CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA
Director

GREGGORY R. KRESGE
Deputy Director

DAVID TAYLOR, P.E.
Wastewater Reclamation Division

TRACY TAKAMINE, P.E.
Solid Waste Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET SUITE 100
WAILUKU, MAUI, HAWAII 96793

June 23, 2009

Mr. David Albright, Manager
Ground Water Office, WTR-9
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

SUBJECT: **LAHAINA WASTEWATER RECLAMATION FACILITY (LWRF)**
**UIC CLASS V PERMIT # HI50710003**
**COMMENTS ON REVISED DRAFT PERMIT**

Dear Mr. Albright,

We have reviewed the latest draft of the permit and continue to have serious concerns about the basis for this permit issuance and the specific actions that are required of the County of Maui.

We have reviewed the scientific data collected since the permit was originally issued and considered the concerns raised by the public at the November 6, 2008 public hearing. Based on our review of the permit record as well as the scientific data collected since the original permit was issued, it is our position that the requirements imposed on the County of Maui by this draft permit is unwarranted based on published scientific data.

Some of our specific issues are defined as follows:

1. The Statement of Basis states that "since the LWRF was initially constructed as a reclamation facility, using federal grant money, EPA finds it appropriate to place reasonable conditions in the permit that will shift practices at LWRF from injection to higher levels of reuse." This conclusion by EPA is not supported by language in the 1972 Pre-Design Report as well as the 1983 Final Environmental Impact Statement (portions attached). These documents indicate the intent to use these federal monies to construct a wastewater treatment facility to treat sewage. At that time, using effluent for irrigation was an option considered as a resource of beneficial use and was an option that required economic considerations of its cost. Based on what we find in the

records, it is not appropriate for EPA to base its proposed permit requirements on the federal grant program.

2. To date, EPA has not identified any current drinking water sources which might be impacted by these injection wells. The Statement of Basis mentions a proposed well which might be used for cooling and potable purposes. Our understanding is that the developer may use this well for irrigation and that it is not intended for drinking water purposes. It should be noted that such a well would be located ocean-side of the Underground Injection Control limit. As such, it is the developer's responsibility to treat the water appropriately or acquire water from another source. This is another example of a local water resource and development issue that should be resolved at the state and local level, not by a federal discharge permit.

3. All of the concerns raised by the public focus on ocean water quality and resource availability, not drinking water quality. This permit sets requirements that are not based on scientific evidence, and inappropriately directs local resources and development issues.

4. There is no scientific data quantifying the nitrogen loading from the injection wells compared to other sources. No published scientific data has substantiated a relationship between nitrogen loading to the injection wells and any adverse impact on ocean water quality. Furthermore, there is no scientific evidence to support increasing disinfection to R-1 levels of *all* injectate Discussions with the State Department of Health indicate no known relationships between treated wastewater effluent and any such health issues.

5. As we indicated previously, based on State mandated environmental permitting and statutory procurement procedures, the timelines for the improvements are not achievable. We previously sent you a realistic project timeline.

6. The Statement of Basis indicates that compliance with all requirements can be met by specific actions such as additional reuse or greater nitrogen removal. Such improvements will cost tens of millions of dollars and the potential for reuse water expansion is only an additional 1.3 million gallons. There is no analysis to show that such improvements will have any measurable results to the environment or achieve any cost-benefit ratio goals.

We are aware that individual members of the general public continue to blame wastewater effluent injection wells for algae blooms and other issues. The best scientific evidence indicates this not the case, and that the conditions of this permit are not justified. Efforts aimed at environmental protection should be based on scientific data and methodology; not on fears that cannot be substantiated.

Our priority related to ocean water quality is reduction and elimination of raw sewage spills to the ocean. The County is currently operating under an EPA Consent Decree developed to minimize such occurrences. This effort has resulted in the County committing tens of millions of dollars to replacement and rehabilitation of much of its wastewater transmission and treatment infrastructure. Volume of wastewater spilled has been reduced approximately 95% or 2 million gallons per year due to these actions. These efforts will continue for decades to come. We are concerned that diversion of limited financial resources by the requirements of this draft permit will reduce our ability to focus on our core wastewater system improvements.

Before a nitrogen limit was in place, the County took significant action to reduce nitrogen discharge at our facilities on Maui. The additions of biological nutrient removal processes have reduced nitrogen by approximately 60%. The County has developed these projects and achieved these results without regulatory limits or requirements. Reducing nitrogen levels even further at all of our facilities will take away from our other priorities.

