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Self-declaration of an Equine Disease-Free Zone in Tonglu, Hangzhou, China for the purpose of facilitating the Equestrian competitions for the 19th Asian Games Hangzhou 2022, Equine Disease-Free Zone (EDFZ) is established in Tonglu, Hangzhou, Zhejiang province in China.

Self-declaration submitted to the World Organisation for Animal Health on 8 February 2022 by Dr Baoxu Huang, Delegate of China to the OIE.

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Abbreviations

MARA	Ministry of Agriculture and Rural Affairs
OIE	World Organisation for Animal Health
EDFZ	Equine Disease-Free Zone
AHS	African Horse Sickness
CZ	Core zone
SZ	Surveillance zone
PZ	Protection zone

A- Executive Summary

1. Introduction

China will be hosting the 19th Hangzhou Asian Games from 10 to 25 September 2022. As one of the events, equestrian competition contains dressage, jumping and cross-country. There will be more than 200 horses participating in the competition, countries/regions¹ that signed up for the competition include China, Chinese Taipei, HKSAR, India, Indonesia, Iran, Iraq, Japan, Kazakhstan, Kuwait, Kyrgyzstan, Malaysia, Nepal, Pakistan, Philippines, Qatar, Saudi Arabia, Singapore, South Korea, Sri Lanka, Syria, Thailand and Uzbekistan.

In order to facilitate the participation of horses from different parts of the world, the Ministry of Agriculture and Rural Affairs (MARA) approved the People's Government of Hangzhou, Zhejiang Province to establish EDFZ in Tonglu, Hangzhou.

After the evaluation, MARA issued Announcement No. 510 on 4 January 2022, declaring the establishment of Hangzhou Tonglu Equine Disease-Free Zone (EDFZ).

The objective of this declaration is to inform the OIE Member about the equines and relative susceptible animal health status in and around the venue, and the EDFZ for the Equestrian competition for the 19th Asian Games Hangzhou 2022, and to introduce EDFZ to OIE members.

MARA's declaration covers the following diseases: equine infectious anaemia, equine influenza, Japanese encephalitis, glanders, equine viral arteritis, equine piroplasmiasis, *Trypanosoma evansi* (surra), dourine, rabies, anthrax, equine rhinopneumonitis (EHV-1), Hendra disease, West Nile fever, Nipah virus infection, vesicular stomatitis, equine encephalomyelitis (including Eastern and Western), contagious equine metritis and Venezuelan equine encephalomyelitis. Equine influenza, Japanese encephalitis and rabies are absent in the EDFZ due to continuous vaccination programmes. Additionally, China has been officially recognized as historically free from African Horse Sickness (AHS) by OIE in 2014 and has maintained its free status since then.

2. Veterinary Services

The Chinese government pays great attention to the establishment of veterinary laws and regulations. A legal framework has been established with the Animal Disease Prevention Law of the People's Republic of China and the Entry and Exit Animal and Plant Quarantine Law of the People's Republic of China as the core, supplemented by veterinary administrative regulations, departmental rules and local regulations.

MARA is responsible for the national animal husbandry and veterinary work in China. The Animal Husbandry and Veterinary Bureau of MARA is responsible for organizing and implementing animal disease prevention and the supervision and management activities in the People's Republic of China. The General Administration of Customs of the People's Republic of China is responsible for the quarantine, supervision and administration of entry and exit of animals and animal products.

The local people's governments of Zhejiang Province, Hangzhou City and the counties (cities and districts) involved in EDFZ have established a comprehensive veterinary work system, including veterinary administration, technical support and supervision and enforcement systems, which can effectively carry out animal disease prevention and management, disease monitoring, supervision and inspection.

3. Structure and boundaries of the EDFZ

According to the relevant principles of OIE, the EDFZ is located in the administrative area north of the Fuchun River in Tonglu County, Hangzhou, Zhejiang of China. A Protection zone (PZ) is set up along the periphery of the EDFZ boundary, and the road from Hangzhou International Airport to the EDFZ and the area within 1 km on both sides are set as biosecurity pathway.

The EDFZ consists of a core zone (CZ) and a surveillance zone (SZ). The north, west, and south of the EDFZ adjacent to the PZ are all mountains, and the east is separated from the Tonglu PZ by Fuchun River, forming a well natural barrier. The CZ consists of the equestrian venues and the surrounding 5 km ring area, in which no susceptible

¹ https://www.hangzhou2022.cn/En/officialannouncement/202203/t20220325_45816.shtml

animals such as equines, pigs, cattle and sheep are kept. The SZ covers the administrative area of Tonglu County to the north of Fuchun River except CZ. No equines are kept in the SZ.

The biosecurity pathway connects Hangzhou International Airport with the equestrian venues. It is the road that enters the EDFZ through airport Expressway, Hangzhou Bay Loop Expressway, Shanghai-Kunming Expressway, Caihong Expressway, G25 Hangzhou Xinjing Expressway Fuchunjiang Toll station and the range of 1 km on both sides. No susceptible animals such as equines, pigs, cattle and sheep are kept in the biosecurity pathway.

The PZ is set up along the periphery of the EDFZ boundary. The PZ includes administrative areas around the EDFZ such as Fuyang District, Lin'an District, Chun'an County, Jiande City, and the four townships (streets) south of the Fuchun River in Tonglu County such as Chengnan Street, Fengchuan Street, Jiangnan Township, Xinhe Township and the administrative area south of the Fuchun River in Fuchunjiang Township.

According to *Animal Disease prevention Law of the People 's Republic of China*, provincial roads S302 and S208 are designated as transportation pathway for susceptible animals (such as pigs, cattle, sheep) and related susceptible animal products entering EDFZ, and officially announced. During the competition, domestic competition horses will also enter through the above designated transportation pathway, and other susceptible animals will be temporarily controlled. Four animal health supervision check points have been built and activated on transportation pathway, to implement supervision and inspection of susceptible animals and susceptible animal products entering the EDFZ. A total of 403 traffic guidance signs and checkpoint signs were set up along the biosecurity pathway and designated pathways, and near the county and township road junctions entering the EDFZ border to guide vehicles transporting susceptible animals and animal products to enter and exit the EDFZ as required.

Three animal quarantine sites have been set up, including one for susceptible animals except equids, and one for domestic horses. Equestrian venues are designated as quarantine sites for foreign participating horses. The quarantine stable zone is set up near the equestrian venue as a contingency quarantine site for the participating horses during the competition.

4. Equine disease situation

In accordance with the *Animal Disease Prevention Law of the People's Republic of China*, MARA has established an animal disease reporting system, published a list of reportable animal diseases, and regularly reported the reportable equine diseases to OIE as required. The People's Government of Hangzhou, Zhejiang Province formulated the *Emergency Plan for Tonglu Equine Disease-Free Zone, Hangzhou*, and listed 19 equine diseases including equine infectious anaemia as notifiable animal diseases.

The animal husbandry and veterinary department of Hangzhou has established an early warning system for animal diseases, formulated an EDFZ surveillance plan, and effectively carried out surveillance of specified animal diseases. In the past three years, no clinical cases of any of the 19 equine diseases such as equine infectious anaemia were found in the EDFZ. In the past 12 months, no evidence of infection of any of the 19 equine diseases such as equine infectious anaemia was found in EDFZ.

According to the National Animal Disease Reporting System, the latest cases of Equine infectious anaemia (January 2010, Guangdong), Glanders (December 2019, Chongqing), Equine influenza (December 2021, Yunnan), Japanese encephalitis (June 2021, Henan, Hunan, Jiangxi, Shaanxi), *Trypanosoma evansi* (surra) (December 2021, Shaanxi), Dourine (January 2021, Inner Mongolia), Livestock anthrax (September 2021, Inner Mongolia, Tibet), Rabies (September 2021, Inner Mongolia and Henan), Equine rhinopneumonitis (EHV-1) (June 2021, Tibet) were controlled and disposed of in time after they occurred.

5. Maintenance of EDFZ

The animal husbandry and veterinary institutions where EDFZ and PZ are located have controlled the local breeding status of susceptible animals. Equines have been implanted with microchip to generate a unique animal ID for identification, supervision and tracing. Breeding records for large-scale farms of susceptible animals (such as pigs, cattle, and sheep) have been established, and "one to one" QR code ear tags to all these susceptible animals have been applied. In order to facilitate susceptible animal movement control in the EDFZ, the entry and transit transportation of domestic susceptible animal and its products are supervised during the whole process. For susceptible animals and animal products that need to enter the EDFZ, they must enter through the designated

transportation pathway. After registration and disinfection at the animal health supervision and inspection check point, guide the transportation of susceptible animals and animal products to enter the EDFZ is required.

According to the quarantine and hygiene requirements of the horses participating in the Asian Games and the biosecurity control procedures of the venue, the management measures for the entry, arrival and departure of the horses are formulated. Biosecurity procedures will inform people entering the venue, including athletes, grooms, veterinarians, Asian Games Organizing Committee personnel, team officials, staff and all other authorized personnel. Competition horses will be strictly managed. After arriving to the EDFZ, strengthened management and control activities, and control of horse movements will be carried out, as well as a daily health check. When any abnormality is found, it will be reported in time and contingency measures will be taken.

6. Conclusion

The Delegate of China to the OIE self-declares that, from 4 January 2022 an EDFZ has been established and will be maintained until 31 December 2022 in Tonglu, Hangzhou in China, and that the zone complies with the requirements to declare freedom from the diseases listed above. This self-declaration also clarifies the biosecurity management measures taken to maintain the disease-free status of the EDFZ . In order to facilitate the holding of the 19th Hangzhou Asian Games equestrian event, the EDFZ is established according to the relevant requirements of the *Terrestrial Animal Health Code (Terrestrial Code)*, and the Guidelines on the establishment, management, and self-declaration to the OIE of an EDFZ and the regional management of animal diseases in China .

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I. Introduction

China will be hosting the 19th Asian Games Hangzhou 2022, which will be held from 10 to 25 September 2022. The event will include several equestrian competitions, dressage, jumping and cross-country. There will be more than 200 horses competing and more than 20 countries/territories participating in the competitions. In order to facilitate the participation of horses from different parts of the world, the Ministry of Agriculture and Rural Affairs (MARA) approved the petition/proposal of the People's Government of Hangzhou, Zhejiang Province to establish an EDFZ in Tonglu, Hangzhou according to the *Terrestrial Code*, the *Framework for the establishment of an Equine Disease-Free Zone* from OIE² and *FAO Technical Specifications for the Management of Animal Disease-Free Zone*³. Protection zone is set up around the EDFZ, and biosecurity pathway is set up by the road and 1 km range on both sides from Hangzhou International Airport to the EDFZ. In June 2020, all equines (include horse, donkey, mule) in the EDFZ have been moved out, and no equines will re-enter after; all susceptible animals (such as pigs, cattle, and sheep) within 5 km around the venue have been moved out; the areas along the biosecurity pathway will be not allowed for breeding and rearing of susceptible animals (such as horses, pigs, cattle and sheep) during the construction and maintenance of the EDFZ.

In April 2021, the Hangzhou Asian Organizing Committee invited experts of the OIE and Dr Kenneth Lam, (International Veterinary Liaison and Epidemiology Senior Manager of Hong Kong Jockey Club) to provide technical guidance by virtual meeting. MARA organized evaluation experts to evaluate the EDFZ and issued Announcement No. 510 (Annex 1) on 4 January 2022, declaring the establishment of Equine Disease-Free Zone (EDFZ) in Tonglu, Hangzhou.

