



# MACHINATORES VITAE

## Engineer Newsletter

### From the Chief Engineer Officer



Richard F. Barror, Ph.D, MPH, P.E.  
RADM, USPHS  
Assistant Surgeon General

July 2009

#### INSIDE THIS ISSUE:

<i>Message From the Chief</i>	1
<i>EPAC Chair Update</i>	5
<i>Engineering at the National Park Service</i>	7
<i>50<sup>th</sup> Anniversary</i>	12
<i>Officer Etiquette</i>	13
<i>OCCFM Category Representative</i>	14
<i>The New Engineer Coin</i>	16
<i>Deployment Tips</i>	17

### The Quest for More PHS Engineer Officers

*Business School 101: Recruitment is easier if you have a reputation as a great place to work.*

A high priority for me over the last 3 years has been engineer officer recruitment. The engineer officer category is one of the few that have declined in numbers over the last two decades. In 1989, the Engineer Officer category represented 10.2% of the Corps; today it is 6.7%. Those of us who are PHS engineer officers know the opportunities and benefits of being in the Commissioned Corps, from meaningful work to a sense of camaraderie. The United States (U.S.) graduates about 76,000 engineers a year with a Bachelors (B.S.) Degree. Yet we scratch our heads and wonder why new engineer graduates are not rushing the gates to get into the Corps. In fact, although the Office of the Chief Engineer advertises heavily on campuses, COSTEP applications are way down and we get relatively few applications from new graduates, not enough to fill the demand for entry level positions. Why?

**There is a Shortage of Graduating Engineers** The U.S. produces far fewer engineers than it needs, and many are not eligible for a PHS commission because the professional engineer degree is not ABET accredited or they are not U.S. citizens. Among the 25 top engineer-producing countries, the

*(Continued on page 2)*



U.S. ranks 22 on a per capita basis. In 2005, foreign nationals represented about 7% of B.S. engineer degrees, 40% of Masters degrees and 62% of Doctorate degrees in engineering awarded in the U.S. and these percentages are increasing.

**There is a High National Demand for Engineers Needed by the PHS** The National Science Foundation projects that there will be a shortfall of 70,000 engineers in 2010. The Bureau of Labor Statistics estimates that for the period 2006-2016, the increased demand for all engineer jobs will be 11%. However, for the types of engineers that the PHS agencies use, the need will be much greater: 25% for environmental engineers, 21% for biomedical engineers, 19% for industrial health and safety engineers, and 18% for civil engineers. As a result of the recently passed *American Recovery and Reinvestment Act of 2009* (stimulus bill), these national need numbers are now very much under-estimated. This need cannot be met quickly enough by increasing the number of enrolled engineering students.

**The Other Uniformed Services Have Much to Offer** The DoD uniform services have extensive means for recruiting engineers who want to be in uniform. They “grow their own” engineers by first attracting engineer students through various programs and then providing extensive in-service training. They have generous scholarships that obligate students to a multi-year contract in their service. The four military academies have large engineering programs, most of which (not all) are ABET accredited. Further, the DoD has a broad network of ROTC programs at engineer schools. There are 176 engineer schools with on-campus Army ROTC programs; 122 with Navy ROTC and 67 with Air Force ROTC. These programs work with students so they are commissionable right at graduation. What also attracts students is that the Army, Navy, and Air Force each have their own in-Service post-graduate engineering schools that further train and retain their engineers (e.g., the Air Force Graduate School for Engineering and Management at the Air Force Institute of Technology). Most career engineer officers also can be funded to attend a non-military university to get a masters degree in engineering. The PHS does not have these kinds of widely-available training benefits that attract and retain engineer officers.

**Total Compensation not Competitive:** Typical starting salaries for a BS with no engineering experience is relatively close (\$55,000 plus or minus 10%) among the military, civil service, state/local governments, and the private sector. However, total compensation comparisons between military, Civil Service, state/local agencies, and the private sector differ widely because of educational/training benefits, overtime pay, performance bonuses, commissions on sales, and profit-sharing. Michigan State University reported that for its 485 May-August 2008 graduates with a B.S. degree in engineering, the average starting salary was \$55,239 with an average signing bonus of \$5,297. The NSPE reported in 2008 that the average bonus for a licensed engineer (PE) was \$16,223 and the median was \$7,000. By contrast, the starting Commissioned Corps engineer annual salary for Shiprock, NM is \$50,338 and for Window Rock, NM is \$50,794 (O-2 < 2, both w/o dependents). These salaries are less than the national average and don't include the prospect for overtime or performance bonuses. And neither location offers the educational, social, or spousal employment opportunities available in other areas.

