#4. Point, Counterpoint: Judge & Jury

For the cases presented below, each team should prepare a brief presentation outlining the merits of their appointed position for the Jury. For the purpose of the arguments, assume that trained and experienced personnel from your institution are involved. Also, the proposed BL3 and BL2 facilities are in full conformity with CDC and NIH requirements for their respective facility design criteria. Class II Type A1 biological safety cabinets are available in each laboratory.

Select one or two members of your team to make the presentation to the Jury. Each team will be given 5 minutes for their presentation to the Jury. Once the Jury has heard the arguments, they will have 5 minutes to select a winner or the selected biosafety level for this work. The Judge has the potential to overturn a verdict based on biosafety merit.

A) Work with drug resistant Mycobacterium tuberculosis (isoniazid and ethambutol) in mice. Refer to the attached excerpts from the CDC/NIH BMBL and the NIH Guidelines as a reference point for the argument.

Team Point:

Develop an argument for this experiment at ABL2.

Team Counterpoint:

Develop an argument for this work at ABL3.

B) Small-scale cell experiments with Burkholderia pseudomallei. Again, refer to the attached excerpt from the CDC/NIH BMBL and the NIH Guidelines as a reference point for the argument.

Team Point:

Develop an argument for this experiment at BL3

Team Counterpoint:

Develop an argument for the experiment at BL2

C) The Jury has been asked to assist with a decision on funding allocation for the Biosafety Office on the following situation. There have been two laboratory-acquired infections (LAI) at your institution. Each is outlined below. Each team will review their LAI and present an argument for their case position as defined below. Upon hearing the arguments, the Jury is asked to make a decision regarding who will receive funding first. Due to the budget constraints faced by the Biosafety Office, only one group can be funded this fiscal year, the other will have to wait until the next fiscal period.

Team Point: Develop an argument for immediate funding for Bloodborne Pathogen related training and program development based on the following LAI.

A clinical microbiologist at your institution was diagnosed with acute Hepatitis B virus and has been hospitalized and is in serious condition. Your review of the incident discovers the following facts: 1) the infected individual had never received the HBV vaccine; 2) there is no record of a report; 3) the likely exposure route was through the employee's skin as she had recalled working with poison ivy about 6 months prior to her

initial diagnosis; 4) co-workers recalled seeing the employee remove her gloves and scratch her hand with her other gloved hand prior to washing and she was also observed rubbing her bare hand against her lab coat periodically; 5) the employee involved in the incident has 8 years of experience with the lab's procedures; 6) she received initial bloodborne pathogen training and has made has been retrained every year, but has missed the last required retraining (8 months overdue); 7) she did recall getting a letter reminding her of retraining but couldn't make it over to the safety office for the scheduled session.

Team Counterpoint: Develop an argument for immediate funding for BL3 Training and related program development based on the following LAI.

A bacteriologist at your institution was diagnosed with a Rickettsia rickettsii infection and is also hospitalized and in serious condition. Your review of the incident discovers the following facts: 1) The safety office received no report of an exposure from the researcher involved, they were notified by the local hospital that one of their employees had become ill, likely as the result of an accident in the laboratory; 2) The hospital informs you that the researcher has been sick for 2 weeks and that antibiotic therapy has been initiated; 3) Reported symptoms were onset of high fever, malaise, deep muscle pain, severe headache and chills; 4) The researcher also had traveled out of the state to attend a research conference during this period, continued with progression of symptoms and also experienced a rash. He was seen at a local emergency room, where he tested negative for meningitis, ehrlichia, and enteroviral infection. He agreed to follow up with his person physician upon his return home. He was provided with a prescription for rifampin as a precaution; 5) Upon return, the researcher made an assumption that he likely acquired a West Nile Virus infection from a mosquito bite as he is an avid hiker who frequently hikes early in the AM and into the late afternoon; 6) A colleague of his in another lab ran a quick PCR screen for West Nile Virus and related arboviruses but this was negative. At this point, feeling very ill, he made it to the local hospital emergency's room. The infectious disease specialist at the hospital was able to determine the following: 7) The researcher has tested positive for the Rocky Mountain Spotted Fever agent, Rickettsia rickettsii; 8) Roughly 2 weeks earlier, the researcher had been culturing a strain of Rickettsia rickettsii that had been sent to them for sequencing from a clinical lab as it had been involved in a recent outbreak in North Carolina; 9) They were centrifuging relatively large quantities of the agent as part of their studies involved sequencing the agent; 10) The most likely route of exposure recognized by the researcher was a centrifuge incident (Hareus super speed, rotor: 11" high, 35 lb) identified by the researcher after he was interviewed by the infectious disease specialist at the local hospital. The researcher recalled that there had been a leak in one of the 6 O-ring sealed 250 ml bottles that must have fissured during the run. Unfortunately, the researcher opened the rotor outside of the biosafety cabinet immediately after the run. Upon observation of the leak, he quickly decontaminated the rotor by pouring bleach inside the centrifuge and also spent about 3 hours within the room decontaminating all exposed work surfaces with 10% bleach solution. He wore a surgical mask and his personal eyeglasses, 2 pairs of gloves, and a solid-front gown throughout these procedures. Once

he completed the decontamination of the facility, he continued to work in the facility. 12) The Biosafety Office file shows that the last air-balancing test was OK and the lab remained operational (negative airflow) during and after the incident. The file also shows the presence of a Class II Type A1 biological safety cabinet with a fixed 8" opening.