Latitude	Outfall Longitude	Receiving Water
001-004	Storm Water, Unit-in-Dock Wash Water	13° 26' 30" N	144° 39' 24" E	Apra Harbor
007-008	Storm Water, Unit-in-Dock Wash Water, Non-contact cooling water	13° 26' 30" N	144° 39' 24" E	Apra Harbor
009-010	Storm Water, Unit-in-Dock Wash Water	13° 26' 30" N	144° 39' 24" E	Apra Harbor
011	Fire Protection Pressure Relief Water	13° 26' 30" N	144° 39' 24" E	Apra Harbor

This permit was issued on:	October 21, 2010
This permit shall become effective on:	November 1, 2010
This permit shall expire at midnight on:	October 31, 2015
In accordance with 40 CFR 122.21(d), the Discharger shall submit a new application for a permit at least 180 days before the expiration date of this permit, unless permission for a date no later than the permit expiration date has been granted by the Director.	

Signed this 21st day of October, 2010, for the Regional Administrator.

//s//
Alexis Strauss, Director
Water Division

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PART I – DISCHARGE PROHIBITIONS AND SPECIFICATIONS

- A. Discharges other than storm water runoff and unit-in-dock wash water through Outfall Serial Nos. 001 to 004, 009, and 010; vessel non-contact cooling water through Outfall Serial Nos. 007 and 008; and fire protection water through Outfall Serial No. 011; dry dock ballast water, and the discharge of pollutants from cathodic protection anodes, as described in Part III of the Fact Sheet are prohibited.
- B. The permitted discharges shall be free from substances, conditions or combinations thereof attributable to domestic, commercial and industrial discharges or agricultural, construction and land use practices or other human activities that:
1. cause visible floating materials, debris, oils, grease, scum, foam, or other floating matter which degrades water quality or use;
 2. produce visible turbidity, settle to form deposits or otherwise adversely affect aquatic life;
 3. produce objectionable color, odor or taste, directly or by chemical or biological action;
 4. injure or are toxic or harmful to humans, animals, plants, or aquatic life; or
 5. induce the growth of undesirable aquatic life.
- C. Discharges contaminated with petroleum products which result in any the following are prohibited:
1. detectable as a visible film, or sheen, or results in visible discoloration of the surface with a corresponding oil and petroleum product odor;
 2. causes damage to fish or invertebrates; or
 3. forms an oil deposit on the shores or bottom of the receiving body of water.
- D. Discharges that cause organisms in the receiving waters to exhibit deleterious effects or otherwise impair species recruitment, reproduction or survivorship, are prohibited.
- E. Discharges that cause organisms normally harvested for food to become harmful to humans, wildlife or other organisms, if consumed, are prohibited.
- F. Discharges that substantially impair anchorage and navigation, including any discharge which the Secretary of the Army, acting through the Corps of Engineers, finds would result in this damage, are prohibited.
- G. Discharges that the Administrator of the U.S. Environmental Protection Agency (EPA) has objected to in writing pursuant to any right to object provided by the Federal Water Pollution Control Act, are prohibited.
- H. Discharges of blasting abrasive (new and spent), rust, scale, paint particles, bilge water, trash, debris, sanitary wastes, chemical and biological warfare agents, and radioactive materials are prohibited.

- I. Discharges of bilge water are prohibited.
- J. Discharges of ballast water from units-in-dock are prohibited.
- K. Discharges of cooling water through Outfall Serial Nos. 007, 008 and 011 with additives are prohibited.

PART II - EFFLUENT LIMITATIONS

- A. During the period beginning on the effective date of this permit and ending on the expiration date of this permit, Guam Shipyard (hereinafter, the “permittee”) is authorized to discharge storm water, unit-in-dock wash water, and non-contact cooling water from Outfall Serial Nos. 001 through 004, 007 through 010 to Apra Harbor in Guam as specified below. Such discharges shall be limited and monitored by the permittee as specified in this permit.
 - 1. The permittee shall maintain compliance with all effluent limitations and monitoring requirements specified in Table 1 for the discharge of storm water and unit-in-dock wash water through Outfall Serial Nos. 001-004, 007-010 to Apra Harbor:

Table 1. Effluent Limitations for Storm Water and Unit-In-Dock Wash Water Discharges

Parameter	Unit	Effluent Limitations			Monitoring Requirements	
		Average Monthly	Maximum Daily	Instantaneous Maximum	Frequency	Sample Type
Flow	mgd	Monitoring Only			Monthly	Estimate
Temperature	°C	-	-	(1)	Monthly ⁽⁴⁾	Grab
Total Suspended Solids	mg/L	-	20	(2)	Monthly ⁽³⁾⁽⁴⁾	Grab
pH	s.u.	-	-	(5)	Monthly ⁽³⁾⁽⁴⁾	Grab
Oil and Grease	mg/L	10	15	-	Monthly ⁽³⁾⁽⁴⁾	Grab
Nitrate (NO ₃ -N)	mg/L	0.20	-	-	Monthly ⁽⁴⁾	Grab
Orthophosphate (PO ₄ -P)	mg/L	0.05	-	-	Monthly ⁽⁴⁾	Grab
Turbidity	NTU	-	-	(6)	Monthly ⁽⁴⁾	Grab
Benzene	µg/L	71	142.7	-	Monthly ⁽⁴⁾	Grab
Ethylbenzene	µg/L	29,000	58,290	-	Monthly ⁽⁴⁾	Grab
Toluene	µg/L	200,000	402,000	-	Monthly ⁽⁴⁾	Grab
Chromium VI ⁽⁷⁾	µg/L	40.8	81.9	-	Monthly ⁽⁴⁾	Grab
Lead ⁽⁷⁾	µg/L	6.7	13.4	-	Monthly ⁽⁴⁾	Grab
Copper ⁽⁷⁾	µg/L	2.39	4.79	-	Monthly ⁽⁴⁾	Grab
Tributyltin ⁽⁷⁾	µg/L	0.008	0.016	-	Monthly ⁽⁴⁾	Grab
Zinc ⁽⁷⁾	µg/L	47.3	94.8	-	Monthly ⁽⁴⁾	Grab
Enterococci Bacteria	#/100 mL	(8)	-	104	Monthly ⁽⁴⁾	Grab