The objective of this declaration is to inform the OIE Members about the equines and relative susceptible animal health status in and around the venue of the EDFZ for the Equestrian competition for the 19th Asian Games Hangzhou 2022.

The declaration covers the following diseases: equine infectious anaemia, equine influenza, Japanese encephalitis, glanders, equine viral arteritis, equine piroplasmosis, *Trypanosoma evansi* (surra), dourine, rabies, anthrax, equine rhinopneumonitis (EHV-1), Hendra disease, West Nile fever, Nipah virus infection, vesicular stomatitis, equine encephalomyelitis (including Eastern and Western), contagious equine metritis and Venezuelan equine encephalomyelitis. Vaccination is required for Equine influenza, Japanese encephalitis and rabies. Additionally, China has been officially recognized as historically free from AHS by the OIE and maintained the AHS-free status since 2014.

II. Structure of EDFZ

According to the relevant principles of the OIE, the EDFZ is located in the administrative area north of the Fuchun River in Tonglu County, Hangzhou, Zhejiang Province of China. A PZ is set up along the periphery of the EDFZ boundary, and the road from Hangzhou International Airport to the EDFZ and the area within 1 km on both sides are set as biosecurity pathway.

1. EDFZ

The EDFZ consists of a CZ and a SZ (Figure 1). The north, west, and south of the EDFZ adjacent to the PZ are all mountains, and the east is separated from the Tonglu PZ by Fuchun River, forming a well natural barrier.

² https://www.oie.int/fileadmin/Home/eng/Our_scientific_expertise/docs/pdf/Chevaux/EDFZ3.pdf

³ <http://extwprlegs1.fao.org/docs/pdf/chn179952.pdf>

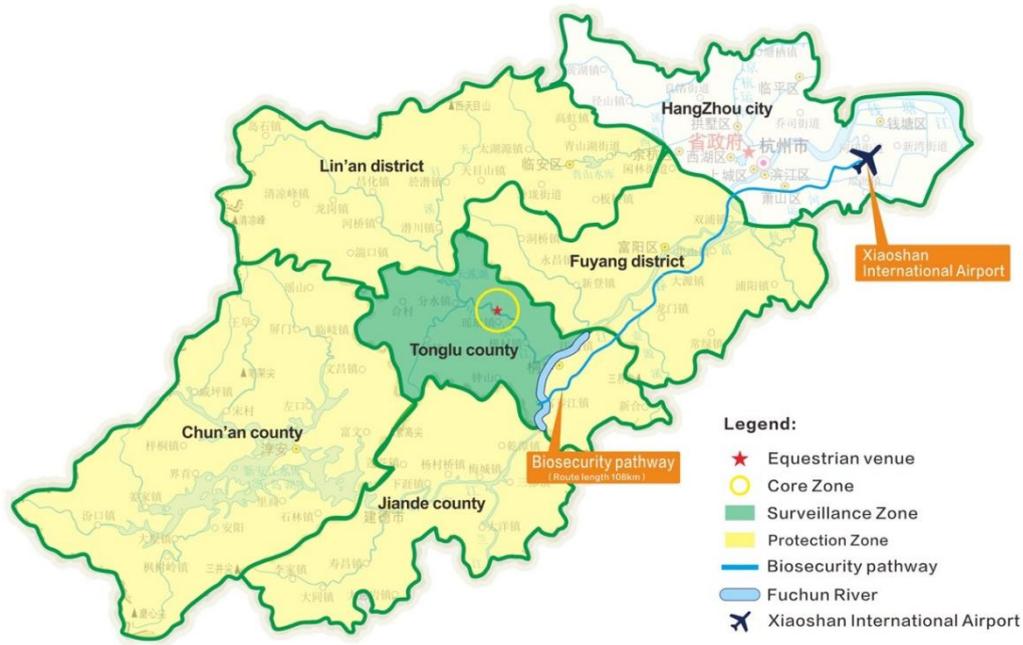


Figure 1: Venue, CZ, SZ and PZ of the EDFZ

1.1 CZ

The CZ includes the venue and surrounding areas with a radius of 5 km (Figure 2). The construction of the CZ fully considers the requirements of biosecurity, ease of management, and reasonable spatial layout. No equine animals and other susceptible animals to horse-related diseases (such as pigs, cattle, sheep) are kept in the area. Biosecurity measures are taken against vectors and susceptible wild animals.



Figure 2: Schematic diagram of equestrian venue and CZ

The equestrian venue (Figure 3, coordinates: 29°54'35.4"N, 119°32'33.5"E) was constructed. Horse stables in the venue will also be the compartment and quarantine check point for foreign competition horses. The venue consists of Matong Village, stables, veterinary clinic, horseshoe factory, training and competition area and facilities for spectators, horse racers and their staff. Strict biosecurity control measurements have been established in the venue. A 3-meter-high physical wall was set up around the venue. There are specific entry and exit points for horse transportation and personnel and supplies respectively. All gates controlled by strict security and equipped with biosecurity equipment for cleaning and disinfection, hand washing, insect and rodents' prevention, etc. Persons, horses, vehicles, and supplies shall enter the venue through designated passage, according to the biosecurity control procedures. Horse stables are enclosed by a biosecurity perimeter wall. Insect-proof screen doors and screens are installed on the doors and windows of the stables. Persons entering/exiting the site need to pass through a "sanitary barrier" including pedestrian footbath and hand wash.

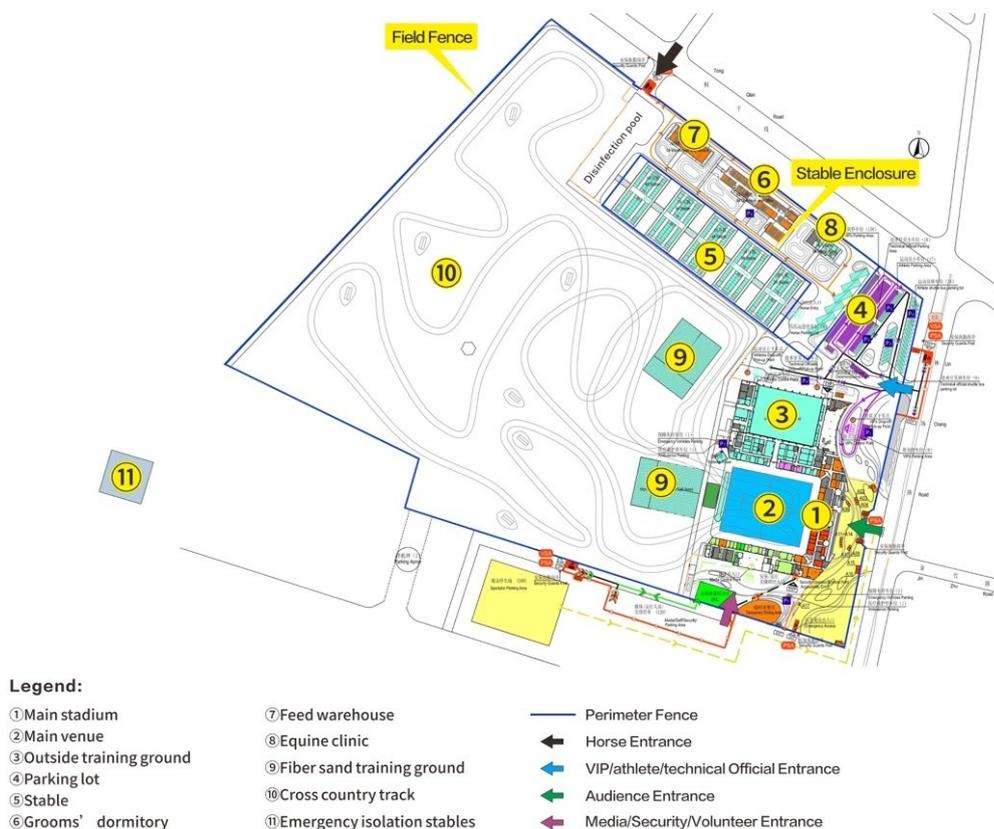


Figure 3: Layout of the equestrian venues for 19th Asian Games Hangzhou 2022

1.2 SZ

The SZ is the administrative area of Tonglu County, north of Fuchun River, around the CZ. It is about 55 km long from east to west, 46 km wide from north to south, and covers an area of about 1,220 km². There are no equids in the SZ.

2. Biosecurity pathway

The biosecurity pathway connects Hangzhou International Airport and the venues, passing through the airport highway, Hangzhoubay loop highway, Shanghai-Kunming highway, Rainbow Expressway, G25 Hangxinjing highway Fuchunjiang toll station to EDFZ. All roads and the area within 1 km on both sides are included in the pathway. No equids or other species susceptible to diseases also affecting horses (such as pigs, cattle and sheep) are kept in the biosecurity pathway.

3. PZ

The PZ has been established along the periphery of the EDFZ boundary. The PZ includes administrative area around the EDFZ (such as Fuyang District, Lin'an District, Chun'an County, Jiande City), 4 township/streets (Chengnan Street, Fengchuan Street, Jiangnan Town, and Xinhe Township) and the administrative area south of Fuchun River in Fuchun jiang Town, Tonglu County, with an area of about 12300 km².

4. Artificial barrier and ancillary facility

4.1 Designated transportation pathways and animal health supervision and inspection check points

According to *Animal Disease prevention Law of the People's Republic of China*, provincial roads S302 and S208 are designated as transportation pathways for susceptible animals to horse-related diseases (such as horses, pigs, cattle, sheep) and related susceptible animal products entering the EDFZ, and officially announced. During the competition, domestic competition horses will also enter through the above designated transportation pathway, and other susceptible animals will be controlled in temporary designated check points (Figure 4). Four animal health supervision check points have been built and activated on transportation pathway, namely S208 Fenshui checkpoint (29°99'90.5"N, 119°43'51.9"E), S302 Baijiang checkpoint (29°84'5"N, 119°26'73.4"E), S302 Gaoxiang checkpoint (29°94'76.6"N, 119°61'76.1"E) and S208 Hengcun checkpoint (29°85'75.7"N, 119°62'94.2"E). A total of 64 traffic guides and checkpoint signs have been set up along the 2 transportation pathways and around the 4 check points. The 4 check points are equipped with automatic spray disinfection facilities for vehicles and the equipment for law enforcement supervision and inspection, quarantine monitoring sampling, information data collection, video surveillance, etc., to implement supervision and inspection of susceptible animals and susceptible animal products entering the EDFZ, and guide vehicles transporting susceptible animals and animal products into the EDFZ as required.

4.2 Quarantine field

Three animal quarantine fields have been built: (1) A susceptible animal (excluding equids) quarantine facility was built in Sanxin Village (29°79'70.4"N, 119°80'10.8"E), Fengchuan Street, Tonglu, covering an area of 2,000 m², with 3 isolation houses, for the quarantine of pigs, cattle, sheep and other susceptible animals to horse-related diseases in EDFZ. (2) A domestic horse quarantine facility was built in Qinxi Village, Yaolin Town, Tonglu County (29°94'12.3"N, 119°61'32.0"E) to undertake the domestic horse quarantine. The quarantine covers an area of 20,440 m², with 3 stables of 1076 m², equipped with equestrian training fields, veterinary room, emergency isolation stables, and safe treatment of sewage and feces. (3) The competition field (29°54'35.4"N, 119°32'33.5"E) is designated as the quarantine facility for foreign horses. The isolation stable area is set up near the venue and used for emergency isolation for foreign horses during the competition.

