United States Public Health Service

MACHINATORES VITAE

Engineer Newsletter

INSIDE THIS ISSUE:

From the Chief Engineer Officer

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Developing Your Career – Consider It Risk Management

We are now a couple months into the year and as we evaluate the resolutions made in January, consider examining your career in the context of your other life goals. Perhaps you may resolve to make some mid-course career corrections in 2008. One of my favorite quotes is by Teddy Roosevelt:

> *"It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat."* (Teddy Roosevelt, from Speech at Sorbonne, France, April 23, 1910).

What Roosevelt appears to be saying is "no guts, no glory." We all need to take risks; not foolish ones, but well calculated and reasoned as we manage

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our careers. Someone said that the turtle advances only when it sticks its neck out. In fact, if we stay within our "comfort zone" too long (and don't take some risks), we are not going to develop our career to the next higher level. Here are some ideas for you to consider in 2008. These recommendations are not specific to officers; the principles apply to anyone who is interested in career development.

On the PHS engineer website [www.usphsengineers.org], under the *Engineer and Architect Manual*, Chapter 4, there are 6 steps to career planning listed: (1) take control; (2) self-assessment; (3) assessing your professional interests in PHS; (4) career investigation and information gathering; (5) career decision and goal setting; (6) and strategies for changing positions within PHS. I encourage you to read this chapter first. Here are a few key points:

Assume control over your future — it's your responsibility. Although you may have others helping you along the way, you have to look out for yourself and your family first and foremost.

Know yourself — do a constant self-assessment. Understand what motivates you. Know what you like and don't like. Know what makes you upset and what gives you a sense of accomplishment. Take the Myers-Briggs personality test or the DISC test to understand how you are the same and different from others.

Study your environment —I say study, because it takes effort. Be aware of what is important to your family and to those you work with, especially your supervisor. Learn the system and the "corporate culture." Be aware of changes going on around you and be prepared for a changing environment. What are the trends in your agency, in your profession? People and policies come and go. Your plans should be flexible enough to adapt to changing situations and priorities.

The Future — No Guarantees — However, keep in mind 6 things:

(a) There are always opportunities, especially during times of change.
(b) The advantage goes to those who are prepared.
(c) There will always be competition.
(d) The rules will never stay the same.
(e) The environment will always change.
(f) The time to make a decision will never be perfect.

These are broad overarching observations. Given these, I want to be more specific. Start planning for your promotion to O-6 or GS-15 now, even if you just started in the Corps or in Civil Service. That may sound a little crazy, but some of the things you will need to do over the course of a career take a long time to accomplish. Of course you can't get to O-6 without passing through O-4 and O-5 (or equivalent GS grades). The best way to begin to get a handle on this task is by looking at the *Engineer Benchmarks* (sort of a road-map) which are posted in the Engineer Website under *Career Development/Promotions*. Perhaps the best thing you can do to help you plan for your O-6 promotion now is to get a mentor who has already taken the journey and can provide you sound advice along the way. EPAC has a mentoring program for officers and civil service that is explained on the PHS engineer website.

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So what might a mentor recommend? In short — "become valuable." How do you do this?

Achieve important professional standings. Get your E.I.T., P.E., or other professional certifications that show you have achieved certain levels of professional proficiency. Get a master's or higher degree that adds value to you in the eyes of those above.

Get a variety of professional experiences along the way; become an expert in at least one topic that is of value to more than one PHS agency. Seek challenging assignments — opportunities to demonstrate your abilities, improve your skills, and for personal growth.

Increase your value by "getting known", otherwise called "networking." You can do this in several ways. One way is simply through mobility — either geographic or programmatic. The more people who know you as a solid reliable performer, the better. I have often said the following: if and when your file is given to an O-6 promotion board (or you apply for a GS-15 position), the Board should not be meeting you for the first time. Nearly everyone on that board should already know who you are. Other important ways to get know are by being on engineer committees such as EPAC, or technical committees within your agency and across agencies. Equally as important (especially if you have as a goal becoming a flag officer or SES) is to be on cross-category committees such as Service Unit committees or COA committees, or OCCO/OCCFM committees where you work side by side with nurses, pharmacists and others outside of engineering. I myself found this to be particularly beneficial when I was deployed. I already knew many of the folks in the non-engineer categories. Volunteer for assignments outside of your profession. You not only get known, but it forces you to grow and mature as a leader and manager. Last, join professional organizations such as ASCE and especially SAME and get active on some of their subcommittees and local branches and posts.

Envision what kind of engineer you will be when you are an O-6 or GS-15. My recommendation is that when you come up for promotion to an O-6 or GS-15, you should either be one of two things (1) a program manager or (2) technical expert, or both. At some point in your professional journey, you will need to decide which track to take, or if you are up for a real challenge, both tracks.

