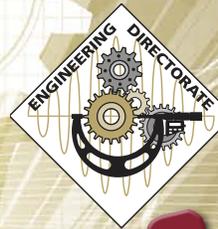


THE ENGINEERING EDGE

EDGEWOOD CHEMICAL BIOLOGICAL CENTER

Volume 4, Issue 8

September 2012



ECBC ENGINEERING
Design→Build→Test→Support

A Message from the ECBC Rock Island Site Manager and Engineering Associate Director, Nannette Ramsey

Greetings,

The ECBC Rock Island site is honored to be the focus of another edition of *The Engineering Edge*. Since our site was last featured, the military post on which we are located, Rock Island Arsenal, celebrated the Sesquicentennial of its founding on 11 July 1862. Since then, Rock Island Arsenal has continued to provide vital logistics and technological support to the Warfighters of the United States Armed Forces. We are proud to be part of the Arsenal's longstanding service to the Warfighter and also proud of our bonds to our parent organization in Edgewood, Maryland. Working together on a wide variety of projects from information technology to Chemical, Biological, Radiological and Nuclear commodity engineering has been very rewarding.

The articles in this issue illustrate the efforts of just a few of our many endeavors as we work with our Headquarters to meet our customers' ever-changing needs. I hope this issue of *The Engineering Edge* provides some helpful insight on various work efforts, which stretch from improving technical processes within U.S. Army Research, Development and Engineering Command (RDECOM) to certifying labs for the Services and Defense Logistics Agency.

I would like to personally thank the dedicated workforce for their outstanding effort during FY12. As I look toward the next year and the upcoming challenges we will all face, I am certain we will be able to meet those challenges and I look forward to sharing the successes of FY13.

Respectfully,

Nannette Ramsey



ECBC Rock Island Leads RDECOM TPP Standardization Efforts

Currently, all of the Research, Development and Engineering Centers (RDECs) develop technical procurement package input based on the various contracting centers' needs, local requirements and other elements related to procuring specific commodities.

Edgewood Chemical Biological Center's (ECBC) Engineering Directorate is working with other RDECs, Army Materiel Command (AMC) G6, the Army Contracting Command (ACC), elements of the Life Cycle Management Commands and the Defense Logistics Agency (DLA) to improve efficiency and ease of use by standardizing data elements for Technical Procurement Packages (TPPs) used in acquisition.

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ECBC Provides Stamp of Approval with Laboratory Performance Certification Program

At a time when contractors and Government agencies face reduced budgets, Edgewood Chemical Biological Center's (ECBC) Engineering Directorate Laboratory Performance Certification Program remains vigilant in holding contractor and Government testing facilities accountable to the highest standards of Chemical Biological Radiological Nuclear (CBRN) and non-CBRN materiel testing.

Lab Performance Certification is a product-specific program instituted by ECBC, which validates compliance with testing

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To access the electronic version of this newsletter, visit:
<http://www.ecbc.army.mil/news/ENG/>



APPROVED FOR PUBLIC RELEASE

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Awareness: One World Trade Center

One World Trade Center, formerly known as the Freedom Tower, is the principal building of the new World Trade Center in Lower Manhattan. The 104-story skyscraper is currently being built at the northwest corner of the 16-acre World Trade Center site, at the location where the original eight-story World Trade Center stood before September 11, 2001.

Construction on the building began April 6, 2006 and is slated for completion in 2013. The height of the soon to be completed building, 1,776 feet tall, is symbolic of the year the United States became independent. Once it is completed, One World Trade Center will become the third tallest building in the world and tallest building in New York.

