DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU
1000 ULUOHIA STREET, SUITE 308 KAPOLEI, HAWAII 96707
PHONE: (808) 692-5159 FAX: (808) 692-5113 Website: www.co.honolulu.hi.us

JEREMY HARRIS
Mayor

FRANK J. DOYLE, P.E.
Acting Director

CERTIFIED MAIL

MAY 05 2003

EMC 03-193

Mr. Wayne Nastri
Regional Administrator
U.S. Environmental Protection Agency
Attention: Ms. Robyn Stuber (WTR-5)
75 Hawthorne Street
San Francisco, California 94105

Dear Mr. Nastri:

Subject: Submittal of Application for NPDES Permit
Sand Island Wastewater Treatment Plant, NPDES Permit No. HI 00200117

Submitted herewith is the original City and County of Honolulu Sand Island Wastewater Treatment Plant application for renewal of our National Pollutant Discharge Elimination System (NPDES) Permit under the provisions of Section 301(h) of the Clean Water Act .

This application seeks a third renewal of this permit since our first application for a waiver permit from secondary treatment was initially filed for in 1978. This renewal application will be based on some major improvements now being completed at the Sand Island facility including the installation of ultraviolet disinfection facilities.

The renewal application has been completed and submitted by the statutory deadline of May 7, 2003, 180 days in advance of the expiration of our present permit. Our staff and consultants will be available to assist in the review process and we will provide a timely response to any supplemental information request from your staff. We respectfully urge EPA and the Hawaii Department of Health to maintain close contact with our staff throughout your review so that we can answer questions that arise during the course of your evaluation. We hope that EPA and the Department of Health can expeditiously review the renewal application and that a new NPDES Permit renewal can be issued in a timely manner.

We are seeking no change in our permit limits but are expanding the plant to provide for more capacity to handle wet weather flows. We have shown in our application that granting the proposed permit will not result in changes in the marine environment and that the statutory criteria applicable to the granting of such a modified permit have been met.

This submittal letter serves a dual purpose. It formally transmits our application to EPA Region IX and the Hawaii Department of Health who is responsible for the NPDES permitting program in the State of Hawaii. The application provides all reviewing regulatory agencies with complete information for considering its technical merits

MAY 05 2003

The City currently has underway many capital improvement projects to maintain and improve our existing wastewater management program based on the Sand Island WWTP. Some $380 million is likely to be spent during the next five years to provide upgrades and improved treatment at Sand Island. A copy of the present construction schedule is included in the application. We may be supplementing our permit application, should new information become available, as we continue to move forward and fine-tune our long-term Capital Improvement Plan and Operational Plan.

The City needs regulatory cooperation in solving some of the problems we face being a large urban island community. The City is working to address many water quality issues in local streams and managing urban runoff. The Ala Wai Canal is a good example. We need to muster the resources and work with other agencies to continue to improve nearshore and recreational water quality due to the inputs from non-point sources. This will require significant amounts of time and resources. We believe spending limited dollars on the most pressing needs is crucial. From our assessment of all the data, continuation of the waiver permit is an essential part of managing resources as we tackle the nonpoint source problems. We look forward to achieving our mutual objectives and resolving outstanding permit issues. We welcome your participation in meeting the goal we all seek – fishable/swimmable waters.

If there are any questions, please contact Ross Tanimoto, Division of Environmental Quality, at (808) 692-5371.

Sincerely

Frank J. Doyle

FRANK J. DOYLE, P.E.
Acting Director

Attachment

cc: w/ attachment to:
Denis R. Lau
Hawaii Department of Health
Environmental Management Division
Clean Water Branch
Room 301
919 Ala Moana Blvd.
Honolulu, Hawaii 96814-4920

Please print or type in unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch)

Form Approved OMB No. 2040-0086

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting)

I. EPA I.D. NUMBER: F D

LABEL ITEMS

I. EPA I.D. NUMBER	
III. FACILITY NAME	Sand Island Wastewater Treatment Plant
V. FACILITY MAILING ADDRESS	1350 Sand Island Parkway Honolulu, Hawaii 96819
VI. FACILITY LOCATION	1350 Sand Island Parkway Honolulu, Hawaii 96819

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)	X (16)	(17)	(18)	B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)	(19)	X (20)	(21)
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM C)	(22)	X (23)	(24)	D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)	(25)	X (26)	(27)
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	(28)	X (29)	(30)	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	(31)	X (32)	(33)
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil and natural gas, or injection fluids for storage of liquid hydrocarbons? (FORM 4)	(34)	X (35)	(36)	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy. (FORM4)	(37)	X (38)	(39)
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	(40)	X (41)	(42)	J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	(43)	X (44)	(45)

III. NAME OF FACILITY

C 1 SKIP SAND ISLAND WASTEWATER TREATMENT PLANT

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, title)	B. PHONE (area code & no.)
C 2 FRANK J DOYLE, ACTING DIRECTOR	808 692 5159

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: C 3 1000 ULUOHIA STREET, SUITE 308

B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4 KAPOLEI	HI	96707

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: C 5 1350 SAND ISLAND PARKWAY

B. COUNTY NAME: HONOLULU

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
C 6 HONOLULU	HI	96819	

CONTINUE ON REVERSE

CONTINUED FROM FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
C 7 4 9 5 2 (specify) SEWERAGE SYSTEMS	C 7 (specify)
C. THIRD	**D. FOURTH**
C 7 (specify)	C 7

VIII. OPERATOR INFORMATION

A. NAME: C 8 CITY & COUNTY OF HONOLULU

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR *(Enter appropriate letter into answer box: if "Other", specify)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than Federal or State)*
O = OTHER *(specify)*

M (specify) COUNTY

D. PHONE *(area code & no.)*: C A 808 847 8300

E. STREET OF P.O. BOX: 1350 SAND ISLAND PARKWAY

F. CITY OR TOWN: C 8 HONOLULU

G. STATE: HI

H. ZIP CODE: 96819

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Waters)*: C 9 T N HI 0020117	**D. PSD** *(Air emissions from Proposed Sources)*: C 9 T P
B. UIC *(Underground Injection of Fluids)*: C 9 T U	**E. OTHER** *(specify)*: C 9 (specify)
C. RCRA *(Hazardous Wastes)*: C 9 T R	**E. OTHER** *(specify)*: C 9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, treatment, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Collection, treatment and disposal of residential, commercial and industrial wastewater for the southeast area of the island of Oahu. The service area, which is known as the East Mamala service area, encompasses about 79 square miles.

Sand Island Treatment Plant is presently operated in the primary treatment mode. The 82 million gallon per day (mgd) capacity plant presently treats an average wastewater flow of 65.6 mgd.

Sand Island Wastewater Treatment Plant is undergoing an increase in capacity to a design flow of 90 mgd.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
FRANK J. DOYLE, ACTING DIRECTOR	Frank J. Doyle	5/5/03

COMMENTS FOR OFFICIAL USE ONLY

C

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant - Permit No. HI 0020117

Form Approved 1/14/99
OMB Number 2040-0086

FORM **2A** NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.

B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.

C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to provide the information.

E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to submit results of toxicity testing.

F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:

1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
   b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
   c. Is designated as an SIU by the control authority.

G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

FACILITY NAME AND PERMIT NUMBER:
Sand Island Wastewater Treatment Plant - Permit No. HI 0020117

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BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name: Sand Island Wastewater Treatment Plant

Mailing Address: 1350 Sand Island Parkway
Honolulu, Hawaii 96819

Contact person: Allen Perry

Title: Superintendent

Telephone number: (808) 847-8329

Facility Address (not P.O. Box): 1350 Sand Island Parkway
Honolulu, Hawaii 96819

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name: City and County of Honolulu

Mailing Address: 1000 Uluohia Street, Suite 308
Kapolei, Hawaii 96707

Contact person: Ross Tanimoto

Title: Branch Head

Telephone number: (808) 692-5371

Is the applicant the owner or operator (or both) of the treatment works?

✔ owner ✔ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

____ facility ✔ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES: HI 0020117
PSD:
UIC:
Other: LF-0032-99 (landfill permit)
RCRA:
Other:

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
North Honolulu	115,557	separate	municipal
South Honolulu	287,467	separate	municipal
Fort Shafter	9,258	separate	municipal

Total population served 412,282 See annotation (for year 2000)

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

____ Yes ✔ No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

____ Yes ✔ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 90* mgd * Design dry weather flow

See annotation page

	Two Years Ago	Last Year	This Year	
b. Annual average daily flow rate	(2000)	(2001)	(2002)	mgd
c. Maximum daily flow rate	(2000)	(2001)	(2002)	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

✔ Separate sanitary sewer 100 %

____ Combined storm and sanitary sewer ____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? ✔ Yes ____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent 1

ii. Discharges of untreated or partially treated effluent ____

iii. Combined sewer overflow points ____

iv. Constructed emergency overflows (prior to the headworks) ____

v. Other ____ ____

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? ____ Yes ✔ No

If yes, provide the following for each surface impoundment:

Location: ____

Annual average daily volume discharged to surface impoundment(s) ____ mgd

Is discharge ____ continuous or ____ intermittent?

c. Does the treatment works land-apply treated wastewater? ____ Yes ____ No

If yes, provide the following for each land application site:

Location: ____

Number of acres: ____

Annual average daily volume applied to site: ____ Mgd

Is land application ____ continuous or ____ intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? ✔ Yes ____ No

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If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

tanker truck

If transport is by a party other than the applicant, provide:

Transporter name: _____

Mailing Address: _____

Contact person: _____

Title: _____

Telephone number: _____

For each treatment works that receives this discharge, provide the following:

Name: Waianae Wastewater Treatment Plant

Mailing Address: 86-100 Farrington Highway
Waianae, Hawaii 96792

Contact person: Steve Saturno

Title: Superintendent

Telephone number: (808) 696-7731

If known, provide the NPDES permit number of the treatment works that receives this discharge. HI 0020109

Provide the average daily flow rate from the treatment works into the receiving facility. 0.4 mgd

Centrate is hauled as needed

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? ____ Yes ✔ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed of by this method: _____

Is disposal through this method ____ continuous or ____ intermittent?

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number: Serial No. 001

b. Location: Pacific Ocean
(City or town, if applicable) (Zip Code)
(County) (State)
(Latitude) (Longitude)

c. Distance from shore (if applicable): 10,026 ft.

d. Depth below surface (if applicable): 235 ft.

e. Average daily flow rate: 90 mgd See Appendices A and B of application

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes ✔ No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ____

Average duration of each discharge: ____

Average flow per discharge: ____ mgd

Months in which discharge occurs: ____

g. Is outfall equipped with a diffuser? ____ Yes ____ No

A.10. Description of Receiving Waters.

a. Name of receiving water: Pacific Ocean / East Mamala Bay

b. Name of watershed (if known): ____

United States Soil Conservation Service 14-digit watershed code (if known): ____

c. Name of State Management/River Basin (if known): ____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): ____

d. Critical low flow of receiving stream (if applicable):
acute ____ cfs chronic ____ cfs

e. Total hardness of receiving stream at critical low flow (if applicable): ____ mg/l of $CaCO_3$

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant - Permit No. HI 0020117

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A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

✔ Primary ____ Secondary

____ Advanced ____ Other. Describe: ____

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal	30	%
Design SS removal	60	%
Design P removal		%
Design N removal		%
Other ____		%

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Standby UV -- see Appendices A and B of application

If disinfection is by chlorination, is dechlorination used for this outfall? ____ Yes ____ No

d. Does the treatment plant have post aeration? ____ Yes ✔ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: Serial #001 See annotation

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.7	s.u.			
pH (Maximum)	7.24	s.u.			
Flow Rate	212	MGD	69.6	MGD	364
Temperature (Winter) *See Annotation	27.5	° C	25.5	° C	7
Temperature (Summer)					

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN	BOD-5	164	mg/L	105	mg/L	355	EPA 405.1	2 mg/L
DEMAND (Report one)	CBOD-5							
FECAL COLIFORM *See Annotation Page								*See Annotation Page
TOTAL SUSPENDED SOLIDS (TSS)		72	mg/L	47	mg/L	360	EPA 160.2	0.5 mg/L

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant - Permit No. HI 0020117

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BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

24.6 mgd dry I/I gpd Based on a base flow of 45 mgd and average daily flow for 2002

Briefly explain any steps underway or planned to minimize inflow and infiltration.