**The Federal Civil Service System:** In 1993, Commissioned Corps engineers represented 53% of all HHS engineers and in 2008, only 33%. Many times the choice of Civil Service

(Continued on page 3)



over the Corps is based on personal preference related to job location or wanting the flexibility to transfer among non-HHS agencies. However, in terms of starting pay, for engineers with some mix of graduate education and/or engineer experience, and no prior military time, the Civil Service system can be a more attractive option. HHS agencies tend to advertise Civil Service engineer positions with ladder vacancy announcements such as a “GS-801-9/11/12” or “GS-819-12/13,” and generally will hire the applicant with the most experience, rather than new graduates. With four years of professional experience, the Civil Service pay (GS-13) is about 18-20% higher than for an officer (O-3 under 2). If hired at the lower end of a ladder (little or no experience), a civil service engineer generally can stay in the same position and by assuming more responsibility is eligible to be promoted to the next higher grade after one year. Moreover, the civil service compensates for overtime and has a performance bonus program.

**What is Attractive About the PHS Commissioned Corps?** What we can say about PHS engineer officers is that once in the Corps, they tend to stay in the Corps. And we see far more conversions from Civil Service to the Corps than the other way. Why’s that?



**Recruitment Booth**

For those engineering students who grew up in an instant gratification world, the prospect of a signing bonus, a good starting salary and the potential for other compensation may trump any thought about meaningful work, especially in economic boom-times. For other students, boosting their professional value through a quick succession of different jobs to gain experience and/or finding jobs that immediately offer valuable professional training are more important than security, stability, and retirement (the last thing on their mind). However, for those who want to belong to an organization that values service to country different from the military, where one can make lifelong friends, have decent wages and benefits, a stable and secure employer, and most of all, offers a wide variety of responsible and meaningful work over a career as your professional interests change, the Corps is very attractive. It therefore is not surprising that the average age of an engineer officer starting in the PHS Corps is 34 years old. A little “real-world” experience and wisdom helps to shape our own career and family priorities. So the Corps does have a market niche, especially during unstable economic times. We just have to expand it.

Going after graduating students is a very difficult challenge. Without major structural changes by the PHS Corps, such as undergraduate scholarships, a robust Senior COSTEP program, an early commissioning program, extensive in-Service training opportunities (to market as a value-added opportunities), and the hand-holding counselors to assist students through the commissioning process, the Corps simply isn’t going to be competitive on campus with DoD and the private sector. Many of the engineer training programs, leadership schools, and other officer development opportunities in DoD are also available to PHS officers, but the PHS agencies have to foot the bill and endure the loss of the officer while

*(Continued on page 4)*



away. These are a tremendous opportunities not utilized for lack of dedicated and sustainable funding for an officer development program in the PHS Corps. Hence they are not marketable to students.

**What Should We Do?** It takes about 25 to 30 new Calls to Active Duty per year to stay at a constant engineer officer population; more to grow the engineer category. We know that newly graduating engineers, as well as those with a little professional experience, have many attractive employment choices. Thus, all PHS engineer officers need to get out and network and market our *reputation* as a national service organization with a great mission and variety of professional opportunities. Our professional competence, leadership and uniform attract others to the Corps. Let's take advantage of it. Think about how you found out about the Corps. Who helped you to get into the Corps? Well, we simply need to replicate that help and do more. Providing our own testimonials to potential applicants (e.g., by being active and visible in engineer professional organizations) and personally shepherding them through the complex and lengthy commissioning process, and process of finding an agency position, is something that each and every engineer officer can and should do.

Our reputation as a Corps is not built on slick flyers or a flashy website. It's built on personal service, values, and visible leadership. Our reputation as a Corps is put to the test immediately in the application process – it's where the rubber first meets the road. Unlike the other uniform services, the Corps doesn't have sufficient resources to provide the level of personal service needed by applicants. Until it does, we all need to help fill the gap. As a category, through the EPAC Recruitment and Retention subcommittee, the Office of the Chief Engineer, and mostly through our own personal commitment and initiative, we need to step up and do our individual part to recruit and then assist engineer officer applicants. College students will be a particularly difficult challenge, but we have an opportunity now with the unstable economy. Many of you already are committed ambassadors for the Corps, and your efforts are very much appreciated. Those extra efforts are what help to give PHS engineer officers a great reputation. Thank you.

Have a safe and enjoyable summer.

RADM Richard Barror  
Chief Engineer Officer



## 2009 EPAC Chair

CDR John Longstaff

**“No Man is a Failure who has Friends”  
Clarence the Angel, *It's a Wonderful Life***

Hello again! This is the second installment this year of the EPAC newsletter. The year has passed its midpoint, the weather is getting to my favorite point, and hurricane season is looming.

I've been tapped once again to write an article on the topic of my choosing. I've decided to pontificate on the topic of friends and networking, since that is fresh on my mind after returning from Atlanta.

The annual Commissioned Officers Foundation USPHS Scientific and Training Symposium (Formerly sponsored by COA) has concluded. It took place in the Marriott Marquis Hotel in Downtown Atlanta, a remarkably impressive place.

It'd been a long time since I'd attended one of these, 2003 to be precise. I was a field engineer in the Tucson Area IHS, which is a little isolating. But while at the COA conference in Scottsdale I was able to meet many people I'd only heard about, or had only heard on the phone, but had never seen. The 20<sup>th</sup> and now 21<sup>st</sup> centuries have certainly spawned a new sort of acquaintance -- The person you've known and chatted with for years, but have no idea what he/she looks like.

