

Hawaii State Department of Health
919 Ala Moana Boulevard, Room 301
Honolulu, HI 96814-4920
and
U. S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

July 24, 1998

FACT SHEET

DRAFT

Authorization to Discharge under the
National Pollutant Discharge Elimination System
and
Zone of Mixing
for the
City and County of Honolulu
Department of Environmental Services
Sand Island Wastewater Treatment Plant

NPDES Permit No. HI 0020117

The attached pages contain information concerning the draft National Pollutant Discharge Elimination System (NPDES) permit, including the Zone of Mixing (ZOM).

I. SUMMARY

The U. S. Environmental Protection Agency, Region IX (hereinafter EPA) has tentatively decided to grant a variance from secondary treatment requirements, under Section 301(h) of the Clean Water Act (CWA), to the City and County of Honolulu, Department of Environmental Services (hereinafter Permittee) for the Sand Island Wastewater Treatment Plant (WWTP) discharge of treated wastewater through the Sand Island ocean outfall to Mamala Bay of the Pacific Ocean. In accordance with this decision, and the authorities vested in Section 402 of the CWA, the EPA is proposing issuance of a NPDES permit that incorporates this tentative decision.

The Sand Island ocean outfall discharges within the territorial waters of the State of Hawaii. Therefore, the Hawaii State Department of Health (hereinafter DOH) has primary regulatory responsibility for the discharge; however, in 1984, a Memorandum of Understanding was signed between the EPA and DOH to jointly issue and administer discharges that are granted variances

from secondary treatment requirements. Under the *Hawaii Revised Statutes* (HRS), the DOH issues water pollution control permits, including ZOMs, which serve as NPDES permits. The EPA and DOH are jointly proposing to reissue a NPDES permit incorporating both federal 301(h) requirements and State ZOM requirements.

II. ADMINISTRATIVE PROCESS

The administrative processing of a Section 301(h) variance application consists of the following actions:

- A. Filing of a timely and complete application;
- B. Comparison of the application with criteria set forth in the statute and regulations, preparation of a Tentative Decision Document (TDD), and recommendation for the Regional Administrator by EPA staff; and initial screening of the application by the State;
- C. Announcement of the tentative decision by the Regional Administrator;
- D. Public notice of a draft NPDES permit incorporating the tentative decision;
- E. Public hearings to address public interest;
- F. State concurrence in the granting of a 301(h) variance through State and EPA joint issuance of a NPDES permit; or denial by the State and/or the Regional Administrator.
- G. Processing of appeals, in accordance with 40 CFR 124, Subpart E.

III. TENTATIVE DECISION

On August 18, 1994, the Permittee submitted an application for a variance from secondary treatment requirements pursuant to Section 301(h) of the CWA. This application was based on an improved discharge, as defined at 40 CFR 125.58(i)(g). On May 4, 1998, and on July 22, 1998, the Permittee provided additional information regarding its 301(h) application.

The Permittee is requesting the following discharge limitations:

Discharge Limitations				
Discharge Parameter	Average Monthly	Average Weekly	Maximum Daily	Units
Biochemical Oxygen Demand (5-day)	116 79,300	report	160 109,000	mg/l lbs/day
	As a monthly average, not less than 30% removal efficiency from influent stream			
Total Suspended Solids	69 47,000	report	138 94,400	mg/l lbs/day
	As a monthly average, not less than 60% removal efficiency from influent stream			
Enterococci	report ¹	report ¹	18,000	CFU/100 ml

¹ As geometric mean.

The Permittee's end-of-permit (i.e., 2003) discharge mass emission rates for biochemical oxygen demand and total suspended solids are based on the average daily design flow of 82 million gallons per day (MGD). The Permittee's 2000 and 2005 projected average daily flows are 81.7 MGD and 84.4 MGD, respectively.

The EPA used the following federal 301(h) decision criteria to evaluate the Permittee's variance request. These nine criteria require that:

1. The discharge maintains a balanced indigenous population of fish, shellfish and wildlife, and allows recreational activities;
2. A practicable program to monitor potential impacts of the ocean discharge be implemented;
3. The discharge does not result in additional requirements on any other pollution source;
4. The discharge meets State water quality standards;
5. All applicable pretreatment requirements be enforced;
6. An urban area pretreatment program be implemented or secondary equivalency of toxics removal be demonstrated;
7. A program to reduce toxics from non-industrial sources be implemented;

8. The total pollutants discharged will not exceed NPDES permit limitations; and
9. The discharge will at minimum meet primary treatment standards and meet water quality criteria after initial mixing.