A 20-year Citywide CIP is being implemented that includes Sand Island WWTP's I/I problem.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

See Figure 1

a. The area surrounding the treatment plant, including all unit processes.

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram. See Figures 1A, 2A, 3A, 4A, 1B, 2B, 3B, and 4B; see also Appendices A & B of the permit application

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____Yes ✔ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

_____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

Serial #001

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

✔ Yes ____No

c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

This project partly fulfills the requirementof Consent Decree (Civil No. 94-00765DAE) and permit requirements.

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
– Begin construction	___/ ___/ _____	___/ ___/ _____
– End construction	___/ ___/ _____	___/ ___/ _____
– Begin discharge	___/ ___/ _____	___/ ___/ _____
– Attain operational level	___/ ___/ _____	___/ ___/ _____

See attachment

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ✔ Yes ____No

Describe briefly: _____

B.6. EFFLUENT TESTING DATA (GREATER THAN O.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: Serial #001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	9.6	mg/L		3.71 mg/L	12	EPA Method 350.2	0.1 mg/L
CHLORINE (TOTAL RESIDUAL, TRC)							
DISSOLVED OXYGEN							
TOTAL KJELDAHL NITROGEN (TKN)	11.9	mg/L	5.8	mg/L	12	EPA Method 351.3	0.2 mg/L
NITRATE PLUS NITRITE NITROGEN	25	mg/L	16.5	mg/L	12	EPA Method 353.3	0.2 mg/L
OIL and GREASE							
PHOSPHORUS (Total)	3.7	mg/L	3.3	mg/L	12	EPA Method 365.3	0.08 mg/L
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER							

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant - Permit No. HI 0020117

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

✔ Basic Application Information packet

Supplemental Application Information packet:

✔ Part D (Expanded Effluent Testing Data)

✔ Part E (Toxicity Testing: Biomonitoring Data)

✔ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title: Frank J. Doyle, Acting Director, Department of Environmental Services

Signature: Frank J. Doyle

Telephone number: (808) 692-5159

Date signed: 5/5/03

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant - Permit No. HI 0020117

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY	0.67	ug/L	0.176	kg/day						SM 3113B (99) EPA 200.8 (00,01)	2 ug/L
ARSENIC	2.0	ug/L	0.527	kg/day						SM 3113B	2 ug/L
BERYLLIUM	ND	ug/L	NA	kg/day						SM 3113B (99) EPA 200.8 (00,01)	0.5 ug/L (99), 2 ug/L
CADMIUM	0.30	ug/L	0.079	kg/day						SM 3113B (99) EPA 200.8 (00,01)	1.0 ug/L (99), 2 ug/L
CHROMIUM	4.4	ug/L	1.159	kg/day						SM 3113B (99) EPA 200.8 (00,01)	2 ug/L
COPPER	27	ug/L	7.109	kg/day						SM 3113B (99) EPA 200.8 (00,01)	5 ug/L (99), 2 ug/L
LEAD	1.9	ug/L	0.50	kg/day						SM 3113B (99) EPA 200.8 (00,01)	5 ug/L (99), 2 ug/L
MERCURY	0.14	ug/L	0.037	kg/day						SM 3112B	0.2 ug/L
NICKEL	5.2	ug/L	1.369	kg/day						SM 3113B (99) EPA 200.8 (00,01)	5 ug/L (99), 2 ug/L
SELENIUM	2.0	ug/L	0.527	kg/day						SM 3113B	5 ug/L (99), 2 ug/L
SILVER	2.9	ug/L	0.764	kg/day						SM 3113B (99) EPA 200.8 (00,01)	1.0 ug/L (99), 2 ug/L
THALLIUM	2.2	ug/L	0.5793	kg/day						SM 3113B (99) EPA 200.8 (00,01)	5 ug/L (99), 2 ug/L
ZINC	76	ug/L	20.01	kg/day						SM 3113B (99) EPA 200.8 (00,01)	20 ug/L (99), 2 ug/L
CYANIDE	1.9	ug/L	0.500	kg/day						EPA 335.2	5 ug/L
TOTAL PHENOLIC COMPOUNDS	NA		NA								
HARDNESS (AS $CaCO_3$)	NA		NA								
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

FACILITY NAME AND PERMIT NUMBER:

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Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN	2.6	ug/L	0.68	kg/day						EPA 603	1 ug/L
ACRYLONITRILE	ND		NA							EPA 603	1 ug/L
BENZENE	3.7	ug/L	0.97	kg/day						EPA624	2 ug/L (99,01), 5 ug/L (00)
BROMOFORM	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
CARBON TETRACHLORIDE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
CLOROBENZENE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
CHLORODIBROMO-METHANE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
CHLOROETHANE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
2-CHLORO-ETHYLVINYL ETHER	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
CHLOROFORM	0.81	ug/L	0.213	kg/day						EPA624	2 ug/L (99,01), 5 ug/L (00)
DICHLOROBROMO-METHANE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
1,1-DICHLOROETHANE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
1,2-DICHLOROETHANE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
TRANS-1,2-DICHLORO-ETHYLENE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
1,1-DICHLOROETHYLENE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
1,2-DICHLOROPROPANE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
1,3-DICHLORO-PROPYLENE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
ETHYLBENZENE	0.54	ug/L	0.142	kg/day						EPA624	2 ug/L (99,01), 5 ug/L (00)
METHYL BROMIDE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
METHYL CHLORIDE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
METHYLENE CHLORIDE	0.69	ug/L	0.182	kg/day						EPA624	2 ug/L (99,01), 5 ug/L (00)
1,1,2,2-TETRACHLORO-ETHANE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
TETRACHLORO-ETHYLENE	ND		NA							EPA624	2 ug/L (99,01), 5 ug/L (00)
TOLUENE	2.2	ug/L	0.58	kg/day						EPA624	2 ug/L (99,01), 5 ug/L (00)

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Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE	ND		N/A		ND		N/A			EPA 624	2 ug/L (99, 01), 5 ug/L (00)
1,1,2-TRICHLOROETHANE	ND		N/A		ND		N/A			EPA 624	2 ug/L (99, 01), 5 ug/L (00)
TRICHLORETHYLENE	ND		N/A		ND		N/A			EPA 624	2 ug/L (99, 01), 5 ug/L (00)
VINYL CHLORIDE	ND		N/A		ND		N/A			EPA 624	2 ug/L (99, 01), 5 ug/L (00)
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
2-CHLOROPHENOL	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
2,4-DICHLOROPHENOL	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
2,4-DIMETHYLPHENOL	ND		N/A		ND		N/A			EPA 625	5 ug/L (99) 20 ug/L (00), 10 ug/L (01)
4,6-DINITRO-O-CRESOL	ND		N/A		ND		N/A			EPA 625	12 ug/L (99) 10 ug/L (00), 20 ug/L (01)
2,4-DINITROPHENOL	ND		N/A		ND		N/A			EPA 625	12 ug/L (99) 20 ug/L (00), 40 ug/L (01)
2-NITROPHENOL	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
4-NITROPHENOL	ND		N/A		ND		N/A			EPA 625	12 ug/L (99), 10 ug/L
PENTACHLOROPHENOL	ND		N/A		ND		N/A			EPA 625	12 ug/L (99) 20 ug/L (00), 10 ug/L (01)
PHENOL	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
2,4,6-TRICHLOROPHENOL	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
ACENAPHTHYLENE	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
ANTHRACENE	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L
BENZIDINE	ND		N/A		ND		N/A			EPA 625	12 ug/L (99) 50 ug/L (00), 10 ug/L (01)
BENZO(A)ANTHRACENE	ND		N/A		ND		N/A			EPA 625	5 ug/L (99), 10 ug/L

BENZO(A)PYRENE	ND				ND					EPA 625	10

FACILITY NAME AND PERMIT NUMBER:

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Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
BENZO(GHI)PERYLENE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
BENZO(K)FLUORANTHENE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
BIS (2-CHLOROETHOXY) METHANE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
BIS (2-CHLOROETHYL)-ETHER	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
BIS (2-CHLOROISO-PROPYL) ETHER	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
BIS (2-ETHYLHEXYL) PHTHALATE	5	mg/L	1316	kg/day	5	mg/L	1316	kg/day		EPA 625	5 ug/L (99), 10 ug/L
4-BROMOPHENYL PHENYL ETHER	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
BUTYL BENZYL PHTHALATE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
2-CHLORONAPHTHALENE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
4-CHLORPHENYL PHENYL ETHER	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
CHRYSENE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
DI-N-BUTYL PHTHALATE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
DI-N-OCTYL PHTHALATE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
DIBENZO(A,H) ANTHRACENE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
1,2-DICHLOROBENZENE	ND				ND					EPA 624	2 ug/L (99,01) 5 ug/L (00)
1,3-DICHLOROBENZENE	ND				ND					EPA 624	2 ug/L (99,01) 5 ug/L (00)
1,4-DICHLOROBENZENE	1.9	mg/L	500	kg/day	1.9	mg/L	500	kg/day		EPA 624	2 ug/L (99,01) 5 ug/L (00)
3,3-DICHLOROBENZIDINE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
DIETHYL PHTHALATE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
DIMETHYL PHTHALATE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
2,4-DINITROTOLUENE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L
2,6-DINITROTOLUENE	ND				ND					EPA 625	5 ug/L (99), 10 ug/L

1,2-DIPHENYLHYDRAZINE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L

FACILITY NAME AND PERMIT NUMBER:
Sand Island Wastewater Treatment Plant / Permit No. HI 0020117

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Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
FLUORENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
HEXACHLOROBENZENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
HEXACHLOROBUTADIENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
HEXACHLOROCYCLO-PENTADIENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
HEXACHLOROETHANE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
INDENO(1,2,3-CD)PYRENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
ISOPHORONE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
NAPHTHALENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
NITROBENZENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
N-NITROSODI-N-PROPYLAMINE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
N-NITROSODI- METHYLAMINE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
N-NITROSODI-PHENYLAMINE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
PHENANTHRENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
PYRENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L
1,2,4-TRICHLOROBENZENE	ND		ND		ND		ND			EPA 625	5 ug/L (99); 10 ug/L

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBEF	Sand Island WWTP HI0020117

Form Approved 1/14/98
OMB Number 2040-0085

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate
- QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
  In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

81 chronic _____ acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI011398	Test number: SI021098	Test number: SI030398
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	01/12/98 - 01/13/98	02/09/98 - 02/10/98	03/02/98 - 03/03/98
Date test started	1/13/98	2/10/98	3/3/98
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)	not applicable		
Before disinfection			
After disinfection			
After dechlorination			

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	Test number: SI011398	Test number: SI021098	Test number: SI030398
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.40	0.00 0.40	0.00 0.40
	0.70 1.30	0.70 1.30	0.70 1.30
	2.60 5.20	2.60 5.20	2.60 5.20
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC50			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

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Chronic:			
NOEC REPRODUCTION	0.40 %	0.70 %	0.70 %
IC25	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/13/98	2/10/98	3/3/98
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

___Yes ✔ No If yes, describe: __ Compliance value was exceeded on 01/13/98, 02/10/98, and on 03/13/98.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI040698	Test number: SI050698	Test number: SI060398
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	04/05/98 - 04/06/98	05/05/98 - 05/06/98	06/02/98 - 06/03/98
Date test started	4/6/98	5/6/98	6/3/98
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.40	0.00 0.40	0.00 0.40
	0.70 1.30	0.70 1.30	0.70 1.30
	2.60 5.20	2.60 5.20	2.60 5.20

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	Test number: SI040698	Test number: SI050698	Test number: SI060398
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	1.30 %	0.40 %	0.70 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	4/6/98	5/6/98	6/3/98
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 05/6/98 and on 06/03/98.