Newly appointed EPA Administrator Lisa Jackson, states that EPA's efforts to address the environmental crises of today are rooted in three fundamental values: science-based policies and programs, adherence to the rule of law, and overwhelming transparency. In this case, there is no science backing the proposed conditions and there is no overwhelming transparency because it is unclear as to *how* these conditions were developed or *why* these conditions are beng proposed. Additionally, most of the electrical power on Maui is generated from fossil fuel sources. Implementation of the stated improvements will significantly increase electrical usage and fossil fuel emissions. As greenhouse gas emissions are a top priority for EPA, it seems inconsistent to require *increased* power usage with no scientifically proven water quality benefit.

We therefore request the draft permit conditions be revised as follows:

1. Remove Section C.5. Total Nitrogen-Mass Loading Limits

2. Remove Section C.6 Interim Injection Fluid Limitations

3. Remove Section C.7 Wastewater Treatment Requirements

The County of Maui is committed to the protection of the environment. However, these conditions are not supported by scientific baselines, basis or results targeted to justify the costs; and would add an estimated $18 million dollars in capital improvement costs and approximately $100,000 dollars per year in ongoing energy and maintenance expenses. This cost would result in a 3-5% increase in monthly sewer billing to all users in Maui County. Implementing these conditions takes away limited financial resources from more serious issues such as minimizing raw sewage spills to the ocean.

We are available to discuss this matter further at your convenience. Please contact myself at (808) 270-8230 or Wastewater Reclamation Division Chief Dave Taylor at (808) 270-7421 if you have any questions or require further information.

Sincerely,

CHERYL K. OKUMA, DIRECTOR
Department of Environmental Management

Cc: Mayor Charmaine Tavares
Dave Taylor

# Lahaina Wastewater Treatment Plant Expansion

# FINAL ENVIRONMENTAL IMPACT STATEMENT

## COUNTY OF MAUI

March 1983

HANNIBAL TAVARES
Mayor

RALPH HAYASHI, P.E.
Director of Public Works

LESTER NAKASATO, P.E.
Deputy Director of Public Works

DIVISIONS

Engineering

Highway Construction and Maintenance

Land Use and Codes Enforcement

Waste Management

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

March 2, 1983

Included in "Lahaina Wastewater Treatment Plant Expansion Final Environmental Impact Statement" March 1983

Mr. Doak C. Cox
Director
University of Hawaii at Manoa
Environmental Center
Crawford 317, 2550 Campus Road
Honolulu, Hawaii 96822

Dear Mr. Cox:

Subject: Draft EIS for Lahaina Wastewater Treatment Plant Expansion

The following information is in response to your February 22, 1983, letter to Mayor Hannibal Tavares regarding your staff's review of the draft EIS. The answers to your questions are in the order they are posed.

Effluent Description and Disposal Methods

Statement: "...a compositional characterization of the present and expected effluent should be included."

Answer: A characterization of the Lahaina influent was done by University of Hawaii staff for the Park Engineering Lahaina WWTP study in August 1971. A copy is attached. In addition, the most recent (November-December 1982) bi-monthly operational report for the treatment plant is also attached. Based on the current operating reports, the strength of influent sewage is somewhat weaker today than that observed in 1971.

As shown in the operating reports, the average monthly effluent $BOD_5$ values are 12.2 and 7.2 mg/l and effluent total suspended solids values are 2.4 and 2.9 mg/l, respectively. It is important to note that these values were obtained while the plant was operating at the near-design flows of 2.99 and 3.13 mgd, respectively (design flow is 3.20 mgd). Nutrient level information is also listed. A heavy metals analysis of the effluent was not run since the same analysis of the sludge indicated very low heavy metals values (discussed later).

Based on the foregoing, we do not expect the effluent quality will change from that already observed, since the additional Kaanapali and Napili-Honokowai connections serve the same residential and commercial cross section that is now connected.

There are no significant industrial connections now, and none are anticipated in the future. The existing sewer ordinance prohibits discharge of potentially harmful or toxic substances to the sewer system.

Statement: "Pumping cost is described as preventing the use of the effluent water for irrigation purposes. A description of the economic analysis leading to this conclusion should be included in the revised EIS."

Answer: When the Lahaina WWTP went into operation in June 1980, all of the effluent was pumped to a reservoir at an elevation of about 700 that fed the Pioneer Mill Company (PMCo) irrigation system. This is in accordance with an agreement developed between the County and PMCo. In November 1981, CH2M HILL completed an energy management study for the County. The annual cost of pumping the effluent to the reservoir was calculated to be $293,000 (based on 2,900,000 kWh at 9 cents per kWh). Based on the current flows and energy costs, the net cost of pumping to the reservoir is about 34 cents per 1,000 gallons. PMCo currently obtains its irrigation water for approximately 1.4 cents per 1,000 gallons.