The EPA drafted a TDD evaluating the proposed discharge based on 1992-1997 discharge concentrations for biochemical oxygen demand and total suspended solids, and the daily average design flow of 82 MGD, as provided in the August 18, 1994 application (updated on May 4, 1998 and July 22, 1998) .

The EPA Regional Administrator's (hereinafter Regional Administrator) tentative decision was issued on July 24, 1998, granting the Permittee a variance for the following constituents: biochemical oxygen demand and total suspended solids.

The TDD is incorporated, herein, by reference, as part of this fact sheet. This fact sheet and the TDD set forth the principal facts and significant legal, methodological, and policy questions considered in the development of the draft permit. The draft permit is based on the Administrative Record.

IV. FACILITY DESCRIPTION

The Permittee presently operates the Sand Island WWTP, located in Honolulu, HI, on the island of Oahu. The Sand Island WWTP serves an estimated population of 360,000 residents and 80,000 tourists, and receives mainly domestic wastewaters from a service area which covers about 79 mi² of East Mamala Bay. The Sand Island WWTP is designed to treat 82 MGD of primary treated wastewater, using the physical and chemical processes listed below:

Sand Island WWTP	
Primary Treatment	Solids Handling
Influent bar screens Chemical addition (to influent channels as needed to achieve 30% removal BOD ₅) Clarifiers in dissolved air floatation or gravity mode; grit removal) Effluent screens	Influent bar screenings (to landfill) Clarifier underflow to degritting (grit to landfill) Degritted underflow to thickener tanks Thickened sludge to wet sludge storage Clarifier float/skimings to wet sludge storage Wet oxidation units Chemical addition (as needed for sludge thickening) Dewatering Municipal solid waste landfill or incineration

Chemicals enhancing flocculation may be added to liquid wastestreams returned to the headworks from solids handling unit processes, and to screened influent in the aerated influent channels.

Based on data provided by the Permittee, the treated wastewater discharge has the following

characteristics for biochemical oxygen demand, total suspended solids, enterococci (geometric mean), and total oil and grease:

Discharge Parameter	Units	Annual Average (1997)
Flow	MGD	77
Biochemical Oxygen Demand	mg/l	95
	% removal	34
Total Suspended Solids	mg/l	49
	% removal	66
Enterococci	CFU/100 ml	486,134
Total oil and grease	mg/l	21

Treated wastewater is discharged into Mamala Bay, 1.75 mi offshore of Sand Island, either by gravity or pumping, through an 84 in diameter outfall to a varying depth of about 235 ft. The outfall terminates in a single pipe diffuser, about 0.64 mi in length, running roughly parallel to the shoreline. The discharge point is described as follows:

Discharge Serial Number	North Latitude	West Longitude	Description
001	21°17'01"	157°54'24"	Primary discharge point to the Pacific Ocean terminating in a multi-port diffuser, approximately 1.75 mi offshore of Sand Island, at a depth of about 235 ft.

The discharge is regulated under NPDES Permit No. HI 0020117, issued February 20, 1990. This permit was modified by on February 16, 1995, and expired February 19, 1995.

V. BASES FOR REQUIREMENTS

Section 301(h) of the CWA gives the EPA the authority to grant a variance from federal secondary treatment effluent standards contained in Section 301(b)(1)(B) of the CWA. Implementing regulations for section 301(h) and section 301(b)(1)(B) are found at 40 CFR 125, Subpart G and 40 CFR 133.102(c), respectively.

Chapter 11-54 of the *Hawaii Administrative Rules (HAR)*, dated October 29, 1992, contains water quality standards (use classifications and criteria) for waters of the State. The requirements contained in the draft permit, including the attached DOH "Standard NPDES Permit Conditions," are necessary to assure no violation of applicable water quality standards.