A National September 11 Memorial and Museum will be located within the new complex along with three other office high rises. David Childs, of Skidmore, Owings and Merrill is the main architect of the project. ⚙️

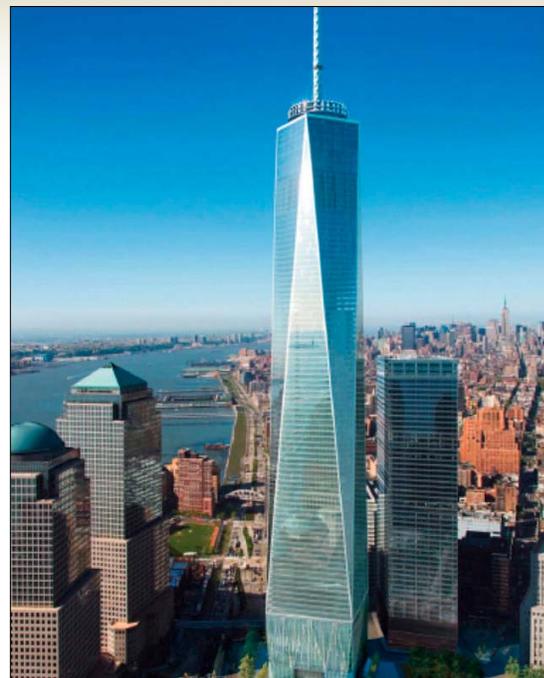


Photo from The Port Authority of New York and New Jersey

Safety Tip: Back-to-School Backpack Safety



As the new school year begins, it is important to ensure that the new textbooks aren't putting a strain on your child's back. The U.S. Consumer Product Safety Commission estimates there are more than 7,300 backpack-related injuries annually treated by hospitals and doctors (National Safety Council). Here are some tips on how to ensure that your child's back stays out of harm's way.

- Choose ergonomically designed features that enhance safety and comfort.
- A padded back reduces pressure on the back, shoulders and under arm regions, and enhance comfort.
- Hip and chest belts transfer some of the backpack weight from the back and shoulders to the hips and torso.
- Multiple compartments better distribute the weight in the backpack, keep items secure, and ease access to the contents.
- Look for compression straps on the sides or bottom of the backpack. Tighten side straps to stabilize the articles and compress the contents so that the items are as close to the back as possible.
- Reflective material enhances visibility of the child to drivers at night.

From NSC.ORG ⚙️

This newsletter was published through the Balanced Scorecard.

For article suggestions, questions or comments please contact **Ed Bowen** at ed.bowen8.civ@mail.mil.



Ask a Tech Tip: A Gentle Cleanser for Wood Floors



Mike Kaulzarich, of Engineering Pyrotechnics and Explosives Branch, reveals how the techniques and lessons learned in labs can help you solve your household problems. Submit a question to him at usarmy.APG.ecbc.mbx.engineering-directorate@mail.mil.

Are you trying to find a chemical that will clean your wood floors without leaving behind a disgusting film? Use acetic acid, also known as vinegar. Mix one cup of vinegar per gallon of water and use a clean mop to wipe the floor. The good thing about vinegar is that it works for all finishes and is safe for children and pets. ⚙️

ECBC Provides Stamp of Approval with Laboratory Performance Certification Program

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requirements of materiel and agents at Government and contractor test facilities. The certification covers a variety of CBRN and non-CBRN products on a non-exclusive basis.