Parameter	Unit	Effluent Limitations			Monitoring Requirements	
		Average Monthly	Maximum Daily	Instantaneous Maximum	Frequency	Sample Type
PCBs	µg/L	0.00017	0.00034	-	Quarterly ⁽⁴⁾	Grab

- (1) The discharge of effluent shall not exceed the ambient receiving water temperature by more than 1.0 °C.
- (2) The effluent TSS concentration shall not be 10% over ambient conditions at any time.
- (3) Discharges of in-dock unit wash water shall be monitored weekly for a minimum of 3 months and 4 sampling events. If no effluent limitation exceedances are detected in the initial 3 months and a minimum of four sampling events, the Discharger may reduce monitoring to monthly. If a pollutant is detected above an effluent limitation during the period of reduced monitoring, monitoring for that pollutant shall return to weekly, and may be reduced to monthly again only after demonstrating compliance with the effluent limitations for another 3 months and a minimum of 4 sampling events.
- (4) Both effluent and ambient water samples shall be collected in as close a time period as reasonably possible.
- (5) The discharge shall stay between 6.5 and 8.5 standard pH units at all times. Variations of more than 0.5 s.u. from ambient conditions are prohibited unless due to natural conditions.
- (6) The effluent turbidity shall not exceed 1.0 NTU over ambient conditions.
- (7) All metals are expressed as total recoverable.
- (8) Concentrations of enterococci shall not exceed 35 enterococci/100 mL based upon the geometric mean of five sequential samples taken over a 30 day period.

2. The permittee shall maintain compliance with all effluent limitations and monitoring requirements specified in Table 2 for the discharge of vessel non-contact cooling water through Outfall Serial Nos. 007 and 008 to Apra Harbor:

Table 2. Effluent Limitations for Non-Contact Cooling Water

Parameter	Unit	Effluent Limitations			Monitoring Requirements	
		Average Monthly	Maximum Daily	Instantaneous Maximum	Frequency	Sample Type
Flow	mgd	Monitoring Only			Monthly	Estimate
Temperature	°C	-	-	(1)	Monthly ⁽⁴⁾	Grab
Turbidity	NTU	-	-	(2)	Monthly ⁽⁴⁾	Grab
Oil and Grease	mg/L	10	15	-	Monthly	Grab
pH	s.u.	-	-	(5)	Monthly ⁽⁴⁾	Grab
Total Suspended Solids	mg/L	-	20	(3)	Monthly ⁽⁴⁾	Grab
Nitrate (NO ₃ -N)	mg/L	0.20	-	-	Monthly ⁽⁴⁾	Grab
Orthophosphate (PO ₄ -P)	mg/L	0.05	-	-	Monthly ⁽⁴⁾	Grab
Enterococci Bacteria	#/100 mL	(6)	-	104	Monthly ⁽⁴⁾	Grab
PCBs	µg/L	0.00017	0.00034	-	Quarterly ⁽⁴⁾	Grab

- (1) The discharge of effluent shall not exceed the ambient receiving water temperature by more than 1.0 °C.
- (2) The effluent turbidity shall not exceed 1.0 NTU over ambient conditions.
- (3) The effluent TSS concentration shall not be 10% over ambient conditions at any time.

- (4) Both effluent and ambient water samples shall be collected in as close a time period as reasonably possible.
- (5) The discharge shall stay between 6.5 and 8.5 standard pH units at all times. Variations of more than 0.5 s.u. from ambient conditions are prohibited unless due to natural conditions.
- (6) Concentrations of enterococci bacteria shall not exceed 35 enterococci/100 mL based upon the geometric mean of five sequential samples taken over a period of 30 days.

3. Fire Protection System Relief Water

- a. The permittee shall maintain compliance with all effluent limitations and monitoring requirements specified in Table 3 for the discharge of fire protection system pressure relief water through Outfall Serial No. 011⁽¹⁾ to Apra Harbor:

Table 3. Effluent Limitations for Fire Protection System Relief Water

Parameter	Unit	Effluent Limitations			Monitoring Requirements	
		Average Monthly	Maximum Daily	Instantaneous Maximum	Frequency	Sample Type
Flow	mgd	Monitoring Only			Monthly	Estimate
Temperature	°C	-	-	⁽¹⁾	Monthly ⁽²⁾	Grab
pH	s.u.	-	-	⁽³⁾	Monthly ⁽²⁾	Grab

- ⁽¹⁾ The discharge of effluent shall not exceed the ambient receiving water temperature by more than 1.0 °C.
- ⁽²⁾ Both effluent and ambient water samples shall be collected in as close a time period as reasonably possible.
- ⁽³⁾ The discharge shall stay between 6.5 and 8.5 standard pH units at all times. Variations of more than 0.5 s.u. from ambient conditions are prohibited unless due to natural conditions.

4. Ballast Water and Cathodic Protection Leachate

The Discharger shall operate in a method consistent with their best management practices (BMP) plan as required in section VI.A.1 of this permit.