TIE investigations were initiated to determine the nature of substance(s) toxic to the sea urchin gametes.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI070798	Test number: SI080498	Test number: SI090998
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	07/06/98 - 07/07/98	08/03/98 - 08/04/98	09/08/98 - 09/09/98
Date test started	7/7/98	8/4/98	9/9/98
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.40	0.00 0.40	0.00 0.40
	0.70 1.30	0.70 1.30	0.70 1.30
	2.60 5.20	2.60 5.20	2.60 5.20

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	Test number: SI070798	Test number: SI080498	Test number: SI090998
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.40 %	0.40 %	< 0.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	7/7/98	8/4/98	9/9/98
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes ___ No If yes, describe: Compliance value was exceeded on 7/17/98, 8/4/98, and on 9/9/98.

Toxicity Identification evaluation studies (May -August 1998) using EPA-recommended manipulations showed that the toxicants were not removed by complexation with disodium EDTA but were significantly eliminated by solid phase extraction using a C18 column. This behavior indicated the nonpolar/ organic nature of toxicants in Sand Island effluent.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI101498	Test number: SI110598	Test number: SI120898
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	10/13/98 - 10/14/98	11/04/98 - 11/05/98	12/07/98 - 12/08/98
Date test started	10/14/98	11/5/98	12/8/98
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.40	0.00 0.28	0.00 0.28
	0.70 1.30	0.55 1.10	0.55 1.10
	2.60 5.20	2.20 4.40	2.20 4.40

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	Test number: SI101498	Test number: SI110598	Test number: SI120898
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.40 %	< 0.28 %	1.10 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	10/14/98	11/5/98	12/8/98
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 10/14/98 and on 11/05/98.

Additional sample manipulations confirmed that toxicants in the effluent had affinity to particulate materials. Sample toxicity was reduced either by filtration or centrifugation.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI122298	Test number: SI010599	Test number: SI011399
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	12/21/98 - 12/22/98	01/04/99 - 01/05/99	01/12/99 - 01/13/99
Date test started	12/22/98	1/5/99	1/13/99
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI122298	Test number: SI010599	Test number: SI011399
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	2.20 %	0.55 %	2.20 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	12/22/98	1/5/99	1/13/99
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the t

✔ Yes __ No If yes, describe: Compliance value was exceeded on 01/05/99.

Toxicity studies showed that the addition of centrate from heat-treated sludge to Sand Island wastewater did not alter its toxicity profile.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI011999	Test number: SI020499	Test number: SI020999
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	01/18/99 - 01/19/99	02/03/99 -02/04/99	02/08/99 - 02/09/99
Date test started	1/19/99	2/4/99	2/9/99
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI011999	Test number: SI020499	Test number: SI020999
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	QC criteria not met %	2.20 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/19/99	2/4/99	2/9/99
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

___Yes ✔ No If yes, describe: ___ Compliance value was exceeded on 01/19/99.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI030299	Test number: SI040799	Test number: SI050599
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	03/01/9-03/02/99	04/06/99 - 04/07/99	05/04/99 - 05/05/99
Date test started	3/2/99	4/7/99	5/5/99
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI030299	Test number: SI040799	Test number: SI050599
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	1.10 %	1.10 %	0.55 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	3/2/99	4/7/99	5/5/99
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

___Yes ✔ No If yes, describe: ___ Compliance value was exceeded on 05/05/99

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI051399	Test number: SI052599	Test number: SI061599
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	05/12/99 - 05/13/99	05/24/99 - 05/25/99	06/14/99 - 06/15/99
Date test started	5/13/99	5/25/99	6/15/99
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI051399	Test number: SI052599	Test number: SI061599
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	< 0.28 %	0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	5/13/99	5/25/99	6/15/99
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 05/13/99, 05/25/99, and on 06/15/99.

More frequent testing were performed to determine the persistence of toxicity.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI062399	Test number: SI070799	Test number: SI072199
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	06/22/99 - 06/23/99	07/06/99 - 07/07/99	07/20/99 - 07/21/99
Date test started	6/23/99	7/7/99	7/21/99
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI062399	Test number: SI070799	Test number: SI072199
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	<0.28 %	<0.28 %	0.55 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	6/23/99	7/7/99	7/21/99
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 06/23/99, 07/07/99, and on 07/21/99.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI080299	Test number: SI090999	Test number: SI091499
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	08/01/99 - 08/02/99	09/08/99 - 09/09/99	09/13/99 - 09/14/99
Date test started	8/2/99	9/9/99	9/14/99
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each) not applicable			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI080299	Test number: SI090999	Test number: SI091499
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	QC criteria not met %	2.20 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	8/2/99	9/9/99	9/14/99
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes ___ No If yes, describe: Compliance value was exceeded on 08/02/99.

Toxicity Identification Evaluation studies indicated that substances in Sand Island effluent that were toxic to sea urchin gametes have affinity to particulate material, are biologically degradable or are unstable; are nonpolar and organic in nature.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI092299	Test number: SI101399	Test number: SI111299
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	09/21/99 - 09/22/99	10/12/99 -10/13/99	11/11/99 - 11/12/99
Date test started	9/22/99	10/13/99	11/12/99
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each) not applicable			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI092299	Test number: SI101399	Test number: SI111299
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	0.55 %	0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	9/22/99	10/13/99	11/12/99
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 09/22/99, 10/13/99, and 11/12/99.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI121999	Test number: SI012300	Test number: SI021200
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	12/18/99 -12/19/99	01/22/00 -01/23/00	02/11/00 - 02/12/00
Date test started	12/19/99	1/23/00	2/12/00
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI121999	Test number: SI012300	Test number: SI021200
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	0.55 %	0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	12/19/99	1/23/00	2/12/00
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 12/19/99, 1/23/00, and on 02/12/00.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI031200	Test number: SI041800	Test number: SI051300
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	03/11/00 -03/12/00	04/17/00 -04/18/00	05/12/00 - 05/13/00
Date test started	3/12/00	4/18/00	5/13/00
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI031200	Test number: SI041800	Test number: SI051300
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	2.20 %	2.20 %	0.55 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	3/12/00	4/18/00	5/13/00
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 05/13/00.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI061300	Test number: SI071000	Test number: SI080500
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	06/12/00 - 06/13/00	07/09/00 - 07/10/00	08/04/00 - 08/05/00
Date test started	6/13/00	7/10/00	8/5/00
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each) not applicable			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI061300	Test number: SI071000	Test number: SI080500
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	0.28 %	0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	6/13/00	7/10/00	8/5/00
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 06/03/00, 07/10/00, and on 08/05/00.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI090200	Test number: SI100800	Test number: SI111400
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	09/01/00 - 09/02/00	10/07/00 - 10/08/00	11/13/00 - 11/14/00
Date test started	9/2/00	10/8/00	11/14/00
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)	not applicable		
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI090200	Test number: SI100800	Test number: SI111400
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	<0.28 %	0.28 %	<0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	9/2/00	10/8/00	11/14/00
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 09/02/00, 10/08/00, and on 11/14/00.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI121400	Test number: SI010601	Test number: SI020501
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	12/13/00 -12/14/00	01/05/00 -01/06/00	02/04/01 - 02/05/01
Date test started	12/14/00	1/6/01	2/5/01
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI121400	Test number: SI010601	Test number: SI020501
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	0.28 %	0.55 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	12/14/00	1/6/01	2/5/01
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 12/14/00, 01/06/01, and on 02/05/01.

Wastewater samples from various points in the collection system were analyzed for toxicity.Higher level of toxicity found in the Hart St. WWPS sample compared to that found in the Ala Moana WWPS sample was consistent with the greater industrial discharge in Hart St. WWPS.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI030201	Test number: SI040701	Test number: SI050601
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	03/01/01 -03/02/01	04/06/01 - 04/07/01	05/05/01 - 05/06/01
Date test started	3/2/01	4/7/01	5/6/01
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI030201	Test number: SI040701	Test number: SI050601
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	0.55 %	0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	3/2/01	4/7/01	5/6/01
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 03/02/01, 04/07/01, and on 05/06/01.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI060601	Test number: SI070701	Test number: SI080401
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	06/05/01 - 06/06/01	07/06/01 -07/07/01	08/03/01 - 08/04/01
Date test started	6/6/01	7/7/01	8/4/01
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each) not applicable			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI060601	Test number: SI070701	Test number: SI080401
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	<0.28 %	0.55 %	0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	6/6/01	7/7/01	8/4/01
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 06/06/01, 07/07/01, and on 08/04/01.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI090801	Test number: SI100401	Test number: SI101201
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	09/07/01 - 09/08/01	10/03/01 - 10/04/01	10/11/01 - 10/12/01
Date test started	9/8/01	10/4/01	10/12/01
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI090801	Test number: SI100401	Test number: SI101201
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	QC criteria not met. %	<0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	9/8/01	10/4/01	10/12/01
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 09/08/01 and on 10/12/01.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI110301	Test number: SI121101	Test number: SI010602
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	11/02/01 - 11/03/01	12/10/01 - 12/11/01	01/05/02 - 01/06/02
Date test started	11/3/01	12/11/01	1/6/02
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI110301	Test number: SI121101	Test number: SI010602
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	1.10 %	QC criteria not met. %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	11/3/01	12/11/01	1/6/02
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value was exceeded on 11/03/01.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI012202	Test number: SI020202	Test number: SI021102
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	01/21/02 - 01/22/02	02/01/02 - 02/02/02	02/10/02 - 02/11/02
Date test started	1/22/02	2/2/02	2/11/02
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI012202	Test number: SI020202	Test number: SI021102
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	1.10 %	QC criteria not met. %	QC criteria not met. %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/22/02	2/2/02	2/11/02
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe:

Investigations were conducted to compare levels of toxicity in samples from Hart St. WWPS and in samples from Ala Moana WWPS. Results confirmed the higher level of toxicity in Hart St. WWPS samples. However, toxicity in Sand Island wastewater samples was significantly higher than that determined in samples from these two WWPS.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI021602	Test number: SI030202	Test number: SI040702
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	02/15/02 - 02/16/02	03/01/02 - 03/02/02	04/06/02 -04/07/02
Date test started	2/16/02	3/2/02	4/7/02
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI021602	Test number: SI030202	Test number: SI040702
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.28 %	0.55 %	0.55 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	2/16/02	3/2/02	4/7/02
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value exceeded on 2/16/02, 3/2/02, and on 4/7/02.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI050302	Test number: SI060502	Test number: SI070802
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	05/02/02 - 05/03/02	06/04/02 - 06/05/02	07/07/02 - 07/08/02
Date test started	5/3/02	6/5/02	7/8/02
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)	not applicable		
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI050302	Test number: SI060502	Test number: SI070802
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	<0.28 %	0.28 %	<0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	5/3/02	6/5/02	7/8/02
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value exceeded on 5/3/02, 6/5/02, and on 7/8/02.

Investigations were undertaken to identify within-plant sources of toxicity. Effluent samples that have been treated with cationic polymers showed increased toxicity levels compared to the influent.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI080602	Test number: SI090602	Test number: SI100202
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	08/05/02 - 08/06/02	09/05/02 - 09/06/02	10/01/02 - 10/02/02
Date test started	8/6/02	9/6/02	10/2/02
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI080602	Test number: SI090602	Test number: SI100202
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	<0.28 %	0.28 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	8/6/02	9/6/02	10/2/02
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value exceeded on 8/6/02, 9/6/02, and on 10/2/02.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI110402	Test number: SI120302	Test number: SI010603
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	11/03/02 - 11/04/02	12/02/02 - 12/03/02	01/05/03 - 01/06/03
Date test started	11/4/02	12/3/02	1/6/03
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each) not applicable			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI110402	Test number: SI120302	Test number: SI010603
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	0.28 %	0.55 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	11/4/02	12/3/02	1/6/03
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value exceeded on 11/4/02, 12/3/02, and on 1/6/03.

Higher toxicity to sea urchin gametes was determined in effluent that has been treated with polymer in the clarifier.