4.3 Guiding and monitoring facility

224 traffic guidance and publicity signs have been set up along the biosecurity pathway, major highways and urban road intersections entering the EDFZ and biosecurity pathway to guide competition horses entering the EDFZ through the biosecurity pathway, to ensure safe and smooth enter/exit of these horses. 115 traffic guides, warning signs and 36 monitoring probes have been set up at the urban road intersections of 14 counties and townships on the boundary of the EDFZ. These facilities are designed to guide transportation vehicles of susceptible animals and animal products entering or transiting the EDFZ through transportation pathway, and to implement supervision and inspection by the animal health supervision and check point.

The construction and standardized management of EDFZ designated pathways, animal health supervision and inspection stations, quarantine fields and related supervision facilities, combining with the natural barrier around EDFZ, constitute a barrier system to prevent the introduction of external risks.

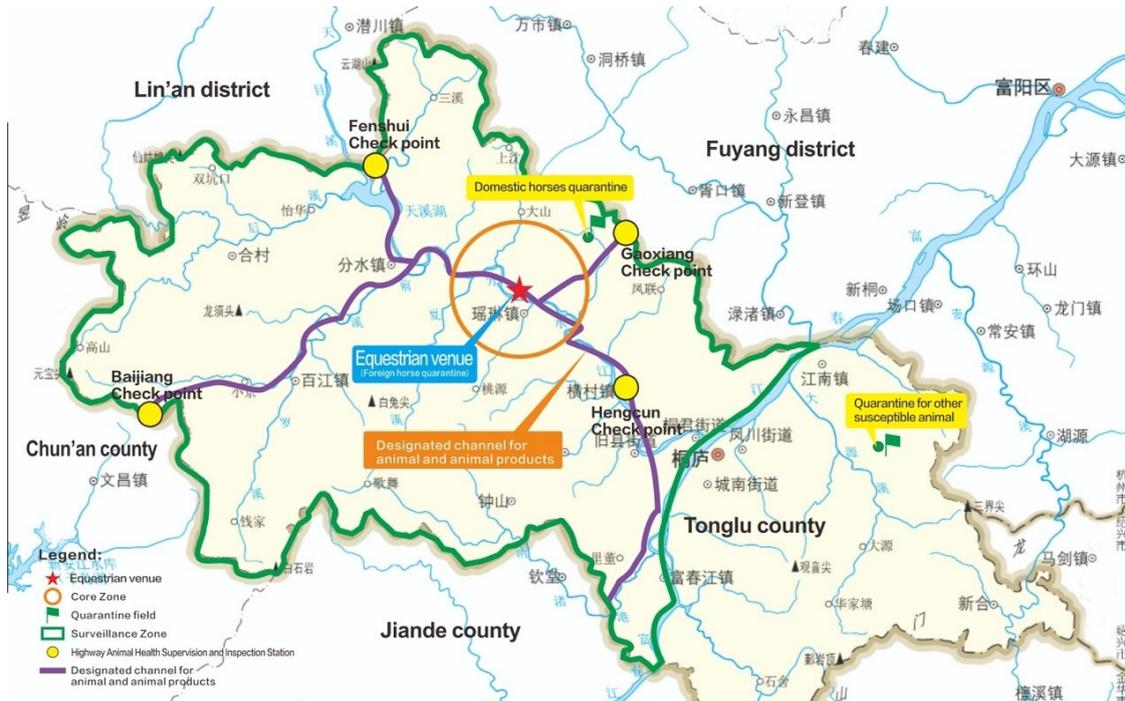


Figure 4: Layout of EDFZ highway animal health supervision check points, designated transportation pathways and quarantine fields

III. Veterinary Services

1. Veterinary legal framework

The Chinese government pays great attention to the establishment of veterinary laws and regulations. A legal framework has been established with the *Animal Disease Prevention Law of the People's Republic of China* and the *Entry and Exit Animal and Plant Quarantine Law of the People's Republic of China* as the core, supplemented by veterinary administrative regulations, departmental rules and local regulations.

At the national level, the *Emergency Regulations on Major Animal Epidemics*, *National Emergency Response Plan for Major Animal Epidemics*, *Administrative Measures for Animal Epidemic Reports*, *Administrative Measures for Animal Quarantine*, *Measures for Examination of Animal Epidemic Prevention Conditions*, *Measures for the Management of Livestock and Poultry Identification and Breeding and rearing Records*, *Administrative Measures for the Evaluation of Animal Disease-Free Zone*, *Technical Specifications for the Management of Animal Disease-Free Zone* and other regulations, departmental rules and technical documents.

Zhejiang Province has formulated the *Regulations on Animal Disease prevention of Zhejiang Province* and supporting documents. Hangzhou government has formulated and issued the *Management Measures of Equine Disease-Free Zone of Tonglu*, *Equine Disease-Free Zone in Hangzhou*, *Construction Plan of Tonglu Equine Disease-Free Zone in Hangzhou*, *Notice on Implementing the Tonglu Equine Disease-Free Zone Management in Hangzhou* and *Emergency Plan for Tonglu Equine Disease-Free Zone in Hangzhou*. Hangzhou Municipal Bureau of Agricultural and Rural Affairs and other departments have formulated the *Disease Monitoring Program for Tonglu Equine Disease-Free Zone in Hangzhou*, *Equine Disease Compulsory Immunization Program of Hangzhou City*, *Equine Diseases Contingency Treatment Technical Program for Tonglu Equine Disease-Free Zone in Hangzhou*, *Health Standards for Susceptible Animals and Animal Products Imported into Tonglu Equine Disease-Free Zone in Hangzhou* and *Operation Manual for Imported Animal Quarantine of Tonglu Equine Disease-Free Zone in Hangzhou*, etc. A complete and comprehensive veterinary legal system has been developed involving regulations at national and local levels, covering all aspects of veterinary work, including immunization, monitoring, labelling, emergency response, etc. These

regulations and technical standards provide effective guarantee for the construction, operation and management of the EDFZ.

2. Veterinary Services

MARA is the Chinese national veterinary administrative department, setting up the Bureau of Animal Husbandry and Veterinary, which is specifically responsible for the national animal disease prevention and control, animal epidemic management, animal health supervision and management, supervision and law enforcement, veterinary medical administration and veterinary drug administration and drug inspection, and livestock and poultry slaughtering industry management. The General Administration of Customs of China is responsible for the quarantine, supervision and management of animals and animal products entering and leaving the country.

China has established a complete veterinary technical support system, which mainly undertakes veterinary technical support such as animal disease diagnosis, monitoring, epidemiological investigation and reporting and veterinary drug quality evaluation. National-level veterinary technical support institutions include China Center for Animal Disease Control and Prevention, China Center for Animal Health and Epidemiology, and China Veterinary Drug Inspection Institute.

All provinces (autonomous regions and municipalities directly under the Central Government), cities and counties have veterinary administrative departments and veterinary technical support institutions. Zhejiang Province, Hangzhou City and related districts and counties (cities) have established a complete system of veterinary administration, technical support and supervision and law enforcement. Zhejiang Provincial Department of Agriculture and Rural Affairs and Agriculture and Rural Affairs Bureau of Hangzhou and counties (city) are veterinary administrative agencies, responsible for animal epidemic prevention, quarantine, slaughter supervision, veterinary medical administration and other veterinary administration work. The animal disease prevention and control agencies under the Agriculture and Rural Affairs Department (Bureau) shall undertake the monitoring, diagnosis, epidemiological investigation and other technical work of animal disease prevention and control. The animal health supervision and law enforcement agencies under the Agriculture and Rural Affairs Department (Bureau) are responsible for the quarantine, supervision and law enforcement of animals and animal products. Tonglu County has also specially set up a management center for the equine disease area, which is responsible for the specific construction, management and operation and maintenance of the EDFZ.

3. Veterinary laboratory capabilities

The veterinary laboratory system consists of a national laboratory and local veterinary laboratories, which effectively support the surveillance, diagnosis and epidemiological investigation of the EDFZ equine diseases. At the national level, there are national veterinary laboratories such as National Center for Diagnosis of Exotic Animal Diseases (NCDEAD) in China Animal Health and Epidemiology Center, OIE Reference Laboratory for equine infectious anaemia and the National Reference laboratory for glanders in Harbin Veterinary Research Institute (HVRI) of Chinese Academy of Agricultural Sciences. At the local level, the Local Veterinary Laboratories (LVL) in Zhejiang Provincial Animal Disease Control Center, Hangzhou, EDFZ and PZ are in charge of implementing the equine disease testing. The veterinary laboratories of scientific research institutions such as Zhejiang Academy of Science & Technology for Inspection and Quarantine, and the Veterinary Diagnostic Center of Zhejiang Agriculture & Forestry University (VDC-ZAFU), etc. as third-party testing institutions, also provide equine disease testing services.

IV. Animal Health Management Measures of EDFZ

1. Susceptible animal census

Hangzhou Municipal Bureau of Agricultural and Rural Affairs has launched a census of susceptible animals in the EDFZ and PZ, and registration of equids (including horses, donkeys and mules), updated the number of animals synchronously every month. As of 30 December 2021, there are no equids kept in the EDFZ. The livestock in the EDFZ are pigs 53,251, cattle 572, sheep 2,482 and dogs 14,911. The 166 equids that have been registered in the PZ, including 23 working horses and 39 mules, as well as 104 ornamental horses, donkeys and zebras, are all kept in Fuyang Zoo, Hangzhou. The livestock in the PZ are pigs 446,398, cattle

5,155, sheep 62,767 and dogs 77,306. There are no equids and susceptible animals to horse-related diseases (pig, cattle, sheep) kept along the biosecurity pathway.

2. Susceptible animal identification management

Equines in Hangzhou have been implanted with a microchip to generate a unique animal ID for identification, supervision and tracing. Information of the equine owners (name, telephone number, address) and horses (age, sex, name, colour, vaccination and disease monitoring) has been recorded in the Integrated Equine Information Management Database. In accordance with MARA's *Measures for the Management of Livestock and Poultry Identification and Breeding and Rearing Records*, breeding and rearing records for large-scale farms of susceptible animals (such as pigs, cattle, and sheep) have been established, and "one to one" QR code ear tags to all these susceptible animals have been applied. When implementing quarantine at the place of origin, the local animal health supervision agency needs to check the logo and register it in the Animal Quarantine Certificate, so as to realize the head-by-head identification and traceability management of animals.

3. Vaccination of susceptible animals against horse-related diseases

According to the construction needs, all equines in the EDFZ and susceptible animals to diseases affecting horses, such as pigs, cattle and sheep in the CZ were moved out. With the approval of the Zhejiang Provincial Government, Hangzhou has implemented rabies vaccination campaigns for dogs within its jurisdiction since 2010; equine influenza and Japanese encephalitis vaccination have been carried out on equines in the PZ since November 2019. According to the risk assessment results, in order to prevent the risk of Japanese encephalitis in pigs in the EDFZ, with the consent of the Zhejiang Provincial Government, Japanese encephalitis vaccination have been carried out in pigs in the EDFZ and breeding pigs in the PZ since March 2021 and will continue in 2022. As of December 2021, for equines, 751 equine influenza vaccination and 838 Japanese encephalitis vaccinations were carried out in the PZ; for pigs, Japanese encephalitis vaccination were carried out 50,804 in the PZ and 67,385 in the EDFZ. In 2021, 24,747 dogs in EDFZ and 80,197 dogs in PZ were vaccinated against rabies.

