

ECBC ENGINEERING
Design→Build→Test→Support

ENGINEERING SUPPORT CAPABILITIES



INTRODUCTION

Edgewood Chemical Biological Center (ECBC) Engineering products and services are designed to meet customer needs for the duration of the mission. Engineering supports the missions of ECBC and its customers in the following ways:

- By providing trained acquisition professionals to support the Joint Program Executive Office (JPEO) for Chemical and Biological Defense current and future needs via matrixed support to its associated Joint Project Managers (JPM).
- By providing engineering support to continuously maintain item readiness.
- By providing acquisition service support in all phases of the acquisition lifecycle.

This support is provided to rapidly meet urgent Chemical Biological Defense (CBD) challenges and to address user concerns with fielded equipment. Information gathered from these activities is synthesized to identify and implement product changes to continuously improve the performance of fielded systems.

SUPPORT THE JOINT PROGRAM EXECUTIVE OFFICE FOR CHEMICAL AND BIOLOGICAL DEFENSE AND ITS ASSOCIATED JOINT PROJECT MANAGERS

ECBC Engineering provides lifecycle acquisition personnel and associated acquisition and engineering services to the JPEO and its JPMs throughout all acquisition phases of CBD equipment programs in accordance with provisions laid out in an annual Memorandum of Understanding signed by the JPEO and the Director of Engineering, ECBC.

SUPPORT ITEM READINESS THROUGH CONTINUOUS ENGINEERING SUPPORT

DETECTION

ECBC Engineering's detection experts serve a number of customers, including: Defense Threat Reduction Agency (DTRA), Program Manager (PM) Clothing and Individual Equipment, JPM Guardian, JPM Nuclear, Biological Chemical Contamination Avoidance (NBC-CA), JPM Biological Defense, Coalition Warfare Program, and the TACOM Lifecycle Management Command (LCMC).



Capabilities

- Technical support for detection system lifecycles
- System configuration and management technical support
- Product modifications and improvement programs
- System fieldings and RESET support
- Special project management and engineering support

Equipment Supported

- M22 ACADA - Automatic Chemical Agent Alarm
- M21 - Remote Sensing Chemical Agent Alarm
- CAM/ICAM - Chemical Agent Monitor (CAM)/ Improved CAM
- M8A1 - Automatic Chemical Agent Alarm
- DFU - Dry Filter Unit
- Portable Bio Detection System (PBDS)
- M256A1/M18A3/M34A1/M8/M9 - Chemical Agent Detector Kits and Papers
- M272 - Water Testing Kit

SUPPORT ITEM READINESS THROUGH CONTINUOUS ENGINEERING SUPPORT

INDIVIDUAL PROTECTION

ECBC Engineering provides timely, effective, technical and operational support for Individual Protection (IP) hardware, to champion quality improvements and to enhance equipment capabilities while reducing cost of ownership of IP items.



Capabilities

- Support the M40/M42/M45/M48 series mask program production and sustainment efforts
- Monitor the M40/M42/M45/M48 series mask production at Pine Bluff Arsenal, to assist the JPM in preventing potential sustainment issues by maximizing quality
- Investigate and analyze logistical and technical improvements to the M40/M42/M45/M48 protective masks
- Support the Joint Equipment Assessment Program (JEAP) and the Chemical Biological Equipment Repair Team (CBERT) to maintain the quality of fielded items
- Maintain knowledge of mask degradation trends through the JEAP and CBERT, and provide support to the field and the program management office through briefings and other updates

Equipment

- M40A1/M42A2 Series Protective Mask
- M45 Protective Mask and M48 Apache Aviator Mask
- Joint Equipment Assessment Unit (JEAU) Edgewood
- Defensive Chemical Test Equipment (DCTE)
- Joint Service General Purpose Mask (M50/51)
- Joint Service Chemical Environment Survivability Mask (M52)
- M53 Chemical Biological Mask

SUPPORT ITEM READINESS THROUGH CONTINUOUS ENGINEERING SUPPORT

COLLECTIVE PROTECTION – MOBILE/TRANSPORTABLE

ECBC Engineering serves as the JPM for collective protection's focal point by providing overall direction and guidance for research, design, development, test and lifecycle oversight.



Collective Protection equipment and systems for mobile platforms provide contamination free areas to protect personnel and equipment against chemical, biological, radiological and toxic industrial material threats.

