Research Categories applicable to the U.S. Government Policy for Oversight of Dual Use Research of Concern and Pathogens with Enhanced Pandemic Potential

Potential Category 1 research

uses one or more of the agents or toxins listed below in (A), **and** is reasonably anticipated to result, or does result, in one or more of the experimental outcomes listed in (B). If your research includes an agent in (A) AND an expected outcome listed in (B), you must include notification that the research involves potential Category 1 research as part of the proposal. The federal funding agency, based on current understanding, will need to determine if the research constitutes Category 1 research.

(A) Agents and toxins involved in category 1 research

- Risk Group 3 or Risk Group 4 agents, as defined in Appendix B of the *NIH Guidelines*
- Non-exempt select agent, as listed on the current Federal Select Agent list
- **Any amount** of a toxin listed on the current Federal Select Agent list*
- Pathogens recommended by the CDC BMBL to be used at BSL-3 or BSL-4

(B) Experimental outcomes involved in Category 1 research

- Enhances transmissibility of the pathogen in humans;
- Enhances the virulence of the pathogens in humans;
- Increase the toxicity of a known toxin or produce a novel toxin;
- Increase the stability of a pathogen or toxin in the environment, or increase the ability to disseminate a pathogen or toxin;
- Alters the host range or tropism of a pathogen or toxin;
- Decreases the ability for a human or veterinary pathogen or toxin to be detected using standard diagnostic or analytical methods;
- Increases resistance of a pathogen or toxin to clinical or veterinary prophylactic or therapeutic interventions;
- Alters a human or veterinary pathogen or toxin to disrupt the effectiveness of preexisting immunity, via immunization or natural infection, against the pathogen or toxin;
- Enhances the susceptibility of a host population to a pathogen or toxin.

*NOTE: There are no exempt quantities of select agent toxins. Use of any amount of a select agent toxin that also meet an outcome listed in (B) needs to be indicated in the proposal as potential Category 1 research.

Potential Category 2 research

uses one or more of the agents or toxins listed below in (A), **and** is reasonably anticipated to result, or does result, in one or more of the experimental outcomes listed in (B). If your research includes an agent in (A) AND an expected outcome listed in (B), you must include notification that the research involves potential Category 2 research as part of the proposal. The federal funding agency, based on current understanding, will need to determine if the research constitutes Category 2 research.

(A) Agents and toxins involved in category 2 research

- Potential pandemic Pathogen (PPP): A pathogen that is likely capable of wide and uncontrollable spread in a human population and would likely cause moderate to severe disease and/or mortality in humans
- Any pathogen that will be modified in such a way to reasonably anticipate generation of a PPP
- Pathogen with enhanced pandemic potential (PEPP): a type of PPP resulting from experiments that enhance a pathogen's transmissibility or virulence, or disrupt the effectiveness of pre-existing immunity, regardless of its progenitor agent, such that it may pose a significant threat to public health, the capacity of health systems to function, or national security
- Previously identified pathogen with enhanced pandemic potential
- Variola major, Variola minor, Influenza A Virus subtype H1N1 (1918), Influenza A subtype H2N2 (1957-1968)
- Pathogens listed in the WHO potential pandemic pathogens list

(B) Experimental outcomes involved in Category 2 research

- Enhances transmissibility of the pathogen in humans;
- Enhances the virulence of the pathogens in humans;
- Enhances the immune evasion of the pathogen in humans, such as by modifying the pathogen to disrupt the effectiveness of pre-existing immunity via immunization or natural infection;
- Generates, uses, reconstitutes, or transfers an eradicated PPP or a previously identified PEPP.