Know the rules. Along your journey you will be faced with lots of rules. The rules are not for the other guy. You might as well face them head on and learn them. In fact, become an expert in the rules — it may give you an advantage some day, or at least keep you out of serious trouble. The rules that I am referring to include:

- Civil Service regulations governing personnel and supervision;
- Commissioned Corps requirements — promotion preparation, basic readiness, etc.;
- Government ethics rules;
- Rules having to do with money and contracts — purchasing, travel orders, etc.;

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- Rules governing personal safety — OSHA rules; engineers work in hazardous environments. When the workload reaches crisis levels, safety is often sacrificed. Injuries occur most often when people are stressed and fatigued. As someone who is responsible for the health and safety of others, you must take safety seriously.
- Legal authorities governing the conduct of your position or activities — what you can and cannot approve; authorities delegated to you, etc., and applicable environmental laws.

Be sure to take advantage of any classes/training so that you gain a better understanding of these rules that are in the form of laws, regulations, and policies.

Here is some additional advice.

- Be excited about your work; maintain a positive attitude; don't blame others for your performance; bad outcomes are still learning opportunities
- Make your boss look good, even if you don't particularly like him or her.
- Work for good people — smart, high integrity, demanding, professional — seek them out by asking others.
- Stretch yourself. Officers often come up to me and ask me if they are qualified for a certain job that is posted. My typical response is that it's not up to you to decide if you are qualified. So apply for the job and let the selecting official decide whether or not you are qualified.
- Maintain your CV and eOPF — keep them up to date.
- Be optimistic — optimism does not necessarily guarantee success, but pessimism, apathy, ignorance, and fear ensures failure.
- Be committed. Happiness is not a goal by itself, but a by-product of being committed to something worthwhile, whether it's your career, family, or hobbies, or if you are well balanced, all of the above.

I hope you found this to be helpful. Best wishes to you and your family in 2008. And good luck on the mid-course career corrections.

Machinatores Vitae!

RADM Richard Barror
Chief Engineer Officer

2008 EPAC Chair

CDR Sue Neurath

It is my great honor to have the opportunity to serve as the 2008 Chair of the Engineer Professional Advisory Committee and share a few thoughts with you.

First, if you work anywhere near CDR Dave Ausdemore – please congratulate him on a job well done as last year's EPAC Chair. As the days go by I find out more about how his efforts guided the EPAC's accomplishments last year.

Please also thank all of the EPAC Subcommittee Chairs. They are the power and vision behind all EPAC accomplishments! The EPAC Subcommittee Chairs for this year are:

CDR Dan Beck	Emergency Preparedness
CDR Steven Bosiljevac	Building Design and Construction USPHS Scientific and Training Symposium
CDR Mary Dahl	Career Development
CDR Chuck Kardous	Recruitment and Retention
CDR John Longstaff	Awards Rules
CDR Hilda Scharen	Information
CDR James Simpson	Leadership Development Seminar
CDR Emil Wang	Mentoring

Please also congratulate CDR Jamie Natour, she completed her second term last December and had chaired the Building Design and Construction Subcommittee – we will miss her dedication and service. Finally, please welcome our new members: LCDR Roger Dahozy, CDR Charles Hayden, LCDR Michael MarcAurele, and CDR James Simpson. It looks like 2008 is going to be a very good year!

The EPAC meetings are held on Thursday afternoons (3:30-5PM EST), typically on the third Thursday of the month. All PHS Engineers are welcome to attend please contact me at SNeurath@cdc.gov to receive a copy of the agenda and conference line information.

The major projects for EPAC this year can be grouped into four Focus Areas: Recruitment and Retention of PHS Commissioned Corps Engineer Category Officers, Professional Development for both Civil Service and Commissioned Corps engineers and architects, Readiness, and EPAC Organization. Each subcommittee plays a vital role in defining and creating our success in each of the focus areas. All PHS engineers and architects are invited to join a subcommittee, participate in EPAC programs and projects, and join us in *promoting, protecting and advancing the health and safety of the Nation.*

Engineering and Public Health At CDC

CAPT Laurence D. Reed and CAPT G. Scott Earnest

The following article was published in the Centers for Disease Control and Prevention's *Morbidity and Mortality Weekly Report (MMWR)* and recently in the on-line version of SAME's *The Military Engineer* in a condensed form. It is being reprinted so that others can learn about the contributions CDC engineers have made to enhance U.S. and international public health.