Capabilities

- Program management
- Engineering support for first article and production
- Configuration and technical data management
- Lifecycle and sustainment support
- Value engineering
- Obsolescence analysis
- Product improvement and upgrades to meet evolving mission requirements

SUPPORT ITEM READINESS THROUGH CONTINUOUS ENGINEERING SUPPORT

COLLECTIVE PROTECTION – FIXED SITE

ECBC Engineering has more than 70 years of experience in development, testing and application of collective protection systems. Collective protection experts provide timely on-site support, as well as services in procurement, installation, certification, maintenance and system upgrades.



Capabilities

- Update to system specifications and design assistance
- Filtration system procurement and installation
- Collective protection system certification
- Filtration system failure analysis
- On-site system maintenance and surveillance
- Collective protection and filtration system upgrades

SUPPORT ITEM READINESS THROUGH CONTINUOUS ENGINEERING SUPPORT

DECONTAMINATION

ECBC Engineering serves clients, such as JPM-Decontamination, TACOM LCMC, JPM-Guardian and Pine Bluff Arsenal.



Capabilities

- Engineering, test and evaluation support
- Technical management
- Product improvement and cost reduction programs
- Field, depot and arsenal support
- Special projects and engineering studies
- Developmental program support for JPM-Decontamination

Equipment

- M12A1 Diesel Engine Driven Decontamination Apparatus
- M17 Series Lightweight Decontamination System
- M291 Skin Decontamination Kit
- M295 Individual Equipment Decontamination Kit
- M100 Sorbent Decontamination System
- Multiple decontaminants to include sorbent powder and XE555 resin

SUPPORT ITEM READINESS THROUGH CONTINUOUS ENGINEERING SUPPORT

OBSCURATION & NONLETHAL ITEMS

ECBC Engineering works closely with other ECBC teams, directorates and Aberdeen Proving Ground (APG) organizations to leverage extensive local capabilities for our customers. ECBC



Engineering makes extensive use of capabilities, such as: ballistic spin fixture, wind tunnels, mass extinction chamber, Computer Aided Design (CAD) to Stereolithography (SLA) fabrication, prototype fabrication shop, dynamic rendering, material evaluation, material change projects and static and ballistic testing capabilities. ECBC Engineering is the Army's focal point for obscurant payload support to PMs.

Capabilities

- Actively supports seven PMs and other government organizations including: Joint Project Manager for NBC Contamination Avoidance (JPM-NBCCA), Program Executive Office for Ammunition (PEO-Ammo), PM Close Combat Systems (PM-CCS), PM Combat Ammunition Systems (PM-CAS), PM Maneuver Ammunition Systems (PM-MAS), Joint Attack Munition Systems Project Office (JAMS PO), Joint Munitions & Lethality Life Cycle Management Command (JM&L LCMC), Joint Munitions Command (JMC), Armament Research, Development and Engineering Center (ARDEC), and Pine Bluff Arsenal (PBA)
- Conduct material change programs, failure analysis, new material design, development and evaluation, first article, lot acceptance and research and development (R&D) test oversight, quality conformance, production support and oversight, prototype development and evaluation of commercial off the shelf (COTS) products

SUPPORT ITEM READINESS THROUGH CONTINUOUS ENGINEERING SUPPORT

SPECIAL PROJECTS

ECBC Engineering develops equipment performance standards for personnel decontamination equipment and decontamination procedures, chemical vapor detectors and chemical detection levels, chemical, biological, radiological and nuclear protective clothing material, personal protection equipment, respirators and ensembles.



Capabilities

- Identify standard requirements
- Develop scientifically repeatable/quantifiable test methods
- Validate test results
- Create prediction models
- Publish technical reports and open literature publications
- Write and provide input to standards development organizations

Products Supported

- Head forms for measuring speech intelligibility and transmission
- Hearing attenuation and aural signature characteristics
- Toxic Industrial Chemical (TIC) permeation test systems and methodologies
- Test fixtures with multiple cells to conduct permeation testing of materials with Chemical Warfare Agent (CWA) simulants

PROVIDE ACQUISITION SERVICE SUPPORT IN ALL PHASES OF THE ACQUISITION LIFECYCLE

PRODUCT DATA MANAGEMENT

ECBC Engineering provides an online repository of engineering data in support of the overall CBD mission and automates the Engineering data process to improve availability of current technical data, thus reducing operating costs.