4. Equine disease situation

In China, the following diseases are classified as "notifiable", and according to the National Animal Disease Reporting System, no outbreaks of these diseases have been reported, with the exception of cases of Equine infectious anaemia, glanders, equine influenza, Japanese encephalitis, *Trypanosoma evansi* (surra), dourine, anthrax, rabies and equine rhinopneumonitis (EHV-1). None of these occurred in Hangzhou, and they occurred far away from EDFZ (please see Table 1). In the past 10 years, there were no suspected or clinical records of the above mentioned 19 equine diseases in the EDFZ.

Table 1. Equine diseases status in China

No.	Notifiable equine disease in China	Diseases status (last case)	Surveillance
1	AHS	Never occurred, <u>China is officially recognised as free from AHS by the OIE</u>	General and Targeted surveillance
2	Vesicular stomatitis	Disease never reported	General surveillance
3	West Nile fever	Disease never reported	General surveillance
4	Nipah virus disease	Disease never reported	General surveillance
5	Hendra disease	Disease never reported	General surveillance
6	Equine encephalomyelitis (including Eastern and Western)	Disease never reported	General surveillance
7	Venezuelan equine Encephalomyelitis	Disease never reported	General surveillance
8	Contagious equine metritis	Disease never reported	General surveillance
9	Equine infectious anemia	(01/2010, in Guangdong, equine)	General and Targeted surveillance
10	Glanders	(12/2019, in Chongqing, equine)	General and Targeted

			surveillance
11	Equine viral arteritis	Disease never reported	General surveillance
12	Equine piroplasmiasis	Disease never reported	General surveillance
13	Equine influenza	(12/2021, in Yunnan, equine)	General surveillance
14	Japanese encephalitis	(06/2021, in Henan, Hunan, Jiangxi, Shaanxi, pig)	General surveillance
15	<i>Trypanosoma evansi</i> (surra)	(12/2021, in Shaanxi, equine)	General surveillance
16	Dourine	(01/2021, in Inner Mongolia, equine)	General surveillance
17	Anthrax	(09/2021, in Inner Mongolia, cattle and other animals; in Tibet, sheep)	General surveillance
18	Rabies	(09/2021, in Inner Mongolia, other animals; in Henan, dog)	General surveillance
19	Equine rhinopneumonitis (EHV-1)	(06/2021, in Tibet, equine)	General surveillance

MARA's declaration covers the following diseases: equine infectious anaemia, equine influenza, Japanese encephalitis, glanders, equine viral arteritis, equine piroplasmiasis, *Trypanosoma evansi* (surra), dourine, rabies, anthrax, equine rhinopneumonitis (EHV-1), Hendra disease, West Nile fever, Nipah virus infection, vesicular stomatitis, equine encephalomyelitis (including Eastern and Western), contagious equine metritis and Venezuelan equine encephalomyelitis. Equine influenza, Japanese encephalitis and rabies are absent in the EDFZ due to continuous vaccination activities. Additionally, China has been officially recognised as historically free from AHS by OIE in 2014 and has maintained its free status since then.

In order to control the situation of the aforementioned 19 diseases in the EDFZ and PZ, routine epidemiological investigation and surveillance plans, regular epidemiological investigations on susceptible animals are conducted in the region and carry out active and passive monitoring. Vectors and susceptible wild animals are sampled for investigation and active monitoring. The results of laboratory serology and pathogen surveillance conducted showed no positive cases to the 19 equine diseases in the EDFZ in the past 12 months.

For antibody-positive samples of equine influenza and Japanese encephalitis found in laboratory surveillance, we have been following up epidemiological investigation, showing that antibody-positive animals have immune background. Moreover, pathogenic surveillance has excluded the possibility of infection.

5. Equine disease surveillance and early warning system

According to *Terrestrial Code* and EDFZ construction guidelines and other principles, in accordance with the relevant requirements of the *Technical Specifications for the Management of Animal Disease-Free Areas*⁴, the *Disease Surveillance Plan for the Equine Disease-Free Zone in Hangzhou Tonglu*⁵, we have established active surveillance and passive surveillance requirements for equines and other animals (pig, cattle and sheep) susceptible to diseases affecting horses.

5.1 Early warning system

MARA has established a comprehensive animal disease reporting system, and veterinary institutions at the provincial, city and county levels report the occurrence of animal diseases to MARA according to reporting requirements. In order to ensure early warning, horse breeders in the PZ carry out body temperature measurement and clinical observation of the horses in stock every day. Breeders are required to immediately report to the local veterinary institution if there is any finding of any clinical abnormality.

Hangzhou Agriculture and Rural Affairs Bureau collects and summarizes the disease situation and epidemiological information of 19 equine diseases such as equine infectious anaemia in adjacent

⁴ http://agri.hangzhou.gov.cn/art/2022/2/28/art_1229186837_58925088.html

⁵ http://agri.hangzhou.gov.cn/art/2022/2/28/art_1229186837_58925089.html

areas by inquiring into the national *Veterinary Bulletin*⁶, regular meetings and semi-annual correspondence.

According to the requirements of *Animal Disease prevention Law of the People's Republic of China*, relevant personnel (engaged in animal breeding and rearing, slaughtering, operation and transportation, as well as stakeholders involved in the production of animal products, operation, processing and various animal diagnosis and treatment institutions, as well as veterinary institutions engaged in animal epidemic prevention and monitoring, etc.) report clinical abnormalities as soon as possible. The People's Government of Hangzhou and relevant veterinary institutions carry out publicity, education and knowledge dissemination of equine disease prevention, clinical diagnosis and epidemic reporting through meetings, training and TV programs, and urge the implementation of statutory reporting of animal disease prevention, clinical diagnosis and disease reporting to ensure effective early warning work.

The following activities were carried out in order to enhance the early warning for equine diseases in the EDFZ and PZ:

1- Awareness campaigns on clinical symptoms, key points of diagnosis and epidemic reporting requirements of the relevant equine diseases were imparted to horse owners and farm veterinarians through meetings, training courses and WeChat social media including the legal obligations of equine disease reporting and the legal responsibilities for non-fulfilment of mandatory reporting.

2- A *Temperature Monitoring and Clinical Observation Record Form* was developed and distributed to every horse farm within the EDFZ and PZ, urging farm veterinarians to carry out temperature measurement and clinical observation of the horses every day, and report any abnormality to the local veterinary agency immediately.

3. The local veterinary agencies of the EDFZ and PZ have made a notification paper on the prevention and control of equine diseases for horse farms and also distributed the manuals that should be known to all horse owners, informing about the clinical symptoms, key points of diagnosis and epidemic reporting requirements for equine diseases.

4. Based on the daily inspections and routine epidemiological investigations, the local veterinary agencies conducted quarterly supervision and inspections in horse farms, checked the breeding and rearing management, and the daily clinical monitoring and disease reports.

5. Telephone numbers of local veterinary authorities in the EDFZ and PZ are made available for disease reporting and investigation.

5.2 Surveillance of equine disease

Once the subjects (animal breeding or rearing, slaughtering, operation and transportation) and stakeholders involved in animal products production, operation, processing, animal diseases diagnosis and treatment find clinical signs of the 19 aforementioned equine diseases, reports should be sent immediately, and samples should be sent to the lab. The local animal husbandry and veterinary institution is responsible for conducting regular inspections on the farms of equine animals and susceptible animals (pigs, cattle, sheep) within the jurisdiction, and conducting regular epidemiological investigations. Since August 2020, the EDFZ and PZ have not reported any suspected cases of the 19 equine diseases including equine infectious anaemia.

From August 2020 to November 2021, in accordance with the Surveillance Plan for Equine Disease-Free Zone in Hangzhou Tonglu, four active surveillances were carried out for 19 equine diseases (August and November 2020, May and October 2021). The scope of surveillance included animals in the EDFZ, PZ and the biosecurity pathway. The surveillance included susceptible animals (such as horses, pigs, cattle, sheep, etc.), vectors and susceptible wild animals. The detection method adopts the testing standards stipulated by the state or the OIE diagnostic manual specified method. The collected samples were tested at the China Animal Health and Epidemiology Center (CAHEC), OIE

⁶ <http://english.moa.gov.cn/>

Reference Laboratory for Equine Infectious Anaemia and National Reference Laboratory for Glanders in HVRI (Chinese Academy of Agricultural Sciences), Zhejiang Provincial Institute of Inspection and Quarantine Science and Technology, the VDC-ZAFU and local veterinary laboratory in Tonglu (TLVL) and other counties.

5.3 Surveillance in the EDFZ

The EDFZ has no equine breeding. During the events, grooms have to check the temperature of all horses entering the equestrian venue twice a day (once in the morning and once in the afternoon) and register their temperature in the health monitoring record form. The following samples should be collected for every unexplained case of fever for detection and investigation of the following diseases:

- (1) Equine influenza (EI): nasopharyngeal swabs for ELISA or PCR.
- (2) Equine strangles: nasopharyngeal swabs for bacterial culture or PCR.
- (3) Equine Viral Arteritis (EVA): serum for virus neutralization or ELISA.

If typical clinical symptoms of infectious diseases are found, samples should be taken for testing of related diseases.

The EDFZ has been monitored for equine diseases (such as *Trypanosoma evansi* (surra) and Japanese encephalitis) associated with susceptible animals (such as pigs, cattle and sheep). A total of 7,639 susceptible animal samples were collected in the EDFZ, and laboratory tests were carried out. The antibody test results were all negative for diseases such as *Trypanosoma evansi* (surra), vesicular stomatitis, Nipah virus disease, anthrax and rabies. The agent identification test results were also negative for Japanese encephalitis and vesicular stomatitis. See Table 2 below for details.

