

**2007 HAWAII WATER WORKS ASSOCIATION ANNUAL CONFERENCE - AGENDA AND REGISTRATION**  
**Kauai Beach Hotel & Resort, October 11-13, 2006**

**THEME: "Planning for the Future"**

**AGENDA**

**Wednesday, October 11, 2006**

- 8:30 - 9:30 AM **REGISTRATION** (*Sign-up for Omiyage by 4:30 p.m. this afternoon*)  
9:30 - 9:35 AM **INTRODUCTION** - Faith Shiramizu, Emcee, Kauai Department of Water  
9:35 - 9:45 AM **WELCOME** - Wynne Ushigome, Acting Manager, Kauai Department of Water  
Introduction of Kauai Board Members  
9:45 - 10:00 AM **GREETINGS** - Honorable Mayor Bryan Baptiste  
10:15 - 11:00 AM **"Local Source Water Protection - Getting Started"**, Chi Ho Sham, Cadmus Group, DOH-SDWB  
11:00 - 12:10 PM **LUNCH** - Pakalana Room  
Stuart Yamada, Chief, Safe Drinking Water Branch, State Department of Health  
12:15 - 1:15 PM **"Development of a Source Water Protection Plan: Vision, Mission, Goals, and Objectives; Roles and Responsibilities of Involved Parties"**, Chi Ho Sham, Cadmus Group, DOH-SDWB  
1:15 - 4:15 PM **"High Performance Through Life Management 24/7"** - Gwen Fujie, Gwen Fujie Keynotes & Seminars  
4:15 PM **ANNOUNCEMENTS/ADJOURNMENT**  
4:30 - 6:30 PM **MEET & GREET**

**Thursday, October 12, 2006**

- 8:30 - 10:30 AM **Water Board Topics Concurrent Session for Water Board Members and Managers/Deputies only**  
8:00 - 8:45 AM **"Tools for Source Water Protection (1) Land Management"**, Chi Ho Sham, and DOH-SDWB  
8:45 - 9:30 AM **"Tools for Source Water Protection (2) Best Management Practices"**, Chi Ho Sham, and DOH-SDWB  
9:30 - 10:15 AM **"Tools for Source Water Protection (3) Education/Outreach and Monitoring"**, Chi Ho Sham, and DOH-SDWB  
10:15 - 10:30 AM **ANNOUNCEMENTS/ADJOURNMENT**  
**FIELD TRIPS (Bentos to be provided)**  
Visit Kauai's Backcountry at Blue Hole or Puakea Golf Course  
6:00 PM **NO-HOST COCKTAILS**  
6:30 PM **BANQUET**

**Friday, October 13, 2006**

- 7:30 - 8:00 AM **OMIYAGE PICK-UP**  
8:00 - 11:00 AM **"Math Refresher for the Operator's Certification Exam"**, Kumar Bhagavan, DOH-SDWB  
8:00 - 8:45 AM **Panel Discussion: "Kamehameha Schools...e malama I ka aina" - (1) "Overview of Kamehameha Schools/Partnerships/Watershed Hui"**, Kalani Fronda, Land Asset Manager of the Kamehameha Schools; (2) **"Importance of Water to Kamehameha School's Lands"**, T. Kao Duarte, PhD, Water Resource Manager of Kamehameha Schools Endowment Group; and (3) **"Management of Summit to Sea (the ahupuaa concept)"**, Stacy Sproat-Beck, Executive Director of the Waipa Foundation  
9:00 - 9:45 AM **"Bioinformatics and Water Management: the State of Hawaii's New Aquatic Surveys Database System"** - Dan Polhemus, Administrator for the Hawaii Division of Aquatic Resources  
10:00 - 10:45 AM **"Update on the County of Kauai's General Plan"** - Keith Nitta, Senior Planner for the County of Kauai's Planning Department  
11:00 - 11:45 AM **Concurrent Sessions: (1) "Kauai Island Utilities Co-op's Renewable Energy Program"**, Jeffrey Deren, Staff Engineer of KIUC; and (2) **"Electrical Grounding"**, David Roque, Hawaii Electric Light  
12:00 - 1:30 PM **LUNCH**  
1:30 PM **CONFERENCE ADJOURNMENT**



### MERCURY SEALS IN WATER PUMPS

Water pumps are necessary for extracting water from deep groundwater wells. Water pumps are generally comprised of a motor, the moving parts that pump the water, and a water intake area. A dynamic seal creates a barrier between the electrical components of the motor and the water intake area. Pump seals function to prevent water from entering the motor casing, thereby preventing the damage of the motor's electrical parts. The pump seal must be capable of stopping water from entering the motor enclosure while allowing for movement of parts that extend from the motor into the water intake area. A pump seal usually contains a main barrier made of metal or other material.

