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. MW0020338

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. Section 1251 et seq; the "Act"), the following discharger is authorized to discharge from the identified facility at the outfall location(s) specified below, in accordance with the effluent limitations, monitoring requirements, and in the attached 15 pages of U.S. EPA Region 9 *Standard Federal NPDES Permit Conditions*, dated July 27, 2011.

Discharger Name	United States Air Force
Discharger Address	1502 Wake Avenue Wake Island, HI 96898
Facility Name	Wake Island Airfield
Facility Location Address	Building 1303 Wake Island, HI 96898
Facility Rating	Minor

Outfall Number	General Type of Waste Discharged	Outfall Latitude	Outfall Longitude	Receiving Water
008	Reverse Osmosis Reject Water	19˚ 17' 40.92" N	166˚ 38' 40.53" E	Pacific Ocean

This permit was issued on:	November 20, 2015
This permit shall become effective on:	December 1, 2015
This permit shall expire at midnight on:	November 30, 2020
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 20th day of November 2015.

For the Regional Administrator
/s/
by Nancy Woo, Assistant Director
for
Tomas Torres, Director
Water Division

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Part I. EFFLUENT LIMITS AND MONITORING

A. Effluent Limits and Monitoring

1. Effluent Limits – Outfall Number 008

   During the period beginning on the effective date of this permit and ending on the expiration date of this permit, the discharger is authorized to discharge reverse osmosis reject water in compliance with the effluent limits and monitoring requirements specified in Table 1. Compliance with these requirements is monitored at the "RO Facility" Outfall as shown in Section XII. Flow Schematic of the Fact Sheet. If there is no discharge at this outfall during any one month period, then report "C" in the "No Discharge" box on the DMR form for that month.

2. The discharge of pollutants at any point other than the outfall number specifically authorized in this permit is prohibited, and constitutes a violation thereof.

3. There shall be no discharge of pollutants to the receiving water that will:

   a. Settle to form objectionable deposits; float as debris, scum, oil, or other matter forming nuisances;

   b. Produce objectionable color, odor, taste, or turbidity;

   c. Cause injury to, or be toxic to, or produce adverse physiological responses in humans, animals, or plants; or

   d. Produce undesirable or nuisance aquatic life.

4. Samples taken in compliance with the effluent monitoring requirements specified in Part I of this permit shall be taken at the following locations:

   a. Influent samples shall be taken after the last addition to the collection system and prior to in-plant return flow and the first treatment process, where representative samples can be obtained.

   b. Effluent samples shall be taken after in-plant return flows and the last treatment process and prior to mixing with the receiving water, where representative samples can be obtained.

B. Table 1. Effluent Limits and Monitoring Requirements – Outfall No. 008

Effluent Parameter	Maximum Allowable Discharge Limits				Monitoring Requirements	
	Concentration and Loading					
	Units	Monthly Average	Weekly Average	Daily Maximum	Frequency[2] [3]	Sampling Type
Flow rate	MGD	0.220	--	--[1]	Continuous[4]	Metered
Ammonia (as N)	mg/L	--[1]	--	--[1]	Once/Month	Grab
Ammonia Impact Ratio[5]	std. unit	1.0	--	--	Once/Month	Calculated
pH[6]	std. unit	Within 6.0 and 9.0 at all times			Once/Month	Grab
Temperature[6]	deg ° F	--[1]	--	--	Once/Month	Grab
Chlorine, Total Residual (TRC)	mg/l	1.0	--	1.0	Once/Month	Grab
Magnesium	mg/L	--[1]	--	2700	Once/Month	Grab
Selenium	µg/l	--[1]	--	370	Once/Month	Grab
Turbidity	NTU	75	100	225	Once/Month	Grab
Hardness, total as ($CaCO_3$)	mg/L	--[1]	--	--[1]	Once/Month	Grab
Priority Pollutant Scan[7]	µg/l	--[1]	--	--[1]	Once/1st Quarter during Year 5	24-hour Composite

FOOTNOTES:

(1) No effluent limits are set at this time, but monitoring and reporting is required.