5. Acute Whole Effluent Toxicity Requirements

a. Monitoring Frequency

The permittee shall conduct annual acute toxicity tests on grab effluent samples for both storm water runoff and unit-in-dock wash water from a representative location for acute toxicity testing. The monitoring of all Outfall Serial Nos. 001 – 004 and 007 through 010 is not required; a single sample location that is representative of the effluent discharged through Outfall Serial Nos. 001 through 004 and 007 through 010 is allowed, however a separate sample shall be collected for unit-in-dock wash water and storm water. If the Discharger chooses to use a single representative sample

⁽¹⁾ Outfall Serial No. 011 has been revised from the 2002 permit. The discharge of non-contact cooling water previously permitted at Outfall Serial No. 011 has been discontinued. The discharge of pressure relief water from the fire protection system through Outfall Serial No. 011 has been established. See the discussion provided in section III.A.3 of the fact sheet for more information.

location, the Discharger shall include an explanation with the results describing why that sample location was chosen as the most representative.

During the first year after permit adoption, the permittee shall split a grab effluent sample and concurrently conduct two toxicity tests using a fish and an invertebrate species; the permittee shall then continue to conduct routine annual toxicity testing using the single, most sensitive species.

Acute toxicity test samples shall be collected for each point of discharge at the designated NPDES sampling station for the effluent. During years 3 and 5 of the permit, a split of each sample shall be analyzed for all other monitored parameters at the minimum frequency of analysis specified in Part III.B of this permit.

b. Marine and Estuarine Species and Test Methods

Generally, species and short-term test methods for estimating the acute toxicity of NPDES effluents are found 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; Table IA, 40 CFR Part 136). The permittee shall conduct 96-hour static renewal toxicity tests with the following vertebrate species:

- i. The topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.0² in the first edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995) (specific to Pacific Coast waters);
- ii. The Inland silverside, *Menidia beryllina*; Atlantic silverside, *Menidia menidia*; or Tidewater silverside, *Menidia peninsulae* (Acute Toxicity Test Method 2006.0);
- iii. The sheepshead minnow, *Cyprinodon variegates* (Acute Toxicity Test Method 2004.0);

And the following invertebrate species:

- iv. The West Coast mysid, *Holmesimysis costata* (Table 19 in the acute test methods manual) (specific to Pacific Coast waters);
- v. The mysid, *Americamysis bahia* (Acute Toxicity Test Method 2007.0).

c. Acute WET Permit Limit

The acute toxicity effluent limitation for this discharge is “Pass” for any one test result. 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).

⁽²⁾ Daily observations for mortality make it possible to calculate acute toxicity for desired exposure periods (i.e., 96-hour LC50, etc.).

Following Section 11.3 in the acute test methods manual (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 permittee 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 permittee shall report “Fail” on the DMR form. This permit requires additional toxicity testing if the acute WET permit limit is reported as “Fail”.

d. Quality Assurance

- i. Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced in section II.A.5.b above. Additional requirements are specified below.
- ii. This discharge is subject to a determination of Pass or Fail from a single-effluent-concentration (paired) acute toxicity test using a one-tailed hypothesis test called a t-test. The acute instream waste concentration (IWC) for this discharge is 100% effluent. The 100% effluent concentration and a control shall be tested.
- iii. Control water should be prepared and used as specified in the test methods manual *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012, 2002); and/or, for *Atherinops affinis*, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used. If the use of artificial sea salts is considered provisional in the test method, then artificial sea salts shall not be used to increase the salinity of the effluent sample prior to toxicity testing without written approval by the permitting authority.
- iv. If organisms are not cultured in-house, then concurrent testing with a reference toxicant shall be conducted. If organisms are cultured in-house, then monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration).
- v. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, then the permittee must resample and retest within 14 days, or as soon as possible for storm water runoff.
- vi. Within-test variability of individual toxicity tests should be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) should be applied, as directed under Section 12.2.8 - *Test Variability* of the test methods manual, *Methods for Measuring the Acute Toxicity of Effluents and Receiving*

Waters to Freshwater and Marine Organisms. Under Section 12.2.8, the calculated percent minimum significant difference (PMSD) for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 3-6 - *Range of Relative Variability for Endpoints of Promulgated WET Methods, Defined by the 10th and 90th Percentiles from the Data Set of Reference Toxicant Tests*, taken from *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program* (EPA/833/R-00/003, 2000), following the review criteria in Paragraphs 12.2.8.2.1 and 12.2.8.2 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form. If excessive within-test variability invalidates a test result, then the permittee must resample and retest within 14 days, or as soon as possible for storm water runoff.

- vii. If the discharged effluent is chlorinated, then chlorine shall not be removed from the effluent sample prior to toxicity testing without written approval by the permitting authority.
 - viii. Where total ammonia concentrations in the effluent are ≥ 5 mg/L, toxicity may be contributed by unionized ammonia. pH drift during the toxicity test may contribute to artificial toxicity when ammonia or other pH-dependent toxicants (e.g., metals) are present. This problem is minimized by conducting toxicity tests in a static-renewal or flow-through mode, as outlined in Paragraph 9.5.9 of the test methods manual.
- e. Initial Investigation TRE Workplan
- Within 90 days of the permit effective date, the permittee shall prepare and submit a copy of their Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan (1-2 pages) to the permitting authority for review. This plan shall include steps the permittee intends to follow if toxicity is measured above an acute WET permit limit or trigger and should include, at a minimum:
- i. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
 - ii. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.
 - iii. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).

