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*Wastewater management
Water Pollution*

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The Honorable Don Edwards
House of Representatives

Dear Mr. Edwards:

In response to your letter of February 5, 1974, we reviewed Federal agencies' efforts to control their discharges of pollutants into San Francisco Bay. Our review included determining the extent to which the Bay is being polluted by discharges of waste water from Federal facilities and vessels and by the dumping of dredge material.

Federal agencies are not major polluters of the Bay. Of the estimated 800 million gallons of treated or untreated wastes discharged daily into the Bay from stationary sources, only about 2 percent are discharged from Federal facilities. Although Federal vessels discharge about 133,000 gallons of sewage and other wastes into the Bay daily, vessel discharges are less than one-tenth of 1 percent of all daily discharges into the Bay. Federal agencies have taken or are planning actions to eliminate their discharges into the Bay. Scientific data is not available to evaluate the environmental effects of dredging and the dumping of dredge material.

Executive Order 11752, December 17, 1973, commits Federal agencies to provide leadership--as did Executive Order 11507, February 4, 1970--in the nationwide effort to protect and enhance the quality of our air, water, and land resources in full cooperation with State and local governments. Under the order, the heads of the Federal agencies have primary responsibility for insuring that activities under their jurisdiction meet Federal, State, interstate and local water quality standards.

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The Administrator, Environmental Protection Agency (EPA), is responsible for providing technical advice and assistance in pollution matters and for insuring coordination between Federal agencies and State pollution control agencies. He is also responsible for implementing the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251) which established a national goal of eliminating the discharge of pollutants into navigable waters by 1985 and an interim goal of providing water quality sufficient for the protection of fish, shellfish, and wildlife and for recreation by 1983.

The 1972 amendments also provide that:

"Each department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal Government (1) having jurisdiction over any property or facility, or (2) engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants shall comply with Federal, State, interstate, and local requirements respecting control and abatement of pollution to the same extent that any person is subject to such requirements, including the payment of reasonable service charges."

The San Francisco Bay basin is considered by the State of California to consist principally of the San Francisco, San Pablo, and Suisun Bays. We limited our review to Federal facilities and vessels discharging directly into this basin.

We made our examination primarily at EPA Region IX in San Francisco and at the State Water Quality Control Board, San Francisco Bay Region in Oakland. We also interviewed officials and examined legislation, regulations, records, and files at the Corps of Engineers, San Francisco District Office; 12th Coast Guard District, San Francisco; the Western Division Naval Facilities Engineering Command, San Bruno; and the Naval Ships System Command, Washington, D.C.

FEDERAL FACILITIES' DISCHARGE OF WASTE WATER INTO THE BAY

The Federal Government owns 146 facilities in the greater San Francisco Bay basin area. Discharges of waste water from these facilities account for only about 2 percent of the estimated 800 million gallons of treated or untreated wastes discharged daily into this basin from stationary sources.

Federal agencies have taken or are planning actions to eliminate their discharges into the Bay in order to meet objectives and goals of Executive orders and water pollution control legislation. Since 1967, 34 water pollution control projects have been completed which have eliminated large amounts of untreated and potentially harmful pollutants which had been discharged from stationary sources. An additional 53 projects are under construction or in the planning stages. The estimated cost of these 87 projects is about \$33.6 million. (See enc. I.)

The 1972 amendments established a National Pollutant Discharge Elimination System which is administered by EPA. Under this system, dischargers of pollutants from stationary points, such as waste treatment plants and factories, must obtain permits which (1) establish allowable levels of pollutant discharges, (2) establish a compliance schedule for constructing abatement projects needed to meet requirements of the amendments, and (3) require periodic self-monitoring reports to be submitted to EPA. EPA issues permits to Federal agencies and has authorized the California State Water Resources Control Board to issue permits to non-Federal agencies.

We reviewed the efforts of 10 Federal facilities to control their discharges into the Bay. Enclosure II lists the 10 facilities, quantity and type of discharges, status of permits, and planned abatement actions.

As of June 1, 1974, EPA had issued permits to eight of these Federal facilities and permits for the other two, Hamilton Air Force Base and Treasure Island Naval Station, were in process. EPA expected to issue them by August 15 and December 31, 1974, respectively.

