## Introductory Memorandum: Recruiting Biosafety Officers

The Association of Public Health Laboratories (APHL) developed the enclosed **competency-based Biosafety Officer Position Description (PD) Template** to assist state and local public laboratories with their recruitment efforts. Utilizing funds from the Centers for Disease Control and Prevention (CDC) Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement and if applicable other sources, state and local public health laboratories will recruit Biosafety Officers with the ultimate goal of improving safety across the jurisdiction. While the term Biosafety is frequently used in the position description, APHL envisions that the Biosafety Officer will work in concert with other personnel to address safety across the public health laboratory and in public and private sentinel clinical laboratories.

The majority of the competency statements used in the Biosafety Officer (PD) Template are from the Safety, Workforce Training, Security and Communications domains found in the *Competency Guidelines for Public Health Laboratory Professionals.*[1] To complete the expected duties and responsibilities of this unique position, additional competencies from the Microbiology, Emergency Management and Response, Quality Management Systems and General Laboratory Practice domains were also included. The competency tier levels selected from these eight domains are marked at the end of each competency statement (i.e., C = Competent, P = Proficient, E = Expert). Users may interchange tier levels to better fit the position responsibilities in their respective agencies. **APHL recommends reviewing the competency guidelines referenced above for additional tier levels.**

Please note that in most instances, the competencies listed here are verbatim from the C*ompetency Guidelines for Public Health Laboratory Professionals*. **Users of the APHL Biosafety Officer PD Template may want to condense and/or combine competencies to meet their requirements and needs.**

The following may vary with the agency electing to use the Biosafety Officer PD Template: position title; recommended education and experience; agency organizational structure and reporting requirements; and weights (%) for each domain/topic area.

APHL thanks the Workforce Development Public Health Laboratory Competency Implementation Workgroup for developing the PD Template and appreciates the feedback provided by the Biosafety and Biosecurity Committee. In the coming months, APHL will work closely with CDC and other partners to create a Community of Practice for Biosafety Officers. For questions pertaining to APHL's biosafety activities, please contact emergency.preparedness@aphl.org.

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[1] Centers for Disease Control and Prevention, Association of Public Health Laboratories. (2015). Competency Guidelines for Public Health Laboratory Professionals: CDC and the Association of Public Health Laboratories [Supplements]. *MMWR, 64*(01), 1-81. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/su6401a1.htm

# Biosafety Officer Competency-Based Position Description Template

**Program/Department: Public Health Laboratory**

**Position Title**: Biosafety Officer

**Reports to**: Laboratory Director / Operations Director / Division Director

**Previous Incumbent:** *None (New position)*

**Job Position Summary:**

The Biosafety Officer within the public health laboratory will ensure adequate biosafety training and practices to avoid potential hazards associated with the handling of biological materials, the spread of multi-drug resistant pathogens and threats of emerging pathogens, and acts of biological terrorism. The person in this position develops and monitors adherence to laboratory biosafety programs, provides related workforce training for biosafety for the agency and sentinel clinical laboratories, assists public health and clinical laboratories with biosafety risk assessments and risk mitigation plans, and works cohesively with key system partners and public health officials to improve communications and emergency management and response practices. Efficient communication skills, knowledge of microbiology and general laboratory practices, and experience in laboratory safety, training and outreach, and quality management systems are necessary for this position.

**Essential Job duties:**

<u>Biosafety in Public Health Laboratory and Sentinel Clinical Facilities:</u>

- Educates, trains and provides guidance to in-house staff on performing biosafety risk assessments, using personal protective equipment (PPE), implementing decontamination procedures, packaging and shipping of infectious agents, and reviewing waste management plans, including methods for recycling and disposal of biological hazards
- Coordinates with in-house staff to conduct outreach to public and private sentinel clinical laboratories in jurisdiction to assist with performing biosafety risk assessments, using personal protective equipment (PPE), implementing decontamination procedures, packaging and shipping of infectious agents, and reviewing waste management plans, including methods for recycling and disposal of biological hazards
- Encourages a culture of safety and reporting of actual and potential safety issues which may place staff and others at risk; assesses those risks; and implements redundant systems to keep risks to the absolute minimum
- Guides the development of policies and procedures that help to ensure the safety of laboratory staff and the provision of a safe physical environment to meet agency biosafety and broader safety requirements

- Develops and oversees site-specific workplace safety policies and procedures (including review) and maintains a safety plan that meets agency requirements
- Provides input on emergency management and response policies and assists in implementation of processes and procedures in coordination with agency management and systems partners
- Collaborates with safety committee, occupational health and other partners to build an effective biosafety program