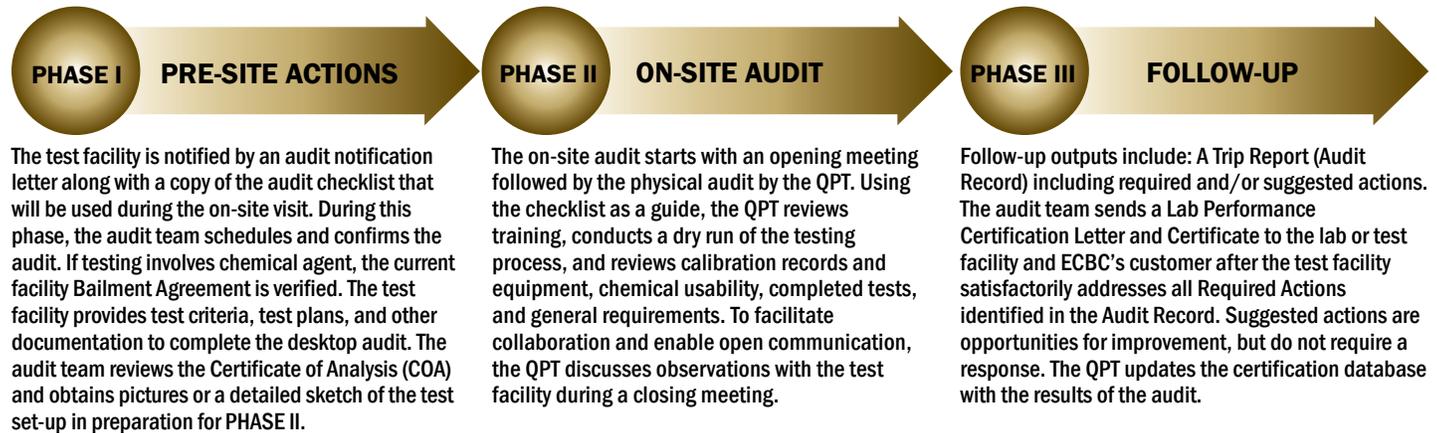
“Since the program began in 2004, more than 130 lab certification audits have been performed by the ECBC QPT, involving more than 5,000 items at various facilities across the United States and Canada.”

—Diane Freeman, Product Quality Management Chief

The lab certification auditing process is implemented by the ECBC Qualification Procedure Team (QPT), which ensures the integrity of the test results for the protection of product end users.

“Since the program began in 2004, more than 130 lab certification audits have been performed by the ECBC QPT, involving more than 5,000 items at various facilities across the United States and Canada,” Diane Freeman, Product Quality Management Chief said.

LABORATORY CERTIFICATION PROCESS: HOW IT WORKS



The Lab Performance Certification acknowledges test facilities that maintain a level of quality consistent with good laboratory practices, customer expectations and testing requirements (contract/statement or scope of work).

Contractor and Government labs are certified for up to one year and must be recertified each year to continue testing for ECBC QPT customers.

Contracts require lab certification for chemical and biological materiel. Simply stated, ECBC QPT customers request laboratory performance certification support from ECBC's QPT, which conducts a thorough, three-phased audit process. After certification, customers may direct their workload to the certified testing facility.

The QPT rigorously inspects audits and evaluates the testing facility on a variety of criteria to ensure the testing facility has an established process in place to meet the testing and contract requirements.

“When a test facility receives a Lab Performance Certification Letter and Certificate, they have earned it,” said Adrian Henry, QPT Lead. ⚙️

Operations Support Cost Reduction Program Extends Shelf Life of Warfighter Products, Cuts Replacement Costs

When a Warfighter's item breaks, the next step is to replace it with a new one, often costing the Army money and time. But with a program sponsored by the Army Materiel Command (AMC), engineers can gain funding for projects to create improvements to products that lengthen the lifespan and reduce the need to replace broken items. The Operations Support Cost Reduction (OSCR) program provides opportunities to reduce lifecycle costs and quickly provide new technology to the Warfighter.

Once an OSCR project is approved, the AMC Life-Cycle Management Commands provide the funds to support the effort. The OSCR program's mission is to fund engineering redesign efforts that reduce secondary item acquisition costs, lengthen the life of the item or improve reliability, maintainability and supportability of the project. The program allows AMC to oversee the replacement and improvement of secondary field items that can reduce operating and support costs.

ECBC is currently administering more than 15 projects from protective mask lens restoration to improving the Hermetically

Sealed Filter Canister. “The program is cost cutting if your project meets the criteria,” said Greg Middleton, the ECBC Cost Reduction Coordinator, who oversees the ECBC OSCR program. “It's a great way to get started on creating solutions to improve items and save money.”

In order to be eligible for OSCR funds, the project must meet several requirements:

1. Address a secondary item that does not have a Line Item Number
2. Up-front investment cost should be between \$50,000 and \$500,000
3. The duration of the project must be no more than three years
4. Must be an effort to provide low risk improvements to a product
5. Include a Savings to Investment Ratio of at least 1.5:1.