I got to meet several such people such as Capt Bill Knight (guru of all things PHS computer), LT Carrie Oyster (up and coming star of the Commissioned Officer Training Course), and the man who would turn out to be my next boss, CAPT José Cuzme. I attribute the job I'm currently in primarily to this encounter!

Another opportunity that presents itself lately with annual regularity is the Leadership Development Seminar. I've been going to PHS engineer career development and leadership training conferences and seminars since my early days, starting with one in Raleigh NC in 1995, and followed over the years by San Antonio (2001), Tucson (2003), San Diego (2006), and Charleston (2007). I couldn't make it to the San Antonio seminar last year, but I heard it was great. At every one of these I met people and made friends that I work or connect with to this day.



(Continued on page 6)



In the past these seminars were strictly the domain of engineers, but during the last couple of years they have been expanded to allow other categories to attend, and they have been well received, and the attendance is roughly doubled as a result. You can meet people in the engineer category, but now you can also meet those not so blessed, without going to COA.

This year the leadership seminar is to be held in Colorado Springs, during the last week in July, and I will be there. It will feature Mr. Harry Chambers, the fellow who received such rave reviews for his role in the San Diego and Charleston seminars. I hear that seats are filling fast, but I strongly recommend that if you're even slightly on the fence, you should register and plan to go. It's certainly worth the trip.

Through the years I've met more good friends and contacts through these conferences and trainings than any other venue. I plan to continue attending these and helping to organize them (when they let me). It's been of great benefit for me both personally and professionally. There are very few places left in the country where I may travel that doesn't house a friend or two that I'd want to drop in on. A friend in every port these days.

But it needs upkeep. Every time I get a new list of the Engineers out there I assume that I'll know everybody on it. As it turns out, however, I don't recognize roughly one-third of the names. It takes work to maintain the level of connectedness I seek.

While I'm on the topic of unexpected networking opportunities, I need to put in a word for deployments. Spending a few weeks in a stressful environment with a bunch of folks pulling together toward the same end. Man, that kind of exposure will connect you with people of many different job categories on a much deeper level than work association. From then on whenever you see them across a room or in some other event, it's like spotting family -- The recognition of a good friend. If you get a chance to perform a deployment, I highly recommend it.

So, if you'd like to be the proverbial engineer who stares at the other person's shoes rather than your own (i.e. extroverted), and would seek to stretch your boundaries, in both your work and outside of work life, I can't emphasize enough the value of these sorts of events for network building. Whether it's what you know or who you know, friends and contacts are invaluable assets.

Machinatores Vitae!

CDR John Longstaff, P.E.  
2009 EPAC Chair



## Engineering at the National Park Service

LCDR Jennifer Proctor

### A little history

The first national park was established at Yellowstone in 1872 by Congress to create a place of enjoyment and benefit for the American people. Over the next 40 years, 35 additional parks would be created and preserved under the authority of the Department of Interior. The National Park Service (NPS) was formally established by Woodrow Wilson signing “The Organic Act of 1916.” The Organic Act set the course for NPS to “conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

Engineers were the first Public Health Officers requested to provide sanitation consultative services to the NPS beginning in 1921. This relationship continued for the next 30 years under various agreements and eventually expanded to other federal recreation agencies, with requests exceeding available resources. In 1955, the first Memorandum of Agreement (MOA) (and the oldest) was signed between the NPS and PHS, which at that time was a part of the Department of Health, Education and Welfare (HEW), to provide oversight of sanitation facilities at parks nationwide. Until 1972, PHS engineers were employed by HEW and services were rendered through a reimbursable funding process for

providing surveys and recommendations to correct deficiencies. Then in 1972, the program at HEW was eliminated and PHS officers were no longer used to provide consultative services. NPS, however, valued the knowledge and expertise provided by the PHS and desired to continue employing PHS officers. Thus, a new MOA was signed detailing seven PHS officers to NPS.

Today, the NPS consists of 391 park units in 49 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands and American Samoa, and covers over 84 million acres. Currently, 40 PHS officers are detailed to fill various public health positions in engineering, environmental health, risk management, and epidemiology. PHS Engineers work a wide variety of positions at the headquarters, regional and park levels. Typical positions are park and regional engineers, public health consultants, construction project managers, and program managers. The MOA was recently updated in 2009 to expand opportunities for PHS officers throughout the Department of Interior.

### Meet a few of our engineers

**LT Sean Bush, P.E.**, Environmental Engineer, is the Park Engineer and Safety Officer for the **Hawai'i Volcanoes National Park on the Big Island of Hawaii**. LT Bush established an OSHA compliant safety program with Park specific safety programs such as

*(Continued on page 8)*



air quality monitoring, a dog handling program for hunting feral pigs, and livestock management for animals used by park employees accessing the backcountry. LT Bush monitors the program which provides live reports on sulfur dioxide (SO<sub>2</sub>) emissions at the Kilauea and Pu'u'Ō'ō craters. NPS uses this information to determine if visitor viewing areas can be safely opened to the public.