**Job Position Competencies:**

Safety (25%)

1. *Biological materials: works safely with biological materials in the laboratory*
    a. Distinguishes biohazardous materials from non-biohazardous materials in the laboratory (C)
    b. Recognizes hazards associated with new biological materials used in laboratory procedures (C)
    c. Trains staff in the hazards associated with the laboratory procedures employed (C)
    d. Demonstrates knowledge to distinguish organisms and testing requiring biosafety level 2 (BSL-2) physical containment and safety work practices from organisms and testing requiring BSL-3 physical containment and safety work practices (C)
    e. Demonstrates knowledge of application of biohazard risk assessments to the management of workplace biosafety programs (C)
2. *Engineering controls: implements intervention strategies to control hazards by systematically minimizing, isolating, or removing hazards from the workplace*
    a. Develops standard operating procedures (SOPs) and work instructions that incorporate engineering controls (P)
    b. Develops required training for engineering controls (P)
    c. Demonstrates knowledge and application of physical containment requirements in the safe work with biohazardous materials (C)
3. *Safe work practices: designs work practices and procedures to minimize exposure to hazards and to adhere to regulatory requirements*
    a. Develops processes and procedures related to the establishment and maintenance of good housekeeping (P)
4. *Personal Protective Equipment (PPE): employs the selection, use, and care of personal protective equipment while being continually mindful of its limitations*
    a. Develops procedures for the appropriate selection of PPE (P)
    b. Determines procedures for use of specific PPE (P)
5. *Systems to track hazards: establishes a system to detect and to control or eliminate the underlying causes of hazards or exposures*
    a. Develops procedures to report, track and investigate hazards in their workspace (P)
6. *Decontamination and laboratory waste management: provides guidance on decontamination and establishes a laboratory waste management plan that adheres to federal, state, and local regulations*
    a. Guides the development of policies, processes, and procedures for spill cleanup and decontamination of laboratory surfaces and instruments (E)

   b. Implements procedures for disposal and treatment of laboratory waste (C)
   c. Implements procedures for reporting and responding to issues or problems regarding laboratory waste management (C)
   d. Demonstrates knowledge of technical and regulatory requirements applicable to products used for routine work surface disinfection (C)
7. *Guideline and regulation compliance: ensures staff compliance with guidelines and regulations*
   a. Instructs staff on current regulatory requirements and guidelines governing the safe performance of laboratory procedures (P)
   b. Complies with institutional safety committee requirements (C)
8. *Risk management: manages risks through systematic practices to evaluate, minimize, or eliminate them*
   a. Oversees the policies, processes, and procedures related to risk assessment to ensure controls are appropriate for activities, agents and materials used in laboratory (E)
   b. Designs policies, processes, and procedures for reporting and performing root-cause analyses of incidents (E)
9. *Hazard communication: promotes safety through effective hazard communication*
   a. Implements a variety of communication tools and techniques for the promotion of safe work practices (P)
10. *Safety training: ensures that safety training needs are identified and training solutions are implemented to meet performance and productivity goals*
   a. Provides training on the work practices and techniques required for staff to safely perform their job duties (C)
   b. Adheres to procedures for recording safety training of staff (C)

Workforce Training (15%)

1. *Content: gathers training content*
   a. Develops needs assessment tools (P)
   b. Integrates principles of adult learning for use in designing training (P)
   c. Implements established science and technology content (C)
   d. Implements training for emerging training topics (C)
   e. Collaborates with subject matter experts to gather content (C)
2. *Training design: designs training*
   a. Develops training activities around existing learning objectives and integrates biosafety laboratory competencies[2] into course content (C)
   b. Implements the modality for training (C)

[2] Centers for Disease Control, University of Iowa, Association of Public Health Laboratories, National Institutes of Health. (2011). Guidelines for Biosafety Competency: CDC and the Association of Public Health Laboratories [Supplements]. *MMWR, 60*(02), 1-6. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/su6002a1.htm?s_cid=su6002a1_w

   c. Develops instructional materials for new programs that are aligned with the type of training activity and modality (P)
   d. Integrates multiple types of training materials into training design (C)
   e. Integrates individual training lessons, including experiential exercises (C)
   f. Creates formative assessments (P)
   g. Follows continuing education provider requirements when conducting training (C)
3. *Delivery set-up: manages the logistics of set-up for training delivery*
   a. Ensures that equipment capability aligns with the training requirements (P)
   b. Manages processes of the learning environment (C)
4. *Training delivery: applies principles of learning to training implementation and delivery*
   a. Develops presentation materials to address learning preferences and styles (P)
   b. Uses the most effective presentation tools and techniques (C)
5. *Training evaluation: evaluates learner knowledge and skill development*
   a. Develops training evaluation tools for a new activity (P)
   b. Implements the training assessment rubric to ensure training outcomes are met (C)
   c. Compiles tracking data into summative training reports (C)
   d. Assesses participants' achievement of training objectives, such as the ability to don, doff and properly dispose of PPE (C)
6. *Marketing: markets training opportunities*
   a. Composes content for marketing materials (C)