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ROCK ISLAND



ECBC-RI Skill Sets

- **Chem-Bio Engineering**
 - Contamination Avoidance
 - Collective Protection
 - Individual Protection
 - Decontamination
 - Smoke/Ammo
- **Sustainment Engineering**
- **Quality Assurance**
 - Key inspection
 - Lab Certification
- **Design Engineering and Test Facility**
 - Environmental testing
 - Transportation testing
 - Surveillance and shelf life plan
 - Performance testing
- **Industrial Base**
 - Industry capability assessment
 - Supply chain analysis
 - Industrial preparedness planning
 - Market research
- **Information Technology**
 - Decision support systems
 - Informational websites
 - Program management tools
 - Web-based infrastructures
 - Software engineering
 - Modeling

Who You Gonna Call?

ECBC-Rock Island Personnel Provide "Round-the-Clock" Manpower to Resolve CBRN Issues

For the past six years, the Chemical Biological Radiological and Nuclear Information Resource Center (CBRN-IRC) in Rock Island has been a premier source of CBRN information, providing "round the clock" answers to CBRN-related questions to customers within and outside of Department of Defense (DoD). The ECBC Engineering Directorate's Rock Island personnel staff operate the CBRN-IRC on behalf of the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD).

Relying on authoritative subject matter experts (SMEs), to include scientists, engineers, program managers, logisticians, and other experts from JPEO-CBD, ECBC, TACOM Life Cycle Management Command, Joint Enterprise Fielding & Surveillance (JEFS), and an extensive database of information on CBRN systems, the IRC responds to the wide variety of inquiries that come in daily. Often, the answers they provide will have a direct impact on the life and safety of soldiers, first responders, and civilians.

Chartered by the JPEO-CBD in 2007, the CBRN-IRC is designated as "the single entry point for all requests for information related to the Chemical and Biological Defense Program." The CBRN-IRC supports the CBRN community of users by providing a "one-stop shop" for all CBRN-related questions. Inquiries may be submitted anytime, day or night via phone call, a web form, or by sending an email.

"We strive to deliver superior customer service every day," said Nannette Ramsey, Associate Director of ECBC Engineering and ECBC Rock Island Site Manager. "Our dedicated staff works in conjunction with SMEs to ensure that the answers provided to our customers contain the most accurate and up-to-date information available. The CBRN-IRC strives for the quickest turn-around time possible for every inquiry, and most inquiries are resolved within hours. If an inquiry requires additional time for coordination and research to provide the answer, the IRC staff diligently follows up to ensure that actions are taken in a timely manner."

In FY11, the CBRN-IRC responded to more than 2,000 CBRN inquiries. The U.S. Army users generated the most inquiries with 36 percent of all calls, followed by the U.S. Air Force and DoD with approximately 24 percent and 17 percent, respectively.

"When emergency situations arise, the IRC team works long hours," said Ramsey. "Following the 2011 Tsunami catastrophe in Japan, which resulted in damage of a nuclear power plant, the IRC received numerous calls about a wide variety of CBRN-related concerns. It was essential for ECBC and the JPEO to have the CBRN-IRC staff available around the clock to assist in providing urgently needed CBRN information, resources, equipment data and subject matter experts to those in need." 

You can reach the CBRN-IRC by contacting any of the following:

DSN: 793-7349

Commercial: (309) 782-7349

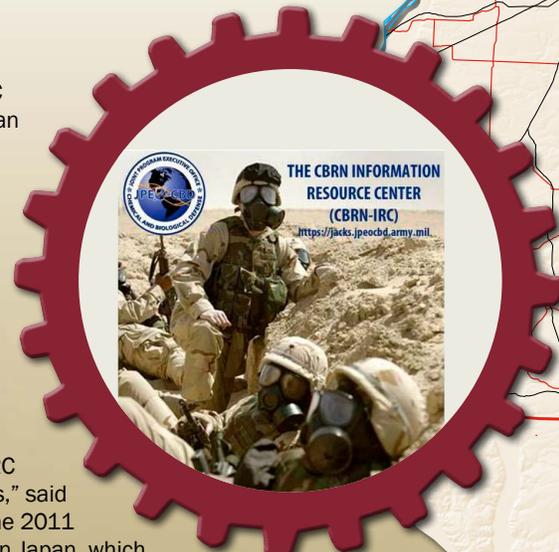
Toll Free: 1-800-831-4408

Email: CBRN.IRC@us.army.mil

SIPRNet Email: CBRN.IRC.SIPR@us.army.smil.mil

Fax DSN: 793-1919

Fax Comm:(309) 782-1919

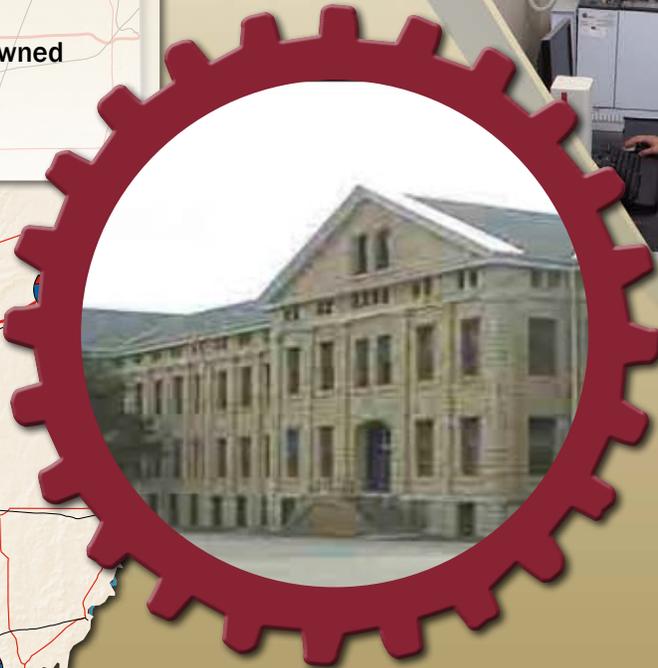


D: WHO NEW ARE



Rock Island, Illinois

- Population (2010): 39,018
- Time zone: Central
- Known for: Largest government-owned weapons manufacturing arsenal



The island in the Mississippi River known as the Rock Island Arsenal is a great mass of Hamilton limestone, chiseled into shape by the water. In 1989, the original Arsenal buildings - many of which were made of the limestone in the 1800s - were designated a national historic landmark.



ECBC Rock Island Leads RDECOM TPP Standardization Efforts

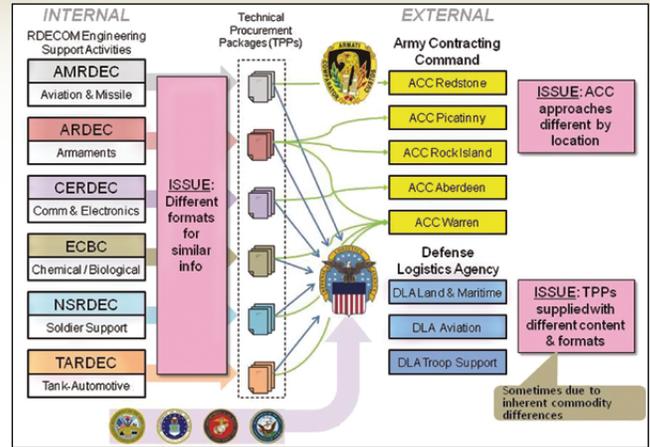
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Nannette Ramsey, Associate Director of ECBC Engineering and ECBC Rock Island Site Manager, and Nancy Lyford, Industrial Base Management Specialist, are leading a team of approximately 50 people across the AMC Enterprise with the DLA in a large-scale effort to formally coordinate a list of standard TPP elements for use by the ACC and the DLA for acquisition of Army materiel.

“We have been working this for more than a year and we are very excited. We have gotten some informal buy-in from the user community and are preparing to go into formal coordination,” Lyford said.