In his role as Park Engineer, LT Bush is working on a project to re-

place the potable water system infrastructure throughout the park. The potable water is supplied by rainwater through roof catchment systems found at buildings in the park. Due to the volcanic emissions in the area, rainfall has a typical pH of 4 (acid rain) which has corroded the existing galvanized pipes throughout the park. The new water system will consist of upgraded pumps and controls, HDPE waterline and upgraded water treatment systems. One of the benefits of the job (not to mention living in Hawaii) is traveling to remote locations within the park to inspect or plan for projects. LT Bush typically travels by horse overnight to reach these projects which provides the opportunity to observe the unique plants and wildlife found on the island typically not seen by visitors. Working with the dedicated park staff, along with the supportive and friendly environment has created a very fulfilling and enjoyable job experience for LT Bush.



*LCDR Epling inspecting Mt. Pisgah radio tower in the Blue Ridge Parkway*

**LCDR Epling, P.E.**, Civil Engineer for the **Blue Ridge Parkway**, focuses on construction projects improving public health related facilities such as water/ wastewater systems, dam safety improvements and groundwater remediation near drinking water wells. The

Blue Ridge Parkway is 469 miles long starting in northern Virginia and ending in the southwestern part of North Carolina and has a wide variety of visitor and employee facilities. LCDR Epling responds to other engineering needs throughout the park

for projects such as fire suppression

systems, road and bridge work and fuel systems. He also is the park program manager for drinking water, dam safety, and fuel storage tanks.

LCDR Epling enjoys the variety of engineering projects and the ability to apply innovative solutions to many of the problems encountered in the NPS. LCDR Epling's work is rarely peer-reviewed, so he must find ways to ensure the information he provides the park is of the highest quality without hindering the objectives of the mission. The NPS also imposes many constraints on development requiring creative application of existing technology in order to meet the mission of preserving the aesthetic qualities of the park resources for the American people into perpetuity. NPS is also institutionally familiar with deployment of its staff for wild land fires or special events, so his participation in a tier 1 deployment team was supported by

*(Continued on page 9)*



management and lead to his participation in three deployments. His greatest challenge is to maintain his technical proficiency, education and professional involvement in a non-engineering focused organization. As a PHS officer, he is continually reminded of the high standards of training and education expected. By taking advantage of the many opportunities and support that PHS provides to advance his professional skills helps him to compete with his fellow officers for promotion and ultimately better serve the nation.

NPS is divided into six regional offices which provide administrative, project and funding support to parks. **LCDR Bret Nickels, P.E.**, Mechanical Engineer, is the Regular Cyclic Maintenance (RCM) Program Manager, Dam Safety Coordinator, and provides support of emergency response efforts to parks in the **Southeast Region**. As the RCM Program Manager, he oversees the fund source in which parks submit and request funding for a variety of park asset (roads, buildings, building support systems, etc) repair or rehabilitation projects totaling approximately \$15M/year. He recently traveled to the Virgin Islands for two weeks to provide the parks there with a review of their Regular Cyclic Program. During the trip he observed the assets of the park and provided strategies to extend the life of their assets by developing new projects and prioritizing maintenance on critical park assets. As the Dam Safety Coordinator, he supports and assists the Washington Dam Safety Program (CDR Nate Tatum, P.E. and LCDR Jennifer Proctor, P.E.) in administering the Dam Safety Program at a Regional level.

As a member of the Emergency Response Team, he responded to two incidents within the past year. First was Hurricane

Gustav at Gulf Islands National Seashore where he worked to validate deficiencies identified by the initial response team. These deficiencies were organized by LCDR Nickels into either work tasks to be completed by the operations section of the incident command team or addressed in project requests to be completed by contractors or park staff at a future date and time. The second response was for a F4 tornado that went directly through the middle of Stones River National Battlefield in Murfreesboro, TN. For this response, he was asked to lead the team for the initial assessment of damage to the park as well as put together a cost estimate for the response and work required to open the park back up to the public. This experience further refined his leadership skills.

LCDR Nickels' greatest challenge has been communicating his role and responsibility as a PHS Officer and engineer to members of the National Park Service staff. In his PHS uniform, he is often mistaken as a public health consultant with training in industrial hygiene and epidemiology. During the initial days of the H1N1 outbreak, he was in the Virgin Islands doing an in-brief with the Park Superintendent and was asked to brief the executive staff on the current status and precautions which should be taken to avoid contracting H1N1. The park was hosting the *International Ironman Competition* the following weekend and the Superintendent was quite concerned about an international audience within his park and needed to identify mitigating protocols to protect public health if necessary. Even though LCDR Nickels had no formal training in the medical or environmental health fields, he knew he could call the regional PHS Public Health Consultant. Over the phone, she was able to provide website resources, including official posters in multiple languages, and talking points that

*(Continued on page 10)*



LCDR Nickels could present to the park staff. Being a PHS Officer in this instance put him in a challenging position, but knowing the resources available in PHS and their strengths provided a solution where the park staff and visitors benefited.

