

2003 FIRST Robotics Competition Hawaii

For the 2003 FIRST Robotics Competition Hawaii had six schools participating. The full team names are so long that it is easier just to go by the high school name or the assigned team number. For example, the full team name for the McKinley High School team was NASA Ames Research Center/Hawaiian Electric Company (HECO)/Harry and Jeanette Weinberg Foundation/RHT Enterprise & McKinley High School. The other teams participating included Naval Sea Systems Command Detachment Pacific/Hawaii Directorate of Public Works/McInerny Foundation/IP Engineering/Bishop Museum/Castle and Cooke & Waialua High School, McInerny Foundation/University of Hawaii School of Ocean and Earth Science and Technology/The Estate of James Campbell/Hawaiian Electric Company/Goodwin Services/Del Monte Foods/Tanioka's Seafood and Catering/Friends of Pearl City Library/Castle and Cooke Hawaii Homes, Inc./IEEE Hawaii & Waipahu High School, Kleiner Perkins Caufield & Byers/Castle & Cooke/Leeward Community College & Mililani High School, NASA/W.M. Keck Observatory/Bakken Foundation & Hawaii Preparatory Academy, and NASA/HELCO & Waiakea High School. Obviously the organizations before the school name are the major sponsors. Sponsors are very important to each school because of the high cost to participate in the regional or championship events.

Most of us are familiar with the FIRST Robotics Competition. It has become a very popular annual program affecting engineers, educators, business people, students, and many other professions who band together to demonstrate their solution to a prescribed engineering challenge in a competitive game environment. Each year at the Competition Kickoff the teams are introduced to the new challenge. They receive their robot kit of parts, manual of game rules and regulations, and get to see the game field. The same kit of parts for each team is meant to provide a level starting point for all teams. Students, teachers, engineers, and other professionals have only six weeks of robot construction time.

The 2003 Game was called the "Stack Attack." On a playing field 24 feet wide by 54 feet long, each match features four teams working as two-team alliances on the playing field. The game requires robots to collect and stack plastic storage containers on their side of the playing field. The containers are initially located in a center area of the field. The location of the containers and the height of the stacks determine each team's score for each round. Additional points are awarded for

robots positioned on top of a ramp platform.

The match begins with the four robots at their specified starting positions. Then "human players" from the teams are allowed 10 seconds to arrange their special containers that may have reflective tape on them for sensor tracking. The robots are given 15 seconds to function autonomously using optical sensor tracking and navigation to race to strategic positions or to sabotage the opponent's containers. Then for the remaining 1 minute and 45 seconds of the match the robots are under the complete control of their drivers. There are many matches involving four teams at a time. For further details visit the FIRST website at www.usfirst.org/robotics.

On March 27-29, 2003, the Waialua, McKinley, and Mililani teams competed in the Silicon Valley Regional. There were 46 teams

(continued on page 7)



McKinley robot in action.

State MathCounts team selected; Iolani mathletes take top school honors

Ten middle school teams competed March 15 in the 20th annual Hawaii MathCounts State Competition, a demanding experience for 6th, 7th and 8th graders aimed at promoting interest in mathematics by staging an event that is challenging, exciting and prestigious.

Eugene So, Daniel Lum, Leon Hou, and Matthew Mariconda were the top individual scorers and will form the Hawaii State MathCounts team. The team will represent Hawaii in the national competition in Chicago this summer. Eugene is home schooled, Daniel and Leon attend Iolani, and Matthew is from Punahou.

The team from Iolani, made up of Daniel, Leon, Aaron Fong, and Kellie Young, scored highest in the competition and won the perpetual team trophy. Mililani Middle School placed second and Waiakea Intermediate placed third.

Major sponsors for MathCounts 2003 are Kamehameha Schools, which hosted the event, the Hawaii Society of Professional Engineers (HSPE), Aloha Airlines, and Hawaiian Electric Company.

"MathCounts is all about encouraging kids to develop their math skills in an exciting way that also builds character and confidence. The skills these students

are learning in this program will help carry them through their lives and careers, even if they don't become engineers" said Scott Seu, HSPE President. "For us older guys, it's also just amazing to watch these kids solve complex math problems in split seconds."

Initiated in 1983, MathCounts now involves more than 35,000 students annually across the nation. The program is designed to provide an opportunity to develop teamwork skills, a chance to vie for scholarships and a chance to share common interests with new and often long-lasting friends. For additional information see <http://mathcounts.org/>.



2003 Hawaii MathCounts Team going to the Chicago Nationals: l-r: Coach Annette Matsumoto, Daniel Fong, Leon Hou, Matthew Mariconda, Eugene So, and Coach Li Ann Wada.



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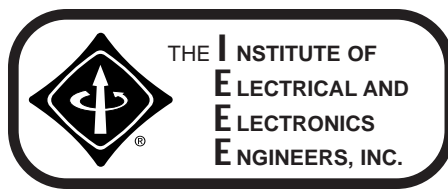
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National Director	Mr. Bruce Witcher P.E.

NSPE TO HOLD NATIONAL MEETING IN HONOLULU

The National Society of Professional Engineers has announced it will hold its Annual Meeting and Expo at the Ilikai Hotel, Honolulu, in July 2004. State society president Scott Seu, P.E. said that the local chapters of NSPE will be providing support and hospitality assistance to the national organization. The society expects 700 members to attend, representing all of the United States. The Hawaii state society has formed a committee chaired by Ken Rappolt, P.E. and Riley Smith, P.E. to organize support activities. This committee will attend the July 2003 NSPE national meeting in San Antonio, Texas, to promote the Hawaii meeting. For additional information see the HSPE web page or contact Ken Rappolt, 808 536 6621.

Highlights of HSPE BoD Conference Call April 9, 2003

The first agenda item was to consider the HSPE scholarship program recommendation submitted to the Board by Sheryl Nojima, chair of the Education Committee. The Committee, consisting of Nojima, Seu, B. Nakamoto, Q. Komori, and K. Morikami, recommended awards of \$1,000 scholarships to eleven graduating Hawaii high school students, all of whom are planning to enter ABET-accredited engineering programs this fall. The students all demonstrated outstanding academics and leadership in other activities. Awardees represent public and private schools, and are from Oahu, Kauai, Maui, and the Big Island. One of the eleven students still needs to provide an acceptance letter, so his award will be on a conditional basis. Seu mentioned that the \$11,000 total scholarship award amount is probably higher than what will be seen in coming years, as in the future there will be MathCounts expenses paid out of the Education Fund. This year a separate fund is being used for MathCounts, which will be drawn down and eventually phased out. It was felt that the \$11,000 amount was an appropriate amount to distribute, putting fund raising proceeds to good use while leaving enough in the Fund for other activities and reserves going into the next year. It was moved, seconded, and unanimously approved by those present to accept the recommendation of the Education Committee to award the eleven scholarships.