Since each RDEC submits a different type of TPP with varying data elements, the process can get confusing when DLA or ACC has to work with different inputs laid out in different ways. The various DLA centers are now asking for as much consistency as possible in the technical input from the RDECs, while still recognizing commodity unique requirements. This effort also fits into the ACC’s effort to standardize processes between the buying centers.

The AMC is working toward a single Product Data Management System and this will facilitate the move into that system. Data elements will have common definitions and formats.



The DLA receives TPPs from the Aviation and Missile, Armaments, Communications and Electronics, Soldier Support, Chemical and Biological and Tank-Automotive RDECs. Under this approach, DLA will get the same TPP output from each RDEC. Creating a common approach between all RDECs will align with the needs of the DLA and ACC, improve interface efficiencies, improve flexibility between RDECOM elements and enhance data exchange.

In addition to working toward creating a new, standardized set of data elements, the effort also brings together individuals from the RDECs to discuss and think more about their procurement input approach.

“ECBC has been pleased to work with the various organizations and appreciates the opportunity to learn about other processes and meet the key players. Even though the project isn’t finalized, we are getting all these different Quality Assurance Offices, packaging, transportation, technical data, and engineering to come together and have a dialogue about how to solve the problem,” Ramsey said. “The participation and communication between the organizations has been exceptional and rewarding.”

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- Nannette Ramsey, Associate Director of Engineering and Rock Island Site Manager

Decontamination Engineer Applies Scout’s Honor and Leadership Skills to Everyday Work



Engineering Edge(EE): How did you get your start at ECBC and in your current position?

Alex Carlson (AC): Three years ago I met ECBC’s Bret Chinander and Lisa Dowdy at the Iowa State University career fair during the spring of my senior year. I talked to them briefly, gave them my resume, and continued the rounds visiting the company booths. Just before finals, I received a call from Dowdy asking me to come out for an

interview. During the interview, I met John Kerch, Kevin Lee, and Guy Cabell, and I was offered the job. I started on the Special Projects team working on a Product Quality Deficiency Report Lean Six Sigma project until there was an opening on the Decontamination Team, which is where I currently work.

(EE): What is your favorite part about your job?

(AC): My favorite part of the job is working with outside organizations, like TACOM, JPM-Protection, and JPM-Contamination Avoidance, to help solve their problems. I also enjoy working on quick turnaround

tasks, such as the recent information paper submitted concerning retrograde washdowns of materiel returning from theater.

(EE): What project are you currently working on, or have you worked on in the past that you learned the most from or that you found particularly exciting?

(AC): I am currently working with Joe Grodecki as a Materiel Developer on the Decontamination Expeditionary Bag (DEB) for the Dismounted Reconnaissance Sets, Kits, and Outfits program. I really like managing the tasks needed to build the prototype kits and write the specification.

(EE): What skill do you use in your job that you initially did not think you would need?

(AC): The skills that I did not think I would need for many years were the project management and leadership skills I learned in Boy Scouts. While working on developing the DEB kit, I have been challenged in arranging the item orders, managing student aides to prepare the items for kitting, and planning the overall build process. I have really enjoyed working on this project, and I hope to work on other development projects in the future.

At Your Service: Rod Fry Describes How Make the Most of Your "Dreaded Commute"

How many hours do you spend in your car per year commuting to and from work? I cannot bring myself to do the math, because frankly, I do not think I want to know the answer.

In the five years I have worked at ECBC, I have lived in Abingdon, two different locations in Baltimore City, and now Towson. My round-trip commute has ranged from 60 minutes to nearly two hours a day. Two hours to fill every single day, and the possibilities of what to fill them with are nearly endless!

The most extreme commuting I've ever witnessed goes back to when I was a postdoc at Los Alamos National Laboratory in New Mexico. There were several "plane pools" that would fly to and from work daily on private planes to avoid what would have been a 4 or 5 hour round-trip by car. I bet the BRAC'ers from Fort Monmouth wish they had "plane pools" - I've heard that some of them van-pool daily from upper N.J. to APG North. My commute from Santa Fe to Los Alamos was chocked full of breathtaking scenery. Two hours in the car each day never got old because it felt like you were driving through a mountain wilderness, and the most difficult part was keeping your eye on the road and not staring at all the rock formations, volcanic mesas and wildlife.