Toxicity screening of wastewater grab samples from various points in the Hart St. WWPS collection area was performed using luminescent bacteria as toxicity indicator. All samples showed similar toxicity levels which are expected to be detectable using the sea urchin bioassay.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI020303	Test number: SI030303	Test number: SI040703
a. Test information.			
Test species & test method number	*T. gratilla* (draft method)	*T. gratilla* (draft method)	*T. gratilla* (draft method)
Age at initiation of test	Not applicable	Not applicable	Not applicable
Outfall number	01	01	01
Dates sample collected	02/02/03 - 02/03/03	03/02/03 - 03/03/03	04/06/03 - 04/07/03
Date test started	2/3/03	3/3/03	4/7/03
Duration	1 hour 20 minutes	1 hour 20 minutes	1 hour 20 minutes
b. Give toxicity test methods followed.			
Manual title	Not applicable	Not applicable	Not applicable
Edition number and year of publication	Not applicable	Not applicable	Not applicable
Page number(s)	Not applicable	Not applicable	Not applicable
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)		not applicable	
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static	✔	✔	✔
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Natural seawater	Natural seawater	Natural seawater
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water	✔	✔	✔
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI020303	Test number: SI030303	Test number: SI040703
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	0.55 %	0.55 %	0.55 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	%	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	2/3/03	3/3/03	4/7/03
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

✔ Yes __ No If yes, describe: Compliance value exceeded on 2/3/03, 3/3/03, 4/7/03.

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SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

64 chronic _____ acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI010798	Test number: SI021198	Test number: SI031098
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	01/06/98 ~ 01/07/98	02/10/98 ~ 02/11/98	03/09/98 ~ 03/10/98
Date test started	1/7/98	2/11/98	3/10/98
Duration	6 days	7 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			

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	Test number: SI010798	Test number: SI021198	Test number: SI031098
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.40	0.00 0.40	0.00 0.40
	0.70 1.30	0.70 1.30	0.70 1.30
	2.60 5.20	2.60 5.20	2.60 5.20
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC50			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

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Chronic:			
NOEC REPRODUCTION	5.20 %	5.20 %	5.20 %
IC25	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	5.20 %	5.20 %	5.20 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/30/98	2/27/98	3/28/98
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

___Yes ✔ No If yes, describe: _____

_____

_____

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

_____

_____

_____

END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI040998	Test number: SI050898	Test number: SI061398
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	04/08/98 ~ 04/09/98	05/07/98 ~ 05/08/98	06/12/98 ~ 06/13/98
Date test started	4/9/98	5/8/98	6/13/98
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.40	0.00 0.40	0.00 0.40
	0.70 1.30	0.70 1.30	0.70 1.30
	2.60 5.20	2.60 5.20	2.60 5.20

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	Test number: SI040998	Test number: SI050898	Test number: SI061398
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	5.20 %	5.20 %	5.20 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	5.20 %	5.20 %	5.20 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	4/29/98	5/15/98	6/27/98
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI070998	Test number: SI081098	Test number: SI090998
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	07/08/98 ~ 07/09/98	08/09/98 ~ 08/10/98	09/08/98 ~ 09/09/98
Date test started	7/9/98	8/10/98	9/9/98
Duration	6 days	8 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.40	0.00 0.40	0.00 0.40
	0.70 1.30	0.70 1.30	0.70 1.30
	2.60 5.20	2.60 5.20	2.60 5.20

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	Test number: SI070998	Test number: SI081098	Test number: SI090998
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	5.20 %	5.20 %	5.20 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	5.20 %	5.20 %	5.20 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	7/31/98	8/29/98	9/30/98
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI100998	Test number: SI112598	Test number: SI120898
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	10/08/98 ~ 10/09/98	11/24/98 ~ 11/25/98	12/07/98 ~ 12/08/98
Date test started	10/9/98	11/25/98	12/8/98
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.40	0.00 0.28	0.00 0.28
	0.70 1.30	0.55 1.10	0.55 1.10
	2.60 5.20	2.20 4.40	2.20 4.40

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	Test number: SI100998	Test number: SI112598	Test number: SI120898
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	5.20 %	4.40 %	1.10 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	5.20 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	10/29/98		12/8/98
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI011299	Test number: SI020899	Test number: SI031099
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	01/11/99 ~ 01/12/99	02/07/99 ~ 02/08/99	03/09/99 ~ 03/10/99
Date test started	1/12/99	2/8/99	3/10/99
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI011299	Test number: SI020899	Test number: SI031099
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/12/99	2/8/99	3/10/99
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI041299	Test number: SI051099	Test number: SI061499
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	04/11/99 ~ 04/12/99	05/09/99 ~ 05/10/99	06/13/99 ~ 06/14/99
Date test started	4/12/99	5/10/99	6/14/99
Duration	7 days	7 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI041299	Test number: SI051099	Test number: SI061499
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	4/12/99	5/10/99	6/14/99
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI071499	Test number: SI080999	Test number: SI090799
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	07/13/99 ~ 07/14/99	08/08/99 ~ 08/09/99	09/06/99 ~ 09/07/99
Date test started	7/14/99	8/9/99	9/7/99
Duration	6 days	7 days	7 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI071499	Test number: SI080999	Test number: SI090799
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	7/14/99	8/9/99	9/7/99
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI100199	Test number: SI112399	Test number: SI120899
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	09/30/99 ~ 10/01/99	11/22/99 ~ 11/23/99	12/07/99 ~ 12/08/99
Date test started	10/1/99	11/23/99	12/8/99
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI100199	Test number: SI112399	Test number: SI120899
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	10/1/99	11/23/99	12/8/99
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI012900	Test number: SI020900	Test number: SI030700
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	01/28/00 ~ 01/29/00	02/08/00 ~ 02/09/00	03/06/00 ~ 03/07/00
Date test started	1/29/00	2/9/00	3/7/00
Duration	7 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI012900	Test number: SI020900	Test number: SI030700
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/29/00	2/9/00	3/7/00
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI041700	Test number: SI050800	Test number: SI061800
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	04/16/00 ~ 04/17/00	05/07/00 ~ 05/08/00	06/17/00 ~ 06/18/00
Date test started	4/17/00	5/8/00	6/18/00
Duration	6 days	8 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
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c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI041700	Test number: SI050800	Test number: SI061800
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	4/17/00	5/8/00	6/18/00
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI071000	Test number: SI080900	Test number: SI091500
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	07/09/00 ~ 07/10/00	08/08/00 ~ 08/09/00	09/14/00 ~ 09/15/00
Date test started	7/10/00	8/9/00	9/15/00
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI071000	Test number: SI080900	Test number: SI091500
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	7/10/00	8/9/00	9/15/00
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI100900	Test number: SI111600	Test number: SI120700
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	10/08/00 ~ 10/09/00	11/15/00 ~ 11/16/00	12/06/00 ~ 12/07/00
Date test started	10/9/00	11/16/00	12/7/00
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI100900	Test number: SI111600	Test number: SI120700
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	10/9/00	11/16/00	12/7/00
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI011001	Test number: SI020201	Test number: SI030901
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	01/09/01 ~ 01/10/01	02/01/01 ~ 02/02/01	03/08/01 ~ 03/09/01
Date test started	1/10/01	2/2/01	3/9/01
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI011001	Test number: SI020201	Test number: SI030901
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/10/01	2/2/01	3/9/01
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI041701	Test number: SI051001	Test number: SI060301
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	04/16/01 ~ 04/17/01	05/09/01 ~ 05/10/01	06/02/01 ~ 06/03/01
Date test started	4/17/01	5/10/01	6/3/01
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
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c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

FACILITY NAME AND PERMIT NUMBER:	Sand Island WWTP HI0020117		Form Approved 1/14/99 OMB Number 2040-0085
	Test number: SI041701	Test number: SI051001	Test number: SI060301
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	4/17/01	5/10/01	6/3/01
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI071501	Test number: SI080901	Test number: SI090901
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	07/14/01 ~ 07/15/01	08/08/01 ~ 08/09/01	09/08/01 ~ 09/09/01
Date test started	7/15/01	8/9/01	9/9/01
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40.

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	Test number: SI071501	Test number: SI080901	Test number: SI090901
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	7/15/01	8/9/01	9/9/01
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI100601	Test number: SI111401	Test number: SI120101
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	10/05/01 ~ 10/06/01	11/13/01 ~ 11/14/01	11/30/01 ~ 12/01/01
Date test started	10/6/01	11/14/01	12/1/01
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI100601	Test number: SI111401	Test number: SI120101
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	10/6/01	11/14/01	12/1/01
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI011002	Test number: SI021002	Test number: SI031102
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	01/09/02 ~ 01/10/02	02/09/02 ~ 02/10/02	03/10/02 ~ 03/11/02
Date test started	1/10/02	2/10/02	3/11/02
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI011002	Test number: SI021002	Test number: SI031102
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/10/02	2/10/02	3/11/02
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI040702	Test number: SI051002	Test number: SI061402
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	04/06/02 ~ 04/07/02	05/09/02 ~ 05/10/02	06/13/02 ~ 06/14/02
Date test started	4/7/02	5/10/02	6/14/02
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI040702	Test number: SI051002	Test number: SI061402
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	4/7/02	5/10/02	6/14/02
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI071502	Test number: SI081702	Test number: SI091602
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	07/14/02 ~ 07/15/02	08/16/02 ~ 08/17/02	09/15/02 ~ 09/16/02
Date test started	7/15/02	8/17/02	9/16/02
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI071502	Test number: SI081702	Test number: SI091602
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	7/15/02	8/17/02	9/16/02
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI102002	Test number: SI111602	Test number: SI120902
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	10/19/02 ~ 10/20/02	11/15/02 ~ 11/16/02	12/08/02 ~ 12/09/02
Date test started	10/20/02	11/16/02	12/9/02
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI102002	Test number: SI111602	Test number: SI120902
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	10/20/02	11/16/02	12/9/02
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI012403	Test number: SI020103	Test number: SI030403
a. Test information.			
Test species & test method number	C. dubia 1002.0	C. dubia 1002.0	C. dubia 1002.0
Age at initiation of test	< 24 hours	< 24 hours	< 24 hours
Outfall number	01	01	01
Dates sample collected	01/23/03 ~ 01/24/03	01/31/03 ~ 02/01/03	03/03/03 ~ 03/04/03
Date test started	1/24/03	2/1/03	3/4/03
Duration	6 days	6 days	6 days
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms
Edition number and year of publication	Third Edition, July 1994	Third Edition, July 1994	Third Edition, July 1994
Page number(s)	144 - 189	144 - 189	144 - 189
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite	Automatic Flow Composite	Automatic Flow Composite
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions	Downstream from all plant additions	Downstream from all plant additions
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔	✔	✔
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔	✔	✔
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water	Synthetic Moderate Hard Water
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔	✔	✔
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28	0.00 0.28	0.00 0.28
	0.55 1.10	0.55 1.10	0.55 1.10
	2.20 4.40	2.20 4.40	2.20 4.40

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	Test number: SI012403	Test number: SI020103	Test number: SI030403
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes	Yes	Yes
Salinity	Yes	Yes	Yes
Temperature	Yes	Yes	Yes
Ammonia	Not measured	Not measured	Not measured
Dissolved oxygen	Yes	Yes	Yes
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	4.40 %	4.40 %
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	4.40 %	4.40 %
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes	Yes	Yes
Was reference toxicant test within acceptable bounds?	Yes	Yes	Yes
What date was reference toxicant test run (MM/DD/YYYY)?	1/24/03	2/1/03	3/4/03
Other (describe)			

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number: SI040203	Test number:	Test number:
a. Test information.			
Test species & test method number	C. dubia 1002.0		
Age at initiation of test	< 24 hours		
Outfall number	01		
Dates sample collected	04/01/03 ~ 04/02/03		
Date test started	4/2/03		
Duration	6 days		
b. Give toxicity test methods followed.			
Manual title	Short-Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms		
Edition number and year of publication	Third Edition, July 1994		
Page number(s)	144 - 189		
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite	Automatic Flow Composite		
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	Downstream from all plant additions		
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	✔		
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal	✔		
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	Synthetic Moderate Hard Water		
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water	✔		
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
	0.00 0.28		
	0.55 1.10		
	2.20 4.40		

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	Test number: SI040203	Test number:	Test number:
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	Yes		
Salinity	Yes		
Temperature	Yes		
Ammonia	Not measured		
Dissolved oxygen	Yes		
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			
Chronic:			
NOEC REPRODUCTION	4.40 %	%	%
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe) NOEC SURVIVAL	4.40 %	%	%
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?	Yes		
Was reference toxicant test within acceptable bounds?	Yes		
What date was reference toxicant test run (MM/DD/YYYY)?	4/2/03		
Other (describe)			

FACILITY NAME AND PERMIT NUMBER:
Sand Island Wastewater Treatment Plant / Permit No. HI 0020117

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

✔ Yes ____ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 22

b. Number of CIUs. 1

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU. *** SEE ATTACHED TABLE ***

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: _____

Mailing Address: _____

_____

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

_____

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): _____

Raw material(s): _____

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (_____continuous or _____intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (_____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ____Yes ____No

b. Categorical pretreatment standards ____Yes ____No

If subject to categorical pretreatment standards, which category and subcategory?