EPA officials told us that some Federal dischargers may not have applied for a permit and that existing permits may not include all discharge points. They believe, however, that any such dischargers are insignificant and will be identified after all permits are issued. At that time EPA will redirect its staff effort to discharge detection, surveillance, and monitoring.

California's efforts to issue permits to Federal agencies

The State of California, in conjunction with the State of Washington, is suing EPA over the right to issue permits to Federal

agencies. In a motion filed August 3, 1973, California alleged that its lack of authority to issue permits to Federal agencies had prevented the exercise of its right and responsibility to prevent, reduce, and eliminate pollution.

The San Francisco Bay Area regional board, acting through the State Water Resources Control Board and State attorney general, is suing the Navy for violations by the Alameda Naval Air Station and Hunters Point Naval Shipyard of cease and desist orders issued in 1971. Both suits, still pending, relate to the discharge of industrial wastes into the Bay.

Since the suits were filed, Alameda has almost completed a water pollution abatement project to eliminate the industrial wastes discharged. The project is scheduled for completion in January 1975. Hunters Point has closed since the filing of the law suit. The executive director of the regional board believes, however, that the closing of the facility does not change the board's position with respect to the suit. There is evidence that the shipyard may be reopened by a private contractor, and other sources of pollution remain at the facility, including residential housing, which contributes to a combined sewer overflow problem.

Except for Alameda and Hunters Point, regional board officials believe Federal agencies have either corrected their water pollution problems or acted to abate their discharges. They said Federal agencies had been slow in correcting their water pollution problems but have improved over the last 2 years. Federal officials recognize that all their projects have not been constructed within the time frames desired by the regional board. However, they said the board makes requests without consideration to the length of time needed to obtain funds under the Federal Government's budgetary process.

FEDERAL VESSEL DISCHARGES

The State Water Resources Control Board estimated that about 241,000 gallons of vessel sewage and other wastes are discharged into the Bay daily. From information provided by the Navy and the Coast Guard, we estimate that about 133,000 gallons, or 55 percent, are discharged from Federal vessels, primarily from vessels operated by these two agencies. Vessel discharges are not a major cause of Bay pollution as their estimated daily discharges are less than one-tenth of 1 percent of all daily discharges.

The Navy and the Coast Guard are acting to control pollution from vessels home ported in the Bay. Through fiscal year 1980 these agencies plan to spend \$17.5 million to fit vessels with holding tanks or other systems to eliminate the discharge of wastes.

The 1972 amendments require the Coast Guard to establish regulations and enforcement procedures for controlling vessel discharges under standards established by EPA. Generally EPA's standards require that there be no discharge from vessels. Department of Defense vessels must comply with the procedures unless the Secretary of Defense finds that compliance would not be in the interest of national defense.

Federal agencies have taken a leadership role in eliminating vessel discharges. For example, in May 1974 the Coast Guard completed dockside waste facilities for its ships stationed at Alameda. The two vessels stationed there were built with holding tanks in 1969 and no longer discharge into the Bay. Instead, discharges from these vessels are pumped to the dockside facility, which transports the waste to a municipal sewage treatment plant.

Dockside facilities for Navy ships stationed at the Alameda Naval Air Station are under construction and scheduled for completion in March 1975. Also, the Naval Weapons Station at Concord, and the Mare Island Naval Shipyard are planning to build similar facilities in fiscal years 1975 and 1976, respectively. A planned project for the Naval Station at Treasure Island is being held in abeyance due to structural pier problems.

Ships must be modified before they can use dockside discharge facilities. The largest naval ships home ported in the Bay have about 180 discharge points which will have to be redirected to shipboard holding tanks. The conversion for each of these ships will cost about \$3 million.

In 1973 the Navy advised the regional board that ships in the Bay would be modified by fiscal year 1978. This date was recently changed to 1980 because of delays in planned overhaul schedules, budgetary constraints, and shortages of skilled labor.