Table 2: Surveillance results of susceptible animals (pigs, cattle and sheep) other than equids in EDFZ

Disease	Surveillance time	Category	No. samples	Method	Lab	Results		Complementary testing or investigation results
						pos	neg	
<i>Trypanosoma evansi</i> (surra)	Aug.2020	pig, cattle, sheep	898	CATT	TLVL	0	898	
	Nov.2020	pig, cattle, sheep	986	CATT	TLVL	0	986	
	May.2021	pig, cattle, sheep	1080	CATT	TLVL	0	1080	
	Oct.2021	pig, cattle, sheep	1497	CATT	TLVL	0	1497	
Japanese encephalitis (antibody detection)	Aug.2020	pig	745	ELISA	TLVL	30	715	Positive results due to vaccination, based on clinical examinations and pathogenic negative tests
	Nov.2020	pig	831	ELISA	TLVL	0	831	
	May.2021	pig	870	ELISA	TLVL	364	506	All pigs in the EDFZ have been vaccinated since March 2021, thus, the positive results are due to vaccination
	Oct.2021	pig	1267	ELISA	TLVL	1059	208	
Japanese encephalitis (antigen detection)	Aug.2020	pig	12	RT-PCR	TLVL	0	12	
	Nov.2020	Pig	135	RT -PCR	VDC-ZAFU	0	135	Among them, 117 samples were from

								antibody-positive pig farms
	May.2021	Pig	1110	RT -PCR	TLVL	0	1110	
	Oct.2021	Pig	1604	RT -PCR	TLVL	0	1604	
Vesicular stomatitis (antibody)	Aug.2020	pig, cattle, sheep	898	ELISA	TLVL	0	898	
	Nov.2020	pig, cattle, sheep	986	ELISA	TLVL	0	986	
Vesicular stomatitis (antigen detection)	May.2021	pig, cattle, sheep	1200	RT-PCR	TLVL	0	1200	
	Oct.2021	pig, cattle, sheep	1639	RT-PCR	TLVL	0	1639	
Nipah virus disease	Aug.2020	Pig	745	ELISA	TLVL	0	745	
	Nov.2020	Pig	831	ELISA	TLVL	0	831	
	May.2021	Pig	870	ELISA	TLVL	0	870	
	Oct.2021	Pig	1267	ELISA	TLVL	0	1267	
Rabies	Aug.2020	pig, cattle, sheep	91	ELISA	TLVL	0	91	
	Nov.2020	pig, cattle, sheep	96	ELISA	TLVL	0	96	
	May.2021	pig, cattle, sheep	109	ELISA	TLVL	0	109	
	Oct.2021	pig, cattle, sheep	158	ELISA	TLVL	0	158	
Anthrax	Aug.2020	pig, cattle, sheep	91	PR	TLVL	0	91	
	Nov.2020	pig, cattle, sheep	96	PR	TLVL	0	96	
	May.2021	pig, cattle, sheep	109	PR	TLVL	0	109	
	Oct.2021	pig, cattle, sheep	158	PR	TLVL	0	158	

During active surveillance activities carried out in August 2020, 30 positive samples of antibody against – Japanese encephalitis (30/745) were found in pigs. In order to investigate the health conditions of the pig herd where the positive samples were found, the local veterinary agency immediately carried out a comprehensive epidemiological field investigation after receiving the test results, which included breeding conditions, health status, vaccine immunity, etc., All suspected cases were subjected to clinical examination and the collection of samples in pigs with antibody-positive results and the in-contact pigs for laboratory pathogen testing. According to the investigation: 30 antibody positive samples to Japanese encephalitis were from piglets of around 50 days-old from two pig farms in SZ. No clinical symptoms of Japanese encephalitis were found in the two pig farms. The sows of these farms were vaccinated with Japanese encephalitis vaccine one week before breeding, and the immunization dose was one intramuscular injection. Blood samples of 117 pigs from these two farms were tested using a RT-PCR method for nucleic acid of Japanese encephalitis virus, and the test results were all negative. Therefore, the possibility of Japanese encephalitis virus infection was ruled out.

In October 2021, the efficacy of Japanese encephalitis vaccination in pigs in EDFZ was evaluated after the two vaccinations. A total of 1,267 samples were collected. The antibody positive rate was 83.58%, indicating a good immunity level against Japanese encephalitis.

From 2020 to 2021, investigations and active surveillance of dogs in the EDFZ were carried out. A total of 203 canine serum samples were collected, 178 of which were antibody-positive to rabies virus by laboratory testing, with an immune antibody positive rate of 87.68%, indicating that a good immunity level against rabies.

5.4 Surveillance in the PZ

In the PZ, a total of 1,316 equine samples (including 446 serum, 437 nasal swabs and 433 blood samples) were collected, for the surveillance of 19 diseases. Results of testing showed that all tests for the detection of the pathogenic agent were negative, and all tests for the detection of immune response were negative except for equine influenza and Japanese encephalitis. See Table 3 for details.

Table 3: Surveillance results of 19 equine disease in PZ

Disease	Surveillance time	No. equids	Category of equid*			No. sample	Method	Lab	Result	
			Working horse	Working mule	Ornamental horses/ donkeys/ zebras, etc.				pos	neg
Equine infectious anemia	Aug.2020	278	61	83	134	156	AGID	VDC-ZAFU	0	156
	Nov.2020	230	42	64	124	118	AGID	VDC-ZAFU	0	118
	May.2021	207	33	48	126	93	cELISA	LVL	0	93
	Oct.2021	173	24	43	106	79	cELISA	LVL	0	79
Glanders	Aug.2020	278	61	83	134	156	CFT	HVRI	0	156
	Nov.2020	230	42	64	124	118	CFT	HVRI	0	118
	May.2021	207	33	48	126	93	CFT	HVRI	0	93
	Oct.2021	173	24	43	106	79	CFT	HVRI	0	79
Equine viral arteritis	Aug.2020	278	61	83	134	156	ELISA	VDC-ZAFU	0	156
	Nov.2020	230	42	64	124	118	ELISA	VDC-ZAFU	0	118
	May.2021	207	33	48	126	93	ELISA	LVL	0	93
	Oct.2021	173	24	43	106	79	ELISA	LVL	0	79
Equine piroplasmiasis	Aug.2020	278	61	83	134	156	ELISA	VDC-ZAFU	0	156
	Nov.2020	230	42	64	124	118	ELISA	VDC-ZAFU	0	118
	May.2021	207	33	48	126	93	ELISA	LVL	0	93
	Oct.2021	173	24	43	106	79	ELISA	LVL	0	79
<i>Trypanosoma evansi</i> (surra)	Aug.2020	278	61	83	134	156	CATT	VDC-ZAFU	0	156
	Nov.2020	230	42	64	124	118	CATT	VDC-ZAFU	0	118
	May.2021	207	33	48	126	93	ELISA	LVL	0	93
	Oct.2021	173	24	43	106	79	ELISA	LVL	0	79
Dourine	Aug.2020	278	61	83	134	156	ELISA	HVRI	0	156
	Nov.2020	230	42	64	124	118	ELISA	VDC-ZAFU	0	118
	May.2021	207	33	48	126	93	ELISA	LVL	0	93
	Oct.2021	173	24	43	106	79	ELISA	LVL	0	79
Equine influenza	Aug.2020	278	61	83	134	151	RT-PCR	VDC-ZAFU	0	151
	Nov.2020	230	42	64	124	114	RT-PCR	VDC-ZAFU	0	114
	May.2021	207	33	48	126	93	RT-PCR	LVL	0	93
	Oct..2021	173	24	43	106	79	RT-PCR	LVL	0	79
	Aug.2020	278	61	83	134	147	RT-PCR	HVRI	0	147

Japanese encephalitis	Nov.2020	230	42	64	124	114	RT-PCR	HVRI	0	114
	May.2021	207	33	48	126	93	RT-PCR	LVL	0	93
	Oct.2021	173	24	43	106	79	RT-PCR	LVL	0	79
Equine rhinopneumonitis (EHV-1)	Aug.2020	278	61	83	134	156	ELISA	HVRI	0	156
	Nov.2020	230	42	64	124	118	ELISA	HVRI	0	118
	May.2021	207	33	48	126	93	ELISA	HVRI	0	93
	Oct.2021	173	24	43	106	79	ELISA	HVRI	0	79
Africa horse sickness	Aug.2020	278	61	83	134	31	RT-PCR	HVRI	0	31
	Nov.2020	230	42	64	124	24	RT-PCR	HVRI	0	24
	May.2021	207	33	48	126	93	ELISA	NCDEAD	0	93
	Oct.2021	173	24	43	106	79	ELISA	NCDEAD	0	79
Equine encephalomyelitis (including Eastern and Western)	Aug.2020	278	61	83	134	31	RT-PCR	HVRI	0	31
	Nov.2020	230	42	64	124	24	RT-PCR	HVRI	0	24
	May.2021	207	33	48	126	93	RT-PCR	NCDEAD	0	93
	Oct.2021	173	24	43	106	79	RT-PCR	NCDEAD	0	79
Vesicular stomatitis	Aug.2020	278	61	83	134	31	RT-PCR	HVRI	0	31
	Nov.2020	230	42	64	124	24	RT-PCR	HVRI	0	24
	May.2021	207	33	48	126	93	RT-PCR	NCDEAD	0	93
	Oct.2021	173	24	43	106	79	RT-PCR	NCDEAD	0	79
Nipha virus disease	Aug.2020	278	61	83	134	31	RT-PCR	HVRI	0	31
	Nov.2020	230	42	64	124	24	RT-PCR	HVRI	0	24
	May.2021	207	33	48	126	93	ELISA	NCDEAD	0	93
	Oct.2021	173	24	43	106	79	ELISA	NCDEAD	0	79
West Nile fever	Aug.2020	278	61	83	134	31	RT-PCR	HVRI	0	31
	Nov.2020	230	42	64	124	24	RT-PCR	HVRI	0	24
	May.2021	207	33	48	126	93	ELISA	NCDEAD	0	93
	Oct.2021	173	24	43	106	79	ELISA	NCDEAD	0	79
Hendra disease	Aug.2020	278	61	83	134	31	RT-PCR	HVRI	0	31
	Nov.2020	230	42	64	124	24	RT-PCR	HVRI	0	24
	May.2021	207	33	48	126	93	ELISA	NCDEAD	0	93
	Oct.2021	173	24	43	106	79	ELISA	NCDEAD	0	79
Venezuelan equine encephalomyelitis	Aug.2020	278	61	83	134	31	RT-PCR	HVRI	0	31
	Nov.2020	230	42	64	124	24	RT-PCR	HVRI	0	24
	May.2021	207	33	48	126	93	RT-PCR	NCDEAD	0	93
	Oct.2021	173	24	43	106	79	RT-PCR	NCDEAD	0	79
Contagious equine metritis	Aug.2020	278	61	83	134	31	RT-PCR	HVRI	0	31
	Nov.2020	230	42	64	124	24	RT-PCR	HVRI	0	24
	May.2021	207	33	48	126	93	RT-PCR	HVRI	0	93
	Oct.2021	173	24	43	106	79	RT-PCR	HVRI	0	79
Rabies	Aug.2020	278	61	83	134	15	ELISA	HVRI	0	15
	Nov.2020	230	42	64	124	13	ELISA	HVRI	0	13
	May.2021	207	33	48	126	10	ELISA	HVRI	0	10

	Oct.2021	173	24	43	106	10	ELISA	HVRI	0	10
Anthrax	Aug.2020	278	61	83	134	15	PR	HVRI	0	15
	Nov.2020	230	42	64	124	13	PR	HVRI	0	13
	May.2021	207	33	48	126	10	PR	HVRI	0	10
	Oct.2021	173	24	43	106	10	PR	HVRI	0	10

*Notes: All working horses were sampled; 12 domesticated equines in Hangzhou Fuyang Zoo were sampled; clinical monitoring was carried out on the remaining wild horses, wild donkeys, zebras, etc.

In November 2020, May 2021 and October 2021, a total of 290 blood samples of vaccinated equines against equine influenza and Japanese encephalitis were tested. The immunity levels for equine influenza were 96.55%, and that of Japanese encephalitis was 92.41%. Thus, it was concluded that the vaccination efficacy was good.

In the PZ, a total of 557 pig brain tissues and 7510 blood samples of pig, cattle and sheep were collected. Six diseases were tested for, and the results were all negative. See Table 4 for details.