f. Accelerated Toxicity Testing and TRE/TIE Process

- i. If an acute toxicity effluent limitation is exceeded and the source of toxicity is known (e.g., a temporary plant upset), then the permittee shall conduct one additional toxicity test using the same species and test method. This test shall begin within 14 days of receipt of test results exceeding an acute toxicity effluent limitation, or as soon as possible for storm water. If the additional toxicity test does not exceed an acute toxicity effluent limitation, then the permittee may return to their regular testing frequency.
- ii. If an acute toxicity effluent limitation is exceeded and the source of toxicity is not known, then the permittee shall conduct three additional toxicity tests using the same species and test method, approximately every 2 weeks, over a 6-week period, or as soon as possible for storm water runoff. This testing shall begin within 14 days of receipt of test results exceeding an acute toxicity effluent limitation. If none of the additional toxicity tests exceed the acute toxicity effluent limitation, then the permittee may return to their regular testing frequency.
- iii. If one of the additional toxicity tests (in paragraphs f.i or f.ii) exceeds the acute toxicity effluent limitation, then, within 14 days of receipt of this test result, the permittee shall initiate a TRE using, EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989). In conjunction, the permittee shall develop and implement a Detailed TRE Workplan which shall include: further actions undertaken by the permittee to investigate, identify, and correct the causes of toxicity; actions the permittee will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and a schedule for these actions.
- iv. The permittee may initiate a Toxicity Identification Evaluation (TIE) as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, EPA test method manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996).

g. Reporting of Acute Toxicity Monitoring Results

- i. A full laboratory report for all toxicity testing shall be submitted as an attachment to the DMR for the quarter in which the toxicity test was conducted and shall also include: the toxicity test results—for determination of Pass/Fail; LC50; TU_a = 100/LC50; NOAEC; TU_a = 100/NOAEC—reported according to the test methods

manual chapter on report preparation and test review; the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations.

- ii. The permittee shall notify the permitting authority in writing within 14 days of exceedance of an acute toxicity effluent limitation. This notification shall describe actions the permittee has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

h. Permit Reopener for Acute Toxicity

In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address acute toxicity in the effluent or receiving waterbody, as a result of the discharge; or to implement new, revised, or newly interpreted water quality standards applicable to acute toxicity.

PART III - MONITORING AND REPORTING REQUIREMENTS

A. Monitoring and Reporting

1. Effluent Sampling

- a. Samples and measurements taken as required in this permit shall be representative of the volume and nature of the monitored discharge.
- b. Samples and measurements shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 24-hours from the previously measurable storm event. Grab samples shall be taken during the first 30 minutes of the discharge.
- c. Grab samples and measurements shall be collected from discharges resulting from unit-in-dock wash water during the first 15 minutes of discharge.

2. Ambient Water Sampling

- a. Samples of the ambient water shall be collected from a location representative of ambient conditions of Apra Harbor at the time of sampling.
- b. Grab samples and measurements of the ambient water shall be taken in as close a time frame as reasonable to the sampling of the discharge of storm water, unit-in-dock wash water, and non-contact cooling water. In no cases shall the time period of effluent sampling and ambient sampling exceed 24 hours, unless safety concerns have been identified. If the time period between effluent sampling and ambient sampling exceed 2 hours, the Discharger shall provide a written statement on a cover letter

attached to the applicable discharge monitoring report (DMR) specifying the reason for the delay and procedures that will be implemented to minimize the sampling delay during future monitoring events.

3. Sample Analysis

- a. Monitoring and analyses must be conducted in accordance with EPA test procedures approved under 40 CFR, Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, as amended; *Standard Methods for the Examination of Water and Wastewater*, prepared jointly by American Public Health Associate, American Water Works Associations, and Water Environment Federation; and *Methods for Chemical Analysis of Water and Wastes*, EPA, Environmental Monitoring and Support Division, Cincinnati, Ohio 45268, (EPA-600/4-79-020). Additional analytical methods may be used upon approval of the EPA and Guam Environmental Protection Agency (GEPA).
- b. The permittee shall utilize a Method Detection Limit (MDL) or Minimum Level (ML) that is lower than the effluent limitations established in this permit. If all published MDLs or MLs are higher than the effluent limitations, the permittee shall utilize the test method procedure with the lowest MDL or ML. The permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is equal to or less than the ML. Priority pollutant analysis for metals shall measure “total recoverable metal,” except as provided under 40 CFR 122.45(c). Priority pollutant analysis for benzene, ethylbenzene, and toluene shall employ the use of either EPA Methods 602 or 624.

4. Reporting

- a. For samples collected during the quarterly reporting period, the permittee shall report on the DMR the following for each pollutant or parameter:
 - i. The maximum value, if the result is greater than or equal to the ML (both the maximum and minimum values shall be reported for pH); or
 - ii. NODI(Q), if result is greater than or equal to the laboratory’s MDL but less than the ML; or
 - iii. NODI(B), if result is less than the laboratory’s MDL.
- b. As an attachment to each DMR form submitted during the quarterly reporting period, the permittee shall report for all pollutants or parameters with monitoring requirements specified in Tables 1 through 3 of this permit the following:
 - i. The analytical method number or title, preparation and analytical test procedure utilized by the laboratory, published MDL or ML, the laboratory’s MDL;