Agenda item two was discussion of the HSPE National Director position, one of the eleven HSPE Board slots recognized in the bylaws. Seu provided background on the position, explaining how it used to serve as HSPE's seat on the NSPE Board of Directors. A few years ago, NSPE changed their governance structure to the regional model, and individual state societies no longer had seats directly on

the NSPE Board. Hence, the HSPE National Director position does not have any official recognized status at NSPE, except where we have designated our National Director to represent us at regional meetings. Clyde Nagata mentioned that the National Director position was previously a one-year term usually filled by the outgoing State President. When the NSPE changed their structure, it was decided there was still value in retaining the position on the HSPE Board for the purpose of promoting continuity, and it was redesignated as a three-year position. Bruce Witcher became the HSPE National Director at the time and his three-year term is expiring this June. Both Seu and President-Elect Boucher expressed their opinions that it would be better to increase the involvement of the President-elect in NSPE meetings and issues. In effect, shift the continuity focus to the President-elect and President rather than the President and National Director. This would better prepare the President-elect to take office as President. Given this desire, the lack of a formal role anymore for the HSPE National Director on the NSPE Board, and the upcoming end of Bruce's term, it was moved, seconded, and unanimously approved by those present to leave the National Director position vacant for the 2003-2004 HSPE operating year.

With the above decision, discussion focused on who would attend the three NSPE meetings. Although subject to formal discussion and decision making at a later time, the model generally favored was to continue sending the President to the annual meeting in July, the regional meeting in fall, and the winter meeting in January, with the President-elect joining in the regional and winter meetings. The President-elect would therefore get exposed to national level governance in the fall of the operating year, where previously he/she would only attend the winter meeting prior to becoming President.

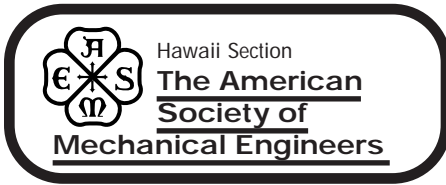
Third on the agenda was discussion of the 2004 NSPE annual meeting that will take place in Honolulu. Ken Rappolt, chair of the HSPE planning effort, reported on efforts to gear up for marketing the meeting at the 2003 annual meeting in San Antonio. HSPE is soliciting local firms and visitors bureaus for items to display and give out at the meeting. The Board voted on and approved a motion to allow up to \$500 in seed money to be provided to Ken and his planning group to cover various expenses of preparing for the 2004 annual meeting. This amount will be subject to revision at a later date, depending on need. Note that the seed money is separate from the travel support that will be provided to Rappolt to attend the 2003 meeting, which was previously approved by the Board.

The June 2003 chapter and State meetings and installations were discussed. All members are encouraged to attend their respective chapter installations to meet NSPE President Howard Blitman. [Information on meetings is provided below]

The 2003 HSPE Education Fund Golf Tournament has been confirmed for Friday, September 26, at the Hawaii Prince golf course, with a 12:30 pm shotgun start. R. M. Towill is again helping HSPE organize the tournament.

The 2003 NSPE Western and Pacific Region meeting will take place in Kona on September 19 and 20. Gary Ashikawa reported that plans were still being finalized; however, in general

(continued on page 9)



Website: www.asme.org/sections/hawaii

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Dir 1 yr	Ron Flegal	455-0254
Dir 2 yr	Ed Chang	543-4227

HAWAII SECTION COMBINED COMMITTEES & POWER TECHNICAL CHAPTER MEETING

Date: Wednesday, June 4, 2003

Time: 5:30 p.m.

Place: Hawaiian Electric Company, Inc. Ward Avenue Cafeteria

All members are invited and asked to attend. We are seeking help from the membership to fill the committee positions. In addition, we are having a Power Technical Chapter meeting to discuss programs for next year. Lots of free pizza and pop are always provided. Please contact Jim Grogan or Sam Gillie for directions and more information. For Power Chapter questions, please contact Ed Chang.

SECTION BALLOT AND SURVEY

The annual ballot and survey return deadline was April 11, 2003. The Section thanks all the members who returned their ballots and survey.

Our 2003-2004 Officers & Directors are Chairman CAPT Joe Bradley, Vice-Chairman Ray Liu, Treasurer Rodney Krienke, Secretary Sam Gillie, and Director Ron Flegal. Our immediate Past-Chairman will be Jim Grogan, and the holdover Director is Ed Chang. The term of office is from July 1 to June 30.

Members responded with 37 ballots and 33 completed or partially completed surveys. There were only a few suggestions for future tours, and most that responded preferred Saturday tours. Three members had an interest in serving on a committee. For Wiliki subscriptions, 11 members requested hardcopies and 21 members requested the electronic version.

For Section meetings, 18 members responded on how they would like to be contacted for reminders. For the following volunteer events, one member responded that he would teach thermodynamics class for the PE Review Course, six members would be a judge for the FR Montgomery Design Competition, 11 members would be a proctor or scorer at the MathCounts Competitions, and three members would help with the TEAMS Competition. Finally, 14 members are interested in receiving information about the Hawaii Section ASME Power Technical Chapter.

FROM OUR MEMBERSHIP

It was reported that past-Chairman (1964-1965) and ASME Life Member Wallace D. Johnston has not been well and cannot get around as he once did. Johnston is retired from Hawaiian Electric Co., Inc. Although he is unable to attend meetings, Johnston keeps up with ASME-HI activities via the Internet. Well-wishers may want to drop him a line.

PE REVIEW COURSE

Guy Pasco is planning a Mechanical Discipline P.E. review class for the next P.E.

exam on October 24, 2003. So if you have applied by the January 10, 2003, application deadline and was planning to take the second exam, you may want to contact Guy Pasco. His review class is a 10-week course. Class is held one Tuesday evening per week starting at 6:00 p.m. and is conducted at the Hawaiian Electric Company's Ward Avenue facility (Ward Cafeteria room Cafe 2). Cost is \$50 for ASME members, and \$75 for non-members. This is a real bargain. Please contact Guy Pasco at 543-4451 for information and enrollment.

NEW WEBSITE FOR ASME HAWAII

Please visit <http://www.asme.org/sections/hawaii>. The Section Webmaster is constantly updating and adding to the website.