Table 4: Surveillance results of susceptible animals (pigs, cattle and sheep) other than equids in the PZ

Disease	Surveillance time	Category	No. sample	Method	Lab	Results	
						pos	neg
Japanese encephalitis	Aug.2020-Oct .2021	pig	5468	RT-PCR	HVRI VDC-ZAFU	0	5468
<i>Trypanosoma evansi</i> (surra)	Aug.2020-Oct .2021	pig, cattle, sheep	3103	TGSBF	VDC-ZAFU	0	3103
Vesicular stomatitis	Aug.2020-Oct .2021	pig, cattle, sheep	2458	RT-PCR	NCDEAD	0	2458
Nipha virus disease	Aug.2020-Oct .2021	pig	4334	ELISA	NCDEAD	0	4334
Rabies	Aug.2020-Oct .2021	pig, cattle, sheep	746	ELISA	HVRI	0	746
Anthrax	Aug.2020-Oct .2021	pig, cattle, sheep	746	PR	HVRI	0	746

From 2020 to 2021, active surveillance for dogs in the PZ was conducted. A total of 130 serum samples were collected, 102 of which were positive for rabies immune antibodies, with an average immune antibody positive rate of 78.46%. The rabies vaccination efficacy met the requirements.

5.5 Vector investigation and surveillance in the EDFZ and the PZ

The equestrian venue, quarantine field, CZ and SZ in the EDFZ are the key investigation sites and areas (Figure 5) to assess the presence and the disease transmission risk of mosquitoes, flies, midges, horseflies, ticks and other vectors in the EDFZ and PZ. Four active investigations were carried out on vectors (mosquitoes, flies, midges, gadflies, and ticks) in August and October 2020 and May and September 2021 respectively. Trapping, netting and flagging methods were used to capture vectors and to classify, identify and count vectors. 3,230 mosquitoes (1 family, 2 subfamilies, 4 genera, 7 species), 1,841 midges (1 family, 1 genus, 7 subgenera, 16 species), 3,553 flies (3 families, 7 genera, 9 species), 21 gadflies (1 family, 2 genera, 2 species) and 154 ticks (1 family, 2 genera, 2 species) were obtained. No ticks were found in the EDFZ. The captured vector samples were tested for relevant pathogens (the number of samples tested for each disease is given in parentheses): equine infectious anaemia (2,066), Japanese encephalitis (1,228), *Trypanosoma evansi* (surra) (804), equine piroplasmiasis (*Theileria* 34; *Babesia* 34), AHS (449), vesicular stomatitis (New Jersey 1576; Indian 1576), equine encephalomyelitis (including Eastern and Western) (813), West Nile fever (779) and Venezuelan equine encephalomyelitis (779). All tested negative.

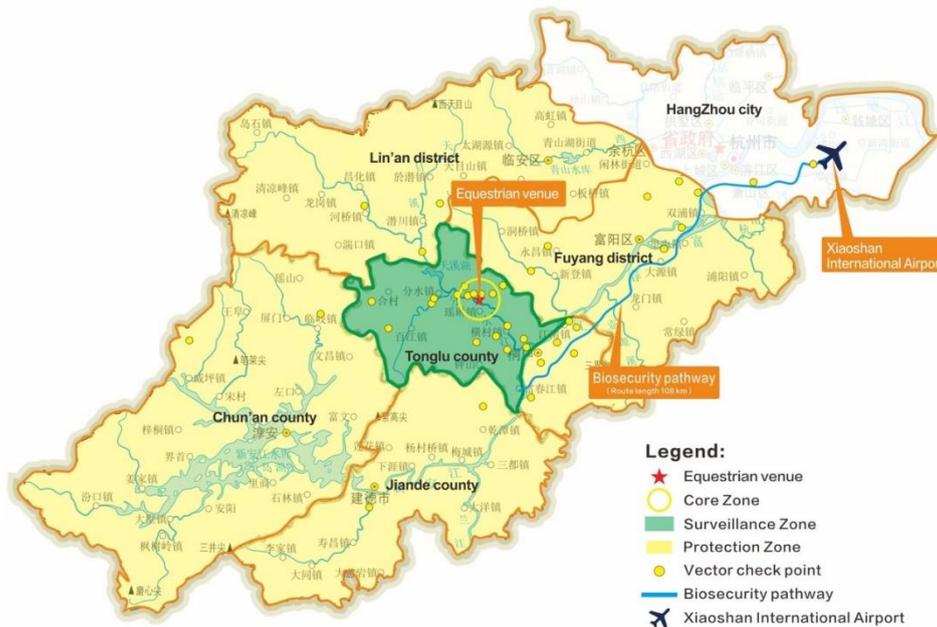


Figure 5: Map of sampling sites for vector investigation in EDFZ and PZ

5.6 Investigation and surveillance in susceptible wildlife

It can be confirmed that no wild equids (such as Przewalski's horses) have been historically present in the EDFZ and PZ. Wild boars, wild birds, bats and other wild animals are distributed in the EDFZ and PZ. Since March 2020, within the venue and surrounding green belts, wetlands, mountain forests as key areas, 27 field survey transects, and 17 points have been set up in EDFZ and PZ. 122 field infrared cameras were installed to carry out continuous surveys of wild animals such as beasts (including rodents) and birds (see Figure 6). In the EDFZ and PZ, susceptible wild animals such as wild boars, wild birds, voles, yellow deer and bats were found, but no wild horses, canids, raccoons and fruit bats and no artificial stocking. No equids and pigs, cattle and sheep escaped or were released into the wild.

In combination with wildlife investigation, susceptible wildlife was captured by means of sticky nets, cages and legal hunting in July and November 2020 and June, August, and November 2021. Samples of blood, throat swab and anal swab were collected from wildlife. A total of 760 samples were collected from 434 wild animals, including 107 wild boars, 125 bats, 95 wild birds, 92 wild rats and 11 yellow muntjacs, 2 red foxes, 1 squirrel and 1 hedgehog in EDFZ and PZ. All samples were sent for relevant disease testing (the number of samples for each disease is given in brackets): Japanese encephalitis (pathogen 418), *Trypanosoma evansi* (surra) (antibody 35), equine encephalomyelitis (including Eastern and Western) (pathogen 312), vesicular stomatitis (antibody 2; pathogen 144), Nipah virus (antibody 2; pathogen 570), West Nile virus (pathogen 113), Hendra virus (pathogen 566) and Venezuelan equine encephalomyelitis (pathogen 312). All tested negative.

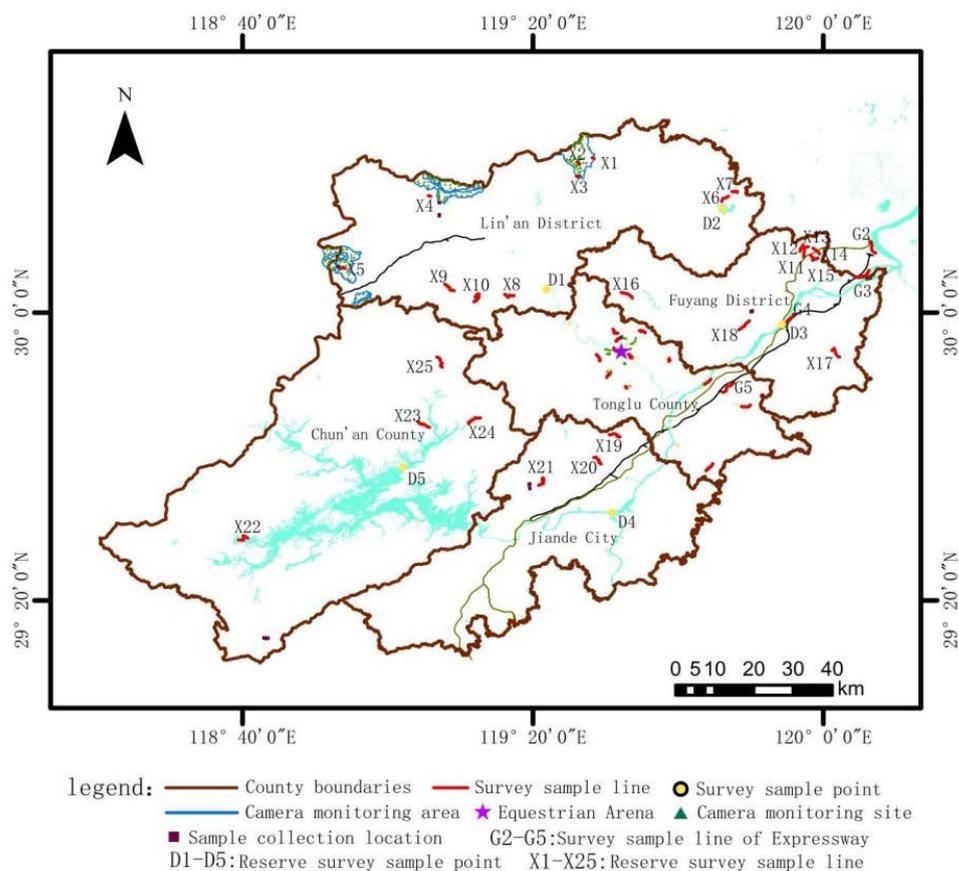


Figure 6: Map of sampling sites for susceptible wildlife investigation in EDFZ and PZ

V. Management and maintenance of the EDFZ

1. Susceptible animal movement control in EDFZ

The whole process of import and transit of domestic susceptible animals and animal products from and into the EDFZ is supervised according to the *Animal Quarantine Management Measures; Health Standards for Susceptible Animals and Animal Products Imported into Tonglu Equine Disease-Free Zone, Hangzhou*, *Operation Manual for Imported Animal Quarantine of Tonglu Equine Disease-Free Zone Hangzhou*, and *Work System for Quarantine Supervision of the Introduction and Transit of Susceptible Animals and Animal Products in Tonglu Equine Disease-Free Zone, Hangzhou*.

1.1 Management of susceptible animals entering EDFZ.

If susceptible domestic animals such as equines, pigs, cattle or sheep are imported into EDFZ for continued breeding or rearing, the transfer units or individuals need to declare 15 days in advance and provide the following declaration documents: *Quarantine Approval Form for Imported Domestic Non-Dairy and Non-breeding or rearing Susceptible Animals*, *Qualification Certificate of Animal Disease prevention Conditions* for the animal Breeding or rearing Sites, *Official Certificate of Health Status and Transportation Biosafety Measures*. For equids, besides documents above mentioned, following certification shall be provided as well: vaccination certification for equine influenza and Japanese encephalitis, test results for equine infectious anaemia, glanders, Japanese encephalitis, equine influenza, equine piroplasmiasis, equine viral arteritis, dourine, *Trypanosoma evansi* (surra) and equine rhinopneumonitis (EHV-1). For susceptible animals other than horses (pigs, cattle, sheep), test results of Japanese encephalitis and *Trypanosoma evansi* (surra) shall be provided. The imported animals shall be quarantined for 45 days in the designated quarantine field. After the expiration of the quarantine period, the animals with a qualified testing results are allowed to enter the EDFZ.

1.2 Management of susceptible animal products entering EDFZ.

When importing domestic animal products of pigs, cattle, sheep and other susceptible animals to horse-related diseases into the EDFZ, the transfer units or individuals need to declare a 3-day quarantine prior to shipment, with the *Animal Quarantine Qualification Certificate* issued by the animal health supervision agency of the exporting place and *Declaration Audit Sheet for Imported Quarantine of Tonglu EDFZ, Hangzhou*. After entering the highway animal health supervision and inspection station through the designated channel, and following verification, inspection and disinfection, the eligible animal products shall be allowed to enter the EDFZ.