Introduction

Engineering is the application of scientific and technical knowledge to solve human problems. Using imagination, judgment, and reasoning to apply science, technology, mathematics, and practical experience, engineers develop the design, production, and operation of useful objects or processes. During the 1940s, engineers dominated the ranks of scientists at the Centers for Disease Control and Prevention (CDC). In fact, the first CDC director, Assistant Surgeon General Mark Hollis, was an engineer. CDC engineers were involved in malaria control through the elimination of standing water. Eventually the CDC mission expanded to include prevention and control of dengue, typhus, and other communicable diseases. The development of chlorination, water filtration, and sewage treatment were crucial to preventing waterborne illness. Beginning in the 1950s, CDC engineers began their work to improve public health while developing the fields of environmental health, industrial hygiene, and control of air pollution (*1*). Engineering disciplines represented at CDC include biomedical, civil, chemical, electrical, industrial, mechanical, mining, and safety engineering. Although CDC is made up of six coordinating centers and offices, most CDC engineers are located in the National Institute for Occupational Safety and Health (NIOSH) and the Agency for Toxic Substances and Disease Registry (ATSDR). Engineers within CDC consist of both U.S. Public Health Service Commissioned Officers and Civil Servants.

Engineering research at CDC has a broad stakeholder base. With the cooperation of industry, labor, trade associations and other stakeholders and partners, current work includes studies of air contaminants, mining, safety, physical agents, ergonomics, and environmental hazards. Engineering solutions remain a cornerstone of the traditional "hierarchy of control" approach to the control of public health hazards (*2*).

Key Engineering Contributions to Public Health

Air contaminants

CDC engineers at NIOSH Hamilton Laboratories have long worked in industrial ventilation, isolation/containment, contaminant control, indoor environmental quality, and computational fluid dynamic modeling. Successful engineering control studies have led to advancements for 1) controlling air contaminants, such as asphalt fumes, silica, and lead; 2) developing strategies under national emergency preparedness to protect buildings and the public from attacks by chemical, biologic, or radiologic agents (*3*); 3) preventing infectious disease transmission in occupational settings (*4,5*); and 4) control-

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ling carbon monoxide on recreational boats (*6*).

CDC engineering work has focused on innovative solutions for controlling air contaminants. During the mid-1990s, NIOSH engineers, working with paving equipment manufacturers, designed a control that reduced worker exposure to asphalt fumes by 80% (Figure 1) (*7*). NIOSH engineers have studied control of respirable silica dust in nearly a dozen industries—in one example, employee exposure to respirable silica dust was reduced 79%–94% after a china manufacturing plant implemented its dust-control recommendations. CDC engineers at NIOSH also have designed and installed ventilated booths for radiator repair shops, reducing blood lead levels of workers in those shops by 70%.

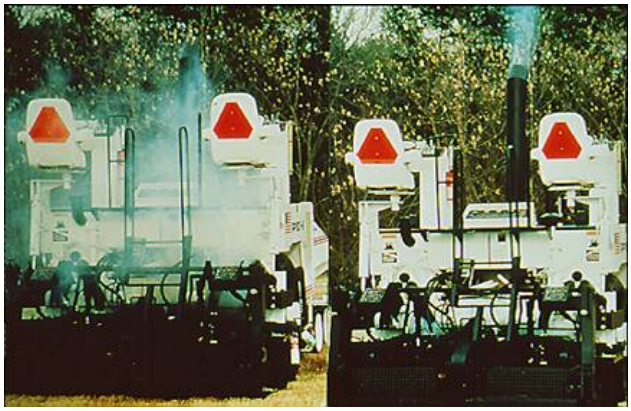

Figure 1. Photograph of an asphalt paver before (left) and after (right) an engineering control was installed to reduce asphalt fume exposures.

Lung-Function Testing

CDC engineers have made major contributions to the practice of lung-function testing. Accomplishments include development of the standard approaches to testing lung-function equipment; international leadership in developing and disseminating lung-function testing standards; and collaborations with epidemiologists in studies of occupational and general populations. A notable collaboration was with CDC's National Center for Health Statistics, which led to development of a commonly used set of reference values for evaluating spirometry in the United States (*8*).

Mining

Mining presents a challenging work environment; concerns include excessive noise levels, dust exposures, explosive and toxic gases, and massive equipment in near-constant motion. The NIOSH mining research program developed engineering controls for surface and underground mining to improve miners' health and safety. Successful controls widely adopted within the mining industry include water-jet sprays for dust control, noise reductions on conveyors and drill units, roof and structural support systems, designs for improved ventilation, mine-escape operations, and improved materials handling systems.

The mining community has successfully implemented products resulting from NIOSH engineering research. These products include two programs that helped eliminate tailgate blockages, a major source of injury. The underground stone ground control safety initiative greatly reduced fatalities in stone mines (*9*). Coal pillar recovery guidelines and mobile roof supports have made pillar recovery safer (*10*). Guidelines for designing deep-cover mines to prevent coal bumps (violent failures of highly stressed coal) contributed to seven consecutive years without fatalities. A research and education campaign on rockfall injuries and use of surface controls in coal mines has reduced rock fall injury rates by approximately 25%.