- ii. The standard deviation from the laboratory's MDL study; and
 - iii. The number of replicate analyses (*n*) used to compute the laboratory's MDL.
- c. The Discharger shall retain records of all monitoring information, including calibration and maintenance records, copies of all reports required by the permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of sample, measurement, report or application. This period may be extended at the request of EPA or GEPA at any time. Records of monitoring information shall include at a minimum the following:
- i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
- d. In addition to information requirements specified under 40 CFR 122.41(j)(3) above, records of monitoring information shall include: the laboratory that performed the analyses and any comment, case narrative, or summary of results produced by the laboratory. The records should identify and discuss Quality Assurance/Quality Control (QA/QC) analyses performed concurrently during sample analyses and whether project and 40 CFR Part 136 requirements were met. The summary of results must include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, and sample receipt condition, holding time, and preservation.
- e. All monitoring results shall be submitted in such a format as to allow direct comparison with effluent limitations and requirements in this permit. Monitoring results must be reported on a DMR form.
- f. DMR forms shall be submitted quarterly and by the 15th of the month following the previous quarterly reporting period, as provided below:

Table 4. Reporting Periods

Sampling Quarter	Report Due Date
January 1 through March 31	April 15th
April 1 through June 30	July 15th
July 1 through September 30	October 15th
October 1 through December 31	January 15th

- g. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator of EPA and the Director of GEPA at the following addresses:

Regional Administrator
U.S. Environmental Protection Agency
Region 9., Attn: CMD-5
75 Hawthorne Street
San Francisco, California 94105
Telephone: (415) 972-3769

Administrator
Guam EPA
P.O. Box 22349 GMF
Barrigada, Guam 96921
(671) 475-1658/1659

5. Quality Assurance

- a. The permittee shall develop a Quality Assurance (QA) Manual for the field collection and laboratory analysis of samples. The purpose of the QA Manual is to assist in planning for the collection and analysis of samples and explaining data anomalies if they occur. The QA Manual shall be prepared and implemented **within 90 days from the effective date of this permit**. At a minimum, the QA Manual shall include the following:
- i. Identification of project management and a description of the roles and responsibilities of the participants; purpose of sample collection; matrix to be sampled; the analytes or compounds being measured; applicable technical, regulatory, or program-specific action criteria; personnel qualification requirements for collecting samples;
 - ii. Description of sample collection procedures; equipment used; the type and number of samples to be collected including QA/Quality Control (“QC”) samples; preservatives and holding times for the samples (see 40 CFR 136.3); and chain of custody procedures;
 - iii. Identification of the laboratory used to analyze the samples; provisions for any proficiency demonstration that will be required by the laboratory before or after contract award such as passing a performance evaluation sample; analytical method to be used; MDL and ML to be reported; required QC results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike

recoveries) and acceptance criteria; and corrective actions to be taken in response to problems identified during QC checks; and

- iv. Discussion of how the permittee will perform data review and reporting of results to EPA and GEPA and how the permittee will resolve data quality issues and identify limits on the use of data.
- b. Throughout all field collection and laboratory analyses of samples, the permittee shall use the QA/QC procedures documented in their QA Manual. If samples are tested by a contract laboratory, the permittee shall ensure that the laboratory has a QA Manual on file. A copy of the permittee's QA Manual shall be retained on the permittee's premises and available for review by EPA and/or GEPA upon request. The permittee shall review its QA Manual annually and revise it, as appropriate.

B. Priority Pollutants Scan

1. The permittee shall conduct a Priority Pollutants scan during the third and fifth year of the permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR Part 136, unless otherwise specified by EPA. 40 CFR 131.36 provides a complete list of Priority Pollutants.

C. Twenty-four Hour Reporting of Noncompliance

1. In accordance with 40 CFR 122.41(l)(6), the permittee shall report any noncompliance which may endanger human health or the environment. An example of noncompliance is an exceedance of a daily maximum effluent limitation. Any information shall be provided orally, within 24 hours from the time the permittee becomes aware of the circumstances, to EPA and GEPA.

The permittee shall notify EPA and GEPA at the following telephone numbers:

Pacific Islands Office, CED-6
EPA - Region IX
(415) 972-3769

Administrator
Guam EPA
(671) 475-1658/1659

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and, if the noncompliance has not been corrected, the anticipated time that the

noncompliance is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

D. Operating Report

By January 15th of each year, the Discharger shall submit an annual report to EPA and GEPA summarizing the following information for the previous calendar year:

1. Effluent limitation exceedances and steps taken to minimize or eliminate the reoccurrence of effluent limitation exceedances in the future;
2. Pertinent operations and environmental staffing changes associated with compliance with this permit (e.g., change of environmental compliance officer, reduction of environmental staff, change of contract laboratory used for compliance monitoring/analysis);
3. Operational or structural changes that may affect effluent or ambient water quality (e.g., removal or construction of berms, wastewater treatment units, collection sumps, wastewater storage and disposal methods, hazardous waste handling practices);
4. Planned operational or structural changes that may affect effluent or ambient water quality over the next calendar year;
5. Last BMP Plan and SWPPP employee training date;
6. Last review and revision dates for the BMP Plan and SWPPP; and
7. Any significant revisions to the BMP Plan and SWPPP.

PART IV - REOPENER PROVISIONS

- A. In accordance with 40 CFR Parts 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards and TMDLs.

PART V - STANDARD CONDITIONS

- A. The permittee shall comply with all Standard Conditions included as an attachment to this permit.

PART VI - SPECIAL CONDITIONS

A. Best Management Practices

1. Best Management Practices Plan

- a. In accordance with section 304(e) of the CWA and 40 CFR 122.44(k)(4), the permittee is required to develop and implement appropriate pollution prevention measures or Best Management Practices (“BMPs”) designed to control and treat site runoff, spillage or leaks, sludge or waste disposal, and drainage from shipyard areas that may contribute significant amounts of pollutants to surface waters. Specifically the BMP Plan shall address the discharge of pollutants in storm water, in-dock unit wash water, non-contact cooling water, and ballast water.