1.3 Management of susceptible animals and products transiting EDFZ.

It is prohibited for the transit of non-competition equines and their products through the EDFZ. In principle, other susceptible animals are not allowed to transit through EDFZ. Pigs, cattle, sheep and other susceptible animals to horse-related diseases and their products need to pass through EDFZ shall be approved by the EDFZ local animal health supervision agency before shipment. After inspected by the EDFZ local animal health supervision check point, the animals or the animal products shall be transported along the designated pathway through the EDFZ within the specified time.

1.4 Management of foreign competition horse

In accordance with the quarantine and health requirements for participating horses in the Asian Games and the biosecurity control procedures for the venue, all detailed measures for the entry, arrival and departure of equines will be informed to people entering the venue, including athletes, grooms, veterinarians, Asian Games Organizing Committee personnel, team officials, staff, and all other authorized personnel of the biosecurity procedures. Strictly manage the participating horses, strengthen the management and control of arrival and entry into the EDFZ, carry out movement control of the horses, and do a daily health check.

1.5 Arriving and entering EDFZ

Upon arrival at Hangzhou International Airport, the horses participating in the Hangzhou Asian Games will be isolated in post-arrival quarantine facilities. For post-arrival quarantine, the quarantine customs officers will board the plane, verify the quarantine certificate, horse passport, waybill, and other relevant documents, and also check the health condition of the horses. The participating horses will be transported along the biosecurity pathway to the Hangzhou Asian Games Equestrian Venue under supervision of the customs. Then, the participating horses will be quarantined in the designated quarantine area in the venue. The quarantine officers will supervise the whole process of feeding management, activities, training and competition of the participating horses.

The biosecurity pathway connects Hangzhou International Airport and the equestrian venue. There are no equids and other susceptible animals with horse-related diseases breeding or rearing in the biosecurity pathway. Transportation of equines that are non-related to equestrian competition is not allowed. Through the inspection of the biosecurity pathway, it is ensured that none of the above situations occurs, and at the same time, the traffic warning signs in the designated biosecurity pathway are clearly set.

1.6 Movement control.

The training and competition of the participating horses should be carried out as planned. Matters such as hoof trimming, and health care treatment should be applied for in advance and the time should be arranged to reduce the contact and gathering of horses in different stables.

1.7 Health check

All participating horses should have their groomers to measure their body temperature (rectal temperature) twice a day (once in the morning and once in the afternoon) and register their body temperature in the health monitoring record form. Event veterinarians conduct health checks to the horses at least once a day, check temperature records, and observe whether the horses exhibit any symptoms of infectious diseases or other health problems.

1.8 Exception report

Grooms shall immediately report to the stable manager, veterinarian, or biosecurity coordinator when their horses are found to be feverish by taking their temperature. Any communicable disease symptoms or other health problems found by the event veterinarian during the health inspection shall be reported to the veterinary manager immediately. The relevant epidemiological investigation shall be initiated, and the biosecurity coordinator should be notified. The biosecurity coordinator shall immediately report to the person in charge of customs after receiving a report of fever or other abnormal conditions.

1.9 Emergency response

If a horse shows any clinical signs of suspected infectious diseases, such as fever, cough, runny nose, etc., the quarantine officer shall request the sick horse be moved to a quarantine stable for strict supervision according to the actual situation. Also, other horses in the same stable shall be separated and marked for differentiation. A clinical investigation will be conducted by the quarantine officer for the sick horse suspected of infectious disease, with blood, nasal swabs or other biological samples collected if necessary. The samples will be sent to the designated laboratory for testing. If necessary, the samples shall be sent to the relevant reference laboratory and national specialty laboratories. Once diagnosed with infectious diseases, it shall be dealt with according to the relevant emergency response plans.

1.10 Biosecurity

The Organizing Committee of the 19th Asian Games Hangzhou 2022 has developed a biosecurity manual, which describes a wide range of activities before and arriving at the venues and during the competition stay of the horses ([Annex 2](#)⁷). The following activities are described in detail in the manual: admission restrictions for venues; cleaning procedures for horse stables and related facilities; disinfection of lock down areas, veterinary clinics, and vehicles; personnel hygiene; fecal cleaning; rodent and vector control; suspected infectious diseases and accident contingency measures for incidents, etc. The biosecurity management personnel representing the organization committee are responsible for the implementation of the above-mentioned biosecurity measures, while the customs enter/exit quarantine department shall supervise them.

1.11 Epidemic report

In accordance with the *Animal Disease Prevention Law of the People's Republic of China*, MARA has established an animal disease reporting system, published a list of notifiable animal diseases, and regularly reported equine diseases to OIE. In accordance with the requirements of MARA, the People's Government of Hangzhou has formulated and released the *Emergency Plan for Tonglu Equine Disease-Free Zone, Hangzhou*, which clarifies the reporting methods, time limits and reporting contents of 19 reportable equine diseases such as equine infectious anaemia ([Annex 3](#)⁸).

In the *Emergency Plan for Tonglu Equine Disease-Free Zone, Hangzhou*, responsibilities, and obligations of relevant personnel (including the subjects of animal breeding or rearing, slaughtering, operation and transportation, as well as stakeholders such as animal products production, operation, processing and various animal diagnosis and treatment institutions, and veterinary institutions engaged in animal epidemic prevention and monitoring, etc.) are set out, and publicity, education and knowledge dissemination of equine disease prevention, clinical diagnosis and epidemic reporting are carried out through meetings, training activities and TV programs. Any suspected epidemic disease during the quarantine and equestrian competitions of participating horses should also be reported immediately by grooms, veterinarians, venue customs supervisors and biosecurity coordinator, and if necessary, temporary controls such as isolation, disinfection, restriction, or suspension of the movement of animals and animal products should be taken.

⁷ http://agri.hangzhou.gov.cn/art/2022/2/28/art_1229186837_58925085.html

⁸ http://agri.hangzhou.gov.cn/art/2022/2/28/art_1229186837_58925086.html

For confirmed cases of any of the following 12 equine diseases (such as AHS, vesicular stomatitis, equine encephalomyelitis (eastern and western), Nipah virus disease, equine infectious metritis, Hendra disease, Venezuelan equine encephalomyelitis, West Nile fever, rabies, anthrax, equine infectious anaemia and glanders), the local animal disease prevention and control agency needs to report to MARA within 3 hours through the *National Animal Health Monitoring Information Platform*. For confirmed case of any of the following 7 equine diseases (such as dourine, equine influenza, equine viral arteritis, equine piroplasmiasis, equine rhinopneumonitis (EHV-1), *Trypanosoma evansi* (surra), and Japanese encephalitis), the local animal disease prevention and control agency shall report the situation to the municipal animal disease prevention and control agency and the agricultural and rural departments at the same level within 1 hour.

1.12 Contingency Plan

According to the property, hazards and epidemic characteristics of equine diseases, Hangzhou Agriculture and Rural Affairs Bureau has formulated and issued the *EDFZ Equine Animal Disease Contingency Treatment Technical Plan*. A specific disposal technical scheme is proposed, and the disposal scheme fully considers animal welfare. The local veterinary institution organized and carried out emergency drills, rehearsing the detection, reporting and diagnosis of hypothetical melioidosis epidemics, delineation of epidemic spots, epidemic areas, and threatened areas, emergency response and blockade, disinfection, harmless treatment, and epidemic monitoring, epidemic assessment and other links. The field veterinary officers and members of the equine disease emergency response reserve team were trained on this regard.

In order to make sure the safety of quarantine and supervision of participating horses, the *Emergency response Plan for Quarantine Supervision of Horses in the 2022, 19th Asian Games Equestrian Event* has been formulated, and various measures such as information collection, reporting, confirmation, disposal, and the functions of corresponding departments have been proposed for the classification of the situation, so as to deal with following emergency matters related to horses during the competition: (suspected) equine epidemic is found in the participating country/place, at the port site, at the quarantine site, during transportation, or during the competition; or the equestrian team members or other related stakeholders are infected with the new coronavirus during the competition; or the horses participating in the transportation or during the competition injuries, deaths, wild/stray animals found in the competition venue during the competition.

VI. Conclusion

The Delegate of China to the OIE self-declares that China has established an EDFZ in Tonglu, Hangzhou since 4 January 2022 which will be maintained until 31 December 2022, and that the zone complies with the requirements to declare freedom from the diseases listed above. The disease-free status of these compartments is managed through biosecurity measures and disease prevention, particularly (i) full enclosure of the venues, (ii) no susceptible animals (such as equines, pigs, cattle and sheep) are kept within 5 km of the equestrian venue and (iii) measures such as vector control, susceptible animal control and horse movement control are taken to maintain the disease-free status of the EDFZ.

MARA would like to make a self-declaration of freedom of the following diseases in EDFZ: equine infectious anemia, glanders, equine piroplasmiasis, equine viral arteritis, equine influenza, *Trypanosoma evansi* (surra), Japanese encephalitis, dourine, rabies, anthrax, equine rhinopneumonitis (EHV-1), AHS, Hendra disease, West Nile fever, Nipah virus infection, vesicular stomatitis, equine encephalomyelitis (including Eastern and Western), contagious equine metritis and Venezuelan equine encephalomyelitis. The self-declaration also defines the biosecurity management measures to maintain the disease-free status in EDFZ.

EDFZ has met the requirements of the *Terrestrial Animal Health Code (2021)*, including the principles of biosecurity, management and spatial considerations as described in Chapters 1.4; 4.4; 4.5.; 4.17; 8.1; 8.10; 8.14; 12.2; 12.3; 12.4; 12.5; 12.6; 12.7; 12.8; 12.9; 12.10; 12.11. of the *Terrestrial Code (2021)*.

For more information, please contact Delegate of China, Dr. Baoxu Huang. Email address: chinadelegate@agri.gov.cn.

VIII. Annexes

- 1 Announcement No. 510 of the Ministry of Agriculture and Rural Affairs of the People's Republic of China
- 2 Biosecurity Control Standard Operating Procedures Manual of 2022 Hangzhou Asian Games Equestrian Events
- 3 Emergency Plan for Tonglu Equine Disease-Free Zone, Hangzhou

Annex 1:

Announcement No. 510 of the Ministry of Agriculture and Rural Affairs of the People's Republic of China

Announcement of the Ministry of Agriculture and Rural Affairs of the People's Republic of China No. 510

According to *Animal Disease Prevention Law of the People's Republic of China, Measures for the Evaluation and Management of Animal Disease Free Zones* and relative provision, equine disease free zone in Tonglu, Hangzhou has met the non-immunized disease-free standards for equine infectious anemia, glanders, equine piroplasmiasis, equine viral arteritis, dourine, surra (*Trypanosoma evansi*), equine rhinopneumonitis (EHV-1), anthrax, AHS, Hendra disease, West Nile fever, Nipah virus infection, vesicular stomatitis, equine encephalomyelitis (including Eastern and Western), contagious equine metritis and Venezuelan equine encephalomyelitis. Additionally, equine influenza, Japanese encephalitis and rabies have reached the standards for immunity disease-free. National assessment has been passed. For the details of the zoning including the EDFZ in Tonglu Hangzhou, protection zone and biosecurity pathway, please refer to Table 1. It is hereby announced.