Safety

CDC engineers at NIOSH conduct

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safety engineering research to prevent occupational injuries by developing practical products and interventions in areas such as fall prevention, machine safety, and equipment safety research. Examples of engineering control research include improved lock-out devices for paper balers and roll-over protective structures for tractors, equipment responsible for numerous deaths and injuries. More rigorous standards for machine safeguarding, to better match international standards, have been examined (*11*). Other projects include improving the safety of roof-bracket assemblies to protect roofers and construction workers from disabling or deadly falls (*12*) and developing improved work practices and computer modeling on scissor-lift tip-over controls to prevent fatalities. NIOSH safety engineers also study personal protective equipment for workers exposed to fall-from-elevation hazards (*13*). Research on the interface between the human body, machinery, and protective equipment represent an advancing area of safety engineering. These efforts have provided the basis in developing injury-control innovations and moved many safety engineering technologies to product design practices, standardization, and commercialization.

NIOSH engineers and epidemiologists worked together in Alaska after deck machinery on commercial fishing vessels was identified as the cause of 40% of hospitalized injuries in one of the country's most dangerous industries. Engineering researchers developed a solution to prevent entanglements from a capstan-style deck winch. Fishermen praised the device as a significant safety and productivity improvement that reduces injuries and work stoppages (*14*).

Physical Agents: Noise, Heat, and Radiation

Hearing loss prevention engineers at CDC study the effects of noise-induced hearing loss that affects an estimated 30 million U.S. workers. Engineers design and develop instruments and methods to assess and characterize hazardous noise exposures. NIOSH engineers have an international reputation for their work on hearing protection devices, controlling exposure to impulsive noise, and novel engineering noise control research. They developed and patented EarTalk™—a hearing protection and communication system (Figure 2). This novel device is particularly suited for use by emergency responders. They also developed a novel system for characterizing exposure to impulsive noise and applied for U.S. and international

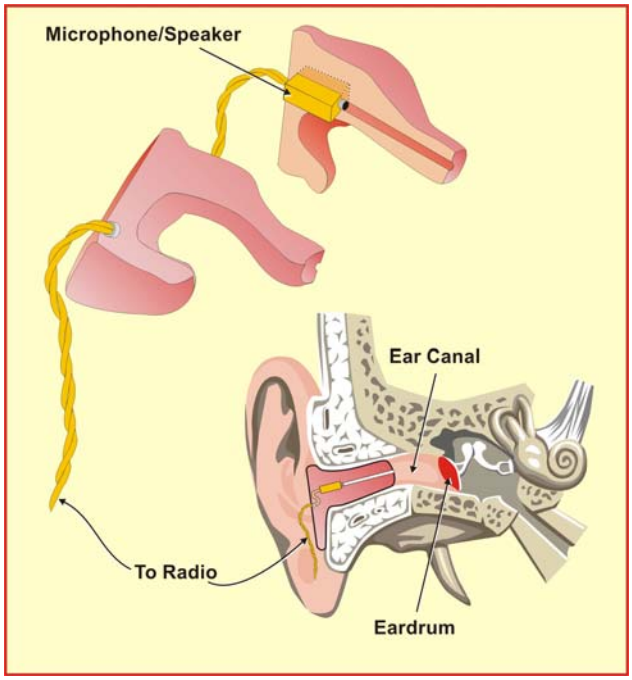

Figure 2. Illustration of the NIOSH developed and patented EarTalk hearing protection and communication system. The system uses miniatures microphones built into custom-molded earplugs to capture speech signals from the ear canal and transmit it using portable radios.

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patents (*15,16*).

Engineering assessments have shown that workers and the public are exposed to ionizing radiation from technologies recently developed to improve homeland security. These technologies (many of which came to market after the terrorist attacks of September 11, 2001) use x-rays to screen checked baggage at every major airport throughout the world for explosive materials, or use gamma radiation to screen cargo containers for illegal contraband. NIOSH engineers characterized exposures from these technologies and recommended numerous measures to prevent these exposures or to reduce them by up to 50%.

Ergonomics

Engineers support the NIOSH program to reduce work-related musculoskeletal disorders and contribute to the design of new or improved exposure assessment techniques, tools, and equipment. According to the Bureau of Labor Statistics, approximately 32% of lost workdays result from overexertion or repetitive motion. CDC engineers developed an exposure assessment technique to quantify risk factors associated with workplace postures and job tasks. Workers using nonpowered hand tools have been studied using force sensor technology to identify the portion of the work cycle resulting in the greatest forces to the hand. Effective interventions and solutions that reduced repetitive motion injuries have been applied to the agriculture, shipyard, mining, and construction industries (Figure 3). NIOSH also conducted an intervention trial that demonstrated a strategically designed patient-lifting program can significantly reduce musculoskeletal injuries to nursing staff in healthcare facilities. CDC engineers at NIOSH worked to produce patentable devices to address specific concerns when commercially available interventions were not available (*17–19*).