Due to its high surface tension, mercury's physical properties make it useful as a seal material to fill in these gaps. The mercury also acts as a lubricant in keeping the moving components moving and prevents the motor from overheating due to friction. Estimates of the mercury content in submersible pump seals indicate that it can be as high as 12 pounds.

Across the country, mercury seals have been identified in submersible well pumps at public water systems. Mercury sealing technology is believed to have been common as recently as the 1990s. When many pump manufacturers changed ownership the use of mercury was phased out. Currently, at least one manufacturer, Flowserve, offers mercury seals upon request for its deep well, oil-filled design submersible well pump.

Some of the pump equipment identified as having mercury seals include: Byron Jackson oil-filled design submersible pump. (Byron Jackson is associated with the following companies: Flowserve, Plueger, Durmattalic).

The breakage of and spills from mercury seal in submersible pumps have been reported around the country at public water system and irrigation systems which use/used this technology. Breakages may be caused by many causes situations including in-well failure and operator error. Several systems have reported that mercury spills were caused during pump disassembly when the pump was removed from the well for maintenance.

Cleanup cost associated with mercury spills can include incident response; worker decontamination; and cleanup, removal, and disposal of mercury from the well and surrounding soils. If mercury spills into the well, it can result in high cleanup cost from remediation, removal, and testing. Additional cost may be incurred if the existing well must be sealed and a new well drilled or the water must be treated before being used. Until the problem is remediated, the communities must also be provided with an emergency or alternative water supply.

### MERCURY CONTAMINATION IN HAWAII

**Kauai Department of Water:** In early February 1999, the Safe Drinking Water Branch and the Kauai Department of Water confirmed the presence of mercury in water samples taken from the Wailua Homesteads Well A. The source of the mercury is suspected to be the mercury seal used in the submersible pump motor. In response, the well was closed to reduce the risk to its customers and to allow the cleanup of that well to proceed. The Kauai Department of Water replaced the pump and tested various methods to remove the mercury in the well including PAC, sealing with Bentonite, flushing, and GAC. These methods did not reduce the mercury level significantly. Meanwhile, the Kauai Department of Water replaced the pump at Well B with a pump that did not use mercury seals. Finally, the Wailua Homesteads Wells A&B were connected to a Granular Activated Carbon Mercury Removal System (GACMRS) which was installed in August 1999. No mercury has been detected in the distribution system with the installation of the GACMRS.

The removal and replacement of well pumps (containing mercury seals) were also conducted at Makeleha and Lawai.

**Hawaii Country Club:** In November 2001, the Safe Drinking Water Branch collected a water sample from the Hawaii Country Club well that demonstrated the presence of mercury in the well water at a level of 0.0007 mg/l. The SDWB had been tracking mercury levels in this well quarterly for about 2 years since it was first indicated below the minimum reporting level of 0.0005 mg/l. The SDWB requested that the water system investigate the cause of the positive mercury detection in the water source. The water system was advised that another water system with submersible pumps did experience high levels of mercury contamination directly attributed to the use of mercury seals which failed for a specific make and model of submersible pump.

In May 2002, the motor to the submersible pump (which was a mercury sealed Byron Jackson motor suspected of causing the mercury contamination) burned out and the unit was replaced with a non-mercury sealed pump. Subsequent water testing have been negative for mercury.

**Lanai Company:** In March 2006, the Lanai Company reported that they believe there may have been a small leak of mineral oil from one of its pumps based on visible oil in a small tank that sets off to the side of the main pump. The correspondence indicated that further investigation was being conducted. In June 2006, unconfirmed results indicated that mercury contamination may have occurred. At the time, of the unconfirmed results, the well was shut down and was not being used. Subsequent testing of the water system showed no presence of mercury. A check of the water system records indicated that the pump used on the well was a submersible pump by Byron Jackson.

At the present time, there is no way of getting water out of that well because the pump has been removed. Another pump is on order. Once the new pump is installed, testing for mercury contamination will be conducted before the well is allowed to be used.

**Under normal operations, mercury-containing equipment should be safe. However, the potential for breakage, accidents, and spills exist. Water system should determine if they are using pumps that may contain the mercury seals. If their pumps contain the mercury seals, water systems should determine the best course of action in ensuring that there is no contamination to the water supply.**

## *REPLACING FITZGERALD (Shannon)*

Up in the land or sea, where the Orcas play (San Juan Islands, Washington) in the Pacific Northwest, Shannon has begun here new job at the local Community Development and Planning Office. One of her first projects is a conditional land use permit with variance for a cell phone tower near a small airport on Lopez Island. **Sounds like fun!!**

**Can you spot the orca between the boats?**



Meanwhile, back at the Regional EPA Office in San Francisco, a decision on who will replace her has been made. The new Hawaii project officer for the Groundwater Protection Program (CWA S106 and Source Water Protection will be Ephraim Leon-Guerrero (some of you may remember him from the early days of the source water assessment program).