The **Denver Service Center (DSC)** was established to provide a centralized planning, design, and construction project management office for the parks and regional offices. **CDR Tracy Gilchrist, P.E.**, Civil Engineer, works as a project manager for the DSC. He is responsible for providing project management services for scope development, design and construction management for capital improvement projects for line item funding. He also provides assistance to the parks for projects funded through other funding sources. His current projects include a \$25 million project for a new water treatment plant for the City of Port Angeles and \$2 million paper plant water treatment filter waste outfall in anticipation of the removal of the Elwha and Glines Dams to restore the Elwha river (\$351 million project overall); \$3.5 million replacement project for large capacity septic systems at Hawai'i Volcano National Park; a \$5 million project to remove arsenic from two public water systems at Lake Mead National Recreation Area, and various other projects to improve safety and upgrade existing facilities.

Although CDR Gilchrist works in Denver, his projects can be over 3,000 miles away creating challenges for providing quality customer and project services. His experience working for the Indian Health Service and having the hands on cradle-to-grave experience with projects has given him the skills to understand what it takes to facilitate the "round peg" that is the design into the "square hole" of what is constructible for completing projects successfully and

providing quality customer service. CDR Gilchrist is easily recognized by other DSC staff as a public health liaison because of his visibility from wearing the uniform daily. He is frequently asked questions regarding various public and environmental health topics relating to the new construction overseen by DSC. His participation in PHS-sponsored activities has helped him to develop a network of PHS colleagues both internal and external to the NPS that he can direct his co-workers to or call upon for assistance. His work had led to the improvement of park facilities, the environment and public health at national parks.

**CAPT Joseph Winkelmaier, P.E.**, Civil Engineer, is the program manager for the NPS Office of Public Health in the **Intermountain Region**. The program staffs a total of four officers that are located throughout the region, including Yellowstone and Grand Canyon National Parks, to provide environmental health consultation for over 80 park units with an estimated 40 million annual visitors. The program responsibilities include oversight for water and wastewater facilities, food inspections, and reduction of vector-borne diseases in staff and visitors. Coordination of activities with personnel from facilities, concessions, safety, wildlife health and the integrated pest management programs has been essential to establish an effective public health program. CAPT Winkelmaier finds the wide variety and breadth of topics challenging coming from a design engineer background, and his expansion of public health knowledge and application to the range of issues has been very rewarding. He's found that wearing a different uniform sets PHS officers apart and drives home the message of public health. Park staff knows why PHS officers are onsite and it brings a higher level of awareness, especially for concessionaires, for protecting

*(Continued on page 11)*



public health. At the end of the day, the people he and his staff work with take the recommendations and follow through with concrete actions.

*So what qualifications does an engineer need to work for NPS?*

- ✓ First and foremost, it's recommended that you have design and construction experience.
- ✓ A sense of diplomacy and effective communication skills is also a must. Essential to gaining support from park, regional, or headquarters staff is the ability to describe "why we need this," especially in these days of tight budgets and competing priorities, and to foster an understanding of the broader public health issues—to speak more languages than just "engineer talk."
- ✓ Officers need to be self-motivated, independent, and critical thinkers; you need to know where and how to obtain the resources to complete assignments. As with many of us, officers are typically assigned multiple projects, therefore, being able to "keep all the balls in air" and knowing how to prioritize is a crucial skill.
- ✓ In addition to technical skills, it is expected that you possess policy writing skills.
- ✓ And as with all PHS officers, you will be recognized throughout NPS for your role as a public health representative, therefore, proper wearing of the uniform and maintaining grooming standards are essential.

*What's the future for PHS officers at NPS?*

The newly established umbrella Interagency Agreement between the Department of Health and Human Services (HHS) and the Department of the Interior (DOI) has the potential to significantly expand public health activities and positions in the DOI and each of its eight bureaus. The logistics of the agreement and placement of officers throughout the Department are still being discussed. The National Park Service Office of Public Health, Washington, D.C., is responsible for managing the placement of officers. If you're interested in positions with DOI, contact Sonya Coakley, Chief, Commissioned Corps Operations (202/513-7215 or email: [sonya\\_coakley@nps.gov](mailto:sonya_coakley@nps.gov)). Please do not contact the program directly; Ms. Coakley is responsible for processing all PHS officer applications.

LCDR Jennifer Proctor, P.E., is a Civil Engineer detailed to the NPS Dam Safety and Transportation Safety Programs in Washington, D.C.

