



News Release

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ECBC engineers advance collective and individual protection

Joint Service Physical Protection Branch utilizes expertise to develop lighter, durable products

ABERDEEN PROVING GROUND, Md. – American forces rely on the collective and individual equipment that protect against chemical and biological (CB) threats. At the U.S. Army Edgewood Chemical Biological Center (ECBC), a recent realignment has brought both capabilities under one domain in the Engineering Directorate: the Joint Service Physical Protection Engineering (JSPPE) Branch.

Now, the Collective Protection (ColPro) and the Individual Protection (IP) teams work more closely and collaboratively under the JSPPE Branch, bringing more resources and experienced personnel to the forefront of equipment development.

“We’re able to draw off the technical resources – there’s a lot of back and forth between ColPro and IP staff because we have common issues,” said Trish Weiss, IP Team Leader. “The combined Branch has been a really good thing for us.”

“There are several people in this Branch who have many years of experience in the physical protection commodity area,” Weiss said. “For example, Sam Carter, our Systems Manager for the M45 series mask, has over 25 years experience with the M40 and M45 series masks. He is our ‘go to’ technical resource and ‘corporate memory’ on these systems. Such experience and technical expertise is highly valued here.”

In addition to sustaining the legacy M40 mask, the IP team also aids with the current fielding of the Joint Service General Purpose Mask (JSGPM), the M50 and the Joint Service Aircrew Mask (JSAM). Recently, they began providing support to the Combat Support Team, conducting Personal Protective Equipment training.

While IP focuses on individual systems such as protective masks, ColPro focuses on the protection of multiple people. The ColPro Sustainment and Fixed Site Team mission has three major focus areas: sustainment of legacy ColPro equipment, support to active acquisition programs, and support to protected fixed site facilities. Each heavily focuses on fielding and maintenance of various ColPro systems, such as protective filtration systems incorporated into the Heating, Ventilation and Air Conditioning system of a protected building.

“If there was an attack, these filters are there to protect the people,” explains John

Clayton, ColPro Sustainment and Fixed Site Team Leader. “The systems filter incoming air and provide overpressure in the protected space; as pressure is increased, air travels from the protected area to the contaminated area through any leaks (instead of vice versa), so we don’t have to worry about absolutely sealing every leak point. This results in a protected space for work and relief from wearing IP equipment.”

To ensure the efficacy of these systems, the team also conducts semi-annual leak tests and periodic surveillance involving removal and tests of filters to analyze degradation and predict when they should be replaced. These tests indicate how well the system is performing; some systems use hundreds of individual filters. If the filters need to be replaced, the team coordinates with TACOM to order replacements and conduct change outs – an area of growth for the team, says Clayton. An Interagency Agreement is in review to provide support to the State Department Bureau of Overseas Buildings.

ColPro also draws from the knowledge base within the Research and Technology Directorate’s Chemical Biological Radiological (CBR) Filtration Branch. Clayton explains the synergy between his group and CBR Filtration: “We’re linked; they’re developing new filtration technologies, such as work on new adsorbents to address the change in threat. Jerry Young, a team member, is also working with them on the Rapid Filter Protection Assessment Tool, a smartphone app that will assist Users by estimating filter life given potential field scenarios. We execute against User requirements, leverage what they develop, and work to field the technology.”

Clayton observes the shifting threat from Chemical Warfare to Toxic Industrial Chemicals, noting that customers within JPM Protection have expressed an interest in the new absorbent technologies, with the hope that they can be transitioned into the newer mask series.

For more information about ECBC, visit <http://www.ecbc.army.mil/>.

ECBC is the Army’s principal research and development center for chemical and biological defense technology, engineering and field operations. ECBC has achieved major technological advances for the warfighter and for our national defense, with a long and distinguished history of providing the Armed Forces with quality systems and outstanding customer service. ECBC is a U.S. Army Research, Development and Engineering Command laboratory located at the Edgewood Area of Aberdeen Proving Ground, Maryland. For more information about the Edgewood Chemical Biological Center, please visit our website at <http://www.ecbc.army.mil/> or call (410) 436-7118.

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