From: Hannah Bernard
To: Nancy Rumrill/R9/USEPA/US|||EPA
Date: 06/22/2009 10:55 AM
Subject: Lahaina Injection Well

Don't Inject, REdirect

Because the situation is DIRE

June 20, 2009

U.S. Environmental Protection Agency,
Ground Water Office (WTR-9),
75 Hawthorne Street,
San Francisco, CA 94105

Attn: Nancy Rumrill
Delivered via email to: rumrill.nancy@epa.gov <mailto:rumrill.nancy@epa.gov>
Re: Request for Public Hearing on Revised Version of Proposed Permit for Lahaina (Maui) Wastewater Underground Injection Wells
Dear Ms. Rumrill,
We write on behalf of the DIRE Coalition, a group of Maui county residents, visitors and organizations, who seek to protect the County¹s reefs, public health, and economy by urging the County to phase out wastewater injection wells and reclaim and re-use properly treated wastewaters on land for a variety of beneficial uses. We acknowledge that underground injection wells for publicly owned wastewater disposal are only one of the significant sources contributing to undermining ocean, reef, fish, and human health and well-being, but we believe they are significant enough contributors to warrant your focused attention, while we think together about ways to address the other significant sources of these problems. Evidently, the Mayor of Maui County agrees, for on May 22 she publicly proclaimed this vision: ³Our goal is to use all of the water that¹s produced by our treatment plants and not put it down any injection wells. That¹s our goal.²
In light of this pronouncement and the additional data we have developed at and since the last public hearing, we write for the following purposes:

(1) To request a public hearing on the proposed revised permit for the Lahaina wastewater treatment plant¹s underground injection wells;
(2) To request - even before the public hearing - EPA to encourage the county to meet in an informal, inter-active forum with interested parties to discuss how soon and how we can make Mayor Tavares¹ goal a reality;
(3) To request that in both the informal forum and public hearing EPA involve its Clean Water Act staff as well as its safe drinking

water/groundwater protection staff;
(4) To provide a summary of the reasons and bases for these requests.

Recognition of Improvements: First, we would like to express our appreciation and support for the goal announced by Mayor Tavares on the 22d of May. Second, we want also to express our appreciation and support for most of the changes that EPA has proposed in the revised permit. We think the following changes are beneficial - at least directionally - and want to ensure that EPA does not retract or reduce the stringency of any of these new requirements in response to any other comments that you may receive. Specifically, we believe the proposed revised permit conditions are improvements over the original proposed permit in the following respects:

1. Inclusion of new nitrogen mass loading limits in injected effluent and phasing these limits down over the next 5 plus years. (As indicated by our comments below, we believe a more aggressive phase down schedule is needed for total nitrogen loadings with completion required by December 31, 2011.)
2. Inclusion of a new requirement for treatment of all injected effluent to meet and exceed R-1 standards by 12/31/11. (In our view, all wastewater should be required to be treated beyond the current R-1 standard, for reuse and injection. R-1 water is both chlorinated and UV radiated; however current studies show that sewage waste water contains antibiotic resistant genes (ARGs) that remain intact and become part of the effluent that is or reused or injected into the pubic environment. Therefore, all reused water must be monitored for bacterial content to prevent ³the superbug² and resistant bacteria from occurring ‹ as documented in the studies cited in endnote 1. In addition to UV and chlorine, appropriate virus/bacterial technology must be included in the sewage treatment, and updated as the viruses and bacteria mutate to develop immunity. This will be essential to enable the water quality of the treated wastewaters to be used on land safely and in compliance with all applicable federal and state standards.)
3. Lowering the injection rate ceiling for average gallons/day over a weekly period and setting a daily maximum level.
4. Adding a separate nitrate limit.
5. Adding bacterial monitoring of the effluent.

Concerns and Inadequacies. While we appreciate the above areas of improvements, there are a number of areas of concern or inadequacies in EPA¹s response that we believe need further public airing and discussion, particularly in light of Mayor Tavares¹ announced goal of 100% water reclamation and zero wastewater injection. Among these areas of concern or inadequacies are that EPA¹s revised proposed permit, accompanying statement of basis, and public notice did not respond satisfactorily (or in some cases at all) to key questions that were raised in the November 2008 public hearing. For example, EPA did not say in any of these documents:

a. Whether or not EPA agrees with the contention presented in earlier public hearings and comments that the County has the burden of proving its eligibility for a 10 year UIC permit under the Safe Drinking Water Act?