Effluent limitations, national standards of performance, and toxic and pretreatment effluent

standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 404, 405, and 501 of the CWA, and amendments thereto, are applicable to the discharge. The draft permit contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the CWA; 40 CFR 35 and 403. On February 19, 1993, the EPA issued a final rule for the use and disposal of sewage sludge (40 CFR 503). This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State has not been delegated the authority to implement this program, therefore, the EPA is the implementing agency. The draft NPDES permit contains biosolids/sludge management requirements consistent with 40 CFR 257, 258, and 503.

VI. DISCHARGE LIMITATIONS

301(h) Discharge Limitations

The draft permit contains the following 301(h) discharge limitations for biochemical oxygen demand and total suspended solids:

Discharge Limitations				
Discharge Parameter	Average Monthly	Average Weekly	Maximum Daily	Units
Biochemical Oxygen Demand (5-day)	116 79,300	report	160 109,000	mg/l lbs/day
	As a monthly average, not less than 30% removal efficiency from influent stream			
Total Suspended Solids	69 47,000	report	138 94,400	mg/l lbs/day
	As a monthly average, not less than 60% removal efficiency from influent stream			

The average monthly discharge limitations for biochemical oxygen demand and total suspended solids (in mg/l) are those values associated with the 95th percentile of January 1993 through December 1997 daily discharge concentration data for all months achieving $\geq 30\%$ removal of influent biochemical oxygen demand and total suspended solids, as provided by the Permittee on May 4, 1998. For biochemical oxygen demand, the maximum daily discharge limitation (in mg/l) approximates the maximum value associated with these daily discharge concentration data. For total suspended solids, the maximum daily discharge limitation (in mg/l) is 2.0 times the average monthly discharge limitation (in mg/l). For biochemical oxygen demand, the average monthly influent percent removal efficiency limitation is based on 40 CFR 125.57(a)(9). For total suspended solids, the average monthly influent percent removal efficiency limitation is based on information provided by the Permittee on May 4, 1998.

Technology-based Effluent Limitations

Consistent with federal secondary treatment requirements at 40 CFR 133.102(c), the draft permit contains a discharge limitation for pH of not less than 6.0 nor greater than 9.0 pH units at all times.

Schedules of Compliance for Sand Island WWTP Upgrade/Expansion and Effective Disinfection

The draft permit contains schedules of compliance for the Sand Island WWTP upgrade and expansion projects, and discharge limitations for enterococcus. The purpose of these requirements is to: (1) improve treatment plant performance and reliability; and (2) select and implement a treatment option that will reduce the risk of human exposure to pathogenic organisms in marine recreational waters of Mamala Bay by decreasing bacterial indicator loadings from the Sand Island ocean outfall. These requirements are consistent with the Mamala Bay Study Commission recommendation "that appropriate disinfection be provided for the ocean outfall discharge at the Sand Island WWTP." (Mamala Bay Study Commission, April 1996). Interested parties are referred to the TDD for an in-depth discussion of the proposed discharge and its impact on marine recreational activities in the waters of Mamala Bay.

The draft permit contains schedules of compliance for the following projects:

1. *Ala Moana Wastewater Pump Station Modification*: This project is required to accommodate higher collection system flows and the higher head of the new Sand Island WWTP headworks. The Permittee will replace existing pumps, electrical works, and associated appurtenances to upgrade/improve pump station reliability.
2. *Hart Street Wastewater Pump Station (New/Alternative)*: This project is required to accommodate higher collection system flows and the higher head of the new Sand Island WWTP headworks. The Permittee will rehabilitate the existing Hart Street pump station complete with generator facility, new pumps, and electrical works. This work includes all piping to connect to inflow lines and new and existing force mains.
3. *Hart Street Wastewater Pump Station Force Main Replacement*: The Permittee will install a new force main extending from Hart Street pump station to Sand Island WWTP to replace the existing 47-year old force main.
4. *Sand Island Parkway Wastewater Pump Station Modification*: This project is required to accommodate the higher head of the new Sand Island WWTP headworks. The Permittee will replace existing pumps, electrical works, and associated appurtenances to upgrade/improve pump station reliability.
5. *Sand Island Wastewater Treatment Plant Unit 1 Phase 2A*: The Permittee will construct new headworks and associated facilities to satisfy 301(h) requirements

to consistently remove $\geq 30\%$ of influent biochemical oxygen demand and improve WWTP performance.