Figure 3. Worker being evaluated by engineers for musculoskeletal disorder risk factors.

Environment

CDC engineers are involved in determining, through engineering interpretation of environmental investigations and sampling results, how the public could be exposed to hazardous materials in the environment. In addition, situation-specific sampling methodologies have been developed to determine how people have been exposed to hazardous materials. Cutting-edge environmental modeling techniques are used to reconstruct past exposures from contaminated drinking water supplies. These reconstruction techniques permit more accurate determination of adverse health impacts and significantly reduce the exposure misclassification bias in epidemiologic studies. During emergency response situations, CDC engineers analyzed community infrastructures and healthcare facilities to help determine when or if they could be safely used (*20,21*).

Water quality is a worldwide public health issue. CDC engineers at the National Center for Infectious Disease, working with epidemiologists, have conducted water quality testing, developed standardized chlorine dosing regimes, and collaborated to develop regional safe-water systems that are inexpensive and easy to transport and have the appropriate chlorine dosing. Engineering design has increased the

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impact of this program by making the chlorine solution available at lower cost to more people in developing countries. Last year, 8 billion liters of water were treated in 15 countries throughout Africa and Asia.

Conclusions

For more than sixty years, CDC engineers have played an important role in enhancing U.S. public health by focusing their efforts on CDC goals concerning healthy communities, workplaces, homes, and schools. CDC engineers are meeting public health challenges by conducting laboratory and field studies, overseeing research and development that result in solutions-based products, conducting disaster relief and emergency response, and engaging in public health program management. CDC engineers are an integral part of the public health team that help to define what is possible, identify existing limitations, and shape workable solutions. Their efforts have contributed greatly reducing disease and preventing injury in the United States and around the world.

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Survey Says...

Last spring, the EPAC Career Development Subcommittee completed a two year effort of designing, testing and implementing a survey for PHS engineer officers. Thanks to all who participated! Almost 20% of the engineer category responded and, as demonstrated in the following table, the composition of respondents came very close to matching the engineer category demographics in agency affiliation and rank.

Survey Respondents Compared to the Engineer Category

	Engineer Category Commissioned Officers	Survey Respondents
Number of Officers	397	79
Agency		
Indian Health Service	61 %	65%
Food and Drug Agency	11%	4%
Center for Disease Control	7%	8%
HRSA	0.8%	3%
Environmental Protection Agency	10%	9%
National Park Service	Not Specified	9%
NOAA	Not Specified	1%
Rank		
LTJG (O-2)	6%	8%
LT (O-3)	15%	15%
LCDR (O-4)	23%	15%
CDR (O-5)	35%	52%
CAPT (O-6)	20%	10%
Results for Engineer Category taken from the DCP Statistical Reports available at http://dcp.psc.gov/rpt_select.asp and retrieved on Sep 14, 2007.		

Though similar information is not available for the entire engineer category, the following table illustrates the percentage of survey respondents having various skills, duties, education and certification.

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General Characteristics of the Survey Respondents

	Survey Respondents
Having prior military experience	25%
Having previous industry experience	39%
Completed BOTC	94%
Completed IOTC	86%
Basic Readiness - Qualified	97%
Assimilated into the PHS Regular Corps	59%
Highest Level of Education is a Masters	58%
Having Passed the EIT or FE Exam	90%
Currently Holding a PE	77%
Having Certifications Other Than a PE	25%
Currently a Supervisor	42%
Having Completed Supervisory Training in Past 3 yrs	33%
Current Member of at least One Professional Organization	95%

One of the major goals of the survey was to gather information concerning the interests and needs of category members that might be addressed by the EPAC Career Development Sub-committee. The following table illustrates the percentage of survey respondents that ex-pressed interest in various topics under discussion within the subcommittee.

What career development activities would you like EPAC to focus their efforts on?

	Survey Respondents
CV Writing	18%
Federal Resume Writing	22%
Documenting your Professional Development Journal	27%
Networking Opportunities	53%
Leadership Training	62%

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Characterization of Written Comments

General Category	Sub-Category
Education and Training	Obtaining an advanced degree Continued education and training Emergency Response Leadership Constraints affecting officer's ability to completed advanced training Time Limitations Funding Limitations
Agency Transfers	Inter-Agency (within PHS) Details (outside of PHS) USDA USDA/Forest Service VA USAID, WHO, Peace Corps
Career Tracks	Management Technical Agency Specific

Taken together, the survey results suggest that the respondents fairly represented the distribution of engineer officers across the agencies and ranks. While it is not known how well the general characteristics of the survey respondents compare to the engineer category, the results suggest that the vast majority of engineer officers have passed the Engineer in Training (EIT) or the Fundamentals of Engineering (FE) exam, over half hold an advanced degree, and over 90% are 'Basic Qualified.'