DREDGING OF THE BAY AND EFFECTS ON WATER POLLUTION

Data provided by the Corps of Engineers shows that an estimated 20.4 million cubic yards of material were dredged from the Bay during the 2-year period ended June 30, 1974.

| <u>Dredging projects</u> | <u>Cubic yards dredged (millions)</u> |
|--|---|
| Corps of Engineers--to keep shipping lanes open. | 12.4 |
| Navy--to keep carrier-turning basin and pier facilities open. | 2.3 |
| Private, including municipal port and private industry projects. | 5.7 |

The 1972 amendments require dischargers of dredge or fill material to obtain permits from the Corps of Engineers. These permits are issued to Federal agencies and to the private sector in accordance with (1) guidelines for disposal site designation developed jointly by the Corps and EPA and (2) policies of the Corps and State and local agencies which have jurisdiction over Bay dredging.

Federal agencies are not required by law to obtain State or local approval for Federal dredging projects. However, Corps of Engineers policy is not to dredge or authorize Bay dredging without State and local agency approval.

The scientific data needed to evaluate the effects of Bay dredging are not yet available. Environmental groups prefer that dredge material be dumped on land. If land disposal is not feasible, they generally prefer that dredge material be dumped at a minimum of 100 fathoms (600 ft.) in the Pacific Ocean. Industry and Corps of Engineers officials, on the other hand, believe they should be able to dump dredge material at the most convenient and economical location. Of the 20.4 million yards of dredge material, about 69 percent was dumped into the Bay, 23 percent into the Pacific Ocean, and 8 percent on land. (See enc. III.)

2/ The Corps of Engineers has a \$2.4 million study scheduled for completion in fiscal year 1976--"Dredge Disposal Study for the San Francisco Bay and Estuary"--to identify environmental impacts associated with dredging and dredge material disposal. 305

Although the environmental effects of Bay dredging are not fully understood, EPA and the regional board consider dredge material

polluted if it contains specific levels of various heavy metals or organic matter. The board's policy, adopted in November 1972, prohibits the discharge into the Bay of all toxic or polluted substances. Exceptions may be granted if

- land disposal is not feasible,
- a project is determined essential, or
- additional funds are not available.

The Corps has been granted eight such exceptions under this policy. The District Engineer advised us that the Corps will not request the additional dredging funds necessary to comply with the board's disposal standards until (1) scientific data for evaluating the environmental impact of dredge disposal has been developed and (2) EPA headquarters publishes dredge disposal guidelines which can be used to justify requests for additional funds.

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The information contained in this letter has been discussed with officials of EPA, but, as you requested, formal written comments have not been obtained. We do not plan to distribute this report further unless you agree or publicly announce its contents.

Sincerely yours,



Comptroller General
of the United States

Enclosures - 3

WATER POLLUTION ABATEMENT PROJECTS PLANNED
OR UNDERTAKEN BY FEDERAL ACTIVITIES ADJACENT
TO THE SAN FRANCISCO BAY BASIN

| <u>Federal department</u> | <u>Number of projects (note a)</u> | <u>Estimated costs</u> |
|---------------------------------------|--|----------------------------|
| Navy | 60 | \$30,627,000 |
| Coast Guard | 9 | 190,900 |
| Air Force | 9 | 2,588,000 |
| Corps of Engineers | 4 | 10,000 |
| Atomic Energy Commission | 2 | 7,200 |
| Army | 2 | 105,000 |
| Maritime Administration | <u>1</u> | <u>22,500</u> |
| | <u>87</u> | \$33,550,600 |
| Conversion of naval ships (note b) | | <u>17,475,800</u> |
| | | <u>\$51,026,400</u> |

a/ As of Dec. 31, 1973 (most recent information available at EPA Region IX), 53 projects were planned, designed, or under construction, and 34 projects were completed. Of the 87 projects, 41, at an estimated cost of \$23.7 million, are for the activities shown in enc. II.

b/ Data provided by Department of Navy; 68 percent of the ships are scheduled for conversion by fiscal year 1977, the remainder by 1980.