b. If so, whether the County has satisfied that burden of proof (and if so, specifically how it did so)? If not, on what authorities the EPA relies for coming to this conclusion?

c. How the County¹s 1995 objection to conducting ground water monitoring in areas surrounding the injection wells and the fact that the County, therefore, could not provide ground water monitoring data in support of its permit application - how these factors affect the question whether or not the County adequately bore the burden of proving entitlement to a new 10 year UIC permit?

d. Why EPA apparently rejected the unanimous view of those testifying in the public hearing that the Agency should condition the granting of any permit on a schedule for the County to phase out the injection wells and instead reclaim and re-use appropriately treated wastewaters on land for beneficial uses - whether this was for legal, policy, or scientific reasons? (We urge EPA to adding a condition to the permit to require the County to adopt, within one year, and implement a specific plan for phasing out of the injection wells and ‹ in line with the Mayor¹s goal ‹ the end of all wastewater injection as soon as feasible. We also urge EPA to add a permit condition that would require the County to commission the requisite feasibility, design, and financing studies so that ³shovel ready plans² for getting the reclaimed wastewater to beneficial re-use on land are completed by no later than December 31, 2011.)

e. Whether or not EPA accepted or rejected the contentions of several submissions to and witnesses at the prior hearing that the Clean Water Act is relevant to this proceeding and that the Agency has the authority under these factual circumstances to require the County to obtain an NPDES permit for any injection well that acts as an indirect means of discharging wastewater to the ocean? (We believe that EPA has this authority, and note that the Hawaii State Department of Lands and Natural Resources argued as well that the EPA has and should use its Clean Water Act authority in connection with this application. See: http://www.epa.gov/region/water/groundwater/uic-pdfs/lahaina/SoH-DoLaNR-DoAR-DanPolhemus.pdf <http://www.epa.gov/region/water/groundwater/uic-pdfs/lahaina/SoH-DoLaNR-DoAR-DanPolhemus.pdf>). In the new hearing we are requesting we will present additional authorities and arguments to support this point.)

f. Whether - given the fact that the County now acknowledges that the wastewaters injected into these underground wells flow into the ocean (see

Transcript, p. 8, lines 20-21 and p. 13, line 13-p.14, line - in EPA¹s view, the County should be seeking an NPDES permit for the plant and should be satisfactorily treating all injected wastewaters to levels that would satisfy the State¹s specified beneficial uses of ocean waters? (We urge EPA to add a condition to the permit requiring the County within one year to apply for a state or Federal NPDES permit for any discharge through the injection well, which is known [which may reasonably be anticipated], to enter ocean waters and to meet all applicable or necessary water quality, effluent limits, and other requirements for discharges to protect health and the environment, including all beneficial uses of the ocean and protection of the reefs. We plan to amplify and support this point in our testimony and submissions to the public hearing we are requesting. We are also requesting EPA, after the public hearing, to clarify its position with regard to this question and make that clarification public.)

g. Whether or not the EPA regards the State Constitution¹s requirements that ³all waters of Hawaii² be held in public trust by the State and its counties and managed for beneficial use as a relevant state standard under the Safe Drinking Water Act or the Clean Water Act?
h. How these questions may need to be reassessed in light of the Mayor¹s unequivocal goal to ³use all of the water that¹s produced by the treatment plants and not put it down any injection well²?

These and other questions deserve clarification (which the Agency has not provided thus far) and further discussion in light of the new information that came to light during the previous public hearing, but to which EPA has not expressly responded, and in light of Mayor Tavares¹ announcement of this new County goal. .

Additional Legal and Public Policy Issues. In addition, we believe a new public hearing is needed in order that we may raise the following new questions and present data and information relevant to their appropriate resolution as a matter of law, policy, and public and environmental health. These questions - on which we wish to provide additional information ‹ include the following:

i. Whether EPA has the authority under the existing UIC permit to require the County to obtain an NPDES permit or curtail injection when ³There exists a legal, environmental, or public health condition that requires elimination of either a temporary or permanent reduction or the permitted injection.² [emphasis added]? And why in the new permit, does EPA propose to remove this language and authority? (We believe this provision should be retained in the new permit and used to ensure adequate treatment of the injected effluent.)