The overwhelming majority of the survey respondents indicated that they are interested in EPAC Career Development Subcommittee activities focused on 'Leadership Training' and 'Networking Opportunities.' The individual written comments tended to relate to one of three general categories: Training and Education, Agency Transfers, and Career Tracks. The Career Development Subcommittee will use this information to focus future efforts.

If you would like more information on the EPAC Career Development Subcommittee activities, please contact CDR Mary Dahl (Mary.Dahl@ihs.gov).

Small Engine Emission Testing

LCDR Joe Hresko

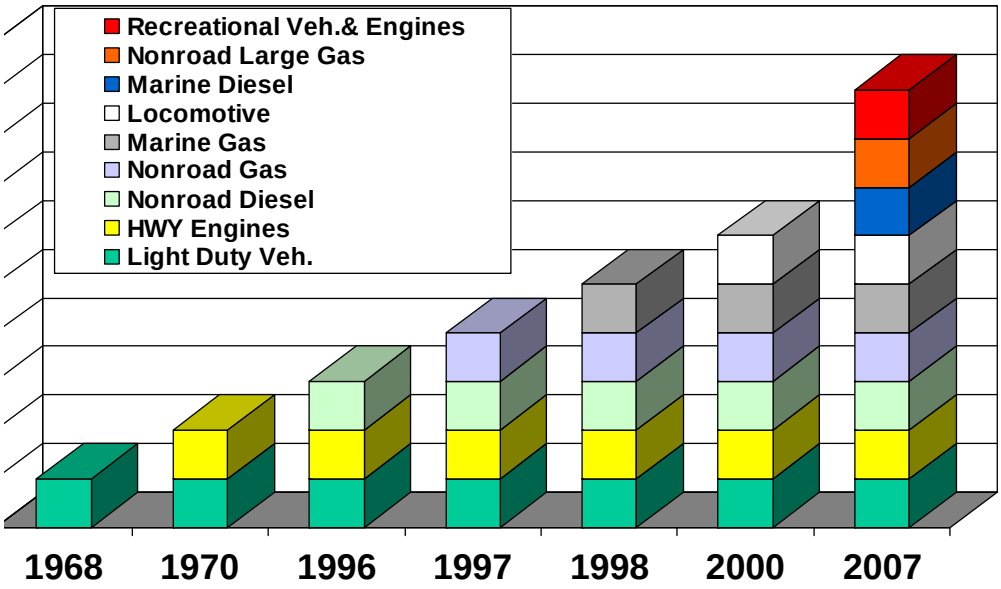
As a mechanical engineer in EPA's Office of Transportation and Air Quality (OTAQ), Engine Compliance Group (ECG), I am part of the team responsible for ensuring that engines sold in the United States comply with federal emission standards. Over the last ten years, the number of industries regulated by ECG has dramatically increased (see regulated industries timeline). We now regulate engines varying from small grass trimmers to the large diesel engines which power cruise ships.

ECG works with engine manufacturers to assure they comply with regulations. Before an engine manufacturer is permitted to sell an engine in the U.S., it must obtain a certificate of conformity from ECG. To obtain this certificate, the manufacturer must provide test data along with a detailed description demonstrating that the engine meets applicable emission standards. Normally, manufacturers conduct their own emission testing which is accepted by the EPA for use in issuing the certificate of conformity. Recently, ECG decided to focus our enforcement activities on the small, non-road gasoline industry (lawnmowers, trimmers, chainsaws, etc.) as there has been a surge in new manufacturers producing these engines, especially from overseas. Since we don't have a history with these manufacturers, it is critical that we verify their compliance with EPA regulations before a certificate of conformity is issued. Emission regulations for the small, non-road gasoline industry started in 1997 and set exhaust levels for hydrocarbons (HC), oxides of nitrogen (NOx), and carbon monoxide (CO). EPA estimates that regulated engines will emit one-third less HC as compared to an unregulated engine, and will produce an annual reduction of 100,000 tons HC per year. HC is responsible for ground-level ozone which contributes to asthma and other respiratory diseases.

To make sure we are achieving the emission benefits, and thereby protecting public health, ECG has started an audit program of small engine manufacturers to verify compliance. Instead of accepting a manufacturer's engine test data, the manufacturer must send an engine to either an independent laboratory or to EPA's National Vehicle and Fuel Emissions Laboratory in Ann Arbor, Michigan. The engine is tested according to the procedures outlined in the Code of Federal Regulations (CFR) Part 90. I had the privilege of leading the first confirmatory certification small engine audit in August 2007. The engine, in this case a chainsaw, was attached to a dynamometer and run through the CFR Part 90 test cycle. During the audit, seven

(Continued on page 16)

Regulated Industries Timeline



different engine models were tested and the results were compared to the emission standard. Two of the models exceeded the standard and were prevented from being sold in the United States. It is very challenging work but an important component in OTAQ's mission to reconcile the transportation sector with the environment by advancing clean fuels and technology, and promoting more livable communities.