Capabilities

- Provides configuration management support for technical managers and maintains online Engineering Change Proposal (ECP) and other Change Management (CM) processes
- Prepares procurement package input workflows for all DLA managed items supported by ECBC
- Certifies Technical Data Packages (TDP)
- Provides Helpdesk support to all Product Data Management System Users
- Provides Notice of Revision (NOR) Incorporation workflow support for Advanced Design and Manufacturing (ADM), packaging, specification, and standards and safety teams

PROVIDE ACQUISITION SERVICE SUPPORT IN ALL PHASES OF THE ACQUISITION LIFECYCLE

INDUSTRIAL BASE ANALYSIS

ECBC Engineering provides industrial base analytical support to the Army Materiel Command's (AMC) Industrial Base Operations Directorate and the Joint Chemical Biological Radiological Nuclear (CBRN) Defense Industrial Base.



Capabilities

- Sector studies
- Market research for sources of supply and financial profiles
- Committee on Foreign Investment in the United States (CFIUS) analysis
- AMC Industrial Base Program Integrator for G-7 industrial base directorate support and community of knowledge initiatives
- Value engineering and reduction in total ownership costs
- Diminishing Manufacturing Sources and Material Shortages (DMSMS)

PROVIDE ACQUISITION SERVICE SUPPORT IN ALL PHASES OF THE ACQUISITION LIFECYCLE

QUALITY ASSURANCE

ECBC Engineering's large-scale simulant chambers meet diverse testing requirements to accept various generation, dissemination and sampling systems.



Capabilities

- Contract solicitation support for Quality and First Article requirements
- Chemical Agents test lab certification
- On-site production observation
- First Article Test involvement report and review
- Evaluation on Disposition of requests for Waivers and Deviations
- Surveillance/production lot testing lab certification
- Product Quality Deficiency Reports (PQDR) management

PROVIDE ACQUISITION SERVICE SUPPORT IN ALL PHASES OF THE ACQUISITION LIFECYCLE

INFORMATION AND TECHNOLOGY SERVICES

ECBC Engineering provides federal government agencies with effective, efficient and reliable information management systems.



Team Capabilities

- Software and information solutions engineering
- Information system development and management
- Data mining and database consolidation expertise
- Accredited infrastructure operations for software sustainment, application hosting and assurance and Secret Internet Protocol Router Network (SIPRNet) hosting and operations
- Handheld and Portable System Solutions
- Large scale production grade systems
- Aligned with industry advances

ENGINEERING DIRECTORATE

The Engineering Directorate operates under the auspices of the Edgewood Chemical Biological Center (ECBC). The Directorate has over 600 people with the main offices located on the Edgewood Area of Aberdeen Proving Ground, Md. with additional personnel stationed at Rock Island, Il. Additionally, Engineering Directorate personnel directly support the Joint Project Managers under the Joint Program Executive Office for Chemical and Biological Defense (JPEO CBD), as well as numerous other government organizations.

Our Engineering Team drives technology transition from research to engineering development and transitions materiel from engineering development through production, fielding and sustainment. Our highly trained workforce is committed to responsive customer service and is knowledgeable about current and evolving technology and capabilities worldwide. **We use our unique infrastructure, engineering expertise and lifecycle services to solve chemical and biological (CB) defense challenges for the Warfighter and Homeland.**

MISSION

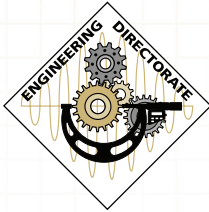
Provide unique infrastructure, engineering expertise and lifecycle services to solve Chemical and Biological challenges for the Warfighter and the Homeland.

VISION

First Stop for Chemical and Biological Defense Solutions.



ECBC is the principal research, development and engineering center for non-medical chemical and biological defense. ECBC is an organizational element of the Army's Research, Development and Engineering Command, which reports to the Army Materiel Command. ECBC develops technology in the areas of detection, protection and decontamination and provides support over the entire materiel lifecycle—from basic research through technology development, engineering design, equipment evaluation, product support, sustainment, field operations and disposal.



ECBC ENGINEERING

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The Edgewood Chemical Biological Center Engineering Directorate is here and available to assist you with Design, Build, Test & Support Solutions for Chemical and Biological Defense Needs.

Please call 410.436.5600 or e-mail
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