j. Regardless of the answer to the previous question, whether or not the ³nexus² between the injection of wastewater into the Lahaina wells and the

acknowledged entry of the discharged wastewater into the ocean should be regarded as ³significant² within the meaning of Justice Kennedy¹s concurring opinion in Rapanos v. US, 126 S.Ct. 2208 (2007) and the Ninth Circuit Court of Appeals decision in Northern California River Watch v. City of Healdsburg, 457 F.3d 1023, 496 F.3d 993 (9th Cir. 2007)? We believe that this nexus is ³significant² given a number of pertinent factors, including the County¹s on the record admission validated by the testimony of others and ³independent scientific studies,² the stated purposes of the Clean Water Act and its NPDES permit system, the Supreme Court¹s holding in South Florida Water Management District v. Miccosukee Tribe of Indians et al., 541 U.S. 95 (2004) to the effect that ³one of the [Clean Water] Act¹s primary goals was to impose NPDES permitting requirements on municipal wastewater treatment plants,² the huge volumes of water that are discharged to the wells in relation to the limited holding capacity of the wells, the design of the wells that include openings for releasing the injected wastewater underground, the short distance from the injection wells to the ocean, the hydro-geology of the area which clearly causes released wastewaters to flow to the ocean, and other pertinent factors (including the State¹s public policy statement on water pollution control in Hawai¹i Administrative Rules, 11-55-02). (We believe the answer is yes and would like to present the evidence we are collecting to document the ³significant nexus² that exists between the injected wastewaters and the discharge and harm to the reefs and ocean.)

k. Whether in the Agency¹s view, the discharge of a pollutant indirectly into the ocean through a underground well (rather than directly) exempts the plant from meeting NPDES requirements that clearly would be applicable if it dumped the wastewaters directly into the ocean? (We believe it does not and should not - as both questions of law and policy ‹ and will cite authorities and policy arguments in support of that position.)

l. Whether the Agency¹s authorities under the Safe Drinking Water Act and the Clean Water Act should be viewed in light of the subsequently enacted federal Pollution Prevention Act of1990, and the hierarchy of environmental management under that Act that puts ³recycling² ahead of ³disposal or release to the environment²? If EPA agrees, how does the proposed permit and the failure to require wastewater reclamation and re-use in preference to injection well disposal reflect this statutory hierarchy? If EPA does not agree, then why not? (We think the Agency¹s authority under the Safe Drinking Water Act and Clean Water Act should be read in light of the PPA and that, as a result, the Agency should use these authorities to require the County to move toward phasing out injection in favor of the reclamation and re-use of properly treated wastewaters In the hearing, we would like to present further information and authorities, which support of this position.)

m.. How the Agency weighed the views of former Mayor Arakawa, the former manager of the Lahaina plant, with respect to the questions raised in this letter, and specifically which of his statements and recommendations were agreed to, which were not, and why not? (We think those views should be given great weight in light of his technical expertise and understanding of the policy making process in Maui.)

n. How the Agency¹s views on the Lahaina injection well permit relate to the views it stated in 2003 in EPA, ³Underground Injection Control Program‹Relative Risk Assessment of Management Options for Treated Wastewater in South Florida; Notice of Availability,² May 5, 2003, p. 23673, 23677 ‹ http://bulk.resource.org/gpo.gov/register/2003/2003_23677.pdf <http://bulk.resource.org/gpo.gov/register/2003/2003_23677.pdf>

o. Why the County objected to groundwater monitoring that EPA first required (then withdrew) in 1995, even though this would have provided clearer information about the directional flow of injected effluent, and whether such requirements should be re-instated in the current permit? (We believe such ground water requirements should be re-instated, along with other monitoring requirements - particularly ocean water quality monitoring in the area where the injected effluent is flowing into the ocean.)

p. .Under what authority the Agency proposes to require reductions of total nitrogen loadings in the Lahaina effluent to be injected, if the UIC authorities of the Agency may only be exercised in order to protect the safety of drinking water standards? Does the Agency believe that reductions of total nitrogen loadings in the injectate are necessary to protect drinking water supplies, and if so, what¹s the basis for this belief?