STATUS OF EFFORTS OF 10 FEDERAL FACILITIES TO CONTROL
THEIR DISCHARGES INTO THE SAN FRANCISCO BAY
AS OF JUNE 1, 1974

| <u>Facility</u> | <u>Average gallons a day and type of discharge</u> | | | <u>Total</u> | <u>Permit status at June 1, 1974</u> | | <u>Major planned abatement actions</u> |
|--------------------------------|--|-----------------------------------|--|--------------|--|-------------------|---|
| | <u>Cooling water</u> | <u>Industrial wastes (note a)</u> | <u>Sewage treatment plant (note b)</u> | | <u>Issued</u> | <u>In process</u> | |
| Naval Shipyard, Mare Island | 16,000,000 | 110,000 | 800,000 | 16,910,000 | Mar. 15, 1974 | | On Mar. 7, 1974, the Navy signed a \$2.3 million contract with the Vallejo Sanitation and Flood Control District to provide secondary treatment to Mare Island's sewage and treated industrial wastes. As of June 1, construction on the Sanitary District's secondary treatment plant was not yet started. |
| Hamilton Air Force Base | | | 200,000 | 200,000 | | X | The Base is to participate in a regional sewage treatment system, which is in the planning stages by local communities. |
| Naval Station, Treasure Island | | | 1,400,000 | 1,400,000 | | X | Improvements are to be made to the sewage treatment plant and sewer system. |
| Naval Fuel Depot, Point Molate | | 22,000 | 20,000 | 42,000 | Mar. 25, 1974 (sewage) Oct. 31, 1973 (industrial waste) | | Improvements are to be made to the industrial waste system. |
| Naval Air Station, Alameda | | 63,800 | | 63,800 | Dec. 31, 1973 | | An industrial waste treatment abatement project is under construction. Scheduled completion is Jan. 1975. |
| Presidio of San Francisco | | 258,600 | | 258,600 | Dec. 31, 1973 | | Discharges are to be diverted to sanitary sewers for treatment by municipal sewage treatment plants. |
| Oakland Army Base | | 50,000 | | 50,000 | May 15, 1974 | | Discharges are to be diverted to sanitary sewers for treatment by municipal sewage treatment plant. |

STATUS OF EFFORTS OF 10 FEDERAL FACILITIES TO CONTROL
THEIR DISCHARGES INTO THE SAN FRANCISCO BAY
AS OF JUNE 1, 1974

| Facility | Average gallons a day and type of discharge | | | Sewage treatment plant (note b) | Total | Permit status at June 1, 1974 | | Major planned abatement actions |
|---|---|----------------------------|------------------|---------------------------------|-------------------|-------------------------------|------------|---|
| | Cooling water | Industrial wastes (note a) | | | | Issued | In process | |
| Sausalito Army Laboratories | 3,000 | | | | 3,000 | Nov. 30, 1973 | | None are required by EPA. |
| Corps of Engineers Bay Model, Sausalito | | 5,000 | | | 5,000 | Feb. 28, 1974 | | None are required by EPA. |
| Department of Commerce, Tiburon Fisheries | | 90,800 | 200 | | 91,000 | Nov. 30, 1973 | | None are required by EPA. However, EPA has preliminary information that the discharge exceeds established limits and that one discharge point was not included in the permit. If so, EPA is to require appropriate abatement actions. |
| Total | 16,003,000 | 600,200 | 2,420,200 | | 19,023,400 | | | |

a/ Industrial wastes includes all discharges except cooling water and sanitary sewage. Generally the industrial wastes listed here are discharges from equipment washing facilities, swimming pools, and aquariums.

b/ Treated in Government-owned sewage treatment plant.

c/ Treated in Government-owned industrial wastes treatment plant.

AMOUNT OF BAY DREDGING BY DISPOSAL SITE
FOR FISCAL YEARS 1973 AND 1974

| Type of dredging | Cubic yards dumped at disposal site | | | Total dredging |
|------------------|-------------------------------------|------------------------|------------------|-------------------|
| | San Francisco Bay | Pacific Ocean | Land | |
| Federal | 9,487,000 | ^a 4,422,000 | 800,000 | 14,709,000 |
| Industry | <u>4,660,000</u> | <u>b</u> 321,000 | <u>743,000</u> | <u>5,724,000</u> |
| Total | <u>14,147,000</u> | <u>4,743,000</u> | <u>1,543,000</u> | <u>20,433,000</u> |
| Percent | 69 | 23 | 8 | 100 |

a/ Federal projects used dump site just outside the Golden Gate with the exception of about 65,000 cubic yards, which was dumped at the 100 fathom depth 29 miles from the Golden Gate.

b/ 150,000 cubic yards dumped at the 100 fathom depth.