_____

F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

____Yes ✔No If yes, describe each episode.

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe?
____Yes ✔No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

_____Truck _____Rail _____Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

____Yes (complete F.13 through F.15.) ✔No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

F.14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

____Yes ____No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

____Continuous ____Intermittent If intermittent, describe discharge schedule.

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

SIGNIFICANT INDUSTRIAL USER INFORMATION

F.3 NAME		F.4 INDUSTRIAL PROCESS	F.5 PRINCIPAL PRODUCT(s) & RAW MATERIAL(s)		F.6 FLOW RATE (gpd)				F.7 PRETREATMENT STANDARDS			
SIU	Mailing Address		Principal Product(s)	Raw Material(s)	(a) Process Wastewater Flow	Continuous/ Intermittent	(b) Non- Process Wastewater Flow	Continuous/ Intermittent	(a) Local Limits	(b) Categorical Pretreatment Standards	If Subject to Categorical Pretreatment Standards: Category	If Subject to Categorical Pretreatment Standards: Subcategory
A&P Laundry	179-C Sand Island Access Road Honolulu, Hawaii 96819	Power Laundry	Laundry services and dry cleaning	Detergent, bleach, Sour, 365 Solvent	10,900	Continuous	*ND	Continuous	yes	no		
Aloha Tofu Factory	961 Akepo Lane Honolulu, Hawaii 96817	Manufacturer Soybean byproducts	Soybean by-products	Soybean, caustic soda, vegetable oil, laundry detergent, janitorial supplies	45,000	Continuous	*ND	Continuous	yes	no		
American Linen (Lagoon Drive) (temporarily closed for business)	515 Lagoon Drive Honolulu, Hawaii 96819	Power Laundry	Laundry services		0		*ND		yes	no		
American Linen (Waiwai Lp)	2771 Waiwai Loop Honolulu, Hawaii 96819	Power Laundry	Laundry services	Detergent, softener, starch, Mildewcide, Sour, caustic soda	174,000	Continuous	*ND	Continuous	yes	no		
Chelsea Catering	129 Iako Place Honolulu, Hawaii 96819	Airline Caterer/Food Service	Prepared foods and drinks	Food, grease cutter, Confidence C, cooking oil, diesel oil, Super Trump, dry rinse chemical, Step BacBlu, Oasis, glass cleaner	18,400	Continuous	*ND	Continuous	yes	no		
Coca-Cola Bottling Company	949 Mapunapuna Honolulu, Hawaii 96817	Manufacturer of canned and/or bottled beverages	Packaged soft drinks, juices and water	Sugar, caustic soda, juice, soda concentrates, sanitizers, purification and sanitizing chemicals	119,100	Continuous	*ND	Continuous	yes	no		
Del Monte Fresh Produce Hawaii	1308 Hart Street Honolulu, Hawaii 96817	Manufacturer of frozen fruits, fruit juices	Fresh cut pineapple, pineapple products	Pineapple, pineapple by-products, sanitizing agents, chemicals, neutralizing agents	28,600	Continuous	*ND	Continuous	yes	no		
Dust-Tex Honolulu, Inc	210-C Puuhale Road Honolulu, Hawaii 96817	Power Laundry	Laundry services	Detergent, bleach, sour, starch, and alkaline	50,000	Continuous	*ND	Continuous	yes	no		
Foremost Dairies – Hawaii	2277 Kamehameha Highway Honolulu, Hawaii 96819	Process, package fluid milk, cultured products, juices, nectars	Fluid milk, milk by-products, juices	Milk, milk byproducts, cleaning solutions.	35,000	Continuous	*ND	Continuous	yes	no; regulated by CFR 405		
Gategourmet, Inc	324 Rodgers Boulevard Honolulu, Hawaii 96819	Airline Caterer/Food Service	Prepared foods and drinks	Food, drinks, cleaning agents and sanitizers	23,400	Continuous	*ND	Continuous	yes	no		
Hagadone Printing Company	274 Puuhale Road Honolulu, Hawaii 96817	Commercial Printing, Lithographs	Commercial publications	Paper, ink, solvent, developer, fixer, finisher, color wash, fountain solution	690	Continuous	*ND	Continuous	yes	no		
Hakuyosha Hawaii, Inc	274 Puuhale Road Honolulu, Hawaii 96817	Power Laundry	Laundry services and dry cleaning	Perchloroethylene, Sour, powdered detergent, silicone fluid, dry cleaning detergent, petroleum solvent	8,200	Continuous	*ND	Continuous	yes	no		
Hawaii Hochi, Ltd	917 Kokea Street Honolulu, Hawaii 96817	Newspaper Publisher/Printer	Newspaper, commercial publications	Paper, ink, solvent, developer, fixer, finisher, color wash, alcohol, plate cleaner, turbine oil, fountain solution	1,700	Continuous	*ND	Continuous	yes	no		
Hawaii Plating	2333 Alahao Place, A-2 Honolulu, Hawaii 96819	Electroplater	Refinished metal	Plating baths with acids and caustic ??, buffing compounds, potassium cyanide, silver cyanide, brighteners	200	Intermittent	*ND	Continuous	yes	yes	Part 433 Metal Finishing Point Source	Subpart A Metal Finishing
Hawaiian Sun Products, Inc	1614 Republican Street Honolulu, Hawaii 96817	Canned Fruit Drinks & Preserves, Confectionery	Fruit drinks, chocolate candy, fruit preserves	Sugar, chocolate, nuts, fruits, bleach, caustics	11,300	Continuous	*ND	Continuous	yes	no		
International In-Flight Catering Company	310 Rodgers Boulevard Honolulu, Hawaii 96819	Airline Caterer/Food Service	Prepared foods and drinks	Food, drink, cooking oil, shoyu, Quik Sol, Diversol, Forty Seven-Plus, CX, Unipak, Unirinse	24,800	Continuous	*ND	Continuous	yes	no		
Itoen (USA), Inc	125 Puuhale Road Honolulu, Hawaii 96817	Canned Fruit & Tea Drinks, Noodle Manufacturer	Fruit drinks, noodle products	Sugar, acid, alkaline & water-based cleaners, solvents, inks, isopropanol, acrylic polymers, Confidence 41C, surfactants	20,500	Continuous	*ND	Continuous	yes	no		
Dalichiya – Love's Bakery, Inc	911 Middle Street Honolulu, Hawaii 96817	Manufacturer of Bread & other bakery products	Bread and bakery products	Flour, sugar, yeast, cooking oil, lubrication materials, boiler treatment chemicals, sanitations chemicals	14,900	Continuous	*ND	Continuous	yes	no		
LSG Lufthansa Service / Sky Chefs	110 Pohakulana Place Honolulu, Hawaii 96819	Airline Caterer/Food Service	Prepared foods and drinks	Food, drinks, cleaning agents and sanitizers	27,100	Continuous	*ND	Continuous	yes	no		
Meadow Gold Dairies – Ice Cream Plant	1401 S. Beretania Street Honolulu, Hawaii 96814	Manufactures Ice Cream & Other frozen desserts	Ice creams, frozen desserts	Dairy products, sugar, diesel oil, water treatment chemicals, sanitizing chemicals, cleaning chemicals	3,000	Continuous	10,300	Continuous	yes	no; regulated by CFR 405		
Meadow Gold Dairies – Milk Plant	910 Sheridan Street Honolulu, Hawaii 96814	Process, package fluid milk, cultured products, juices, nectars	Fluid milk, milk byproducts, juices	Milk, milk byproducts, cleaning solutions	63,700	Continuous	*ND	Continuous	yes	no; regulated by CFR 405		
Qualex, Inc	760 Halekauwila Street Honolulu, Hawaii 96813	Photofinishing Laboratory	Developed films and photographic prints	Developer, bleach, Simple Green, photographic paper, caustic soda, sulfuric acid, choroethene NU, alcohol	10,200	Intermittent	*ND	Continuous	yes	no		
UniTech Services, Inc	3050 Ualena Street, Unit #C Honolulu, Hawaii 96819	Power Laundry	Launderable equipment and uniforms from military and Unitech Services	Detergent	2,500	Intermittent	*ND	Continuous	yes	no; monitored by NRC; wastewater sample analyzed prior to discharge to City sewer		
United Laundry Services, Inc	2291 Alahao Place Honolulu, Hawaii 96819	Power Laundry	Laundry services	Detergent, Sour, Builder 300, Kindel,Tex Special, Tex Stat, bleach, H_2O_2	126,000	Continuous	*ND	Continuous	yes	No		

* Not Determined, no submetering available

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant / Permit No. HI 0020117

Form Approved 1/14/99
OMB Number 2040-0086

FORM **2S** NPDES

NPDES FORM 2S APPLICATION OVERVIEW

PRELIMINARY INFORMATION

This page is designed to indicate whether the applicant is to complete Part 1 or Part 2. Review each category, and then complete Part 1 or Part 2, as indicated. For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

FACILITIES INCLUDED IN ANY OF THE FOLLOWING CATEGORIES MUST COMPLETE PART 2 (PERMIT APPLICATION INFORMATION).

1. Facilities with a currently effective NPDES permit.

2. Facilities which have been directed by the permitting authority to submit a full permit application at this time.

ALL OTHER FACILITIES MUST COMPLETE PART 1 (LIMITED BACKGROUND INFORMATION).

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant / Permit No. HI 0020117

Form Approved 1/14/99
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PART 1: LIMITED BACKGROUND INFORMATION

This part should be completed only by "sludge-only" facilities - that is, facilities that do not currently have, and are not applying for, an NPDES permit for a direct discharge to a surface body of water.

For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

1. Facility Information.

a. Facility name: Sand Island Wastewater Treatment Plant

b. Mailing Address: 1350 Sand Island Parkway
Honolulu, Hawaii 96819

c. Contact person: Allen Perry

Title: Superintendent

Telephone number: (808) 847-8329

d. Facility Address (not P.O. B ox): 1350 Sand Island Parkway
Honolulu, Hawaii 96819

e. Indicate the type of facility

✔ Publicly owned treatment works (POTW) ____ Privately owned treatment works

____ Federally owned treatment works ____ Blending or treatment operation

____ Surface disposal site ____ Sewage sludge incinerator

____ Other (describe) ____

2. Applicant Information.

a. Applicant name: City & County of Honolulu, Department of Environmental Services

b. Mailing Address: 1000 Uluohia Street, Suite 308
Kapolei, Hawaii 96707

c. Contact person: Ross Tanimoto

Title: Branch Head

Telephone number: (808) 692-5371

d. Is the applicant the owner or operator (or both) of this facility?

✔ owner ____ operator

e. Should correspondence regarding this permit be directed to the facility or the applicant?