- b. The permittee is required to prepare and implement a BMP Plan **within 90 days from the effective date of this permit**. The BMP Plan may be combined with a Storm Water Pollution Prevention Plan that is required in section VI.A.2 of this permit.
- c. At a minimum, the BMP Plan shall include the following:
- i. A summary of potential pollutant sources that includes: a description of each separate area of the facility where industrial materials or activities that generate non-storm water effluent and those that are exposed to storm water (e.g., on-site waste storage or disposal, dirt/gravel parking areas for vehicles awaiting maintenance, fueling areas, bulk storage areas); and a list of associated pollutant(s) or parameters (e.g., pH, BOD) for each material or activity.
 - ii. A description of existing and planned BMPs for storm water and non-storm water controls. The BMP Plan shall describe the type and location of existing non-structural and structural BMPs selected for each of the areas where industrial materials or activities are exposed to storm water or generate non-storm water; selection of BMPs should take into consideration the quantity and nature of the pollutants, and their potential to impact the water quality of the receiving water.
 - iii. A description of BMPs to prevent the spill of oil and grease. BMPs shall ensure used oils are properly stored in clean, sealed, and approved containers and stored in a place (preferably in a covered shed or warehouse) that can contain the material in the event of a spill (secondary containment); all paved storage areas are free of cracks and gaps and are sufficiently impervious to contain spills; during dry dock periods, accidental spills of oil, grease, or fuel are prevented from reaching drainage systems, from discharge with the drainage water, or entering surface waters; cleanup is carried out promptly after an oil or grease spill is detected; during periods when ships are on the railway, oil containment booms are installed across the entrance to the railway and a tide slide is used to enhance boom effectiveness; and procedures for deploying additional oil containment booms around spills and procedures for clean-up inside the boomed areas are developed.
 - iv. A description of BMPs to control blasting debris and paint overspray. BMPs shall ensure curtains are used on the sides of the railway when sandblasting and painting operations are under way to prevent the discharge of spent sandblasting materials, abrasives, paint chips, and paint overspray to the receiving water; debris from the drydock is swept and removed several times while a ship is in for repair and, at a minimum, at the end of each workday; flooring is completely covered during the time of sandblasting to prevent grit material from falling through spaces in the slatted railway floor; grit-blasting wastes are properly stored under cover in order to prevent any contact with storm water; grit-blasting wastes are collected, tested, stored and disposed in accordance with federal hazardous waste management rules, if applicable; blast materials from paint waste is

separated in order to reuse blast material and lower potential toxicity of spent grit blast; when reuse is not possible on-site, spent blast material is properly disposed of in compliance with federal hazardous waste regulations; drainage ditches are covered to prevent spent grit material from mixing with storm water; employees who are involved in blasting or painting vessels are given proper training to ensure that they are aware of techniques necessary to minimize airborne grit material and overspray; the type of grit-blasting media is described (i.e. steel shot, lead shot), as well as the reasons for selecting this type of media; the use of alternative and less environmentally hazardous blasting media or techniques are considered (e.g. plastic media blasting, water jet stripping, thermal stripping, dry ice pellets, or cryogenic stripping).

- v. A description of BMPs to prevent paint and solvent spills. BMPs shall ensure that paints and solvents be mixed in designated paint mix areas only which have adequate secondary containment; paint and solvent spills must be contained until cleanup is complete.
- vii. A description of BMPs to minimize the discharge of pollutants from cathodic protection. The discharge of zinc, magnesium, and aluminum are expected from properly functioning cathodic protection sacrificial electrodes. However, the Discharger shall minimize the flaking of large, corroded portions of these anodes while in use. Sacrificial anodes must not be used more than necessary to adequately prevent corrosion of the dry dock. The Discharger shall clean and/or replace these anodes in periods of maintenance, so that the release of these metals to waters is minimized. BMPs shall be developed and implemented to minimize the discharge of pollutants from cathodic protection used on the dry dock and removed from in-dock units. The Discharger shall note in their BMP plan that magnesium is less toxic than aluminum, which is less toxic than zinc. The Discharger shall use the metals that are less toxic to the extent technologically feasible and economically practicable and achievable.
- viii. A description of the facility's preventive maintenance program that includes timely inspections and maintenance of storm water and non-storm water management devices (e.g., cleaning oil/water separators), as well as inspecting, testing, maintaining and repairing facility equipment and systems to avoid breakdowns or failures that may result in discharges of pollutants to surface waters; all BMPs listed in the BMP Plan must be maintained in effective operating condition to control source runoff.
- ix. A list of qualified personnel that are responsibly for inspecting all areas of the facility where industrial materials or activities are exposed to storm water and non-storm water (e.g., storage areas for vehicles/equipment awaiting maintenance, fueling areas, vehicle/equipment maintenance areas, material storage areas, line-flushing area, vehicle/equipment cleaning areas, and loading/unloading area, location(s) of oil/water separators, storm drains); inspections must include an

evaluation of existing BMPs; the BMP Plan must identify how often the inspections are to occur.