(2) Samples shall be taken only when discharging, and prior to mixing with storm or receiving water.

(3) In addition to the monthly monitoring requirement, the permittee is required to sample the effluent and report the results when the reverse osmosis units are cleaned. The reason for the additional sampling and reporting requirements is due to the potential of an increased load of pollutants being discharged to the receiving stream during the cleaning process.

(4) Continuous monitoring is only required during discharge events.

(5) The Ammonia Impact Ratio (AIR) is calculated as the ratio of the ammonia value in the effluent and the calculated ammonia standard as determined by using pH data to derive an appropriate value from the ammonia criteria table in Attachment A. See Attachment B. for a template log to help calculate and record the AIR values. The AIR is the ammonia effluent limit and must be reported in the DMRs in addition to ammonia effluent values.

(6) Temperature and pH measurements shall be taken concurrently with measurements for ammonia.

(7) Priority Pollutants: During the first quarter in Year 5 of the permit cycle, the permittee shall monitor for the full list of priority pollutants in the Code of Federal Register (CFR) at 40 CFR Part 423, Appendix A. No limit is set at this time.

Part II. GENERAL MONITORING AND REPORTING

1. All monitoring shall be conducted in accordance with 40 CFR 136 test methods, unless otherwise specified in this permit. For effluent analyses required in Table 1 of this permit,

the permittee shall utilize an analytical method with a published Method Detection Limit (MDL; as defined in Part V of this permit) that is lower than the effluent limitations (or lower than applicable numeric water quality criteria). If all published MDLs are higher than the effluent limitations or water quality criteria, then the permittee shall utilize the analytical method with the lowest published MDL. The permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is equal to or less than the minimum level (ML).

2. For a test method with a published MDL, the permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is near but above the published MDL, in accordance with the instructions for calibration in the test method. For a test method with a published ML, the permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is at or below the published ML, but still within the range of quantitation for the test method, in accordance with the instructions for calibration in the test method.

3. All monitoring shall be conducted in accordance with 40 CFR 136 test methods, unless otherwise specified in this permit. For influent and effluent analyses required in Table 1 of this permit, the permittee shall utilize the 40 CFR 136 test method with the lowest MDL or ML.

4. 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. At a minimum, the QA Manual shall include the following:

    a. 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;

    b. 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;

    c. 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, etc.) and acceptance criteria; and corrective actions to be taken in response to problems identified during QC checks; and

    d. Discussion of how the permittee will perform data review and reporting of results to EPA and how the permittee will resolve data quality issues and identify limits on the use of data.

5. 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 upon request. The permittee shall review its QA Manual annually and revise it, as appropriate.

6. For samples collected during the monthly reporting period, report on the DMR form:

   a. The *maximum value*, if the maximum value is greater than the ML; or NODI (Q)[1], if the maximum value is greater than or equal to the laboratory's MDL, but less than the ML; or NODI (B)[1], if the maximum value is less than the laboratory's MDL; and

   b. The *average value* of all analytical results where 0 (zero) is substituted for NODI (B) and the laboratory's MDL is substituted for NODI (Q), if more than one sample is collected during the monthly reporting period.

7. As an attachment to each DMR form submitted during this permit term, the permittee shall report for all parameters with monitoring requirements specified in Table 1 of this permit: the analytical method number or title, preparation and analytical procedure utilized by the laboratory, and published MDL or ML; the laboratory's MDL, the standard deviation (S) from the laboratory's MDL study, and the number of replicate analyses (n) used to compute the laboratory's MDL; and the ML.

8. Monitoring and Records

   In addition to information requirements specified under 40 CFR 122.41(j)(3), records of monitoring information shall include: the laborator(ies) which performed the analyses and any comment, case narrative, or summary of results produced by the laboratory. The records should identify and discuss QA/QC analyses performed concurrently during sample analyses and whether project and 40 CFR 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 condition upon receipt, holding time, and preservation.

