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Risk Group Classification and Biosafety Level……

What Does This Mean for Emergency Response?

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Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

What is Biosafety?

- **Biosafety**:

  The application of combinations of laboratory practice and procedure, laboratory facilities, and safety equipment when working with potentially infectious microorganisms.

Translation…..

How biological materials are handled to protect the worker, "product", co-workers, environment, and the public.

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Risk Groups vs Biosafety Levels

- **Risk Group (RG) describes the relative risk to the individual and/or the environment by the organism.**
  - RG 1 – RG 4; vary from country to country
  - NIH and WHO uses RGs
- **Biosafety Level (BSL) actually is a description of containment (prescribed practices, procedures, safety equipment, and facilities) to safely work with the organism.**
  - BSL 1 – BSL 4
  - CDC uses BSLs

Risk Group (RG) Classifications

Risk Group 1 ***Low individual; low community***	Any biological agent that is unlikely to cause disease in healthy workers or animals.
Risk Group 2 ***moderate individual risk, low community risk***	Any pathogen that can cause human disease but, under normal circumstances, is unlikely to be a serious hazard to laboratory workers, the community, livestock or the environment. Laboratory exposures rarely cause infection leading to serious disease; effective treatment and preventive measures are available, and the risk of spread is limited.
Risk Group 3 ***high individual risk, low community risk***	Any pathogen that usually causes serious human disease or can result in serious economic consequences but does not ordinarily spread by casual contact from one individual to another, or that causes diseases treatable by antimicrobial or antiparasitic agents.
Risk Group 4 ***high individual risk, high community risk***	Any pathogen that usually produces very serious human disease, often untreatable, and may be readily transmitted from one individual to another, or from animal to human or vice-versa**, directly or indirectly, or by casual contact.**

Risk Group and Containment

- As the relative risk of an agent increases the degree of containment for working with the agent must also increase.
- Laboratories and other workspaces are also characterized into biosafety levels with each level affording a greater degree of containment.
- Specific activities with an agent may require increasing the degree of containment needed for the activity based on the risk assessment.

Biosafety (BSL) Levels

BSL 1	Suitable for work involving well-characterized agents not know to consistently cause disease in health adult humans, and present minimal potential hazard to laboratory personnel and the environment.
BSL 2	Suitable for work involving agents that pose moderate hazards to personnel and the environment. (usual exposure routes include ingestion, percuteneous injury, splash to mucous membranes).
BSL 3	Applicable to clinical, diagnostic, teaching, research, or production facilities in which work is done with indigenous or exotic agents which may cause serious or potentially lethal disease as a result of exposure by inhalation.
BSL 4	Required for work with dangerous and exotic agents which pose a high individual risk of aerosol-transmitted laboratory infections and life-threatening disease.

Biosafety Level 2

Organisms in use _____

Emergency Notification Information

Building Name: _____ **Room Number:** _____

Principal Investigator:

_____

_____

After Hours Phone:

_____

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Considerations for Emergency Response

- **Preplanning with the lab owner and Biosafety Officer on work performed with agents, quantity involved, and anticipated response needs.**
  - Under what circumstances is assistance needed
  - Hazards associated with the agents
  - Special concerns with entry
  - PPE for entry
  - Disinfectants appropriate for agents; contact time
  - Decontamination of equipment
  - Decontamination of personnel

Considerations for Emergency Response

- **Contacting lab owner or other designee during actual response for assistance and information related to specific incident**
- **When response involves Select Agents…..**
  - Additional requirements addressed in Emergency Response Plan required by CDC
    - Involvement of various groups under the plan
    - Notifications required to federal agencies
    - Critique of response and changes to the plan based on critique

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Questions?

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