Additional Scientific, Technical, Public Health, and Ecology Issues:
Finally, we think an additional public hearing is needed to consider the following scientific, technical, health and environmental questions, issues and concerns:

q. What standard (and assumptions) the Agency used to define the amount of allowable nitrogen loadings in the effluent and the timetable for reduction in these loadings - whether based on technical or economic feasibility, public health protection, environmental protection, or other factors, and whether a more aggressive phase down timetable is warranted? We think a more aggressive phase down timetable is both necessary and feasible to protect the ocean ecology and the reefs and we wish to provide data to support this. Specifically, we support a change to the proposed conditions of the Lahaina UIC permit to require achievement of a 50% reduction in total nitrogen loading of by no later than December 31, 2011, instead of December 31, 2015.)

r. Why the Agency is not requiring groundwater monitoring wells and regular groundwater monitoring, ocean water quality monitoring, and other appropriate measurements to protect ocean health? We think these requirements should be added as permit conditions and want to provide data to support the addition of these conditions. Specifically, we urge EPA to add a condition to the Lahaina UIC permit requiring the County to begin construction of monitoring wells by January 1, 2012 and to complete construction and begin operation of such monitoring wells by December 31, 2012.)

s. Whether the requirements for bacteriological monitoring in the injected effluent and in nearby ocean waters should be improved by increasing the frequency and improving the kind and specific methods of monitoring required? (We think these requirements can and should be improved and want to provide the Agency with more specific recommendations for EPA¹s consideration before finalizing the permit.)

t. Whether in light of emerging information about resistant bacteria and viruses (RBV), MRSA, potential endocrine disruptors, and pharmaceuticals in wastewater, the permit should require additional treatment beyond R-1 levels to protect the public¹s health and the environment. (We believe that such additional treatment measures are needed ‹ regardless of how soon injection wells are phased out and replaced with reuse on land ‹ in order protect the public¹s health and the environment. We would like the opportunity at the public hearing to present additional information about why this is necessary and how it is feasible.)

Conclusion. While we have identified a range of issues and concerns to which EPA has not spoken previously or which we have newly identified, we have not provided you with anywhere near all the supporting data in this letter. We are in the process of gathering these data (and preparing our presentation) and will provide them to you at the public hearing we are requesting.

On behalf of the DIRE Coalition, we appreciate your consideration of the requests contained in this letter, of the issues we would like to discuss with you and the County at the public hearing, and of the kinds of additional data we would like to present at the public hearing.

Sincerely,
Signatories, for the DIRE Coalition,

Hannah Bernard
Wayno Cochran
Irene Bowie

Endnotes for DIRE Letter to EPA - 6/ /09

See the following studies: Pruden, A.; Pei, R.; Storteboom, H.; Carlson, K. H Antibiotic Resistance Genes as Emerging Contaminants: Studies in Northern Colorado. Environ. Sci. Technol.; (Article); 2006; 40(23); 7445-7450 and Ribeiro-Dias JC, Vicente AC, Hofer E. Fecal coliforms in sewage waters. I. Resistance to antibiotics, heavy metals and colicinogeny. Appl Environ Microbiol 1983 Jul;46(1):227-32. and Marcinek H, Wirth R, Muscholl-Silberhorn A, Gauer M. Enterococcus faecalis gene transfer under natural conditions in municipal sewage water treatment plants. Appl Environ Microbiol 1998 Feb;64(2):626-32

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resistant fecal coliforms and R plasmids in a wastewater treatment plant. Nippon Koshu Eisei Zasshi 1990 Feb;37(2):83-90.; and Kinney CA, et al. Presence and distribution of wastewater-derived pharmaceuticals in soil irrigated with reclaimed water and Eniron Tox Chem 2006 Feb;25(2):317-26 and Kummerer K. Resistance in the environment. J Antimicrob Chemother. 2004 Aug;54(2):311-20. Epub 2004 Jun 23. and Kummerer K. Promoting resistance by the emission of antibiotics from hospitals and households into effluent. Clin Microbiol Infect. 2003 Dec;9(12):1203-14. and Kummerer K. Standardized tests fail to assess the effects of antibiotics on environmental bacteria. Water Res. 2004 Apr;38(8):2111-6 and Kummerer K. Biodegradability of some antibiotics, elimination of the genotoxicity and affection of wastewater bacteria in a simple test. Chemosphere. 2000 Apr;40(7):701-10 and Kummerer

K. Drugs, diagnostic agents and disinfectants in wastewater and water-a review. Schriftenr Ver Wasser Boden Lufthyg. 2000;105:59-71 and Rooklidge SJ. Environmental antimicrobial contamination from terraccumulation and diffuse pollution pathways. Sci Total Environ. 2004 Jun 5;325(1-3):1-13 and The Dirty Work of Promoting ³Recycling² of America¹s Sewage Sludge. Int J. Occup Health. 2005; 11:415-27 and Mintz JA. ³Treading Water²: A Preliminary Assessment of EPA Enforcement