<sup>1</sup> <http://www.nps.gov/aboutus/history.htm>

<sup>2</sup> <http://inside.nps.gov/publichealth/intra/admin/hist.htm>

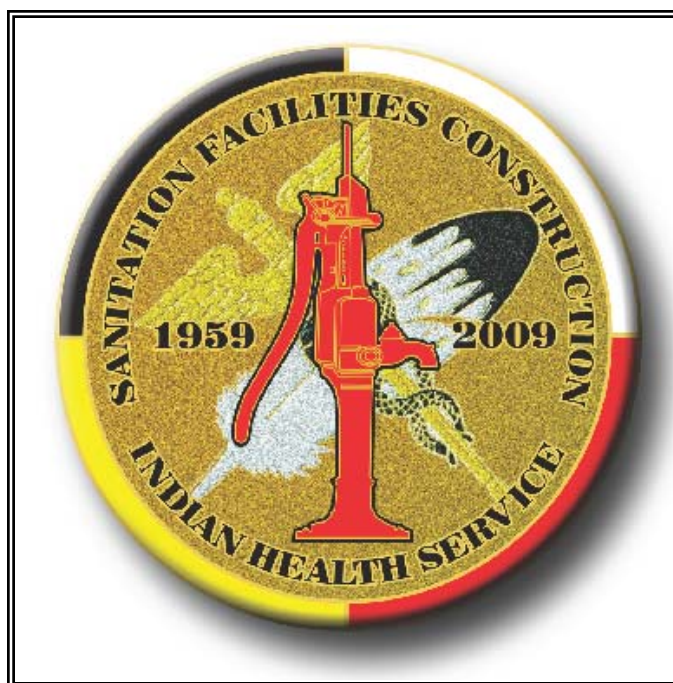


## Celebrating 50 Years

The Sanitation Facilities Construction Program of the Indian Health Service is celebrating its 50<sup>th</sup> year of legislative support this summer. This program has been hailed by Surgeons General as one of the most significant public health programs of the 20<sup>th</sup> century. Over the past five decades the number of American Indian and Alaska Native homes with a clean, safe water supply has increased from 20% to nearly 90%.

More than fifty years ago the responsibility for healthcare of AI/ANs belonged to the Department of Interior's Bureau of Indian Affairs. In 1955, Congress took that responsibility away from BIA and put it with the Public Health Service. PHS created the Division of Indian Health (predecessor to the Indian Health Service). It took four years of legislative battle after this Transfer Act for Congress to give authority to the Surgeon General for construction of much needed sanitation facilities in AI/AN communities and homes. The *Indian Sanitation Facilities Act* (Public Law 86-121) was signed into law by President Eisenhower on July 31, 1959.

The Sanitation Facilities Construction Program now employs nearly 550 employees, including nearly 300 engineers. Projects throughout the country vary from state-of-the-art surface water treatment systems serving communities of several thousand to septic tank-drainfield systems serving one family.





## Yes Sir, No Sir, and Maybe...

CDR Nate Tatum

For those of us who grew up with old fashioned southern manners beaten into us, saying “yes, Sir” and “no, Ma’am” is second nature. For those of us who grew up professionally in the USPHS Commissioned Corps of the last 20 years, it has been something of an oddity. Even today under the transforming Corps, some officers still feel uncomfortable with the title of “Sir” or “Ma’am.” Some even go so far as to ask that you not call them that. And some may even take offence. So how do you know who to “Sir” and when to “Ma’am?” Here is some advice gleaned the hard way. It’s not authoritative, but I’ll tell you the stories and let you decide what to do with it.

Ten years ago, I was an eager LT with a new additional duty: Aide to a flag officer. He, like most of the supervisors I’d previously had, requested that I call him by his first name. OK, the Officer’s Handbook said to extend full courtesy to senior officers and take their lead on how to address them from that point on. After a few months had gone by, I was getting pretty comfortable with this first name basis. Then came our first presentation to a military professional organization. All went well until the mixer at the end when an Army O-6 approached me and inquired if my boss was available to discuss something or other. Well, you can guess what happened next. I referred to a RADM by his first name. Ouch! I learned a lesson that day about habits and my ability to know when to use a familiar term and when not to. There are probably some officers who can keep it straight, but I for one can’t. So for me, I make sure I call a senior officer by the appropriate title at the right time by simply doing it ALL the time.

Flash forward five years. I am assigned to an operations shop where a small USPHS contingent is rubbing shoulders with active and former military, intelligence and multiple agency background personnel on an hourly basis. Once again, as has been customary, I am using the formal address for senior officers all the time. Some of my USPHS superiors think it is quaint or colloquial and some are even offended. To those who ask me to stop I request that they allow it so that I can avoid screwing up their title at an inappropriate time. I am grudgingly permitted to continue. I am, however, on several occasions, called out on the rug to explain myself, to which I answer the previous reasons of habit/continuity and add that showing respect for their position and rank is not disrespect, which seems to get me off the hook. ... At least it is hard to press insubordination against someone for calling you “Sir.”

Today, I am a CDR and I receive a few “Sirs” now and again myself. I have come to understand that receiving an honorific shows respect for those offering it as well as those receiving it. Returning the respect by addressing them with their proper address (rank and last name) doesn’t put them down. In fact, I find it feels remarkably like saying “yes, Sir.” After all, respect and courtesy go both ways.