____ facility ✔ applicant

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant / Permit No. HI 0020117

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3. Sewage Sludge Amount. Provide the total dry metric tons per latest 365 day period of sewage sludge handled under the following practices:

a. Amount generated at the facility ___21,796___ dry metric tons

b. Amount received from off site _____ dry metric tons

c. Amount treated or blended on site _____ dry metric tons

d. Amount sold or given away in a bag or other container for application to the land _____ dry metric tons

e. Amount of bulk sewage sludge shipped off site for treatment or blending _____ dry metric tons

f. Amount applied to the land in bulk form _____ dry metric tons

g. Amount placed on a surface disposal site _____ dry metric tons

h. Amount fired in a sewage sludge incinerator _____ dry metric tons

i. Amount sent to a municipal solid waste landfill ___21,796___ dry metric tons

j. Amount used or disposed by another practice _____ dry metric tons

Describe _____

4. Pollutant Concentrations. Using the table below or a separate attachment, provide existing sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR part 503 for this facility's expected use or disposal practices. If available, base data on three or more samples taken at least one month apart and no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC			
CADMIUM			
CHROMIUM			
COPPER	not available at this		time–
LEAD			
MERCURY		will submit under	
MOLYBDENUM		separate cover	
NICKEL			
SELENIUM			
ZINC			

5. Treatment Provided At Your Facility.

a. Which class of pathogen reduction does the sewage sludge meet at your facility?

_____ Class A _____ Class B ___✔___ Neither or unknown

b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:

See Appendices A and B of reapplication

c. Which vector attraction reduction option is met for the sewage sludge at your facility?

_____ Option 1 (Minimum 38 percent reduction in volatile solids)
_____ Option 2 (Anaerobic process, with bench-scale demonstration)
_____ Option 3 (Aerobic process, with bench-scale demonstration)
_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
_____ Option 5 (Aerobic processes plus raised temperature)
_____ Option 6 (Raise pH to 12 and retain at 11.5)
_____ Option 7 (75 percent solids with no unstabilized solids)
__✔__ Option 8 (90 percent solids with unstabilized solids)
_____ Option 9 (Injection below land surface)
_____ Option 10 (Incorporation into soil within 6 hours)
_____ Option 11 (Covering active sewage sludge unit daily)
_____ None or unknown

d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

_____

_____

6. **Sewage Sludge Sent to Other Facilities.** Does the sewage sludge from your facility meet the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements, and one of the vector attraction options 1-8?
__✔__ Yes _____ No

If yes, go to question 8 (Certification).

If no, is sewage sludge from your facility provided to another facility for treatment, distribution, use, or disposal?
_____ Yes _____ No

If no, go to question 7 (Use and Disposal Sites).

If yes, provide the following information for the facility receiving the sewage sludge:

a. Facility name _____

b. Mailing address _____

_____

c. Contact person _____

Title _____

Telephone number _____

d. Which activities does the receiving facility provide? (Check all that apply)

_____ Treatment or blending
_____ Land application
_____ Incineration
_____ Sale or give-away in bag or other container
_____ Surface disposal
_____ Other (describe):

_____

_____

FACILITY NAME AND PERMIT NUMBER:

Sand Island Wastewater Treatment Plant / Permit No. HI 0020117

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7. **Use and Disposal Sites.** Provide the following information for each site on which sewage sludge from this facility is used or disposed:

   a. Site name or number _____

   b. Contact person _____

   Title _____

   Telephone _____

   c. Site location (Complete 1 or 2)

   1. Street or Route # _____

   County _____

   City or Town _____ State _____ Zip _____

   2. Latitude _____ Longitude_____

   d. Site type (Check all that apply)

   ____ Agricultural ____ Lawn or home garden ____ Forest
   ____ Surface disposal ____ Public Contact ____ Incineration
   ____ Reclamation ____ Municipal Solid Waste Landfill ____ Other (describe): _____

8. **Certification.** Sign the certification statement below. (Refer to instructions to determine who is an officer for purposes of this certification.)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Frank J. Doyle, Acting Director, Department of Environmental Services

Signature Frank J. Doyle

Telephone number (808) 692-5159

Date signed 5/5/03

SEND COMPLETED FORMS TO:

SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

As shown on the following table of the eight NPDES Permit required construction projects: construction completion for two (2) projects has been achieved (Hart Street Force Main Replacement and Sand Island Interim Chemical Facility); construction is on-going for four (4) projects (Sand Island Disinfection, Sand Island Unit 1 Phase 2A, Hart Street Pump Station and Sand Island Parkway Pump Station); construction for one project is anticipated to commence in October 2003 (Ala Moana Pump Station) and; construction for one project is scheduled to commence in December 2004 (Sand Island Expansion).

PROJECT	CONSTRUCTION COST (x 1,000,000)	ESTIMATED CONSTRUCTION COST (x 1,000,000)	CONSTRUCTION STATUS
Hart Street Force Main	$23.3		Completed
Sand Island Interim Chemical Facility	$1.5		Completed
Sand Island Disinfection	$77.5		On-going. 74% complete
Sand Island Unit 1 2A	$88.7		On-going. 38% complete
Hart Street Pump Station	$23.4		On-going. 35% complete
Sand Island Parkway Pump Station	$1.0		On-going. 0% complete
Ala Moana Pump Station		$23.0	Est Start 10/03
Sand Island Expansion		$110.0	Est Start 12/04
TOTALS	$215.4	$133.0	
GRAND TOTAL	$348.4		

With the immense $348.4 million total investment in construction, the City is very sensitive to delays. All necessary steps are being taken to expedite the work and to minimize delays. However, as discussed during the joint EPA/DOH/City meeting of February 11, 2003, situations and circumstances have unavoidably extended four (4) project schedules.

The following is a summary of the status for each of the eight projects. The attached Project Schedules dated April 30, 2003 shows the time lines and interdependencies for each project.

Ala Moana Wastewater Pump Station Modification:

This is a permit-required project. The permit required scope of this project is to accommodate higher collection system flows and higher head of the new Sand Island WWTP headworks.

The existing pump station is to be upgraded/improved to increase reliability, accommodate the higher collection flows, and accommodate the higher head of the downstream facility. The modifications shall include replacing/rehabilitating existing pumps, generator facility, electrical works, and associated appurtenances.

As discussed during the February 11, 2003 meeting, necessary land for the construction and associated staging, storage and dewatering is anticipated to become available in October 2003. The availability of the necessary land is dependent upon the completion of an on going HCDA project and the final outcome of discussions/negotiations with HCDA. We expect that construction rights-of-entry for work site, storage, staging and dewatering areas will be granted before the anticipated land availability date of October 2003.

The completion of this project construction does not affect the schedules of the other NPDES Permit required projects.

Hart Street Wastewater Pump Station (New/Alternative):

This is a permit-required project. The permit required scope of this project is to accommodate higher collection system flows and higher head of the new Sand Island WWTP headworks. The existing pump station is to be upgraded/improved to increase reliability, accommodate the higher collection flows, and accommodate the higher head of the downstream facility. The modifications shall include replacing/rehabilitating existing pumps, generator facility, electrical works, and associated appurtenances.
Even though we experienced approximately three months of delay due to additional work to repair a badly deteriorated 54" influent line and a redesign of the interior piping in the Pump Station from ductile iron and heavy support structures to HDPE pipe and smaller support structures, we are still on schedule for this effort.

As noted on the Project Schedules, a dependency exists between the Hart Street Pump Station Project and the Sand Island Unit 1 Phase 2A Project. Due to the configuration of large diameter yard piping to allow for continuity of operation, it is necessary that the on going Hart Street Pump Station project, connect to and utilize the new Hart Street Force Main prior to redirection of flow into the new Headworks Facility.

Hart Street Wastewater Pump Station Force Main Replacement:

This is a permit-required project. The permit required scope of this project is to install a new force main extending from Hart Street pump station to Sand Island WWTP to replace the existing 47-year old force main.

The project was completed on May 15, 2001, which is well ahead of schedule. The completion of this project construction does not affect the schedules of the other NPDES Permit required projects.

As discussed during the February 11, 2003 meeting, the new Force Main is currently not in service. The Hart Street Pump Station project will connect to and utilize the new Force Main by September 17, 2004.

Sand Island Parkway Wastewater Pump Station Modification:

This is a permit-required project. The permit required scope of this project is to accommodate higher collection system flows and higher head of the new Sand Island WWTP headworks. The existing pump station is to be upgraded/improved to increase reliability, accommodate the higher collection flows, and accommodate the higher head of the downstream facility. The modifications shall include replacing/rehabilitating existing pumps, generator facility, electrical works, and associated appurtenances.

A construction contract has been awarded to Oceanic Companies, Inc. for approx $971,000. This project is on schedule.

As noted on the Project Schedules, a dependency exists between the Sand Island Parkway Wastewater Pump Station Project and the Sand Island Unit 1 Phase 2A (Headworks) project. Due to electrical service from the Headworks Facility, final completion of the Parkway Pump Station project is dependent upon the completion of the Headworks Facility.

Sand Island Wastewater Treatment Plant Unit 1 Phase 2A (Headworks):

This is a permit-required project. The permit required scope of this project is to construct facilities to satisfy 301(h) requirements to consistently remove ≥30% of influent BOD_5 and improve WWTP performance. Facilities shall include replacing/expanding headworks and associated facilities, as appropriate. This project is also known as "Headworks."

In addition to the new Headworks facility, the City included into the project scope the two new primary clarifiers of the Sand Island WWTP Primary Treatment Expansion project (PC's 7 & 8). The additional scope was necessary to maintain, in service, five (5) operating clarifiers throughout the construction within the Sand Island WWTP.

As discussed during the February 11, 2003 meeting, the construction is estimated to be delayed by approximately ten (10) months; two (2) months in order to revise the State Air Permit application and complete its processing and eight (8) months due to the finding and removal of PCB's.

In spite of the delays, construction is currently ongoing in all other areas.

As discussed during the February 11, 2003 meeting, the two (2) State Air Permit delay was due to unanticipated issues related to the future operational transition from the existing Headworks Facility to the new Headworks Facility. The project Air Permit application did not address special treatment of emissions during the short transition period between the commissioning of the new Headworks and the decommissioning of the existing Headworks. During the transition period, it is likely that both the new and existing Headworks facilities will be operating in parallel; the application did not address special treatment in the event of concurrent operation. Computer modeling of the concurrent operation indicated that it was necessary to modify the existing odor control system. Alternatives to reduce emissions or increase dilutions were developed and evaluated. Following acceptance of the recommended alternative to increase discharge stack heights to increase dilution, the project air permit application required modification and approval. The project was physically delayed because of State requirements that no construction work on the project can commence until the State Air Permit is approved.

As discussed during the February 11, 2002 meeting, the PCB related project delays were due to the discovery of unanticipated PCB contamination within the Sand Island WWTP site. Due to discovery of PCB "hot spots" (concentrations exceeding 50 ppm) without an apparent PCB source, all excavation and earth disturbing activities within the Plant site was ordered stopped. The order effectively shut down all the construction projects within the Sand Island WWTP. EPA, by its TSCA laws, required PCB characterization of the construction work areas and submission and approval of PCB remediation work plans, prior to recommencement of work. The recommencement included the PCB removal, testing, additional PCB removal, retesting and final clearances of the work sites. Additionally, the contractor and all subcontractors were required to hire Certified Industrial Hygenists to assess health risks to their personnel and develop and implement safety plans. Additionally, subcontractors and suppliers were required to demobilize and remobilize. As noted in the text above, it is currently anticipated that PCB will cause a ten (10) month delay.

The delays were unanticipated and were due to no fault of the Construction Contractor. By the terms and conditions of the Construction Contract the delays are excusable and compensable (the contractural delay provisions are similar to those within any Construction Contract). Accordingly, contract time extensions are necessary and compensation will be paid for damages.

See attached Project Schedules dated April 30, 2003 for project schedules and significant project relationships/dependencies.

Sand Island Wastewater Treatment Plant Primary Treatment Expansion:

This is a permit-required project. The permit required scope of this project is to construct additional primary treatment facilities, including pretreatment facilities, to expand treatment plant capacity from 82 MGD to 90 MGD (average daily design flow) and improve plant hydraulic capacity, and increase solids handling capacity.

The current project includes the following scope of work: 1) the reconfiguration of the influent channels and the addition of flow splitting flumes; 2) the construction of new clarifier effluent piping; 3) the replacement of sludge and scum pumps and piping; 4) the refurbishment of the Gravity Thickeners and Wet Sludge Storage Tanks; 5) the construction of new scum handling systems and; 6) the construction of new odor control systems.

