STATEMENT OF BASIS
FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 9'S
CLASS V UNDERGROUND INJECTION CONTROL PERMIT # HI50710003
MAUI COUNTY, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Facility Information

Name and Address of Owner:
County of Maui, Wastewater Reclamation Division
Department of Environmental Management
200 South High Street
Wailuku, Maui, HI 96793

Location of Facility:
Lahaina Wastewater Reclamation Facility
3300 Honoapiilani Highway
Honokowai, Lahaina, Maui, Hawaii 96761-9413

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I. Purpose of the Statement of Basis

EPA has prepared this Statement of Basis for the draft permit to be issued to the County of Maui, Department of Environmental Management (the County) to operate four Class V injection wells at their Lahaina Wastewater Reclamation Facility (the LWRF or facility). Pursuant to the Underground Injection Control (UIC) regulations in Title 40, Part 124.7 of the Code of Federal Regulations (CFR), the purpose of the Statement of Basis is to describe the principle facts and considerations that went into preparing the draft permit. To meet these objectives, this Statement of Basis describes the facility, the permit history, and the specific permit conditions for this draft permit.

II. Facility Description

The County owns and operates the Lahaina Wastewater Reclamation Facility. The LWRF provides secondary treatment to domestic wastewater with advanced effluent sand filtration and disinfection. The facility has two parallel treatment plants, one built in 1975, and the second added in 1985. The average design treatment capacity is 9 million gallons per day (MGD), if both the 1975 and 1985 sides are used. The facility currently treats approximately 4-6 MGD using the 1985 side only.

LWRF recycles approximately 1 MGD of treated wastewater by reusing it at the plant and sending it to a nearby golf course, pineapple company, and construction contractors. LWRF also disposes of the treated wastewater on-site in four (4) gravity fed Class V injection wells. Total injection volume into the four UIC wells is currently averaging about 3 to 5 MGD.

These wells are approximately 1500 to 1900 feet from the shoreline of West Maui at about 30 feet mean sea level (msl) elevation. There are public and private drinking water wells located on the mountain slopes above the plant, with the nearest well about 2.4 miles away at elevations of around 900 feet msl.

III. Permit History

The regulations at 40 CFR §144.84(b)(3) provide the EPA Director the authority to require the owner or operator of any Class V injection well to submit a permit application and obtain an individual UIC permit. Under this authority, the Director required the County to submit a permit application and obtain a UIC permit for their four Class V injection wells. The County submitted all of the required information and data necessary for a UIC permit. On September 12, 1994, EPA issued a draft permit for public review and comment. EPA received public comments in writing on the draft permit and held a public hearing on January 31, 1995 to accept additional public comments.

On March 15, 1995, EPA issued a final UIC permit to the County authorizing the continued operation of the four LWRF injection wells. The County appealed this final permit to the U.S. Environmental Appeals Board (the Board) in Washington, D.C.. The County’s main focus in the appeal was that the requirement for groundwater monitoring wells be removed from the permit.

Upon EPA’s request, the Board remanded the permit back to EPA. EPA and the County agreed to a partial settlement with the following changes in the permit:

a) EPA would remove the requirement to construct groundwater monitoring wells;

b) the permit would require an interim action level of 10 mg/l of total nitrogen entering the injection wells;

c) the permit would require an interim flow limit of 6.7 mgd for the injection wells;

d) EPA would finalize a total nitrogen action level after a year's worth of data documenting the total nitrogen entering the injection wells; and

e) EPA would finalize a flow limit after a year's worth of data documenting injection flow rates.

In addition, it was agreed that by December 1, 1996, the County would complete an evaluation of measures to reduce total nitrogen in its injectate to the maximum extent technically and economically feasible. The County would also submit by January 31, 1997, a report recommending a FINAL injection rate and a FINAL action level for total nitrogen that would reflect the maximum feasible and practicable reduction of total nitrogen.