To learn more about addressing other service personnel see Chapter 5 of “The Blue Jackets Manual” by Thomas J. Cutler. For more in-depth information see chapter 8 of “Service Etiquette, by Oretha D Swartz. Both are available from the Navy Uniform Support Center.



## Office of Commissioned Corps Force Management Representative Guide

The Office of Commissioned Corps Force Management (OCCFM) recently published the Charter for the OCCFM Representative function in an ongoing effort to communicate clear, transparent information to Corps officers. OCCFM establishes timelines, performance standards, and measurements for the evaluation of the operations and management of the Corps, and works closely with the Office of the Surgeon General (OSG) to facilitate operations and implementation of policies and programs.

### Purpose of the OCCFM Representative:

1. Disseminates information about policies and regulations and related OCCFM activities that impact Corps officers.
2. Serves as a communication link and information resource to Corps officers.
3. Serves as the OCCFM point of contact to the Professional Advisory Committees, obtains feedback from the categories and keeps the Director, OCCFM and the ASH informed of emerging issues.

In the role of OCCFM Representative, the OCCFM staff:

1. Disseminates information about force management activities to Corps officers (i.e., Corps policy and IT development activities);
2. Serves as a communication link and information resource to Corps officers by attending Professional Advisory Committee (PAC) meetings and other groups' key meetings pertaining to and involving Corps officers;
3. Provides online information through the Commissioned Corps Management Information System Web site located at <http://dcp.psc.gov>.

### **The following guidance is provided to further clarify the OCCFM Representative's role/function.**

In practical terms, the OCCFM Representative is meant to facilitate communications between OCCFM and the rest of the Corps. In practice, the OCCFM Representative:

- Is individually assigned to a PAC or set of PACs; the same OCCFM Representative will interface with a particular PAC throughout the representative's tenure as an OCCFM staff member.
- Attends PAC meetings.
- Attends other PAC related meetings (such as important and relevant PAC subcommittee meetings).
- Serves as a communications channel between the PACs and OCCFM by reporting on current OCCFM activities and issues and by collecting feedback, comments, and relevant issues from the PAC members regarding the Corps.

The OCCFM Representative **is not** empowered to:

- Make or interpret policy for the PACs, although he/she can report on OCCFM's official

*(Continued on page 15)*



stance on certain issues.

- Perform any tasks or projects for the PACs that have not been approved and assigned by the Director of OCCFM.
- Direct the PACs to perform any tasks or projects that have not been approved and assigned by the Assistant Secretary for Health (ASH) and by the Director of OCCFM.

The following table identifies the Customer Service Representative for each of the professional categories and other groups:

<b>Customer Service Representative</b>	<b>Category</b>	<b>Meeting Schedule</b>
CAPT Carlos Plasencia	Medical	Monthly
CDR Paul Wong	Dental	Monthly
LT Kyle Lyons	Nurse	Monthly
CDR Jay Seligman	Health Services	Bi-monthly
CAPT Estella Jones	Veterinarian	Monthly
<b>CDR Eric Shih</b>	<b>Engineer</b>	<b>Monthly</b>
CDR Diahann Williams	Dietitian	Bi-monthly
CDR Diahann Williams	Environmental Health	Quarterly
CAPT William Knight	Pharmacist	Monthly
LT Tracy Powell	Therapist	Bi-monthly
CDR Elvira Hall-Robinson	Scientist	Monthly
LT Kyle Lyons	JOAG	Monthly
CAPT Laura Aponte	PAC Chairs	Monthly
CAPT Laura Aponte	MOLC	Monthly



## EPAC Coins are now available for purchase!

This is the NEW coin featuring the triangle and caduceus emblem that originally represented the USPHS Engineer. Supplies are plentiful. Coins are \$10/ea. Contact CDR Longstaff at 301-443-1068 or at [EPAC@usphsengineers.org](mailto:EPAC@usphsengineers.org).



LCDR Steven Scherling proudly displaying his USPHS Engineer coin!



## Situational Awareness for Deployed Engineers

RADM Richard F. Barror, Ph.D., MPH, P.E.

With the summer humanitarian missions and the 2009 hurricane season upon us, it's time once again to prepare for a deployment. Engineers are a critical component of public health emergency preparedness and response activities. Through training and experience, engineers generally offer attributes that are desirable in any deployment situation:

- Engineers can bring to the mission problem solving and project management perspectives and capabilities,
- Engineers can provide situational awareness about the environment, equipment, facilities, and other important aspects of a mission, and
- Engineers have valuable technical and computer skills.

As a consequence, PHS engineers are placed in a variety of either traditional engineering roles or multi-disciplinary roles while deployed often without regard to technical specialty. We may well be asked to stretch our professional capabilities. Biomedical engineers may be involved in assessing a community water system; environmental engineers may be asked to assess a structure; and facilities managers may be asked lead a sanitary survey. Being prepared and clear think-



ing are keys to a successful deployment.