## Compliance Report Completed

The Safe Drinking Water Branch has completed its Annual Compliance Report for the calendar year 2005. This report is a federally required report on the status of Hawaii's public water systems in the areas of maximum contaminant level/treatment technique (MCL/TT) and significant monitoring violations. The United States Environmental Protection Agency (USEPA) combines the Hawaii information with all other states and territories administering Safe Drinking Water requirements and publishes the "National Annual Compliance Report".

The Hawaii report contained a total of 47 MCL/TT or significant monitoring violations. A breakdown of the violations is as follows:

Rule	Total Violations	MCL/TT	Significant Monitoring	Systems with Violations
SWTR/ESWTR	28	28	0	4
D/DBPR	11	8	3	3
TCR	4	2	2	4
Lead/Copper	4	0	4	4
<b>Total</b>	47	38	9	14*

\* One system incurred violations of the SWTR and D/DBPR rules, but only gets counted once as a violating system.

The report shows that Hawaii still has work to do, primarily in the areas of Total Coliform Rule, Surface Water Treatment Rule and its related rules, and Disinfection/Disinfectant By-Products Rule. Overall, Hawaii's community public water systems achieved a compliance rate with MCL/TTs of over 95% for both population served and community water systems. If you wish to receive a copy of the report, please call Mel Hamano at 586-4258 or it can be downloaded from the SDWB website at:

[www.hawaii.gov/health/environmental/water/sdwb/index.html](http://www.hawaii.gov/health/environmental/water/sdwb/index.html)

**THANK YOU for your efforts to provide the people of Hawaii with safe drinking water and CONGRATULATIONS on the success of all your hard work!!**

### UH-OUTREACH COLLEGE - - OPERATOR TRAINING

Operators!! There is still time to register for the final UH-Outreach College continuing education classes this summer. This course is designed to provide eight (8) contact hours of training:

NUMBER	COURSE TITLE	COURSE INFORMATION
S08685	Operator Math Review and Sanitary Survey Concepts (Maui)	September 13, 2006, 8:00am-5:00pm, 1 Meeting, (one hour lunch break), Maui Community College, 310 Kaahumanu Ave. (Laulima 108), \$45 (Bring a handheld calculator)

For additional information or to register, visit the UH-OC website at: [www.outreach.hawaii.edu/noncredit](http://www.outreach.hawaii.edu/noncredit) or [www.outreach.hawaii.edu/ibpd](http://www.outreach.hawaii.edu/ibpd), or call 956-8400 (1-800-862-6628 toll free from the Neighbor Islands). If you have any questions or need further assistance, please call Pamela Fujita-Starck at (808) 956-2040.

**SDWB NOTES: HAWAII COUNTY FAIR**

Don't forget to visit us at the Hawaii County Fair from September 14-17, 2006 at the Hilo Civic Center.

At its Hawaii County Fair booth, the Safe Drinking Water Branch will exhibit copies of the Groundwater Poster, Source Water Protection Poster, and EPA's Drinking Water Poster. Copies of the Groundwater Poster, Groundwater Contamination Maps, Water Conservation Activities Booklet, Water for Kids and Waterspot newsletters, Water Cycle Bookmarks, pencils, and EPA publications will be available. So stop by the our booth to get stuff, ask questions, talk story or just say "hello."

*Please send your suggestions, ideas, questions or comments to:*

**THE WATER SPOT 2006**  
**Safe Drinking Water Branch**  
**State Department of Health**  
**919 Ala Moana Blvd., Room 308**  
**Honolulu, Hawaii 96814**

*Fax us at (808) 586-4351,*  
*Attn: "THE WATER SPOT 2006"*

**SDWB WEB SITE:**  
<http://www.hawaii.gov/health/environmental/water/sdw>



**LINDA LINGLE**  
**Governor of Hawaii**

**CHIYOME LEINAALA FUKINO, M.D.**  
**Director of Health**

**LAURENCE K. LAU**  
**Deputy Director for**  
**Environmental Health**

*We provide access to our activities without regard to race, color, national origin (including language), age, sex, religion, or disability. Write or call our Affirmative Action Officer at Box 3378, Honolulu, HI 96801-3378 or at (808) 586-4616 (voice) within 180 days of a problem.*



**The Water Spot 2006 (September 2006)**  
**Safe Drinking Water Branch**  
**Environmental Management Division**  
**Hawai'i Department of Health**  
**919 Ala Moana Boulevard, Room 308**  
**Honolulu HI 96814**

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