9. Submittal of DMRs and the Use of NetDMR

   The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with effluent limitations and permit requirements. Monitoring results shall be reported during the previous three (3) months on monthly Discharge Monitoring Report ("DMR") forms (EPA No. 3320-1) supplied by the U.S. EPA Director, to the extent that the results reported may be entered on the forms. The DMR forms shall be submitted quarterly no later than the 28th day of the month following the previous

[1] *NODI(Q)* means "No discharge/No data" (not quantifiable); *NODI(B)* means "No discharge/No data" (not detected).

quarterly reporting period. For example, the three (3) monthly DMR forms for the reporting period January through March shall be submitted no later than April 28th. In the case of no discharge, the permittee shall submit a DMR indicating no discharge as required. Signed copies of these, and all other reports required herein, shall be submitted to the U.S. EPA Director at the following address:

NPDES Data Team
U.S. Environmental Protection Agency
Enforcement Division
Information Management Section (ENF 4-1)
75 Hawthorne Street
San Francisco, CA 94105

For a period of six (6) months from the effective date of the permit, the permittee may submit monitoring results in DMRs to EPA in hard copy form or in DMRs electronically submitted using NetDMR. NetDMR is a web-based tool that allows permittees to electronically submit DMRs and other required reports via a secure internet connection. NetDMR is accessed from: http://www.epa.gov/netdmr.

Beginning no later than six months after the effective date of the permit, the permittee shall begin reporting monthly, quarterly, yearly, etc. monitoring data using NetDMR, unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs. The permittee shall continue to use the NetDMR tool for reporting all discharge monitoring data. By submitting reports using NetDMR, the permittee will no longer be required to submit hard copies of DMRs to EPA under 40 CFR 122.41 and 403.12.

10. Submittal of Reports as NetDMR Attachments

After the permittee begins submitting DMR reports to EPA electronically using NetDMR, the permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies, unless otherwise specified in this permit. A report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with effluent limitations and permit requirements. Monitoring results shall be reported during the previous three (3) months on monthly Discharge Monitoring Report (DMR) forms (EPA No. 3320-1) supplied by the EPA, to the extent that the results reported may be entered on the forms. The DMR forms shall be submitted quarterly on the 28th day of the month following the previous quarterly reporting period; for example, the three (3) monthly DMR forms for the reporting period January through March shall be submitted by April 28th. In the case of no discharge, the permittee shall submit a DMR indicating no discharge as required. Signed copies of these, and all other reports required herein, shall be submitted to the EPA at the following address:

NPDES Data Team (ENF 4-1)
Information Management Section
Enforcement Division
U.S. Environmental Protection Agency Region 9
75 Hawthorne Street
San Francisco, CA 94105

Part III. STANDARD CONDITIONS

The permittee shall comply with all EPA Region 9 Standard Conditions included in an attachment to this permit. See attached 15 pages of U.S. EPA Region 9 *"Standard Federal NPDES Permit Conditions,"* dated July 27, 2011.

Part IV. SPECIAL CONDITIONS

A. Permit Reopener

At this time, there is no reasonable potential to establish any other water quality-based limits. Should any monitoring indicate that the discharge cause, has the reasonable potential to cause, or contributes to excursion above a water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. In accordance with 40 CFR 122 and 124, this permit may be modified to include appropriate conditions or effluent limits, monitoring, or other conditions to implement new regulations, including U.S. EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Twenty-four Hour Reporting of Noncompliance

1. In accordance with 40 CFR 122.41(l)(6)(i), (ii), and (iii), the following condition is expressly incorporated into this permit. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances, to EPA. The permittee shall notify EPA at the following office:

   Manager
   Wastewater Enforcement Office (ENF-3-1)
   U.S. Environmental Protection Agency Region 9
   (415) 972-3577

   If the permittee is unsuccessful in contacting the person above, the permittee shall report by 9 a.m. on the first business day following the noncompliance. A written submission shall also be provided within five (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 it is expected

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

2. The following information shall be included as information which must be reported within 24 hours under this paragraph.

   a. Any unanticipated bypass which exceeds any effluent limit in the permit (see 40 CFR 122.44(g)).

   b. Any upset which exceeds any effluent limit in the permit.

   c. Violation of a maximum daily discharge limit for any of the pollutants listed by the director in the permit to be reported within 24 hours (see 40 CFR 122.44(g)).