NOMINATIONS FOR ASME-HI SECTION 2003 PROJECT/DESIGN OUTSTANDING ACHIEVEMENT AWARD

The nomination deadline was April 30, 2003. The winners will be announced in next month's Wiliki.

FUTURE ACTIVITIES

The following are activities that are planned:

April 28-May 2, 2003: The National Board & ASME 72nd General Meeting will be held at the Hilton Hawaiian Village. These organizations were organized many years ago for the purpose of promoting greater safety by securing concerted action and maintaining uniformity in the construction, installation, inspection, and repair of boilers and other pressure vessels and their appurtenances. Most of the week will involve committee sessions to deal with boiler and pressure vessel codes and regulations. The theme of this meeting is SAFETY: One Goal. One Chance. For more information, visit the National Board website at www.national-board.org.

May 1-3, 2003: Region IX Regional Administrative Conference (RAC) is scheduled for Hawaii in 2003. Check out our website for more information.

May 2003: The Francis R. Montgomery Design Competition with the UHM Dept. of Mechanical Engineering.

July 6-10, 2003: 2003 Summer Fluids

Engineering Conference at the Sheraton Waikiki. Visit our Hawaii Section website for more information.

July or August 2003: ASME Distinguished Lecturer - William L. Dean, P.E., on "The Engineer as an Independent Business Person: How to Start Your Own Engineering Company." CAPT. Joe Bradley will contact Mr. Dean for availability information.



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President	Bob Lohaus	833-4095	
Vice-Pres	Mel Harano	848-6966	848-6964
Treasurer	Sam Dannaway	526-9019	537-5285
Past Pres	Jayn Higashi	526-9019	537-5385

ADVANCED COMPUTER FIRE MODELING. SPONSORED BY: SFPE - HAWAII CHAPTER

WHEN: July 24 and 25, 2003,
8:00 am to 4:00 pm

WHERE: To be announced.

This 2-day short course on fire modeling is designed for practicing fire protection engineers. Participants will be introduced to fire modeling concepts and the elements of enclosure fire models. Participants will be provided with some of the available zone fire models and fire dynamics calculation methods. The subject matter is organized into 8 sections and will follow the schedule outlined below. The Course instructors: Frederick W. Mowrer, Phd. and James Milke, Phd., Associate

Professors in the Department of Fire Protection Engineering University of Maryland. Cost: SFPE-Hawaii members and friends \$150; Non-members \$300.



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Past-Pres	Tony Lau	524-3771	538-0445
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MAY JOINT DINNER MEETING WITH ITE

Program:

Rodney Haraga, Director of the Hawaii Department of Transportation will discuss the short term goals and long range plans for the Department of Transportation's Airports, Harbors and Highways Divisions over the next four years.

Date: Thursday, May 15, 2003

Location: Treetops at Paradise Park, Manoa Valley

Time: 5:30 p.m. - Social Time

6:30 p.m. - Dinner

7:30 p.m. - Program

9:00 p.m. - Adjourn

Menu: Multi-entree buffet

Cost: \$22.00 for Hawaii Section members
 \$25.00 for non-section members and guests

\$11.00 for University of Hawaii at Manoa Student Chapter members

Make check payable to AASCE-Hawaii Section. @ Mail to Lori Fong, ASCE Treasurer, C/O Parsons Brinckerhoff, Pacific Tower, Suite 3000, 1001 Bishop Street, Honolulu, HI 96813, postmarked by Monday, May 12, 2003. Reservations to Lori Fong by Monday, May 12, 2003 by phone at 531-7094, fax at 528-2368, or email at *FongL@pbworld.com* (Note recent revised e-mail address).

EXECUTIVE COMMITTEE MEETING

April 3, 2003

2003 CALENDAR OF EVENTS (subject to change)

June 2003 - Dinner meeting hosted by the Ocean & Energy Committee

July 2003 - Dinner meeting hosted by the Structural Committee

August 2003 - Dinner meeting hosted by the Transportation Committee

September 2003 - Dinner meeting hosted by the Hydraulics/Hydrology Water Resources Committee

HAWAII OCEA PROJECT ONE OF SIX NATIONAL FINALISTS

The Hawaii Ocean Science and Technology (HOST) Park Seawater Supply Pipeline at Keahole Point near Kailua-Kona has been selected as one of six finalists for the 2003 National Outstanding Civil Engineering Achievement Award. The pipeline extends from the shoreline to a depth of 3,000 feet along the steep Kona Coast. The HOST Park Seawater

Supply Pipeline is the world's deepest large-diameter seawater intake pipeline. This 9,100-foot-long pipeline, constructed of high-density polyethylene (HDPE), is unique in its purpose to bring deep ocean water to the shore. The seawater supply system is ready to provide 27,000 gallons per minute of nutrient-rich cold seawater and 40,500 gallons per minute of warm surface water, both for commercial aquaculture and energy research.

The Natural Energy Laboratory of Hawaii Authority (NELHA) has worked for a dozen years to see the pipeline built. By bringing cold ocean water to the HOST Park, NELHA's goal is to help the state diversify and expand its economy.

Installation of the pipeline was no easy task. The rocky seafloor ruled out construction of a tunnel for the pipeline, so the engineers developed a structural support system that not only suspends 2,000 feet of the pipeline over the seabed, but enables the line to move laterally in the strong currents expected during hurricanes.

Since the pipeline had to be placed at depths as great as 3,000 feet, engineers relied on computer models to predict the pressures that would occur both inside and outside the pipeline as it was lowered. The flexibility of the HDPE pipeline was invaluable, but since the strength of HDPE degrades with temperature, deploying it under the hot Hawaiian sun was not an option. The creative solution for this meant that the pipeline was painted white and deployed at sundown, with Global Positioning System receivers tracking its exact location as it sank.

HAWAII SECTION YMF RECEIVES NATIONAL PUBLIC SERVICE AWARD

The Hawaii Section Younger Members Forum (YMF) has been selected to receive the ASCE - National Public Service Award. This is an award given annually to the Section or Branch of the society that has been judged by the committee, based on a review of submitted nomination documents, to have done the most

to further the image of the Civil Engineering profession through Public Service. Official presentation of a plaque signifying this award will be presented at the National Convention in Nashville, later this year. The Hawaii Section YMF was initially selected for the 2002 Zone IV Public Service Award.