<u>Security</u> (15%)

1. *Risk mitigation: ensures the laboratory's risk mitigation plan meets organizational goals, regulatory requirements, and established standards*
   a. Interprets security concepts to adapt policies and procedures to support organizational goals (P)
2. *Security plan: ensures the laboratory's security plan meets organizational goals, regulatory requirements, and established standards*
   a. Designs laboratory's security plan in collaboration with subject matter experts (P)
   b. Creates tools to manage inventory records (P)
   c. Implements processes and procedures related to security incident response and reporting (P)
3. *Transportation hazardous material security program: implements a transportation hazardous material security plan*
   a. Creates transport security procedures (P)

Microbiology (15%)

1. *Facilities and safety: works safely with microbiological agents within a laboratory facility*
    a. Instructs others on laboratory hazards and hazard communication related to microbiological agents (C)
    b. Instructs others in policies, processes, and procedures regarding safe work practices related to microbiological agents (C)
    c. Instructs staff in policies, processes, and procedures regarding PPE use for work related to microbiological agents (C)
    d. Instructs staff in use of biosafety cabinets and other engineering controls (C)
    e. Instructs staff in waste management policies, processes, and procedures related to microbiological agents (C)
    f. Instructs staff in the policies, processes, and procedures regarding decontamination for different microorganisms (C)
2. *Pre-examination: assesses microbiological samples during the pre-examination phase*
    a. Instructs others on packing and shipping of Category A and Category B infectious substances (C)
    b. Instructs others on microbiological material transport policies, processes, and procedures (C)
    c. Adheres to policies, processes, and procedures regarding the identification, handling, safety, appropriateness and triage of samples containing agents of concern (C)

Communication (10%)

1. *Communication techniques: deploys formal written and oral communication strategies*
    a. Applies logical structure to written communications (C)
    b. Applies language and tone in oral communications tailored to target audience (C)
2. *Communication technology: utilizes technology to communicate information to internal and external partners*
    a. Selects laboratory's technology options to align with partner's capabilities (C)
    b. Uses designated technology for sharing information (C)
3. *Communication professionalism: ensures professionalism in communication with customers and stakeholders*
    a. Displays professional demeanor in all situations with customers and stakeholders (C)
    b. Determines information needs through collaboration with customers and stakeholders (C)
    c. Selects information to share (C)
4. *Professional reports: prepares professional written reports and oral presentations*
    a. Creates drafts of written reports (C)
    b. Creates drafts of oral presentations (C)
5. *Public health laboratory value: promotes the value of the public health laboratory*
    a. Coordinates opportunities for promoting the public health laboratory and system (C)
    b. Presents communication materials to explain the importance of the public health laboratory (C)

Emergency Management and Response (10%)

1. *Mitigation of emergency events: mitigates emergency events*
    a. Assesses potential vulnerabilities and risks in the organization (C)
2. *Responding to emergency events: responds to emergency events*
    a. Instructs staff on proper response to hazardous spills or potential exposures (P)
    b. Instructs staff on policies, processes, and procedures for emergency decontamination and exposure prevention (P)

Quality Management System (5%)

1. *Customer focus: ensures that customer needs, expectations, and requirements are consistently met*
    a. Responds to internal and external customer inquiries and feedback (C)
2. *Continual improvement: ensures mechanisms for continuous quality improvement*
    a. Follows CQI processes and procedures for troubleshooting and documenting required CQI activities (C)

General Laboratory Practice (5%)

1. *General technical and laboratory practice knowledge: demonstrates general knowledge and skills related to the scientific and technical components of laboratory testing*
    a. Discusses scientific and technical advances relevant to own work (C)
    b. Integrates basic laboratory techniques into standard operating procedures and new laboratory practices (C)
    c. Instructs others in model laboratory practices (C)

**Education and Experience Requirements:**

- At a minimum, a Bachelor's degree in Microbiology, Biology, Clinical Laboratory Science, Medical Technology, or related health sciences field
- At least two years of experience within a laboratory
- Knowledge of BSL-2 and BSL-3 operations and practices
- Strong verbal and written communication skills
- Ability to establish working relationships with diverse groups
- Must pass appropriate background checks
- Related certification (safety related) is preferred