- x. A description of a storm water and non-storm water training program for the facility. Topics should include spill response, good housekeeping and material management practices, proper fueling practices, proper painting or sandblasting procedures for the removal of paint, and must identify periodic dates for such training; training must be provided to all employees that operate in areas where industrial materials or activities generate non-storm water or are exposed to storm water; employee training shall occur at least once per year.
- xi. Identification of areas of the facility that have a potential for significant soil erosion. The BMP Plan must describe the structural, vegetative, and/or stabilization BMPs that are or will be implemented to limit erosion.
- xii. A description of the traditional storm water and non-storm water management practices (structural or vegetative BMPs other than those which control the generation or source(s) of pollutants) that currently exist or that are planned for the facility; these BMPs typically are used to divert, infiltrate, reuse, or otherwise reduce pollutants in storm water or non-storm water discharges from the site; examples of structural controls include oil/water separators and retention basin; an example of a vegetative control is a grassy swale.
- xiii. A description of the control of large solid materials such as the removal of scrap metal, wood, plastic, miscellaneous trash (i.e., paper and glass, and industrial scrap and waste such as insulation, welding rods, packaging, etc.,) from the drydock floor prior to each launching of vessel(s) back to the harbor and hauling of vessel(s) onto the maintenance area; routine clean up of litter and debris in the yard and around the drydocks to prevent accumulation and possible discharge to the receiving water; and the storage of used batteries, used oil, paint generators, scrap metal, and unused machinery in the yard under cover or disposed of in a manner that is safe, legal, and prevents receiving water contamination.
- xiv. A management plan to deal with hazardous waste such as properly labeling, and recycling when possible, or disposing of hazardous waste including used grit blast (if applicable), paint (especially paints with anti-fouling or anti-corrosion agents), oils, brake fluids, anti-freeze, batteries, petroleum products, degreaser, and tool coolants; posting hazard signs in locations where there is a significant risk of spills, or fires, and installing "No Dumping" signs where dumping is likely to occur or has occurred in the past; posting signs for trash bins designating the type of material that is acceptable and/or unacceptable.
- xv. A ballast water management plan to minimize the discharge of pollutants into the receiving water, and minimize any negative effects on the receiving water and sediment, due to the discharge of ballast water from the dry dock. The management plan shall address minimizing the amount of ballast water

discharged, minimizing the amount of pollutants that may contaminate the ballast water, and discharging ballast water in a manner that minimizes the disturbance of sediment.

- d. The BMP Plan must be maintained and amended whenever there is indication of pollutants in the effluent discharge that may impact water quality standards; indication of pollutants requires the permittee to evaluate potential pollutant sources and corresponding BMPs and make appropriate BMP Plan revisions; the permittee shall implement timely corrective actions and revise BMPs, as necessary.
- e. The BMP Plan shall be located at the facility and be made available upon request by EPA and/or GEPA.

2. Storm Water Pollution Prevention Plan

- a. In accordance with section 304(e) of the CWA and 40 CFR 122.44(k)(2), the permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) within **90 days of the effective date of this permit** that is consistent with Sector R, Ship and Boat Building and Repairing Yards, of the Final NPDES Storm Water Multi-Sector General Permit (MSGP) for Industrial Activities (73 FR 189; September 29, 2008).
- b. The SWPPP shall identify the potential sources of pollution related to storm water which may reasonably be expected to affect the quality of the effluent discharges from the facility; describe and ensure implementation practices which will be used to reduce the pollutants in effluent discharges from the facility; and assure compliance with the terms and conditions of this permit.
- c. The SWPPP shall include but is not limited to the following:
 - i. The identification of a pollution prevention committee (with name of each individual member) or individual(s) (by name or title) within the facility organization responsible for developing, implementing and maintaining the SWPPP.
 - ii. A description of the nature of the industrial activity(ies) at the facility.
 - iii. A general location map (e.g., USGS quadrangle, or other map) with enough detail to identify the location of the facility and the receiving waters within 1 mile of the facility.
 - iv. A drainage site map identifying the directions (using arrows) of where any of the following may be exposed to precipitation/surface runoff; fueling; engine maintenance/repair; vessel maintenance/repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading/unloading areas; locations used for the treatment, storage or disposal of wastes; liquid storage tanks; liquid

storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

- v. A description of the following additional sources and activities that have potential pollutants associated with them (if applicable): outdoor manufacturing/processing activities (e.g., welding, metal fabricating); and significant dust/particulate generating processes (e.g., abrasive blasting, sanding, painting).
- vi. Good housekeeping measures as described in Part 8.R.3.1 of the MSGP; the permittee must keep all exposed areas of the facility in a clean, orderly manner where such exposed areas could contribute pollutants to storm water discharges.
- vii. A description of measures to prevent spent abrasives, paint chips and over spray from discharging into the receiving water or the storm sewer systems. The permittee should consider containing all blasting/painting activities or use other measures to prevent the discharge of the contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). Where necessary, the permittee should regularly clean storm water conveyances of deposits of abrasive blasting debris and paint chips; detail in the SWPPP any standard operating practices relating to blasting/painting (e.g., prohibiting uncontained blasting /painting over open water, or prohibiting blasting/painting during windy or stormy conditions) which can render containment ineffective.
- viii. A description of material storage areas with plainly labeled containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains; implement and describe measures to prevent or minimize the contamination of precipitation/surface runoff from the storage areas; specify which materials are stored indoors and consider containment or enclosure for those stored outdoors; if abrasive blasting is performed, discussion of the storage and disposal of spent abrasive materials generated at the facility.
- ix. A description of measures to prevent or minimize the contamination of precipitation/surface runoff from all areas used for engine maintenance and repair. The permittee should consider the following (or their equivalents); performing all maintenance activities indoors; maintaining an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor; using dry cleanup methods; and treating and/or recycling storm water runoff collected from the maintenance area.
- x. A description of measures to prevent or minimize the contamination of precipitation/surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). The permittee should consider the following (or their equivalents); covering fueling areas; using spill/overflow protection; mixing paints and solvents

in a designated area (preferably indoors or under a shed); and minimize run on of storm water to material handling areas.