(continued on page 8)



Current Officers

Office	Name	Phone	Fax
President	Richelle Suzuki	541-2530	541-2700
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Secretary	Susan Uejo	521-5361	538-7819
Treasurer	Fred Smoot	841-7617	842-1819
Past Pres	Wayne Kawano	833-1882	833-6125

JOINT MEETING WITH ASCE

Speaker: Rodney Haraga, Director, State of Hawaii Department of Transportation (DOT)

Date: Thursday, May 15, 2003

Time: 5:30 PM

Place: Tree Tops Restaurant at Paradise Park, 3737 Manoa Road

Topic: Future Direction for DOT: Short-Term Goals and Long Range Plans for the Airports, Harbors and Highways Divisions

Cost: \$22.00 for Members/Guests and \$11.00 for Students

Please call Susan Uejo at 521-5361 or send email message to *suejo@beltcollins.com* by noon, Monday, May 12, 2003 to make your reservations. Payment will be collected at the meeting.

COUNTY OF HAWAII' I • NEW RATES

CIVIL ENGINEER I

Immediate Permanent Vacancy - Department of Water Supply in Hilo

\$2,670.00 plus shortage differential of \$409.00 = \$3,079/month

Minimum requirements: A combination of education and experience substantially equivalent to graduation from an accredited college or university with major work in civil engineering.

License requirement: Possession of a valid State of Hawaii driver's license, class 3 or any other valid comparable driver's license.

CIVIL ENGINEER IV

Immediate Permanent Vacancies - Department of Public Works in Hilo and Kailua-Kona

\$3,515.00 plus shortage differential of \$1,406.00 = \$4,921.00/month

Minimum requirements: A combination of education and experience substantially equivalent to graduation from an accredited college or university with major work in civil engineering and three years of professional civil engineering experience.

License requirements: Possession of a valid State of Hawaii driver's license, class 3 or any other valid comparable driver's license and a certificate of registration as a professional engineer in the United States at time of filing.

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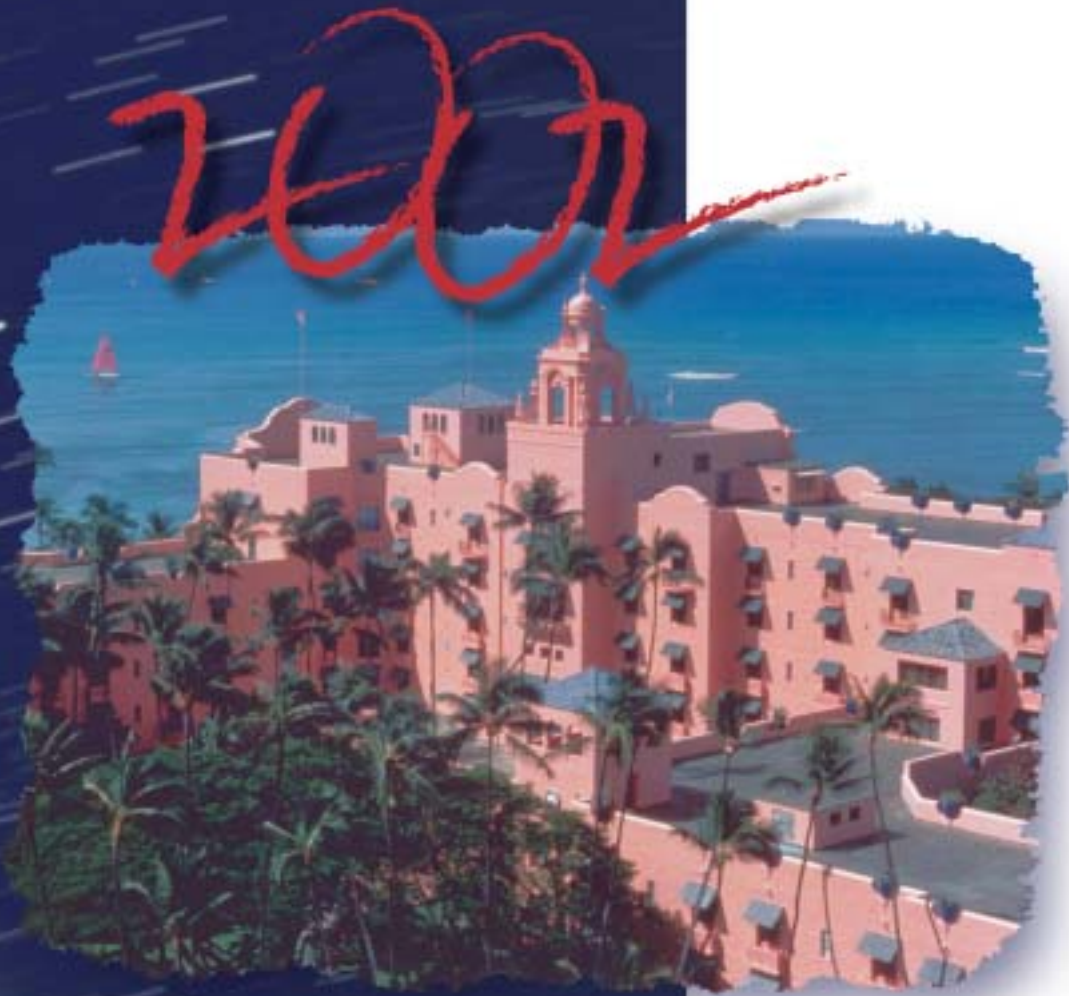
Recruitments are open on a continuous basis.

Call the County of Hawaii's job-hotline at #(808) 961-8618 for an application packet or visit our website at co.hawaii.hi.us - our recruitment announcements and application forms for open-competitive recruitments are on-line and can be downloaded.

Text telephone users (for persons with hearing impairments) call the Department of Civil Service at #(808) 961-8619.

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CONCRETE ACHIEVEMENT



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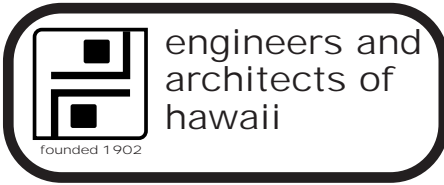
DEVELOPER:
R. T. Stevens & Seth Raynor

ARCHITECT:
Warren & Wetmore

STRUCTURAL ENGINEER:
Alexander G. Budge

The Royal Hawaiian

The Royal Hawaiian was completed in 1927 when Hawaii was still a Territory, and with the lack of skilled tradesmen, the quality of the contractor's work is truly remarkable. The designers boldly embraced trends of exotic travel and Rudolf Valentino movies by choosing a Spanish-Moorish style, which was unusual for this part of the world. This beautiful landmark structure surely shows why concrete was the choice product for years of service.