For more information, please contact LCDR Joe Hresko (Hresko.Joe@epa.gov).

High Level PHS Awards
Engineer Officers
October—December 2007

Officer	Agency	Award	In Recognition of:
CDR David Ausdemore	CDC	Outstanding Service Medal	"Contributions in the development of Exceptional Environmental Programs which greatly improved the overall environmental quality of CDC." 01/02 – 06/07
CDR Nelson Mix	EPA	Outstanding Service Medal	"Contributions to the EPA's on Scene Coordinator Readiness Training Program." 03/01 – 03/07
CDR Sean Boyd	FDA	Meritorious Service Medal	"Service in coordinating Radiological Health Program initiatives across agency components and with industry stakeholders." 10/06 – 08/07
CDR Michael Coene	FDA	Meritorious Service Medal	"Leadership as Director, Software & Web Development Branch and for contributions as innovator, advancing goals to promote public health." 01/04 – 08/07
CAPT Samie Allen	FDA	Outstanding Service Medal	"Significant contributions to the FDA by her leadership of the breast implant program." 01/99 – 11/06
CDR Emil Wang	FDA	Outstanding Service Medal	"Outstanding leadership as Radiology Devices Team Leader and supporting the negotiation of a consent decree." 08/06 – 07/07
CDR Nicole Wolanski	FDA	Outstanding Service Medal	"Sustained superior performance as Chief, Cardiovascular & Neurological Devices Branch." 12/06 – 06/07
CAPT Jose Cuzme	IHS	Meritorious Service Medal	"National leadership resulting in significant budget increases for over 1700 FTEs and a better national construction priority system." 10/00 – 07/07
CDR Edward Lohr	IHS	Outstanding Service Medal	"Contributions in furthering the health status of Alaska Natives and the mission of IHS." 01/02 – 01/06
CDR Denman Ondelacy	IHS	Outstanding Service Medal	"Contributions as Acting Manger & Chief Engineer overseeing day to day project implementation." 03/05 – 08/07
CDR Nathan Tatum	NPS	Outstanding Service Medal	"Outstanding leadership in carrying out the mission of the United States Public Health Service with the Department of Homeland Security (DHS)." 03/04 – 06/06

Group Highlight: Awards Subcommittee

The EPAC Awards subcommittee is a small but focused group of volunteers who administer the PHS Engineers award selection, while remaining essentially anonymous. They respond at regular intervals to assess applications and choose by consensus those who best meet the credentials of each award. Not all subcommittee members judge all awards. In fact each judge will likely be involved in at most 30-40% of the awards reviewed, typically less. We are always looking for more members to volunteer.

The EPAC currently maintains nine awards categories. The applications for each note appropriately that "Recognition and praise for exceptional and dedicated work is one of the key factors in job satisfaction and helps to build a strong and productive workplace. Nomination…is an excellent way to recognize the exemplary work of engineers throughout the US Public Health Service."

Of the five main PHS awards, two, the Engineer of the Year and the Engineer Responder of the Year, recognize individuals in all categories. Two others, The Ian K. Burgess award (Commissioned Corps) and the Roger H. Lynch award (Civil Service), recognize junior level engineers. Five others are awarded to literary works by PHS engineers.

Additionally, the Commissioned Officer's Association sponsors one annual award, the John C. Villforth Leadership Award. This has as its mission: "To recognize and acknowledge outstanding architects and engineers whose service in the public trust meets the highest ethical standards and is in the best interest of the public's health. The award will honor those who exemplify and excel in leadership, have demonstrated exemplary professional conduct, and are committed to constant improvement exhibiting the highest degree of character, technical excellence, and competence."

In addition to these there are three award sponsored by the Society for American Military Engineers (SAME); the Hollis Medal, recognizing excellence in officers of the O-4 and above ranks, the Green Medal, honoring officers at the rank of O-3 and below, and the Cumming Plaque, honoring groups or units within PHS.

We all know someone in our daily dealings who shines, but far too often they go unrecognized. Nomination for one of these awards is a fantastic way to bring attention to the excellent work that is carried out by PHS engineers every day. Visit http://www.usphsengineers.org/Awards/awards.htm to learn more and to see just how easy it is to take advantage of this all too often overlooked way to improve morale for those deserving, but unrecognized individuals and groups.