The original scope of the project included two (2) new primary clarifiers to increase the plant's hydraulic capacity to 90 MGD and new solids handling facilities to increase the plant's solids handling capacity. However, in order to maintain, in service, five (5) operating clarifiers throughout the construction within the Sand Island WWTP, construction of the two (2) new clarifiers were moved forward into the Sand Island Unit 1 2A project (Headworks). The new clarifiers were therefore added to the new headworks project. Additionally, the plant's solids handling facilities will be addressed by the on-going In-vessel Bioconversion Facility.

Because of the sheer magnitude of the construction effort now underway, and because the bulk of the improvements will have already been completed and online, it was determined to delay completion of the Expansion project for 30 months. In the event, however, that current construction activity can be completed sooner, efforts associated with the expansion projects

will have an associated impact.

As discussed during the February 11, 2002 meeting, three circumstances caused the 30 months delay in the completion of the Expansion project. These circumstances were: 1) the completion of Primary Clarifiers 7 and 8 of the Headworks project in order to have 5 clarifiers in continuous operation to meet permit requirements; 2) the delayed Disinfection and Headworks projects and the spatial limitations within the Sand Island WWTP site and 3) the estimated construction duration for the Expansion project.

As noted on the Project Schedules dated October 30, 2002, the Expansion project start of construction was scheduled for December 6, 2004. This start of construction would follow the beneficial occupancy of Primary Clarifiers 7 and 8 (September 6, 2004) and the beneficial occupancy of the Disinfection project (August 16, 2004).

However, as suggested during the February 11, 2003 meeting, the attached Project Schedule dated April 30, 2003 has been revised to schedule the start of construction for the Expansion project following the Beneficial Occupancy of the Headworks project.

Sand Island Wastewater Treatment Plant Disinfection Facility:

This is a permit-required project. The permit required scope of this project is to investigate and determine appropriate disinfection technology, and design, construct, and operate continuously for one year, an effluent disinfection facility which achieves effective effluent disinfection.

During the preliminary engineering (Planning) phase, it became known that the scope of work of the project should be significantly increased from that originally stated in the permit. In lieu of installing UV equipment within the existing Effluent Pump Station, as originally intended, the project scope increased to include new Effluent Screens, UV Equipment channels, Effluent Pumps & Wetwell, power substation, and large diameter yard piping. The construction cost of the facility increased from $20M to $76M. Due to the dramatic and unanticipated scope increases, the City discussed these improvements with EPA, and then proposed extensions of time to the permit deadlines. It was proposed that the NPDES Permit be modified to reflect award of construction contract to May 2, 2001 and commencement of UV operation to August 2, 2003. The proposed extensions were aggressive and ambitious, but thought to be achievable, given our commitment to comply with permit conditions.

In response to the City's proposed schedule modification, EPA acknowledged the scope increases and was sympathetic to our position. However, EPA requested that the City modify its request to allow for 6 months of operating data before the permit's expiration (i.e., start of UV operation by May 2, 2003 in lieu of the proposed August 2, 2003).

The City responded to EPA's request for 6 months of UV operating data by providing the EPA with the project schedule and explanations of the critical tasks and proposed aggressive durations. After careful consideration of EPA's request, the City again requested that it be granted the original proposed extensions (Award by May 2, 2001 and Operation by August 2, 2003). Subsequently, the City has been working diligently to meet the proposed extension dates.

The City successfully met the proposed extension for award of the construction contract. The contract was awarded to Robison Construction, Inc. on May 1, 2001.Based upon contract performance periods Beneficial Use of the new Disinfection Facility was expected by July 2, 2003. It was intended to meet the proposed start of UV operation by August 2, 2003.

However, due to delays from jet grouting operations, PCB remediation, and dewatering, the project cannot meet the proposed August 2, 2003 continuous operation date. The contractor has submitted a claim, dated August 26, 2002 regarding deficiencies associated with the Jet Grouting specifications. The City has addressed the claim and has determined that the claim is largely without merit. In response to the City determination, the contractor has filed a lawsuit against the City and its consultants.

An additional extension of time request, due to circumstances beyond the City's control, will be necessary. It is estimated that Beneficial Use will be taken by the City by August 16, 2004, approximately 1-year beyond the previously requested continuous operation date of August 2, 2003. Final Completion of the project is estimated by October 10, 2004.

Despite these hurdles, construction is ongoing. Throughout the periods of delay due to the plant-wide discovery of PCB, the City has spent in excess of $1M on the expedited PCB testing, analysis, evaluation and remediation. The PCB work has been coordinated and prioritized with the Contractor to minimize delays. Throughout the periods of delay due to the jet grouting and dewatering issues, the City has consistently directed the Contractor to continue with the work, without prejudice to their position. The Project Schedules dated October 30, 2002 indicate that "Tie-in" of the new Clarifiers is dependent upon the benefical occupancy by the City of the Disinfection project. As indicated on the approved construction plans, the new Primary Clarifier effluent is to be directed to the Junction Structure of the Disinfection project. Therefore, the operation of the new Disinfection facility is necessary prior to the diversion of the Primary Effluent by the Headworks project.

Sand Island Wastewater Treatment Plant Interim Chemical Treatment Facility Improvements:

This is a permit-required project. The permit required scope of this project is to improve the ability of Sand Island WWTP to remove BOD_5 by upgrading the Chemical Treatment (polymer) Facility. This included the installation of aging tanks and new polymer injection equipment, as required.

The construction portion of the project was essentially completed on schedule,

Sand Island Wastewater Treatment Plant Chlorination Study:

This is a permit-required project. The permit required scope of this project is to monitor Mamala Bay to obtain background data for receiving water bacterial indicator levels, oceanic currents, and Sand Island WWTP plume characteristics.

The project was completed.

Repair EPS Discharge Lines:

This is not a permit-required project. Corrosion on the steel 54" diameter discharge piping in

the Effluent Pump Station at the Sand Island WWTP was severe enough that the piping would have had to have been entirely replaced in order to have obtained a leak tight repair. Pipe replacement would have been very difficult due to the extremely tight space in each pump bay, the short length of piping between the header and the pump, and the angle of the piping relative to each of the headers. The effluent water in the pump bays would also have had to been evacuated to enable removal of the existing flange bolts and the installation of the new piping.

As a new Effluent Pump Station was added to the Disinfection project, it was thought that it would be more prudent to do an interim repair on the existing piping. For this reasons, it was decided to use stainless steel sheet metal liners to make the temporary repairs. The stainless steel internal liners were fastened to exterior stainless steel sheet metal wraps near the 54" butterfly valves with self-tapping screws with sealing washers. This supports the leading edge of the internal liner against the flow impingement from the pumped effluent. Thus far the interim repair is holding up very well.

The project was completed on January 31, 2002.

Replace DAF PipingThis is not a permit-required project. This project is necessary to keep the dissolved air flotation (DAF) system fully functional on the six primary (Flotator) clarifiers at the Sand Island WWTP until the Sand Island Primary Treatment Expansion project modifies the clarifiers and improves the plant's hydraulic distribution system.

The project provides for the emergency removal of approximately 1,000 lineal feet of 16" diameter ductile iron, class 53 flanged pipe and the installation of the replacement with the same type and class of ductile iron pipe, along with the necessary valves and fittings. All of the replacement material is to be covered with an approved protective coating.

The project includes the replacement of all of the DAF lines from the discharge of the recycle pumps (does not include the replacement of the pumps) to the back of the pressure valve in clarifier tanks 1,2,5 and 6. The backpressure valve is located in the middle of each clarifier. In addition, all of the DAF lines to clarifier tanks 3 and 4 are to be replaced from the discharge of the recycle pumps to just above the upper floor, outside of tanks 3 and 4. The piping in tanks 3 and 4, to the backpressure valve were replaced during the previous project in 1998.

The project was completed on 12/20/02

Refurbish Flotator Clarifiers 1, 2, 5, & 6
This is not a permit-required project. The project includes the component replacement of the existing Envirotech Corporation (EIMCO), 150' diameter by 12' 2.5" side water depth, "Clariflotators".

The scope of work for clarifier tanks 5 and 6 was the same as for the previously refurbished clarifiers 3 and 4 (1998). The work included: replacing the rake arms, inner float baffle and float hopper, replacing the scum arm, scum hopper and pipe replacement, replacing the sludge scraper arms, repair of the superstructure (rusted areas and supports), sand blasting all exposed and rusted areas, repairing as needed, and coating with HPC 100(polyurethane coating).

Tanks 1 and 2 included repair of rusted areas, replacing only the scum scraper and support, scum piping, sand blasting all exposed and rusted areas, superstructure, and painting w/HPC 100.

The new clarifier components are fully compatible with the existing tank structures, primary sludge and scum pumps, and the dissolved air flotation equipment (recycle pump and compressor, saturation tank, transmission lines, and backpressure control valves).

The new scum and float skimmer assemblies are fully compatible with the existing float and scum collection boxes, baffle blades, arms, supports, and rake arms.

Each of the newly refurbished clarifiers is designed to handle an average incoming flow of 9,000 gpm and a peak incoming flow of 20,000 gpm. Each circular clarifier is center fed, peripherally discharged and can operate in either a conventional primary clarifier mode or dissolved air flotation (DAF) mode. In the conventional gravity mode, grit and other settleable material is transported by four rake arms to a sludge collection pocket located at the center of the clarifier. The floatable material is transported by eight float and one skimmer to the float and scum boxes, respectively. In the DAF mode, the lighter suspended and floatable material is contained within the float baffle and transported by eight float skimmers to the to the float box and float collection box. Heavier settleable material and grit are transported by four rake arms to the sludge collection pocket. Floatable material not removed within the float well is collected by the scum skimmer and transported to the scum box.

Refurbishment of Flotation Clarifier (FC) #1 is currently underway. This is the last FC of this project.

The project was completed on 12/20/02

<u>In-vessel Bioconversion Facility (Synagro):</u>
This is not a permit-required project. The City has entered into a contractual agreement with Synagro to take thicken sludge from the existing wet sludge storage tanks and produce compost for retail.

This project is on schedule.

<u>Interim Ferric Chloride Project:</u>
This is not a permit-required project. In an attempt to reduce soluble BOD loading within the plant, an interim ferric chloride feed system will be installed. For the interim (present to completion of Headworks and Expansion), the City will discontinue the ZIMPRO process, seen as a major contributor of soluble BOD. Anticipated problems associated with this proposal, however, are solids handling and increased odors. To address these concerns, we will provide chemical treatment of raw sludge for odor control and to remove BOD. Our second activity is to chemically treat (metal salts and polymer) the existing return flows to remove BOD_5. Similar efforts have been applied with positive results at another WWTP.

This project is on schedule.

Gravity/DAF TestingThis is not a permit-required project. The purpose of the SIWWTP full-scale plant test is to determine the cost-effectiveness of the various options of operating the plant while consistently meeting NPDES permit effluent discharge limitations.

This effort was in response to the 1999 EPA issued Administrative Order (AO), requiring an independent evaluation of the SIWWTP. The City contracted Carollo Engineers to conduct the independent evaluation. Their Report (May 2000) recommended a systematic shutdown of the DAF system and performing a full-scale test with chemical addition in an effort to achieve enhanced treatment efficiency. However, during Carollo Engineers' evaluation, the DAF system was badly deteriorated and has since undergone refurbishment (scheduled to be completed on November 28, 2002). Given that Carollo Engineers based their evaluation on the deteriorated DAF system and not the refurbished system, we intend to do DAF testing as well as the test recommended by the Carollo Engineers' Report. DAF and gravity modes without polymer will also be tested for comparison.

This effort cannot be initiated prior to the completion of the Refurbish Flotator Clarifiers 1, 2, 5, & 6 project.

PROJECT RELATIONSHIPS AND DEPENDENCIES:

The attached schedule shows the dependencies. These include: Hart Street SPS/ FM & the new Headworks; Headworks and Parkway Pump Station; Headworks & Expansion (insofar as conversion of the FC's) and; Headworks (specifically PC's 7 & 8) & UV.

The schedule is based upon calendar day durations, consistent with calendar day contract durations within the various projects.