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Past Pres	Victor Russell	949-4155

EAH Meetings In May 2003

May Program Chair: Gary Yamamoto
 May 2 "Transportation in the Next Four Years" by Rodney Haraga, Director, State Department of Transportation
 May 9 TBA on EAH WEB
<http://community.hei.com/eah/>
 May 16 TBA on EAH WEB
<http://community.hei.com/eah/>
 May 23 No Meeting
 May 30 TBA on EAH WEB
<http://community.hei.com/eah/>

Meetings held every Friday at YWCA room 205 on Richards Street downtown. Parking at Alii Place off Alakea Street for \$1.00 per hour. Meetings start at NOON and end promptly at 1:00 pm.

Members-\$7.50 Guests-\$8.50
 Program schedule may be adjusted. Call Secretary to confirm speaker. Anyone wanting a weekly email meeting notice please send your email address to Sam Gillie at sgillie@hei.com.

EAH thanks William Warren for Judging at this year's Science and Engineering Fair.

Notes on March 14th Meeting

SPEAKER: Sam Dannaway, President and Chief Fire Protection Engineer, SS Dannaway Associates

SUBJECT: "Fire Safety Issues for Assembly Occupancies" Sam Dannaway talked about the Station Nightclub fire in Rhode Island from the point of view of NFPA 101. 98 people died in the fire. Sam began by showing a TV story from "60 Minutes" on the fire. He commented that the story was very slanted against NFPA, but it was very pro sprinkler, which was good. Sam hopes his talk would provide some balance to the story.

The fire started from fireworks pyrotechnics, that were much too large for the room (size) and they ignited packing foam that was doubling as soundproofing. Without anything to stop the fire or slow it, the inferno overwhelmed the crowd.

Items from the "60 Minute" program:
 "It (the fire) was very hot and very fast. These people had to know they were burning alive."

"It was good that there was a lot of snow around. People were actually putting themselves out in the snow bank."

"Just 100 seconds after the fire started people were stacked up blocking the main front exit."

"There was smoke and total darkness in the club as people tried to escape. Within 3 minutes there was almost no air to breath."

"Some people escaped by breaking windows".

"An attorney claimed that sprinklers would have save their lives. He claimed it would have been a very local fire. People only would have gotten wet."

"In 1977 there were no sprinklers in the Beverly Hills supper club in Kentucky where 165 were killed"

"In 1980 there were no sprinklers in the upper floors in the MGM Grand Hotel in Las Vegas where 87 people died."

"Three days before the RI fire at another nightclub, there were pyrotechnics on stage, an inferno in the ceiling and 150 people inside. No one was hurt. The club had sprinklers."

"Why weren't there sprinklers in the Station night club? The Rhode Island club was built before sprinklers were required. Even to day, Rhode Island does not require sprinklers in clubs that have 300 people or fewer. This 300-person exception is required in much of the country and is from NFPA 101.

What is the basis for the 300-person limit? It appears to be based on the theory that a building holding 300 would be small and people could get out."

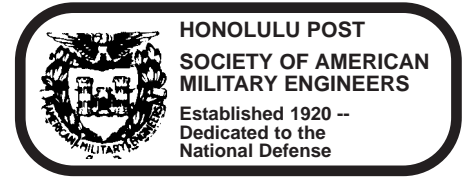
The President of NFPA stated that there were violations of the fire code that are the cause of the Rhode Island fire.

What Sam knows: Historical information for assembly occupancies. In 1928 40 killed in a dance hall. April 1940 198 killed in Mississippi. In this case Spanish Moss had been strung through out the dance hall for a big party and the Spanish Moss ignited. Nov 1942 Coconut Night Club fire in Boston 492 people died. This was the initiation of the Life Safety Code for the NFPA called the building exits code. In 1997 Beverly Hills supper club 165 lives lost. March 1990 Happy Land Social club in the Bronx. Here a boyfriend threw gasoline in the downstairs exit. 87 people died.

Sam referenced 2000 issue of NFPA 101 Chapter 13, but Rhode Island has only adopted the 1993 version of NFPA 101. Sam noted that Non-rated EXISTING assembly occupancies without sprinklers can have up to 999 people. Doors with latches have to have panic hardware when 100 or more people. So doors can allow be opened from the inside.

Every assembly occupancy has to have a main entrance that can handle half the occupant load. This addresses the tendency for people to leave a building the way they came in. Sam recommended that if you don't know if the other exits are available to you that is, you haven't check that other exits are open, then go out the way you came in may be the best choice. Other exits have to be as far apart as practicable and as far apart from other exits as practicable. Don't put exits too close together or they became one exit, which could be blocked by a fire. Sam doesn't think the number of exits was an issue in this fire because there were adequate exits from the building. Assembles with 600 people and fewer only need two exists. Exits need to be sized to handle the people in the space. Exits have be within 150 feet without sprinklers and with sprinklers, exit can be within 200 feet. This is how NFPA tries to get sprinklers in existing buildings by offering trade offs. Sam commented, it is very hard to get sprinklers in exiting buildings. Sam asked, what level of pro-

(continued on page 9)



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2002/2003 OFFICERS

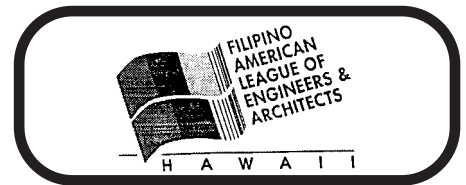
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Scott.A.Schriener.MAJ@poh01.usace.army.mil
 Secretary: ENS Jeremy Ramberg
rambergjd@pwcpearl.navy.mil

MAY MEETING NOTICE

DATE: 13 May 03
 PLACE: Hale Ikena (Ft. Shafter)
 TIME: 1015-1115 Executive Committee Meeting
 1115-1115 Social/Lunch
 1215-1300 Presentation

Buffet Lunch \$11.50 (pay at door, RSVP to LTJG Ramberg NLT 9 May)

Speaker: Mr. Tony Diaz (Army): "The US Army Facility Engineer Group-Mission, Capabilities, and Continuing Role in Contingency Operations Worldwide"



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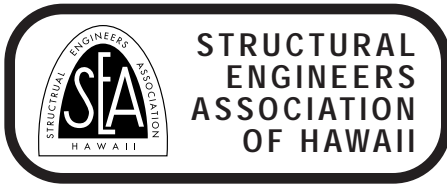
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	Joel Francisco
	Ricardo Magday
	Joey Ressorreccion
	Marlo Garcia

The Technical Mission to the Philippines will be postponed. Please contact Roger Urbi at 472-1192 for further information.