Subcommittee Members

CDR John Longstaff, IHS HQ, Office of Environmental Health and Engineering, Department of Facilities Planning and Construction. Facilities Engineering National Program Manager/Senior Engineer Consultant. He compiles and analyzes data from numerous sources to establish priorities for new hospital and health center construction for the IHS nationwide. He does volunteer work with the Civil Air Patrol as a search and rescue aircrew member, and in his spare time enjoys flying small airplanes, SCUBA, read-

ing, and spending time with his wife and troublesome daughter. Currently the Awards SC Chair.

CDR Steven Anderson, IHS/Portland, Office of Environmental Health and Engineering, Sanitation and Facilities Construction, Operations and Maintenance Program. He is a District Utility Consultant, managing the Operations and Maintenance program. Negotiates and implements the Interagency Agreement with EPA Region 10 to provide four Tribal Utility Consultants to provide O&M related services to Tribal Public Drinking Water Systems in the Portland Area. Outside interests: bicycling, sailing, kayaking, hiking, climbing, and backpacking.

CAPT Cherie Estill, CDC/NIOSH, Cincinnati. As an Industrial Hygiene Supervisor, she supervises exposure assessment research on nanotechnology, phthalates and other chemicals. She also conducts research on sampling methods for B. anthracis, and is chair of the NIOSH Human Subject Review Board. She enjoys triathlons and other sports and is active in her children's activities.

CAPT Bradley Harris, NPS/Alaska Regional Office, Anchorage. He is a Construction Manager, focusing on the Line Item Construction program for the National Park Service in Alaska. He also serves as Regional Construction Safety trainer and deploys regularly in the capacity of Planning Section Chief on the National Park Service Western Incident Management Team. He enjoys triathlon competition along with cross-country skiing, hiking, canoeing, and activities that advance learning opportunities for children.

LCDR Jennifer Mosser, EPA, Office of Radiation and Indoor Air, Radiation Protection Division, Washington, DC. She is an Environmental Engineer in the center responsible for recommending policies to protect the general public and environment from ionizing radiation, and develop emergency planning criteria for and coordinate technical aspects of EPA's response to radiological emergencies. Her outside interests include cooking, gardening and SCUBA, as well as spending time with family and friends.

CAPT Stephen Rhodes, FDA, Center for Devices and Radiological Health, Office of Device Evaluation, Rockville, MD. Director, Investigational Device Exemption (IDE) and Humanitarian Device Exemption (HDE) Programs. He supervises new programs and policies regarding the regulation of clinical trials for medical devices and serves as the Center's product jurisdiction officer for combination medical products, i.e., devices and drugs. He enjoys coaching his son's and daughter's soccer teams.

CDR Hilda Scharen-Guivel, FDA, Center for Drugs, Rockville, MD, Office of Executive Programs. She is a Senior Program Manager Consultant, focusing on Center Strategic Planning and budget processes, and is the Center Liaison for Office of Emergency Operations. She likes golf, swimming, running, international travel, and family.

CAPT Keith Shortall, IHS Office of Environmental Health & Engineering, Phoenix, AZ. Director, Division of Facilities Engineering. His division is responsible for the design, construction and operation of health care facilities. He enjoys spending time with his family, outdoor activities and woodworking.

Jennifer Topmiller, Civil Service (GS-13), CDC/NIOSH, Division of Applied Research and Technology, Cincinnati. As a Mechanical Engineering Team Leader, she works on engineering controls for workplace exposures, supervising engineers, industrial hygienists and contractors. Serves on the Industrial Ventilation Committee for the American

Conference of Governmental Industrial Hygienists. She enjoys spending time with family, attending her children's sporting events, and reading.

CDR Geoffrey T. Wachs, IHS District Office, Rhinelander, WI. Health Facilities Engineer Consultant, focused on healthcare facilities engineering. He has been involved in the EPAC Awards Subcommittee since 2005. He enjoys travel, history, collecting, fishing, hunting, motorcycle, and music.

Dear Readers,

The *Machinatores Vitae* newsletter team would like to express appreciation for your interest in this news media. We are proud of the way the newsletter has developed and hope to keep your attention for years to come.

This publication was developed to inform you on what's going on within the engineering community by discussing trends in engineering, both within the U.S. Public Health Service and outside. We hope to promote recognition of career and personal accomplishments, share experiences, and distribute professionally-related information. The vision has always been to include spotlights on individual engineers and report interesting and challenging projects. There will also be the occasional discussion by the Engineers Reading List interest group.

Machinatores Vitae is a publication of the EPAC, but we need help in bringing you the stories you want to read. The major difficulty remains in getting suitable articles for publication. The writing staff can only see a bit of the big world of public health engineering. There are numerous accomplishments even within our readership that remain unknown except for 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!

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.

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.

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 June 2008. The deadline for submitting articles is May 15, 2008.

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

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