Engineers are often called upon to investigate and assess unfamiliar structures, utilities, and other electro-mechanical systems in unfamiliar disaster areas and/or foreign lands. Other countries do not necessarily have building standards, electrical codes, or other safeguards that we take for granted in the U.S. Disaster sites are inherently dangerous. Furthermore, it can be stifling hot/humid and there is often chaos, confusion, and sense of urgency, all of which is stressful and inhibits clear thinking. These unfamiliar indoor and outdoor environments can unknowingly present extremely dangerous situations requiring an abundance of caution. When engineers are involved in life-

saving efforts, or efforts at protecting life and property, personal safety is often forgotten. This is why situational awareness is extremely important. Engineers should keep in mind the following:

- Don't rush into a situation/new location without prior planning and intelligence; once there, stop and observe your surroundings.
- Always get permission from owners/operators of any property before entering the first time and/or making repairs; take

(Continued on page 18)



someone along who is familiar with the property.

- Consider force protection. Damaged buildings can have looters and vagrants.
- Bring/wear personal protective clothing and equipment such as hard hats, respirators, gloves, etc.
- Do not enter confined spaces such as water tanks, sewage lift stations, unventilated laboratories (possible spilled reagents), unventilated basements, unventilated water/sewage utility buildings (possible exposed chlorine or other gases); and do not use elevators in damaged buildings.
- Be aware of leaking fuel tanks, electrical transformers, and oxygen cylinders. Be aware of exposed electrical wiring, spilled hazardous reagents/materials, natural gas leaks, little or no lighting, and falling debris, such as glass, from upper broken windows. In outdoor environments, be aware of poison ivy, venomous snakes and poisonous creatures like Black Widow spiders and scorpions.
- Do not travel or inspect alone; use a buddy system; and avoid getting lost – it's easy to do.

Given the various roles and environments in which engineers find themselves, the following items have been found to be useful to bring on deployments:

- Personal protective equipment (PPE): hardhats, gloves, respirators, personal first aid kit with snake bite kit, and a whistle. PPE may also be issued at the disaster location.

- Tools for assessments: digital camera with cable for laptop download; electrical multi-tester; hand level; flashlight; 100' measuring tape; bolt cutter; -30 to 150 psi water pressure gauge with standard garden hose-bib female connection (for checking water pressure quickly in housing areas); bright spray paint; chlorine test strips; clipboard; and hand tools, such as a crescent wrench, needle-nose pliers with wire cutter, screw driver, etc.
- Engineer handbooks, disaster field manuals, and facility assessment check lists.
- Hand-held GPS unit with elevation readout; USGS hard-copy maps in large zip-lock plastic bags; laptop with wireless internet connectivity preloaded with maps and Google Earth, other electronic reference materials; 2-way radios, cell phones, satellite phone, and spare batteries.
- Carry a daypack with food, lots of water, and your other gear to keep your hands free.
- Don't forget personal items like sunscreen, bug repellent, sun glasses, toilet paper, and lip balm.

Let's expand and refine these lists. If you have more items to add to these lists, please contact CDR Ed Dieser [[Edward.dieser@cdc.hhs.gov](mailto:Edward.dieser@cdc.hhs.gov)] on the EPAC Emergency Preparedness Subcommittee.

Best wishes for a safe deployment.



Dear Readers,

The *Machinatores Vitae* newsletter is a publication of the EPAC, but we need help in bringing you the stories you want to read. Please consider submitting an article for an upcoming issue or let us know when you or a colleague have reached a milestone, been recognized for an accomplishment, or have an experience to share. If you are an accomplished writer, send something along that is already polished. If you don't feel like a Hemingway or Dickinson, just send enough detail so the writing team can take hold of it and build the story for you.

The writing staff can only see a bit of the big world that is public health engineering. There are numerous accomplishments even within our readership that remain unknown except in the relatively small circles around you. If you have not presented at a national meeting, the likelihood is that no one outside of your agency, or possibly even Office, ever heard about your pet project that you nearly exhausted yourself completing. Here is your chance to shine!

All ideas are welcomed. Remember that we do not have to solely focus on work going on within the PHS. Let us know if you hear of new technologies or applications, or just find an interesting story from the outside world. The rule of thumb is that if you as an engineer are interested in it, then others will be too!

Send your thoughts, suggestions, or a brief synopsis of a proposed article to the newsletter editors at [epac@usphsengineers.org](mailto:epac@usphsengineers.org).

Thank you,

CDR Jennifer Mosser  
CDR Peter Nachod

The *Machinatores Vitae* is published quarterly and posted on the USPHS Engineer Professional Advisory Committee website. The next issue of the newsletter will be published in October 2009. The deadline for submitting articles is September 15, 2009.

If you have suggestions or comments about the newsletter, or would like to submit an article, please contact the editors at [epac@usphsengineers.org](mailto:epac@usphsengineers.org).

Editors: CDR Jennifer Mosser, CDR Peter Nachod  
Technical Coordinator: CDR Ramsey Hawasly