EPA issued a new draft permit reflecting the settlement and had another public comment period ending January 31, 1996. EPA also held another public workshop and hearing in April, 1996, concerning this new draft permit before issuing a final permit with interim requirements.

On June 11, 1999, EPA issued a modification to the permit which finalized the interim permit requirements. As agreed to by the County and EPA, based on operational data, new injection rates were set at 9 mgd for any calendar week and 19.8 mgd for any day, and the total nitrogen action level was finalized at 10 mg/L.

IV. Permit Renewal

Regulatory Authority

This Statement of Basis is for the renewal of the Lahaina Wastewater Reclamation Facility permit, number HI596001. The permit expired on June 12, 2005. The County has a duty to reapply and obtain a new permit, as required by 40 CFR § 144.51(b), to continue their injection activities. Because the County submitted a timely and complete application for renewal, pursuant to 40 CFR § 144.37, the conditions of the expired permit continue in force until the effective date of a new permit.

This permit renewal is issued pursuant to the Underground Injection Control (UIC) provisions of the Safe Drinking Water Act (SDWA) of the U.S. Environmental Protection Agency (EPA), codified at Title 40 of the Code of Federal Regulations (CFR),

Parts 124, 144, 146, 147, and 148. The renewed permit will have number HI50710003 and will be issued for a period of 10 years (unless the permit is terminated for reasonable cause pursuant to 40 CFR 144.40). EPA will review the permit every five years to determine whether it should be modified, revoked and reissued, terminated, or a minor modification made as provided in 40 CFR 144.39, 144.40, and 144.41.

Specific Permit Conditions

The following facts and considerations describe the well construction and operation conditions of the draft permit. The draft permit includes the final requirements from the June 11, 1999, permit modification, when the injection rate and total nitrogen action level were finalized. The County will follow the monitoring, recordkeeping, and reporting requirements specified in the draft permit. The County will also follow the updated plugging and abandonment plan and has provided proof of its bond rating for financial responsibility for plugging and abandonment of the injection wells.

Section A - Well Construction

Casing and Cementing:

The well schematic details submitted with the application are shown as Appendix A in the draft permit. The injection wells have the following specifications.

Injection Well No. 1: From the surface, the casing is a 20-inch (I.D.), solid steel extending to a depth of 85 feet below ground surface (bgs). A 14-inch (I.D.) perforated steel casing extends 115 feet below the solid casing to a total well depth of 200 feet. The 20-inch surface string is cemented from the bottom of the casing to the top with the cement to surface.

Injection Well No. 2: From the surface, the casing is a 20-inch (I.D.), solid steel extending to a depth of 85 feet (bgs). An open (uncased) hole with a diameter of 18 inches extends below the solid casing to a total well depth of 180 feet. The 20-inch surface string is cemented from the bottom of the casing to the top with the cement returned to surface.

Injection Well No. 3: From the surface, the casing is a 20-inch (I.D.), solid steel extending to a depth of 105 feet. An open (uncased) hole with a diameter of 18 inches extends below the solid casing to a total well depth of 225 feet. The 20-inch surface string is cemented from the bottom of the casing to the top with the cement returned to surface.

Injection Well No. 4: From the surface, the casing is a 20-inch (I.D.), solid steel extending to a depth of 105 feet. A 14-inch (I.D.) perforated steel casing extends 150 feet below the solid casing to a total depth of 255 feet. The 20-inch surface casing

is cemented from the bottom of the casing to the top with the cement returned to surface.

Section B - Corrective Action

EPA reviewed the wells within the Area of Review (i.e., 1/4 mile radius around the facility's injection wells) and found them to be for irrigation purposes varying in depth from 25 to 65 feet. Corrective actions will not be necessary for these wells, pursuant to 40 CFR 144.55 and 40 CFR 146.7.

Section C – Well Operation

Mechanical Integrity:

Because the facility wastewater flows by gravity into the injection wells, the injection wells will not be subject to Mechanical Integrity Testing at this time.