Sometimes I find that I get in my car and start going through what happened that day, only to realize that I'm five minutes from home and I have no idea how I got there. I actually find these times therapeutic in a sense because my drive becomes an opportunity to clear my brain, and by the time I get home I am ready to focus on my family.

I enjoy my drive home because the only thing I am responsible for during that time is arriving safely. This means I can spend time,

guilt-free, catching up on the news, learning about some obscure subject on NPR or getting frustrated with the political climate in Washington, D.C. Or, maybe it's just one of those days where I feel like rocking out to some good old Rock and Roll, or flipping through the stations and trying to understand the "music" that kids listen to nowadays - I am allowed to say that, I turn 35 this year!



We all live where we live for different reasons, but most often long commutes seem to be the result of someone making a sacrifice for the sake of their family. So, you might as well embrace your sacrifice and pass the time learning a new language, relaxing to some good tunes, or maybe even checking out some audiobooks from your local library. I have "read" many books this way. Just be careful when you are discussing a good "read" - when I talk about books I've "read," my wife frequently teases me and asks if I actually read the book, or if I had someone read it to me.

To paraphrase Ralph Waldo Emerson: "Life is about the journey, not the destination." - Just remember, while enjoying that journey, don't get caught singing at the top of your lungs when you find a coworker in the lane next to you, or you may never hear the end of it! ⚙️

Operations Support Cost Reduction Program Extends Shelf Life of Warfighter Products, Cuts Replacement Costs

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"The improvements can make these face pieces last longer, and are just as durable as the original item. Plus this ultimately saves money on replacement costs."

- Nancy Lyford, ECBC Industrial Base Management Specialist

Additional criteria include reducing sustainment costs, reducing unit cost, extending the life of the item, or improving reliability, maintainability and/or supportability. The OSCR program produces items with a "new lease" on issue life and materiel or design changes are incorporated into the technical data package (TDP) for future production.

To apply for the program, project points of contact must submit a two-page summary about the project, including the impact it will have along with a validated cost analysis. Projects are approved on a first come, first serve basis. While there is a call for data in April each year, ideas for the OSCR program are accepted year-round.

"After the project is submitted, we make sure it gets to the appropriate individuals in the approval process, and then they decide whether or not the project will get approved," Middleton said.

Overall, OSCR projects are meant to save money by improving parts of a product that frequently break and render the item "unusable." With the OSCR projects, teams who have well thought-out ideas

create ways to correct the weakness in the product, allowing continued issuance of the item and cost savings to the Army.

As an example of how the program works, ECBC was approved and funded to work the redesign of the M48A1 Gas-Particulate Filter (GPF) under the OSCR program. To date, this effort has produced a prototype of this filter that is designed to increase its shelf life period. The prototype is currently undergoing testing. Upon successful completion of testing, an engineering change proposal will be boarded and the redesign incorporated into the TDP supporting future M48A1 GPF production contracts. Samples of the new production will be pulled for further testing to assure the shelf life has changed from three to five years, extendable to ten-years, thereby producing significant cost savings to the military, as all four Services use this filter. The Army awarded an FY10 procurement contract for the M48A1 GPF at a dollar value of almost \$5 million. The M48A1 GPF OSCR project, nearly doubling the shelf-life of the item, will save millions of dollars by either lengthening the time between procurements or reducing the quantity that will need to be procured.

"As we enter into a period of declining defense budgets, OSCR projects will be more important than ever," said John Kerch, ECBC-RI's Deputy for Commodity Management.

In what is virtually certain to be a constrained fiscal environment for the next few years, efforts like the OSCR program and its associated cost savings are not optional. They are essential to the continued support and welfare of the Warfighter. ⚙️



Summer at ECBC

This past summer, Edgewood employees had fun in the sun during the July O-Day picnic and the Advanced Design and Manufacturing Division's Summer Picnic. Check out some photos from these events!