A Heating, Ventilation, and Air Conditioning (HVAC) Testing Adjusting & Balancing (TA&B) seminar is scheduled for May 31, 2003 at the Filcom Center Ballroom A. This is open to all mechanical designers, suppliers, and contractors and to our interested members. Please call Roger Urbi at 472-1192 for further details.

FALEA's Officers installation banquet is scheduled for Sept 27, 2003 at the Waikiki Sheraton. Please call Roger Urbi or Marites Shoji for details.

FALEA will be participating in the Filipino Fiesta Parade on May 10, 2003, starting at Ala Moana Park down to Kapiolani Park.



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Director	Ibbotson Kellett	540-1030	526-1989
Director	Les Nagata	951-5916	941-6489
Past Pres	Tom Tanimura	536-7692	537-9022

HIGHLIGHTS OF BOD MEETING, April 3, 2003

Committee Reports:

Wes reported that 80 and 78 people attended the IBC 2000 Seismic Design Seminar and ACI 318-02 Seminar respectively. Thank you to CCPI for sponsoring these seminars.

FIRST ROBOTICS, from page 1

registered for the event. Teams were mostly from the central California area around Silicon Valley. Waiialua and McKinley formed an alliance throughout the event. Mililani was in alliance with a team from San Jose. The final team rankings showed that the Hawaii teams did exceptionally well. They did so well that the McKinley team was ranked first, the Waiialua team third, and the Mililani team 9th out of the 46 teams from high technology central California area. The McKinley team brought home the Regional Finalist 1, and Delphi "Driving Tomorrow's Technology," awards, while Waiialua brought home the Regional Chairman's and the Regional Finalist 2 awards.

On April 3-5, 2003, four teams from Hawaii competed in the Pacific Northwest Regional. The teams were from McKinley, Waipahu, Hawaii Preparatory Academy, and Waiakea High Schools. There were 37 teams mostly from Washington State and Oregon competing. McKinley formed an alliance with the Space Coast Team from Cocoa Beach, Florida. The final team ranking had the Space Coast Team first, McKinley was ranked 5th, Hawaii Prep was 6th, Waiakea was 13th, and Waipahu was 29th. The McKinley team brought home the Regional 2 and Leadership in Control awards.

Finally, on April 10-12, 2003, the Waiialua team had decided to pass up the Pacific Northwest Regional and compete in the Championship Event in Houston, TX where 293 teams from all over the USA, Brazil, Canada, Great Britain, and Germany registered to compete. There are various ways to qualify for this event such as having participated in FIRST Robotics since its beginning, having won a current year Regional event award. After competing in the Galileo Division (4 divisions), the Waiialua team was ranked 43 and did not compete in the Championship event.

Congratulations to all the students, teachers, engineers, and other professionals for a very successful 2003 FIRST Robotics. For the engineers, hard work and long hours for the six weeks paid off with awards for the team or the satisfaction of working with the students who may some day decide to follow in their footsteps.

Wes is working with the American Wood Council to present a NDS Wood Design Seminar, tentatively scheduled for August 19, 2003. Wes is also discussing a possible Blast Analysis Seminar with PACDIV.

Tom reported that Convention program and registration forms were mailed out. These forms will also be posted on the web site as engineers from other states may want to attend.

Old Business:

Carol Kellett agreed to help update the membership database for this year. The Board is still searching for someone to fill the position of Administrative Assistant. If you know of someone who would be interested in this position, please notify any Board member.

Second notice for membership renewal form will be mailed out this week. Please return your renewal form if you have not done so.

Decision to allow AISC to advertise on the SEAHO web site was deferred to next meeting at which time Board should have additional information from AISC and accountant.

New Business:

Les is researching locations for the 2004 Installation Banquet, tentatively scheduled for Friday, January 23, 2004.

Les attended the HCES meeting and reported that SEAHO has not paid their dues for Wiliki. Dues for Wiliki are based on the number of hard copies and electronic copies the membership receives. Because SEAHO membership renewal is in progress, the Board has not been able to provide HCES with an accurate distribution count and HCES cannot prepare a current invoice. The Board agreed to distribute

electronic copies of Wiliki to those members who agreed to receive electronic notifications on the 2003 membership renewal form. Other members, including those who have not returned their renewal form, will receive hard copies.

HCES is discussing the possibility of converting the old wastewater pumping station on Ala Moana Boulevard into an "Engineering in Hawaii" museum. A portion of this space would be used commercially with monies used to fund the museum.

Due to the recent press about engineers and illegal contributions, HCES is considering publishing articles regarding engineering ethics. Forward comments to any Board member.

Tom received a questionnaire from NCSEA regarding Continuing Education Seminars, the Winter Institute, and news in Structure Magazine. Board will provide input to Tom via email.

NEW MEMBER APPLICATIONS

Clyde Omija of Grace Pacific Precast, Inc. has applied for membership as an allied member. Please notify any Board member prior to the May Board Meeting if you wish to comment on prospective member.

2003 CALENDAR OF EVENTS

Structural Engineering Research Update at UH-Manoa: SEAHO/ASCE Joint Dinner Meeting, Thursday, July 17, 2003 at Tree Tops Restaurant.

SEAHO Convention: August 8 - 9 at Manele Bay Hotel, Lanai.

Next BOD meeting: Thursday, May 1, 2003, 4:00 p.m. at Zippys Vineyard.



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Treasurer	Paulette Chang pchang@hawaiiapacificengineers.com	524-3771
Student Chapter President	Meris Ota merisota@hotmail.com	956-5808

Next YMF General Meeting

The next two YMF general meetings are scheduled for Tuesday, May 6, 6:00 p.m. at Magoo's (University Ave.); and Tuesday, June 3, 6:00 p.m. at La Mariana Restaurant and Bar (50 Sand Island Rd.). If you are interested in attending, please call Jeff Kalani at 593-1116.

ASCE Job Classified

Looking for work? Visit the ASCE's job listing page at <http://www.ascehawaii.org/jobs/jobsinfo.html>.

YMF Tours Sand Island WWTP and Headworks

By Florence Ching, P.E.