Injection Pressure Limitation:

No pressure limits apply. The effluent will continue to flow by gravity into the wells and will not be injected under pressure.

Injection Rate Limitation:

EPA finalized the injection rate limits in June, 1999, by permit modification. The average injection rate shall not exceed 9 million gallons per day (mgd) for any calendar week. The maximum injection rate of 19.8 mgd shall not be exceeded on any one day.

Injection Fluid Limitations:

a) The permittee shall not inject any hazardous wastes (defined in 40 CFR 261) at any time.

b) Injection fluid shall only consist of treated wastewater generated at the LWRF. If a different fluid will be injected, a 30 day prior notification to EPA is required so that EPA can determine if the fluid is allowable.

c) Injection fluid shall meet the following characteristics:

(i) Biochemical Oxygen Demand (BOD) for any grab sample shall not exceed 60 mg/l.

(ii) Total Suspended Solids (TSS) for any grab sample shall not exceed 60 mg/l.

d) The total nitrogen action level has been included in the permit. EPA finalized the total nitrogen action level in June, 1999, by permit modification. The total nitrogen action level of the injectate is 10 mg/l. If the action level is exceeded as specified below, then the following

actions are triggered.

When either any two consecutive samples of injection wastewater *or* any three out of ten consecutive samples indicate that concentrations of total nitrogen have exceeded 10 mg/liter, the permittee must complete an evaluation of the cause of this excess nitrogen concentration. The permittee shall then prepare and submit a report to EPA, along with the required quarterly report, explaining their findings.

When any three consecutive samples of injection wastewater, or any four out of ten consecutive samples indicate that concentrations of nitrogen have exceeded 10 mg/liter, the permittee shall complete an evaluation of the remedial measures needed to reduce excess nitogen concentrations. The permittee shall then prepare and submit a report to EPA, along with the required quarterly report, recommending methods for reducing nitrogen concentrations in injected wastewater and a time schedule for implementing these methods. Such report shall specify implementation of the best treatment or other nitrogen reduction technology that is technically and economically feasible. Upon EPA approval, the permittee shall implement these methods according to the specified time schedule.

Section D – Monitoring, Recordkeeping, and Reporting of Results

Samples and measurements shall be representative of the monitored activity. The County shall continuously record injection rate and total volume measured in the supply line immediately before the wellhead of the injection wells. The County shall collect 24 hour composite samples for total nitrogen analysis collected at the sampling effluent distribution box. The County shall utilize the applicable analytical methods described in Table I of 40 CFR 136.3, in EPA Publication SW-846, “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” or in certain circumstances, other methods that have been approved by the EPA Administrator. Quarterly reporting shall consist of minimum, maximum and average daily and monthly values for flow rate, and total volume; copies of analytical results required by the State of Hawaii, Dept. of Health UIC permit monitoring list for the LWRF; and all parameters required by Section II.D.3 of the draft permit.

Section E – Plugging and Abandonment

To abandon any of the wells, the County shall follow the updated Plugging and Abandonment Plan provisions of the permit (see Appendix C of the draft permit). The EPA reserves the right to change the manner in which the well will be plugged if the well is modified during its permitted life or if the well is not consistent with EPA requirements for construction or mechanical integrity. The Director may ask the County to estimate and to update the estimated plugging cost periodically. Such estimates

shall be based upon costs which a third party would incur to plug the well according to the plan.

Section F – Financial Responsibility

The County has provided proof of an acceptable bond rating using the Standard and Poor's rating system. EPA considers acceptable the bond rating within the four highest categories of Standard and Poor's (AAA, AA, A, or BBB) for a municipality. Demonstration of financial responsibility must be provided to the EPA every year by March 31. If the County falls below the acceptable rating, then they must establish other means acceptable to EPA for financial assurance to plug and abandon the injection wells.