Three (3) of the major on-going construction projects are under contract with the same General Contractor, Robison Construction, Inc. (RCI). The projects are the Sand Island Disinfection Facility project, Sand Island Unit 1 Phase 2A project and Hart Street Pump Station project.

During the performance of construction work for the Disinfection project, the Contractor has continuously asserted that the problems associated with dewatering, alleged differing site conditions and alleged defective specifications for the Effluent Pump Station foundation were the sole responsibility of the City. Due to these problems, the Contractor has claimed in their lawsuit against the City, $12,546,505 in additional costs and damages and 410 calendar days of delay. The City has disagreed with the Contractor's assertions and has consistently requested and directed the contractor to continue with his work; without prejudice to its position. Following exhaustion of their administrative remedies, the Contractor continued with his work on the Effluent Pump Station foundation. Fourteen (14) calendar days were required to complete the foundation work under dispute.

The performance of the Disinfection project construction work was additionally complicated and delayed by the discovery of PCB's. The Contractor has claimed in their lawsuit against

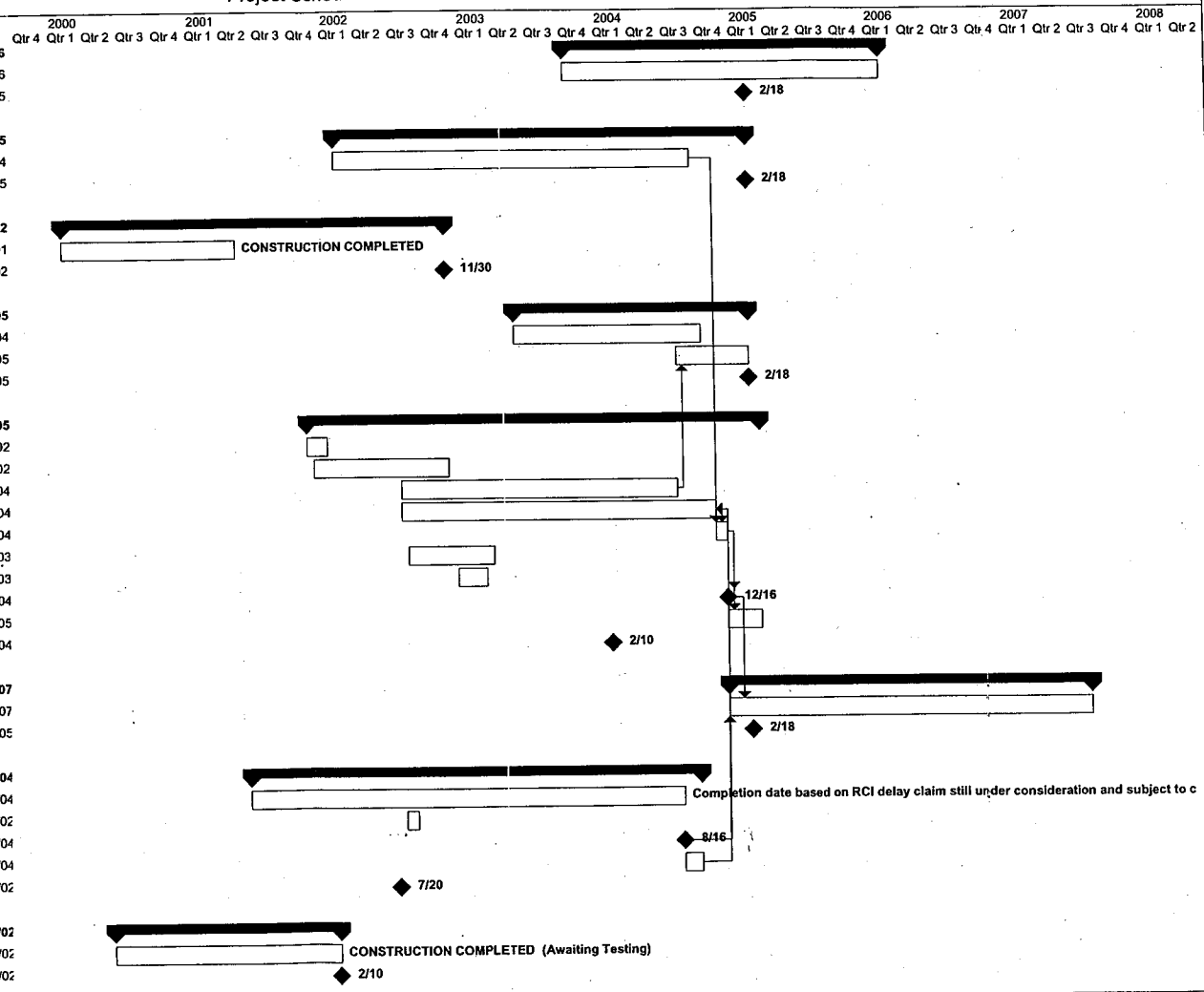
the City, $1,156,952 in additional costs and damages and 47 calendar days of delay.

In spite of the continuing claims and delaying acts of the Contractor, the City has steadfastly maintained its position that the majority of the claims were without merit and could not be accepted. Although final resolution and finding of fault is yet to be determined, it is noteworthy that once the Contractor recommenced his work, the remaining disputed work was completed within 14 calendar days.

The Contractor is currently making good progress on the Disinfection and other projects. The current level of performance is encouraging.

Sand Island Wastewater Treatment Plant Program Management
Project Schedules

ID	Task Name	Start	Finish
1	**Ala Moana Pump Station Modifications**	**Fri 10/17/03**	**Wed 2/15/06**
2	AMPS Modifications Construction	Fri 10/17/03	Wed 2/15/06
3	Finish Construction (NPDES Permit)	Fri 2/18/05	Fri 2/18/05
4			
5	**Hart Street Pump Station Project**	**Mon 2/11/02**	**Fri 2/18/05**
6	Construction	Mon 2/11/02	Fri 9/17/04
7	Finish Construction (NPDES Permit)	Fri 2/18/05	Fri 2/18/05
8			
9	**Hart Street Pump Station Force Main Replacement**	**Tue 2/8/00**	**Sat 11/30/02**
10	Construction - COMPLETED	Tue 2/8/00	Tue 5/15/01
11	Finish Construction (NPDES Permit)	Sat 11/30/02	Sat 11/30/02
12			
13	**SI Parkway Pump Station Modifications**	**Fri 5/30/03**	**Fri 2/18/05**
14	Piping & Equipment	Fri 5/30/03	Mon 10/11/04
15	Electrical & Landscaping	Fri 8/6/04	Thu 2/17/05
16	Finish Construction (NPDES Permit)	Fri 2/18/05	Fri 2/18/05
17			
18	**Headworks Project (SIWWTP Unit 1 Phase 2A)**	**Wed 11/21/01**	**Tue 3/15/05**
19	Air Quality Permit (7/23/01 to 1/10/02)	Wed 11/21/01	Thu 1/17/02
20	Headworks Structure	Tue 12/11/01	Thu 12/5/02
21	Headworks Equipment	Thu 8/1/02	Thu 8/5/04
22	PC 7 & 8, Piping & Misc Structures	Thu 8/1/02	Tue 11/16/04
23	Tie-in	Wed 11/17/04	Thu 12/16/04
24	PCB Soil Sampling & Remediation	Mon 8/19/02	Thu 4/3/03
25	PCB Overexcavation	Sun 12/29/02	Fri 3/14/03
26	Beneficial Occupancy	Thu 12/16/04	Thu 12/16/04
27	Landscaping/Miscellaneous	Fri 12/17/04	Tue 3/15/05
28	Finish Construction (NPDES Permit)	Tue 2/10/04	Tue 2/10/04
29			
30	**SI WWTP Primary Treatment Expansion**	**Fri 12/17/04**	**Wed 8/15/07**
31	Expansion Construction	Fri 12/17/04	Wed 8/15/07
32	Finish Construction (NPDES Permit)	Fri 2/18/05	Fri 2/18/05
33			
34	**UV Disinfection Project**	**Fri 6/15/01**	**Fri 10/1/04**
35	Construction Contract - ongoing	Fri 6/15/01	Mon 8/16/04
36	PCB Remediation	Wed 8/7/02	Fri 9/6/02
37	Beneficial Occupancy	Mon 8/16/04	Mon 8/16/04
38	Final Completion/Testing/Acceptance	Mon 8/16/04	Fri 10/1/04
39	Finish Construction (NPDES Permit)	Sat 7/20/02	Sat 7/20/02
40			
41	**Interim Chemical Treatment Facility (ICTF) Project**	**Mon 6/12/00**	**Sun 2/10/02**
42	ICTF Construction - COMPLETED	Mon 6/12/00	Sun 2/10/02
43	Finish Construction (NPDES Permit)	Sun 2/10/02	Sun 2/10/02



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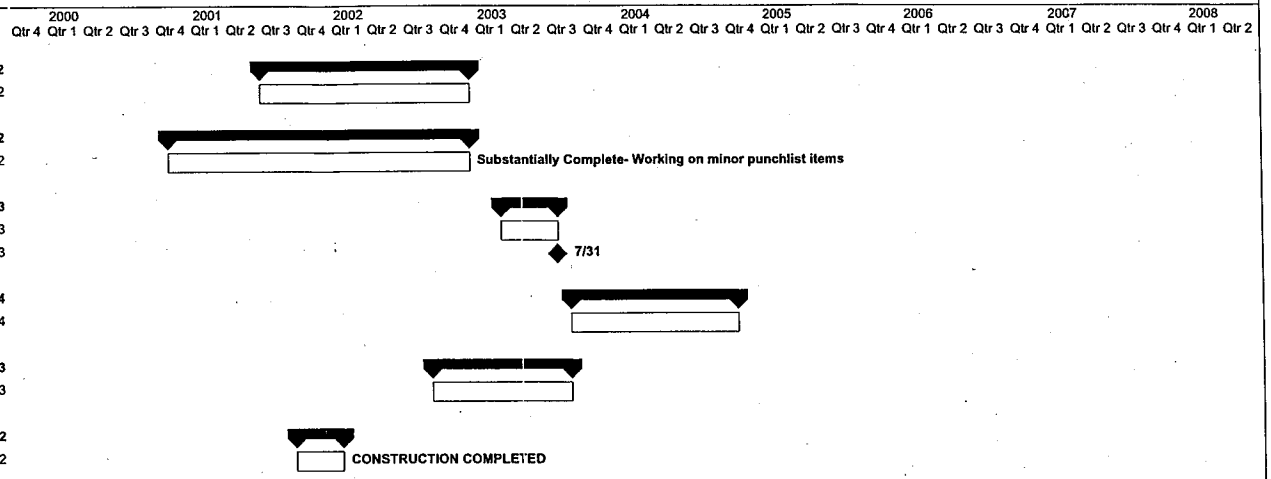
Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Sand Island Wastewater Treatment Plant Program Management
Project Schedules

ID	Task Name	Start	Finish
44			
45	**Replace DAF Piping**	**Tue 7/3/01**	**Fri 12/20/02**
46	Construction - 100% COMPLETED - Benificial Use	Tue 7/3/01	Fri 12/20/02
47			
48	**Refurbish Flotator Clarifier 1, 2, 5 & 6 Project**	**Tue 11/7/00**	**Fri 12/20/02**
49	Construction - 99% COMPLETED	Tue 11/7/00	Fri 12/20/02
50			
51	**Interim Ferric Chloride Project**	**Mon 3/10/03**	**Thu 7/31/03**
52	Estimated Construction Period	Mon 3/10/03	Thu 7/31/03
53	Start Use	Thu 7/31/03	Thu 7/31/03
54			
55	**In-vessel Bioconversion Facility**	**Wed 9/3/03**	**Wed 11/3/04**
56	Bioconversion Construction Contract	Wed 9/3/03	Wed 11/3/04
57			
58	**PCB Characterization for SI WWTP**	**Sun 9/15/02**	**Wed 9/3/03**
59	Soil sampling	Sun 9/15/02	Wed 9/3/03
60			
61	**Repair EPS Discharge Lines**	**Mon 10/1/01**	**Thu 1/31/02**
62	Construction - COMPLETED	Mon 10/1/01	Thu 1/31/02



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