6. *Sand Island Wastewater Treatment Plant Primary Treatment Expansion:* The Permittee will 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 will increase solids handling capacity.
7. *Sand Island Wastewater Treatment Plant Disinfection Facility:* The Permittee will investigate and determine appropriate disinfection technology, and design, construct, and operate continuously for one year (July 21, 2002 through July 20, 2003), an effluent disinfection facility which achieves effective effluent disinfection. Effective disinfection is defined as compliance with a maximum daily discharge limitation of 18,000 CFU/100 ml for enterococci.
8. *Sand Island Wastewater Treatment Plant Interim Chemical Treatment Facility Improvements:* The Permittee will improve the ability of Sand Island WWTP to remove biochemical oxygen demand by upgrading the Chemical Treatment (polymer) Facility. This includes the installation of aging tanks and new polymer injection equipment, as required.
9. *Sand Island Wastewater Treatment Plant Chlorination Study:* The Permittee will monitor Mamala Bay to obtain background data for receiving water bacterial indicator levels, oceanic currents, and Sand Island WWTP plume characteristics. This project will be conducted in accordance with the DOH/EPA-approved *Sand Island Wastewater Treatment Plant Chlorination Study Plan*, as modified by the DOH on February 23, 1998.

The draft permit proposes the following discharge limitation for enterococci, as provided by the Permittee on July 22, 1998. This limitation becomes effective on July 21, 2002:

Discharge Limitations				
Discharge Parameter	Average Monthly	Average Weekly	Maximum Daily	Units
Enterococci	report ¹	report ¹	18,000	CFU/100 ml
Total Chlorine Residual	At any time, not less than 0.1 nor greater than 0.6			ug/l

¹ As geometric mean.

Should chlorination be selected as the preferred alternative for achieving effective disinfection, the discharge limitation for total chlorine residual is retained from the previous permit.

As described in the TDD, various analyses indicate that the risks of contracting an infection by bathing, swimming, surfing, or fishing in Mamala Bay waters inshore from the Sand Island ocean outfall are low. The EPA's simulation effort for the Sand Island discharge provided approximately a 1% probability of impact to nearshore areas. In general, studies indicate a low probability for contamination in recreational areas from the Sand Island discharge. The EPA is taking appropriate measures to ensure that marine recreational areas are fully protected. The Permittee has voluntarily agreed to these measures to ensure the protection of public health.

Predictive studies have shown that the Sand Island discharge can reach the shoreline. However, the EPA believes that the probability of these events occurring is low (based on existing ambient data including bacteria monitoring and physical oceanographic measurements collected by the Permittee during the *Sand Island WWTP Chlorination Study*). The proposed discharge limitation for enterococci of 18,000 CFU/100 ml is based on average dilution assumptions. The EPA believes that given the low probability of impact to nearshore areas from the Sand Island discharge, a discharge limitation of 18,000 CFU/100 ml, based on average dilution assumptions when the plume is surfacing or trapped, will ensure that the Sand Island discharge will not adversely impact marine recreational waters of Mamala Bay. This discharge limitation will also ensure that the disinfection facility will be operated. If data collected under the ambient monitoring program show that the EPA's assumptions are incorrect, the permit will be re-opened to establish discharge limitations consistent with the new information.

Water Quality-based Effluent Limitations

The need for discharge limitations based on water quality criteria in HAR was determined in accordance with 40 CFR 122.44(d) and EPA guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed a criterion, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001,

1991). This statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited number of discharge data to estimate a maximum discharge value at a high level of confidence. This estimated maximum discharge value is calculated as the 99 percent confidence level of the 99th percentile based on a lognormal distribution of daily discharge values. Projected receiving water values, based on the estimated maximum discharge value or the reported maximum discharge value, and the minimum probable initial dilution (Dm) expressed as parts seawater per part wastewater, can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for a discharge limitation.

The EPA examined chemical discharge data provided by the Permittee for years 1991 through 1995. A reported maximum discharge value and reported maximum MDL [minimum detection limit] were identified for each pollutant. These data were then used to calculate pollutant-specific reasonable potential multipliers. After considering Dm, projected receiving water concentrations were used by the EPA to determine that chronic toxicity showed the potential to exceed the criterion, and required a discharge limitation.