This past March 15th, the Hawaii Section Younger Member forum (YMF) organized a technical field trip to the Sand Island Wastewater Treatment Plant and Headworks Facility. RCI project manager, Scott Jennings (who is also a YMF member), sacrificed his busy Saturday morning to lead the group of nine on a two-hour tour of the projects. As work continued on both projects, the group was treated to a behind the scenes look at the ongoing construction activities, including foundations for the two new 140' diameter primary clarifiers, high-tech ultraviolet light disinfection equipment, and effluent piping systems. Scott

provided narration throughout the field trip and explained how jet grouting was being used for foundation stabilization and groundwater control, as well as for the wet-well excavation support systems. The massive pipes being installed to convey the wastewater include dual 78", 84", and 96" diameter reinforced concrete pressure pipes and an 84" diameter venturi flow meter! When completed, the facility will accommodate an ultimate peak flow of 270 million gallons per day for treatment.

The YMF would like to thank Scott Jennings and RCI for the great opportunity to tour these projects. The attendees were so impressed with the field trip that return visits are being planned to get a glimpse of these projects at various stages of construction. For information on attending future YMF field trips contact the YMF Field Trip Committee Chair (Florence Ching) at fching@ascehawaii.org.

YMF SCUBA May Outing

What: SCUBA boat dive and picnic afterwards

When: On Saturday, May 17, 2003, 10:30 a.m.

Where: Meet at Kewalo Basin

Cost: \$65/\$75, please read below

This SCUBA outing includes two (2) boat dives. The first one would be a 60 to 80 feet deep dive to investigate a shipwreck off of Waikiki/Kewalo Basin. The second dive would be a 30 feet deep dive to look at coral reefs and its inhabitants. After the dives we will have a potluck picnic to satiate our ravaging appetites.

The dive boat can only accommodate up to 25 divers, so please sign up early! All equipment, including BCD, regulators, weights, wet suits, mask, fins, booties, etc., will be provided. Just bring your SCUBA certification card. The cost for two boat dives and equipment rental is \$75. If you bring your own equipment, the cost will be \$65.

If you are not certified, but would like to experience SCUBA diving, an "introductory dive" is being offered. The introductory divers would stay onboard the boat during the deep dive and get introductions and instructions to

SCUBA. They would then get to join the second (shallow) dive, escorted by master divers. The cost for the "intro" dive will also be \$75. This would be a great opportunity for those of you who are interested in becoming certified, but are not sure if you would like to invest so much money.

Please join us for the potluck picnic even if you can't make it for the dives. We would love to share food with you.

If interested or have any other questions please email Ann Mukai at AnnM@rmtowill.com or call at 842-1133. Please respond by noon Monday, May 5, 2003. Hope to hear from you!

KNOW YOUR ASCE HISTORY

by C.S. Papacostas

About a week ago, I found a note in my mailbox asking: "What was so special about the original Naval Radio Station antenna in Ha'iku Valley?" Unfortunately, the signature on the note was not legible. Nevertheless, I'd like to thank the writer for the opportunity to expand a bit on last month's (April 2003) article.

By the way, most of the information included in that and this articles mainly came from two sources. The first is a book by David O. Woodbury entitled "Builders for Battle" that was published in 1946 by E. P. Dutton and Company, Inc. The second was a December 1997 report by Dot Barton of Edward K. Noda and Associates, Inc., entitled "Historic Preservation Survey and Nomination to the National Register of Historic Places of the U.S. Coast Guard Omega Station Located at Haiku, Kaneohe, O'ahu Island, Hawaii." Woodbury's book was a basic reference for the later report. But the latter also includes details that appear to have been unclassified since then and, as the title makes clear, it extends the time coverage to the later OMEGA Station in the valley.

This is how the Barton report introduces the original station that was needed to allow wireless communication with navy vessels all the way to Tokyo Bay, "The construction of the Naval Radio Station at Haiku Valley was one of the most complex and perplexing jobs of the Pacific offensive. The facility was classified top secret and there was no discussion with the Army or the operating committee of the Navy. There was no real model to follow for engineering construction, the terrain was extremely rugged and often dangerous to work in, and they were working under the pressures and trials of the war-racked island."

Woodbury describes the original conception of the idea as follows, "The plan was proposed in the early spring of 1942, under the aegis of Commander Hord, Radio Materials Officer at CINCPAC. BuDocks ["Bureau of Yards and Docks"] immediately delegated a group of its civil engineers to the problem, including Lieutenant Commander R. M. Belt and lieutenants Butsine and Thatcher. As in the case of Red Hill, the Navy proposed to obtain the advice of every possible expert for this untried experiment. Engineers of the Radio Corporation of America were therefore engaged and the New York designing firm of Gibbs and Hill retained. When the idea of a superpower radio station with pan-Pacific range was presented to them, the engineers said they thought it might be built provided that the antenna could be raised high enough above the ground. The greater the power to be radiated by long wave, the higher and larger must be the antenna system and the network of

(continued on page 9)

ASCE, from page 4

CALL FOR NATIONAL AWARD NOMINATIONS

The ASCE Hawaii Section is seeking candidates to nominate for the following four ASCE National Awards:

ASCE Excellence in Journalism Award - Given annually to a reporter or reporters whose news coverage enhances public understanding of civil engineering.

Civil Government Award - Given annually to an ASCE member who has contributed substantially to the status of the engineering profession by rendering meritorious service in elective or appointive positions in government. Honorary members and members holding positions that require the services of professional engineer or positions that traditionally have been held by engineers are not eligible.

Edmund Friedman Professional Recognition Award - Given annually to an ASCE member who is judged to have contributed substantially to the status of the engineering profession by: (a) an established reputation for professional service; (b) objective and lasting achievement in improving the conditions under which professional engineers serve the public and private practice service; (c) significant contributions to improving civil

engineering education; (d) guidance of young civil engineers in the formative stages of their careers; or (e) other evidence of merit that advanced ASCE's professional objectives.

ASCE JOB LISTINGS

The following employers have openings they would like to fill:

- Austin Tsutsumi & Associates, Inc. (Civil, Traffic/ Transportation, Environmental and Surveying)
- Fewell Geotechnical Engineering (Geotechnical Engineer)
- Fukunaga & Associates (General Civil and Environmental/Sanitary Engineers)
- Warren S. Unemori Engineering (Project and Civil Engineers)

For more information on these job listings, please visit the ASCE Hawaii Section website at www.ascehawaii.org.

CONVERTING TO ELECTRONIC VERSION OF WILIKI

If you would like to help the ASCE Hawaii Section reduce operating costs by receiving your monthly issue of the Wiliki via e-mail, please contact Tony Lau at 522-7426 or e-mail him at tlau@hawaiiapacificengineers.com.