To reduce energy costs, the County is discharging a large portion of the flow to two injection wells put into operation in May 1982. The flow (1,000 gallons per minute) from one pump is still pumped to the reservoir. The option of using more (or all) of the effluent for irrigation is still available as the economics become more attractive. There is additional Amfac development planned for areas closer to the plant and at lower elevations. The future use of effluent for golf course irrigation is certainly a viable option.

Question: "Would the savings on fertilizer and the reduction of saltation through the use of effluent water on cane fields have a significant effect on the economics of using the effluent water?"

Answer: The nutrient levels of the effluent were not judged of significant value by PMCo because of the dilution impact of the total irrigational flows used on cane land.

There is a concern, however, about the salinity level of the plant effluent and its effect on the cane. Due to the infiltration of brackish water in the Lahaina collection system, the salinity level of the effluent currently exceeds the maximum limit (450 mg/l as NaCl) established in the agreement between the County and PMCo. Connection of the Kaanapali and Napii-Honokowai flows is expected to dilute the current salinity, but the salinity of the combined flow is still projected to exceed 450 mg/l. With the level of salinity in the effluent, PMCo sees no economic value to offset the pumping costs.

Sludge Disposal Methods

Statement: "...an analysis of the present and expected sludge composition should be included..."

Answer: An analysis of the present sludge is attached. There were no significant levels of heavy metals found. The expected future sludge composition should not differ significantly from the present levels for the same reasons cited for the expected effluent characteristics.

Injection Wells

Statement: "A description of the injection wells and a figure illustrating their specific location and dimensions, with a geologic profile would help in evaluating the impacts of the wells."

Answer: The locations of the injection wells are shown on Figure 3 of the draft EIS. A reduced copy of the engineering design sheet for the injection wells is attached. A final report for Park Engineering on the drilling of an exploratory boring and a monitoring well for the Lahaina site is available. This 73-page report was prepared in July 1979 by Geolabs-Hawaii located in Honolulu. Roscoe Moss Company was in charge of the drilling operation. In addition, Roscoe Moss also drilled the two injection wells put into service about May 1982 at the Lahaina site. Copies of this detailed information are available through Maui County or Roscoe Moss if you think it is warranted.

Question: "Is there a projected percolation distance and will the coastal waters be monitored for increased pollutant levels?"

Answer: To our knowledge, projected percolation distance was not calculated. There is no plan to monitor the coastal waters since the effects of the demonstrated high quality of effluent discharged to the wells would be undetectable.

I hope this satisfactorily answers your questions regarding the draft EIS. We appreciate your input and concerns. Please contact me if you would like further information.

Very truly yours,

Ralph Hayashi
Director of Public Works

Office Copy 21

COUNTY OF MAUI

DEPARTMENT OF PUBLIC WORK
WASTE MANAGEMENT DIVISION
200 S. HIGH STREET
WAILUKU, MAUI, HI 96793

# PRE-DESIGN REPORT ON LAHAINA SEWER SYSTEM AND WASTE WATER RECLAMATION PLANT MAUI, HAWAII

APRIL 1972

PARK ENGINEERING, INC.
1149 Bethel Street
Honolulu, Hawaii

HILL, INGMAN, CHASE & CO.
Seattle, Washington
Special Consultant

## EFFLUENT DISPOSAL

### General

Three disposal methods for the treatment plant effluent are available as follows:

1. Water reclamation for irrigation of sugar cane, golf courses and highways.
2. Subsurface disposal by deep well injection.
3. Ocean outfall.

The deep well injection and water reclamation methods are the most practical at the present time.

### Water Reclamation

The largest potential user of the treatment plant effluent is Pioneer Mill Company for irrigation of sugar cane fields. Representatives of Pioneer Mill Company have indicated that the company can use the water but definite commitments cannot be made until the studies currently being conducted on the effect of nutrients on sugar yield are completed. They have also indicated that Pioneer Mill Company may not be able to use the plant effluent all of the time.

Other potential users of the effluent are the Kaanapali Development for golf course irrigation, and the State of Hawaii for highway irrigation. However, the Kaanapali Development may expand the capacity of its existing treatment plant to reclaim sufficient water for irrigating the golf courses.

### Deep Well Injection

A test well three (3) inches in diameter will be drilled and the geology of the area studied and injection tests will be conducted. Consultation and coordination with interested Federal, State and County Agencies will be made with the information obtained from the test well. Additional testing and monitoring programs will be recommended, from the results of the above effort.

### Ocean Outfall

Disposal of the plant effluent into the ocean is not considered feasible because of high costs and the potential economic value of the effluent for irrigation.

From "Pre-design report on Lahaina Sewer System and WWRP" April 1972