The discharge limitation for chronic toxicity is based on the chronic water quality criterion specified in the HAR, a Dm of 94:1 for saltwater chronic and “fish consumption” non-carcinogens [Note: 476:1 is for “fish consumption” carcinogens.], and the following steady state equation: $C_e = D_m \times C_c$. “Ce” is the discharge limitation (mg/l) and “Cc” is the criterion to be met at the completion of initial dilution (mg/l).

The draft permit contains the following discharge limitation for chronic toxicity (“n/a” means “not applicable”):

Discharge Limitations				
Discharge Parameter	Average Annual	Average Monthly	Average Daily	Units
Chronic Toxicity	n/a	n/a	94	TUc

Prior to the public comment period the EPA and the Permittee identified discrepancies in the data used to evaluate reasonable potential for the following discharge parameters: beryllium, chlordane, dieldrin, and heptachlor. Prior to the public hearing, the EPA will re-evaluate reasonable potential for these parameters using data provided by the Permittee on March 24, 1998, July 1, 1998, and July 10, 1998. If the EPA determines that these parameters have the reasonable potential to cause or contribute to an exceedance of water quality criteria, this finding will be presented at the public hearing, and the following discharge limitations will be incorporated into the final permit:

Discharge Limitations

Discharge Parameter	Average Annual	Average Monthly	Average Daily	Units
Beryllium	n/a	3.6 2.5	n/a	ug/l lbs/day
Chlordane	0.0076 0.0052	n/a	0.38 0.26	ug/l lbs/day
Dieldrin	0.012 0.0082	n/a	0.18 0.12	ug/l lbs/day
Heptachlor	n/a	0.0085 0.0058	n/a	ug/l lbs/day

The EPA is seeking public comment on this proposed action.

Mass Emission Rates

Mass emission discharge limitations (in lbs/day) are determined using the average daily design flow of 82 MGD and the following equation: $\text{lbs/day} = 8.34 \times C_e \times Q$. “ C_e ” is the concentration discharge limitation in mg/l and “ Q ” is the flow rate in MGD.

VII. INDUSTRIAL PRETREATMENT REQUIREMENTS

The draft permit addresses three aspects of the Permittee’s industrial pretreatment program. First, the draft permit includes requirements for developing animal and vegetable-based oil and grease source controls necessary to eliminate collection system overflows. Second, the draft permit addresses the urban area pretreatment requirements under section 301(h) of the CWA and implementing regulations at 40 CFR 125.65. Finally, the EPA and DOH are proposing to approve certain modifications to the Permittee’s approved pretreatment program.

Oil and Grease Source Control

In 1991, the EPA issued an administrative order to the City and County of Honolulu (File IX-FY91-19) which, among other actions, required the Permittee to perform a local limits evaluation. On November 29, 1994, the Permittee submitted to the EPA and DOH a local limits evaluation and proposed limits for several toxic pollutants. In addition, the Permittee proposed regulating animal and vegetable-based oil and grease with a local limit of 500 mg/l. In an April 20, 1995 letter to the Permittee, the EPA responded by explaining that, based on the Permittee’s analysis, local limits were not needed for the ten metals studied in detail, nor for any of the other priority pollutants evaluated in the study. Further, the EPA explained that the Permittee’s proposed local limit for animal and vegetable-based oil and grease required additional justification and recommended that such oil and grease be regulated under a program based on non-numeric best management practices (BMPs) that includes the installation and maintenance of properly sized oil and grease traps and interceptors. In an April 15, 1997 letter to the EPA,

the Permittee outlined several actions it was taking to support a BMP-based approach for controlling animal and vegetable oil and grease.

In the draft permit, the EPA and DOH have included a schedule for completing the oil and grease control program began under the administrative order. The EPA believes that controlling animal and vegetable oil and grease using a concentration-based effluent standard to prevent collection system obstructions presents several technical and regulatory difficulties. It is difficult to correlate any concentration-based standard (e.g., 500 mg/l) with the desired objective of preventing collection system obstructions because there are several variables influencing how oil and grease contributes to sewer line obstructions. To pursue a concentration-based local limits approach, the Permittee would need to demonstrate such a correlation and show that the 500 mg/l local limit is a reasonable and effective approach which solves the problem. In addition, sampling wastewater to demonstrate compliance with a concentration-based effluent standard for oil and grease is often difficult. Many facilities, particularly small commercial businesses, have a problem finding a location in their plumbing to physically obtain a representative sample, and the limited usefulness of these data call into question the cost of such sampling efforts.