ASCE History, from page 8

ground wires under it. The Navy wanted to work with hundreds of kilowatts and hundreds of thousands of volts. When the radio engineers understood the full impact of the problem, they began to think it could not be solved. No steel tower that would stand up would be high enough. Those at Lualualei were over six hundred feet, mere flagpoles in this argument. The Eiffel Tower itself would not suffice, even if it were available. The aerials, said the engineers, must be some two thousand feet above the ground."

The solution to this problem was to find a topographic feature that would act like the "unbuildable" tall tower. Haiku Valley with its perfect horseshoe shape and sheer side-walls filled the prescription perfectly, except for the logistical nightmare of constructing in an all but inaccessible area. It is appropriate that Woodbury's title of the Chapter dealing with this phase was "Fighting Men on A Flying Trapeze." Among them were Bill Adams and Louis Otto, "Boulder Dam high-scalers" and Oahu's Red Hill tunnel construction veterans.

Included in the many firms and individuals that became involved in the project was "[a] party of surveyors under a local engineer named Towill [who] went in over this trail, to begin the work of locating the anchor stations, gathering the distance and altitude data needed to design the final radio spans."

I had not noticed before that Robert M. Belt and Roswel M. Towill, founders of two of Hawaii's major engineering firms, shared the same first and middle initials!

Do you know of a civil engineering accomplishment or event that your fellow ASCE members might find interesting? Please send a brief description to C.S. Papacostas (fax 956-5014, email csp@wilki.eng.hawaii.edu). Previous articles in the series may be found at the Section's web site. Just point your browser to <http://www.ascehawaii.org>.

EAH, from page 6

tection, does society demand? Sam thinks society may decide they want more sprinklers in assembly occupancies now.

Other code items are egress must have proper emergency lighting at all exits and exits have to be marked.

Chapter 10 – cellular or foam plastic materials shall not be used as interior wall finish. The foam insulation was the major contributing factor to the spread of the fire. This is what caused all the hot gases and smoke that flashed over the building. The fire spread over the back of the club to the front of the club in a very short time. It was reported the club had had problems with its' neighbors because of noise. The neighbor offered to buy an air conditioner so the windows could be closed. Someone had

friend who had a foam company, so they used the cheapest foam available. the stage was lined with cheap shipping foam.

If the club were built today it would require sprinklers for occupancy with more than 300 people. NFPA had an emergency meeting and they can pass changes that become effective immediately. Sam believes they are considering any assembly occupancy with 50 or more person would have automatic sprinkler required new or existing buildings. This will have an impact on the Fire Protection industry and we will find out if society really wants to pay. Sam thinks it would be great for his business, but wonders if society is ready to pay for the cost. But can you define the 50? No! Sam believes the 300 people limit came from the occupant load factor of 1 person per 15 sf. So 300 people x 15 equals about 4500 SF area. This area is not that large and people should be able to get out of the building. But where do you set the limit?

Sam does not believe NFPA needs to change. If the code provisions already in the Code had been followed, the tragedy would have been averted, sprinklers would have limited or provided for no loss of life. There should have been a permit for the pyrotechnics. There should have been a plan submitted and approved by the fire chief. The Fire Chief can require a demo before approving. So there is no excuse that the owner or bandleader said it was OK. It doesn't matter because the fire department should have OK'ed.

HSPE, from page 2

Friday, September 19 will offer a combination of educational and social events with the business meeting and a banquet scheduled for September 20.

The next conference call will take place in the second week of May. President Seu will inform the Board of the exact day and time. This will be the last Board conference call before the June 14 face-to-face meeting in Kona.

June 2003 HSPE Meetings/Installation Banquets Schedule

Thursday, June 12, 2003 - MAUI

(Luncheon Meeting & Installation)

Time: 12:00 noon

Place/address: Sandalwood Golf Course, 2500 Honoapiilani Hwy, Waikapu

Cost: \$13 (menu selections)

Contact/phone/email: Wendy Kobashigawa / (808) 242-1525 / koba@hgea.org

RSVP deadline: 3:30 PM, Tuesday, June 10, 2003

Friday, June 13, 2003 - HONOLULU

(Luncheon Meeting & Installation)

Time: 11:30 AM

Place/address: Honolulu Country Club

Cost: \$22 (Hawaiian Buffet)

Contact/phone/email: Sheryl Nojima / (808) 521-0306 / snojima@ghbnhawaii.com

RSVP deadline: June 05, 2003

Saturday, June 14, 2003 - WAIKOLOA

Annual Meeting & State/Kona/Hilo Installation)

9:30 am - 11:30 am - Annual State Meeting

Waikoloa King's Grille @ the Waikoloa King's Golf Course; 600 Waikoloa Beach Drive; Waikoloa, HI 96738

ph: (808) 886-7888

12:00 noon - 5:00 pm - Golf

Waikoloa King's Golf Course

cost: \$45/person

contact: Dan Lanterman/ ph: (808) 329-8249 /email: kailuadan@aol.com

RSVP deadline: June 02, 2003

6:00 pm - State, Kona-Kohala & Big Island Chapter Installations

Waikoloa King's Grille @ the Waikoloa King's Golf Course

cost: \$35/person

Contact/phone/email: Dan Lanterman / (808) 329-8249 / kailuadan@aol.com

RSVP deadline: June 06, 2003

Rooms at Waikoloa Beach Marriott (ref: HSPE Installation Banquet); 69-275 Waikoloa Beach Drive; Waikoloa, HI 96738

ph: (808) 886-6789 / res: (800) 922-5533

cost: \$135 + 11.416% = \$150.41 single/double
Reservation deadline: ASAP, no rooms blocked, space available.

HSPE – MAUI CHAPTER

President Brooks Aoki, P.E. (242-4403)

Vice President Derick Yoro, P.E.

Secretary Wendy Kobashigawa, P.E. (270-7435)

Treasurer Carlos Rivera, P.E. (242-4403)

APRIL MEETING MINUTES

Treasurer's Report: Treasurer Carlos Rivera reported that we had \$4,844.55 in our account.

Announcements: Doug Gomes of Engineering Dynamics introduced their newest employee, Alisan Serra, who is originally from Canada.

Guest Speaker: Gilbert Coloma-Agaran, the County of Maui Director of Public Works and Environmental Management, announced that they will be hosting the annual Public Works Conference on Maui during May 21st through May 23rd.

He discussed the way subdivisions are currently processed and plans to improve the process. They are also looking at the possibility of transferring the responsibility of subdivision processing to the Planning Department.

He also briefly provided explanations to the status of various County projects that were either in design, taken off the budget, or put on hold.

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