- xi. A description of procedures for routinely maintaining/cleaning the drydock to prevent or minimize pollutants in storm water runoff. The permittee shall address the cleaning of accessible areas of the drydock prior to flooding; and final cleanup following removal of the vessel and raising the dock; a description of procedures for cleaning up oil, grease or fuel spills occurring on the drydock; the permittee should consider the following (or their equivalents): sweeping rather than hosing off debris/spent blasting material from accessible areas of the drydock prior to flooding, and having absorbent materials and oil containment booms readily available to contain/cleanup any spills.
- xii. A schedule of routine yard maintenance and cleanup. The permittee shall regularly remove from the general yard area: scrap metal, wood, plastic, miscellaneous trash, paper, glass, industrial scrap, insulation, welding rods, packaging, etc.
- xiii. A description of a preventive maintenance program that includes performing timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators and sediment traps to ensure that spent abrasives, paint chips and solids will be intercepted and retained prior to entering the storm drainage system) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.
- xiv. A description of all monthly inspections for the following areas: pressure washing area, blasting, sanding and painting areas; material storage areas; engine maintenance/repair areas; material handling areas; drydock areas; and general yard area.
- xv. A description of a facility training program for the following activities (as applicable): used oil management; spent solvent management; disposal of spent abrasives; disposal of vessel wastewaters; spill prevention and control; fueling procedures; general good housekeeping practices; painting and blasting procedures; and used battery management.
- xvi. A schedule of a comprehensive site compliance evaluation. The permittee shall include a regularly scheduled evaluation at least once a year and address those areas contributing to a storm water discharge associated with industrial activity (e.g., pressure washing area, blasting/sanding areas, painting areas, material storage areas, and drydock area; these areas must be visually inspected for evidence of, or the potential for, pollutants entering the drainage system.
- xvii. A copy of this permit.

- d. The SWPPP shall be located on facility premises and be made available to EPA and GEPA, upon request.
- e. The SWPPP shall have management approval and be maintained and amended whenever there is a change in design, construction, operation, or maintenance of the facility which has a significant effect on the discharge, or potential for discharge, of pollutants from the facility.

PART VII – SECTION 401 WATER QUALITY CERTIFICATION

On May 18th, 2010, GEPA issued their Section 401 Water Quality Certification for NPDES Permit No. GU0020362, Guam Shipyard (see Appendix D of the fact sheet). The permittee is required to comply with all provisions of the certification. All enforcement of and appeals to the WQC provisions and Part VII of this permit are the responsibility of GEPA. The following conditions have been extracted from the referenced letter:

- A. The permittee must strictly implement “good housekeeping” Best Management Practices prior to each dry dock submergence to prevent accumulation of debris and corroded metal scale from the dry dock floor from being discharged into the receiving water.
- B. The permittee shall take immediate corrective actions or engineering measures to address noncompliance of water quality standards and notify GEPA within 24 hours.
- C. Water Quality Monitoring shall adhere to the corresponding NPDES Permit requirements.

PART VIII - DEFINITIONS

Average Monthly Effluent Limitation ("AMEL"). The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Best Management Practices ("BMPs"). Best Management Practices" or "BMPs" are schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the U.S. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may further be characterized as operational, source control, erosion and sediment control, and treatment BMPs.

Daily Discharge. A "daily discharge" means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Discharge Monitoring Report ("DMR"). A NPDES form for the reporting of self-monitoring NPDES results by the permittee.

Grab Sample. A single individual sample collected at a particular time and place that represents the composition of the discharge only at that time and place. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

Maximum Daily Effluent Limitation ("MDEL"). The highest allowable daily discharge of a pollutant or parameter, over a calendar day or 24-hr period. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day.

Method Detection Limit ("MDL"). The minimum concentration of an analyte that can be detected with 99 percent confidence that the analyte concentration is greater than zero, as defined by a specific laboratory method in 40 CFR Part 136. The procedure for determination of a laboratory MDL is in 40 CFR Part 136, Appendix B.

Minimum Level ("ML"). The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure, assuming that all the method-specific sample weights, volumes, and

processing steps have been followed (as defined in EPA's draft *National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels*, March 22, 1994). If a published method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the published method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc. (When neither an ML nor MDL are available under 40 CFR 136, an interim ML should be calculated by multiplying the best estimate of detection by a factor of 3.18; when a range of detection is given, the lower end value of the range of detection should be used to calculate the ML.) At this point in the calculation, a different procedure is used for metals, than non-metals:

- For metals, due to laboratory calibration practices, calculated MLs may be rounded to the nearest whole number; and
- For non-metals, because analytical instruments are generally calibrated using the ML as the lowest calibration standard, the calculated ML is then rounded to the nearest multiple of (1, 2, or 5) x 10ⁿ, where n is zero or an integer. (For example, if an MDL is 2.5 µg/L, then the calculated ML is: 2.5 µg/L x 3.18 = 7.95 µg/L. The multiple of (1, 2, or 5) x 10ⁿ nearest to 7.95 is 1 x 10¹ = 10 µg/L, so the calculated ML, rounded to the nearest whole number, is 10 µg/L.).

NODI(B). The concentration of the pollutant in a sample is not detected. NODI(B) is reported on a DMR when a sample result is less than the laboratory's MDL.

NODI(Q). The concentration of the pollutant in a sample is detected but not quantified. NODI(Q) is reported on a DMR when a sample result is greater than or equal to the laboratory's MDL, but less than the ML.