The draft permit requires the Permittee to closely regulate animal and vegetable oil and grease through a BMP-based program which requires the installation and servicing of grease traps and interceptors. The design and scope of this BMP-based program will reflect the following factors:

- The development of an objective procedure to identify, remedy, and prevent obstructions in the wastewater collection system involving animal and vegetable oil and grease;
- The installation and use of adequately sized grease traps and interceptors;
- Maintenance requirements for grease traps and interceptors;
- The frequency and character of inspection and oversight by the Permittee's personnel;
- Implementation of an Enforcement Response Plan for BMP violations; and
- Possible locations of future obstructions and sewage spills.

Upon approval of the animal and vegetable oil and grease BMP-control program by the EPA and DOH under 40 CFR 403.18, the requirements of the program will be incorporated into the Permittee's approved pretreatment program as local limits under 40 CFR 403.5, and enforceable under sections 307 and 402 of the CWA.

Urban Area Pretreatment Requirements

Large applicants for a modified NPDES permit under section 301(h) of the CWA that receive one or more toxic pollutants from an industrial source are required to comply with urban area pretreatment requirements at 40 CFR 125.65. A POTW subject to these requirements must demonstrate for each toxic pollutant known or suspected to be introduced by an industrial source, that it either has an applicable pretreatment requirement in effect, or that it has a program that achieves secondary removal equivalency. In addition, an applicant must demonstrate that significant industrial sources are in compliance with applicable pretreatment requirements, and must perform an annual local limits reevaluation. The Permittee is subject to these requirements.

The Permittee has indicated that it will comply with the urban area pretreatment requirements by demonstrating that it has applicable pretreatment requirements in effect. This demonstration involves the Permittee performing a local limits analysis and developing any needed local limits. A schedule for local limits analysis is included in the draft permit. The EPA and DOH will incorporate any new local limits into the Permittee's approved pretreatment program using the procedures at 40 CFR 403.18. Finally, the draft permit includes conditions regarding significant industrial user compliance and an annual local limits reevaluation.

Pretreatment Program Modifications

In an April 7, 1998 letter, the Permittee requested the EPA and DOH to approve several modifications to the Permittee's approved pretreatment program. The proposed program modifications include revisions to the Permittee's ordinance and a reclassification of several existing significant industrial users. The ordinance changes include removing the existing local limits for toxic pollutants consistent with the EPA's April 20, 1995, evaluation of the Permittee's earlier local limits analysis. The ordinance also includes changes that will facilitate the implementation of a BMP-based approach for regulating animal and vegetable-based oil and grease. The EPA and DOH have reviewed these modifications and are proposing to approve them. These modifications will be approved without further notice, if no substantive comments are received.

VIII. MONITORING AND REPORTING PROGRAM

Pursuant to 40 CFR 125.63, the Permittee has proposed a satisfactory revision of its monitoring and reporting program. The monitoring program in the draft permit requires frequent influent and effluent monitoring for conventional, non-conventional, and priority pollutants. Sludge monitoring, record keeping, and reporting requirements are consistent with applicable requirements. Pretreatment monitoring, record keeping, and reporting requirements are consistent with applicable requirements.

The Permittee has indicated to the EPA and DOH that it is re-evaluating the current influent and effluent sampling procedure for oil and grease. The EPA and DOH may revise "footnote 7" in

the draft permit based on a review of alternative sampling procedures for oil and grease proposed by the Permittee during the public comment period.

Under the previous permit, receiving water monitoring focused on physical, chemical, and biological patterns around the Sand Island ocean outfall. The receiving water monitoring program proposed in the draft permit reallocates effort to address physical, chemical, and biological processes not well addressed by earlier monitoring efforts, and provides a framework for interpreting discharge-related effects, relative to the effects of other sources of contaminants, in Mamala Bay. As part of this reallocation of effort, the draft permit designates the following stations as nominal Zone of Initial Dilution and ZOM stations: C2, C3, D2, and D3. The EPA and DOH are seeking public comment on this proposed action.

