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MRN: <u>18 BEIJING 138</u>

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From: AMEMBASSY BEIJING

Action: WASHDC, SECSTATE ROUTINE

E.O.: 13526

TAGS: SHLH, ETRD, ECON, PGOV, CN

Captions: SENSITIVE Reference: 17 WUHAN 48

Subject: China Opens First Bio Safety Level 4 Laboratory

| (SBU) Summary and Comment: The Chinese Academy of Sciences (CAS) has recently stablished what is reportedly China's first Biosafety Level 4 (BSL-4) laboratory in Wuhan. his state-of-the-art facility is designed for prevention and control research on diseases that equire the highest level of biosafety and biosecurity containment. Ultimately, scientists hope he lab will contribute to the development of new antiviral drugs and vaccines, but its current roductivity is limited by a shortage of the highly trained technicians and investigators require a safely operate a BSL-4 laboratory and a lack of clarity in related Chinese government policited guidelines. (b)(5) | |
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| 0(5) | |
| (5) End Summary and Comment. | |

China Investing in Infectious Disease Control

2. (U) Between November 2002 and July 2003, China faced an outbreak of Severe Acute Respiratory Syndrome (SARS), which, according to the World Health Organization, resulting in 8,098 cases and leading to 774 deaths reported in 37 countries. A majority of cases occurred in China, where the fatality rate was 9.6%. This incident convinced China to prioritize international cooperation for infectious disease control. An aspect of this prioritization was China's work with the Jean Merieux BSL-4 Laboratory in Lyon, France, to build China's first high containment laboratory at Wuhan's Institute of Virology (WIV), an institute under the auspices of the Chinese Academy of Sciences (CAS). Construction took 11 years and \$44 million USD, and construction on the facility was completed on January 31, 2015. Following

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two years of effort, which is not unusual for such facilities, the WIV lab was accredited in February 2017 by the China National Accreditation Service for Conformity Assessment. It occupies four floors and consists of over 32,000 square feet. WIV leadership now considers the lab operational and ready for research on class-four pathogens (P4), among which are the most virulent viruses that pose a high risk of aerosolized person-to-person transmission.

Unclear Guidelines on Virus Access and a Lack of Trained Talent Impede Research

3. (SBU) In addition to accreditation, the lab must also receive permission from the National Health and Family Planning Commission (NHFPC) to initiate research on specific highly contagious pathogens. According to some WIV scientists, it is unclear how NHFPC determines what viruses can or cannot be studied in the new laboratory. To date, WIV has obtained permission for research on three viruses: Ebola virus, Nipah virus, and Xinjiang hemorrhagic fever virus (a strain of Crimean Congo hemorrhagic fever found in China's Xinjiang Province). Despite this permission, however, the Chinese government has not allowed the WIV to import Ebola viruses for study in the BSL-4 lab. Therefore, WIV scientists are frustrated and have pointed out that they won't be able to conduct research project with Ebola viruses at the new BSL-4 lab despite of the permission.

Despite Limitations, WIV Researchers Produce SARS Discoveries

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| 6. (SBU) The ability of WIV scientists to undertake productive research despite limitations on | | | |
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| the use of the new BSL-4 facility is demonstrated by a recent publication on the origins of | | | |
| SARS. Over a five-year study, (b)(6) (and their research team) widely sampled | | | |
| bats in Yunnan province with funding support from NIAID/NIH, USAID, and several Chinese | | | |
| funding agencies. The study results were published in PLoS Pathogens online on Nov. 30, 2017 | | | |
| (1), and it demonstrated that a SARS-like coronaviruses isolated from horseshoe bats in a single | | | |
| cave contain all the building blocks of the pandemic SARS-coronavirus genome that caused the | | | |
| human outbreak. These results strongly suggest that the highly pathogenic SARS-coronavirus | | | |
| originated in this bat population. Most importantly, the researchers also showed that various | | | |
| SARS-like coronaviruses can interact with ACE2, the human receptor identified for SARS- | | | |
| coronavirus. This finding strongly suggests that SARS-like coronaviruses from bats can be | | | |
| transmitted to humans to cause SARS-like disease. From a public health perspective, this | | | |
| makes the continued surveillance of SARS-like coronaviruses in bats and study of the animal- | | | |
| human interface critical to future emerging coronavirus outbreak prediction and prevention (b)(5) | | | |
| WIV scientists are allowed to study the SARS-like coronaviruses isolated | | | |
| from bats while they are precluded from studying human-disease causing SARS coronavirus in | | | |
| their new BSL-4 lab until permission for such work is granted by the NHFCP. | | | |
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1. Hu B, Zeng L-P, Yang X-L, Ge X-Y, Zhang W, Li B, et al. (2017) Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus. PLoS Pathog 13(11): e1006698. https://doi.org/10.1371/journal.ppat.1006698

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