3. The Director may waive the written report on a case-by-case basis for reports required under paragraph B.2, if the oral report has been received within 24 hours.

C. Inspection and Entry

The permittee shall allow the EPA Regional Administrator, or an authorized representative, upon the presentation of credentials and such other documents as may be required by law, to perform inspections under authority of Section 10: Inspection and Entry of the U.S. EPA Region 9 *Standard Federal NPDES Permit Conditions*, dated July 27, 2011, as attached.

D. Priority Pollutant Scan

The permittee shall monitor for all priority pollutants in accordance with the methods described in the most recent edition of 40 CFR 136 during the first discharge of the fifth year after issuance of this permit. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants. The permittee shall submit the results of the PPS to EPA along with the NPDES application to renew the permit.

PART V. DEFINITIONS

The following definitions shall apply unless otherwise specified in this permit:

1. A "composite sample" means a time-proportional mixture of not less than eight discrete aliquots obtained at equal time intervals (e.g., 24-hour composite means a minimum of eight samples collected every three hours.) The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling, but not less than 100 ml. 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.

2. A "daily discharge" means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar for purposes of sampling.

For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling 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 sampling day.

3. A "daily discharge determination of concentration" made using a composite sample shall be the concentration of the composite sample. When the grab sample technique is used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that sampling day.

4. A "daily maximum discharge effluent limitation" means the highest allowable "daily discharge" during the calendar month.

5. A "daily average discharge limitation' means 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.

6. A "discrete sample" means any individual sample collected in less than 15 minutes.

7. The "USEPA" means the United States Environmental Protection Agency.

8. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

9. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

10. The "method detection limit" or "MDL" is the minimum concentration of an analyte that can be detected with 99% confidence that the analyte concentration is greater than zero, as defined by the specific laboratory method listed in 40 CFR Part 136. The procedure for determination of a laboratory MDL is in 40 CFR Part 136, Appendix B.

11. The "minimum level" or "ML" is 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 by a specific analytical procedure, assuming that all of the method-specified 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). Published method-specific MLs are contained in 40 CFR Part 136, Appendix A, and must be utilized if available. 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 an MDL are available under 40 CFR Part 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 for non-metals:

a. For metals, due to laboratory calibration practices, calculated MLs may be rounded to the nearest whole number.

b. 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.)

12. A "monthly average" concentration for *E. coli* means the geometric mean of measurements made during a month. The geometric mean is the nth root of the product of n numbers.

13. A "monthly average" limitation means the highest allowable discharge 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" measure during that month.

14. The "EPA Director" means EPA Region 9's Water Division Director.

15. A "weekly average" (or 7-day average) is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains month that contains the Saturday.

ATTACHMENT A: Ammonia Criteria Table

(from *1999 Update of Ambient Water Quality Criteria for Ammonia*)

Temperature and pH-Dependent Values of the CCC (Chronic Criterion) for Fish Early Life Stages Present

CCC for Fish Early Life Stages Present, mg N/L										
pH	Temperature, C									
	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

ATTACHMENT B: Ammonia Impact Ratio
Sample of Ammonia Data Log

AIR = Ratio of Measured Ammonia Value over Ammonia Limit
Effluent Ammonia ÷ Ammonia Limit

A	B	C	D	E	F
Date of Sample	**Ammonia Value In Effluent (mg/L N)**	**Effluent pH**	**Effluent Temperature (Celsius)**	**Ammonia Limit as Determined from Appendix A or B**	**AIR Value (Column B/Column E)**

Please copy and complete for each month of each year for permit term. Attach any additional pages as necessary.

Signature of Authorized Representative: _____