The following two components constitute the receiving water monitoring program: *Core Monitoring Activities* and *Regional Monitoring Activities*. These two components are needed to evaluate compliance with the permit, 301(h) decision criteria, and State water quality standards, and to assess the effects of the discharge on the marine environment. Core Monitoring Activities will be conducted during years one, two, and four of the permit, while Regional Monitoring Activities will be conducted during years three and five of the permit.

Core Monitoring Activities - Years One, Two, and Four

Proposed Core Monitoring Activities will be conducted over a 33 km² area, extending from the shoreline to the 200 m depth contour, between Honolulu International Airport and Waikiki Beach. Core Monitoring Activities will include monitoring for bacterial indicators at ten shoreline stations extending from the eastern corner of Honolulu International Airport to the western corner of Waikiki Beach, and monitoring at 25 offshore stations for water quality, sediment chemistry, and benthic community structure. Three offshore stations will be monitored for fish community structure and muscle tissue chemistry. Shoreline stations will be monitored ten days per month. Offshore water quality will be monitored on a quarterly basis, while offshore sediment chemistry, benthic community structure, and fish community structure and tissue chemistry will be monitored annually.

Regional Monitoring Activities - Years Three and Five

Proposed Regional Monitoring Activities will be conducted in the area between Barber's Point on the east and Diamond Head on the west. The regional monitoring design is based on 25 stations randomly stratified along the shoreline, and 80 stations randomly stratified on a hexagonal gridline in the offshore. Some core monitoring stations will be retained in the regional monitoring design to assess trends.

Twenty-five shoreline stations will be monitored ten days per month for bacterial indicators. Eighty offshore stations will be monitored annually for water quality, sediment chemistry, and benthic community structure. In addition, the 25 offshore Core Monitoring stations will be

monitored semi-annually for water quality, while three offshore Core Monitoring stations will be monitored annually for fish community structure and tissue chemistry.

IX. ANTIDegradation

As discussed in the TDD, the EPA evaluated current and projected deposition rates of suspended solids around the zone of initial dilution (ZID) area, and considered the impact of historical and current mass emissions on benthic communities in the area of the discharge. The EPA determined that an increase in current mass emissions for total suspended solids would result in only minor increases in the deposition rate of suspended solids around the ZID area. The EPA also determined that the current discharge is not degrading benthic communities. Based on these two determinations, the EPA concludes that the proposed discharge mass emissions rate for total suspended solids will not substantially increase deposition rates of suspended solids around the ZID area, such that benthic communities are degraded. The EPA believes that the proposed discharge limitations for total suspended solids will ensure continued compliance with 301(h) decision criteria and conform to federal and State antidegradation policies (see 40 CFR 131.12 and HAR), while allowing for small increases in mass emissions to accommodate growth in the Permittee's service area.

X. WRITTEN COMMENTS

Interested persons are invited to submit written comments on the draft permit and fact sheet. Comments should be submitted by August 25, 1998, either in person or by mail to the attention of Robyn Stuber at the EPA, and Alec Wong at the DOH:

U. S. Environmental Protection Agency
Region IX, WTR-5
75 Hawthorne Street
San Francisco, CA 94105-3901

Hawaii State Department of Health
Clean Water Branch
919 Ala Moana Boulevard, Room 301
Honolulu, HI 96814-4920

XI. INFORMATION AND COPYING

Persons wishing further information may write to either of the above addresses or call Robyn Stuber of the EPA at (415)744-1921, or Alec Wong of the DOH at (808)586-4309. Copies of materials in the Administrative Record (other than those which the EPA and DOH maintain as confidential) are available at the EPA office and the DOH office for inspection and copying between the hours of 7:45 a.m. and 4:15 p.m., Monday through Friday (excluding holidays).

XII. PUBLIC WORKSHOP AND PUBLIC HEARING

The EPA and DOH will host a workshop on the proposed 301(h) discharge, as follows:

DATE: August 25, 1998
TIME: 6:00 p.m.
PLACE: 5th Floor Conference Room
919 Ala Moana Boulevard
Honolulu, HI.

The EPA and DOH will hold a joint public hearing regarding the propose action, as follows:

DATE: August 25, 1998
TIME: 7:00 p.m.
PLACE: 5th Floor Conference Room
919 Ala Moana Boulevard
Honolulu, HI.