Ministry of Agriculture and Rural Affairs

4th January 2021

Table 1

Zoning of EDFZ Tonglu Hangzhou, protection zone and biosecurity pathway

EDFZ	The north administrative area beyond Fuchun River in Tonglu county
PZ	Administrative area of Fuyang District, Lin'an District, Chun'an County, Jiande City, 4 township/streets (Chengnan Street, Fengchuan Street, Jiangnan Town, and Xinhe Township) and the administrative area south beyond Fuchun River in Fuchunjiang Town
Biosecurity pathway	From Hangzhou International Airport to the venue, roads and the area within 1 km on both sides passing through the airport highway, Hangzhou bay loop highway, Shanghai-Kunming highway, Rainbow Expressway, G25 Hangxinjing highway Fuchunjiang toll station

Annex 2

Biosecurity control standard operating procedures manual of Hangzhou2022 Asian Games equestrian events

(Version 1.1)

Introduction

This biosecurity control standard operating procedure provides the work points and detailed procedures for the biosecurity control of Hangzhou 2022 Asian Games equestrian events.

Safeguarding biosecurity, preventing epidemics, and maintaining the disease-free status in Tonglu EDFZ are prerequisites for the success of Hangzhou 2022 Asian Games equestrian events.

Biosecurity measures are designed for the biosecurity control on the competition venues through establishing an effective biosecurity prevention and control mechanism, based on a reasonable biosecurity protection level, to ensure that the environment of the equestrian venue meets the requirements of quarantine and biosecurity environmental control, and to safeguard the health and safety of participating horses.

The biosecurity standards set forth in this procedure apply to all personnel who may enter the biosecurity core areas of the competition venues, all departments and personnel responsible for participating horses and events management, together with the management of vehicles, goods and supplies.

Terms and Definitions

The following terms and definitions apply to this manual.

Biosecurity

Biosecurity, as referred to in this manual, is a series of preventive and controlling measures designed to protect the participating horses of Hangzhou Asian Games from infection and transmission of diseases.

Equine Competition Venues

It is defined as the relevant venues and stadium involved in Hangzhou Asian Games equestrian events, including the stables and related ancillary facilities zones (hereinafter referred to as the Stable Area), the isolation stable area, the equine clinic, the groom's dormitory, the training ground, the equestrian event venue, the spectator area, entrances and exits, passageways and other areas.

Biosecurity Core Areas

It includes the stable area, isolation stables area, equine clinic, equestrian event venue, training ground, equine entrances and exits, passageways and other areas in the equestrian event venues, hereinafter referred to as core areas.

Vector

It refers to harmful organism that can directly or indirectly spread diseases, endangering and threatening human and animal health and harming the ecological environment.

1. Core Area Access Control Procedures

This working procedure applies to the management of personnel, vehicles and materials entering and exiting core areas of Asian Games Equestrian venues.

The purpose of the access control is to minimize the transmission risk of infectious equine diseases from personnel, vehicles, goods and materials outside EDFZ to horses in the competition venue.

1.1 Lockdown management

1.1.1 To ensure the safety of core areas and maintain the high health status of participating horses, core areas will be thoroughly enclosed, under strict disease prevention and control for people and vehicles entering and exiting core areas.

1.1.2 Only authorized personnel and vehicles are allowed to enter core areas. The personnel or vehicles are not allowed to enter until they are checked by the security personnel at the entrance and exit check points.

1.1.3 All personnel shall receive the relevant biosecurity training before entering core areas.

1.1.4 The entrances, exits and necessary traffic control points shall be monitored by CCTV surveillance systems in accordance with relevant requirements.

1.2 Authorization

1.2.1 Authorized personnel

The personnel entering and exiting core areas shall be divided and managed in three types according to the risk of disease prevention.

Type A: Equestrian event staff with permission, including athletes, technical officials, event veterinarians, caretakers, stable staff and on-site staff from various regulatory departments, etc.

Type B: Visitors who have temporary permission to enter core areas for work or supervision purposes, such as horse transportation, contingency response, supervision, etc.

Type C: Other people other than the above-mentioned types A and B.

1.2.2 Authorized Vehicles

Recorded vehicles: transport and work vehicles authorized for use in core areas.

Temporary vehicles: vehicles with temporary permission to enter core areas for work, supervision or other needs.

Except for the above two types of vehicles, all other vehicles are not allowed to enter core areas.

1.3 Biosecurity measures for personnel access

1.3.1 Personnel of type A are required to wear identifiers (such as bracelets, etc.) and relevant work certificate, and accept identification inspection when entering core areas. They are required to wear clean specific professional outfits. Those who fail to do so shall change into disposable protective clothing at the entrance.

1.3.2 Personnel of type B shall apply for and obtain a temporary pass (including bracelets, etc.) in advance, receive biosecurity training, undergo identification inspection when entering core areas, and change into disposable protective clothing at the entrance.

1.3.3 Personnel of type C shall not enter core areas.

1.3.4 All personnel entering core areas are required to follow the procedures and undergo disinfection of the bottom of the shoes and hands at the entrance of core areas and stables.

1.3.5 All personnel shall not have contact with equines other than Asian Games participating horses and shall have no history of travelling to animal slaughterhouses, animal hospitals, etc. within 24 hours before entering the core area.

1.3.6 All personnel shall practice good personal hygiene, with tidiness, clean clothes and shoes when entering core areas.

1.3.7 When exiting core areas, take off protective clothing at the exit and place it in the designated container to accept disinfection for the bottom of shoes and hands.

1.3.8 Personnel entering and exiting core areas shall strictly abide by the relevant management regulations and actively cooperate with the instructions of staff in core areas.

1.3.9 Personnel entering and exiting core areas shall immediately report any potential biosecurity risks (e.g., discovery of wild lives or stray animals or exposure to feverish horses, etc.) to the biosecurity personnel or security personnel.

1.4 Biosecurity measures for the entry and exit of vehicles, goods and materials

1.4.1 All vehicles shall be cleaned and disinfected at the entrance before entering core areas.

1.4.2 Drivers and passengers on board are cooperative with biosecurity control measures in 1.3.

1.4.3 Vehicles transporting horses shall be parked in designated areas and shall be cleaned and disinfected

at designated locations before and after shipment.

1.4.4 All saddles and other equine equipment to be brought into the stable zones, including cleaning tools, shall be cleaned and disinfected before being brought into stable zones.

1.4.5 Horse forage, feed and feed additives used in the venues shall be transported in their original unopened packaging and receive quarantine supervision by customs. If necessary, they shall be fumigated or disinfected.

1.4.6 No one is allowed to bring raw meat and food containing meat into stable zones.

1.5 Others

1.5.1 The access to core areas is monitored 24 hours a day by security personnel.

1.5.2 After obtaining approval, Type B personnel are required to fill in the *Registration Form for Foreigners Entering and Exiting Core Areas*, which will be retained by security personnel at the entrance.

1.5.3 Personnel who are allowed to enter core areas for work during non-opening hours are required to register the reason and time of entry, and provide corresponding proof, etc., as appropriate, for inspection by security personnel.

1.5.4 The training and competition of participating horses shall be carried out according to the plan. Matters such as hoof trimming and health care treatment shall be applied and scheduled in advance, so as to reduce the contact and gathering between horses from different stables.

1.5.5 Any non-compliance or failure to thoroughly comply with biosecurity procedures will be considered a serious incident and will be investigated with appropriate action taken by the Venue Biosecurity Officer. Authorization to access core areas may be revoked.

2. Disease Prevention and Disinfection Procedures

This working procedure applies to the disease prevention and disinfection of the Asian Games equestrian event venues. The purpose is to ensure that the daily and contingency disinfection of the venues is effective in eliminating the threat of potential pathogens.

2.1 Disinfection of participating horses before entering the event venues

2.1.1 In accordance with the requirements of the Customs on the quarantine field for entry animals, the venues, facilities and tools in core areas of competition venues shall be disinfected for 3 times 10 days before the entry of the participating horses into the event venues. Each disinfection shall be 3 days apart, and the third disinfection shall be completed 3 days before the participating horses entering the venues.

2.1.2 Before disinfection, all stables and facilities need to be cleaned. Disinfection can only be implemented after the grounds are dry and free of liquid residues, solid adhesions, waste or litter.

2.1.3 Spray horses with safe disinfectants, such as hypochlorite. Using a different disinfectant for each disinfection rotation.

2.1.4 After the completion of the first disinfection, core areas will be closed for management. Without permission, irrelevant personnel, vehicles, goods and materials are prohibited to enter.

2.2 Disease prevention and disinfection of entering and exiting personnel

2.2.1 Personnel entering core areas shall be authorized by the organizing committee and receive disease prevention and disinfection in strict accordance with the disinfection procedures. Personnel without

authorization are strictly prohibited from entering core areas.

2.2.2 Authorized personnel can enter and leave core areas only after the disinfection for the bottom of the shoes and hands through the personnel channel for personnel access.

2.2.3 The staff in core areas shall change into specific clothing in core areas. Visitors allowed to enter core areas shall wear disposable protective clothing and undergo disinfection for the bottom of the shoes and hands through the disinfection channels before entering or exiting the stable zones.

2.2.4 The shoe disinfection channel and hand sanitizers shall be set up at the security check point for the entry of competition spectators, to carry out disease prevention and disinfection for the spectators. Spectators are not allowed to enter core areas.

2.3 Disease prevention and disinfection of vehicles entering and exiting

2.3.1 Vehicles allowed to enter core areas shall follow the designated route and enter or exit through the designated disinfection channel after effective disinfection.

2.3.2 There is a disinfection pool at the entrance of the vehicle. When entering or exiting, the vehicle needs to drive slowly through the disinfection pool and disinfect the tires. Meanwhile, the surface of the carriage, chassis, etc. shall be sprayed with spray disinfection equipment.

2.3.3 Before transporting horses, vehicles shall be thoroughly cleaned and disinfected with disinfectant.

2.3.4 After the transport of horses, the vehicle shall be thoroughly disinfected and cleaned. The transport vehicle shall be cleaned in the designated cleaning area to thoroughly clean up the horse manure, bedding, residual feed and other wastes in the carriage. Put them in sealed and leak-proof disposal bags, and transport them to the designated place for environmentally sound treatment according to the regulations.

2.3.5 The cleaned transport vehicles shall be thoroughly disinfected by spraying or misting the carriages, rails, frames, wheels and equipment, in the order from top to bottom, from inside to outside. When exiting the venues, the vehicles shall slowly pass through the disinfection pool to get the tires disinfected.

2.4 Disease prevention and disinfection of loading and unloading sites for participating horse

2.4.1 Before use, the loading and unloading site shall be cleaned and disinfected to keep the site clean and sanitary.

2.4.2 After the loading and unloading of the participating horses, the loading and unloading site and the horse passage shall be thoroughly cleaned. The horse manure, bedding and other wastes collected shall be sprayed with disinfectant, sealed in leak-proof disposal bags and transported to the designated place for environmentally sound treatment according to regulations.

2.4.3 The places and facilities involved, including the venues, loading docks, horse access and equipment, etc., shall be thoroughly disinfected by spraying or misting.

2.5 Disease prevention and disinfection of venues during the event

2.5.1 Disinfection mats are laid in the entry and exit channels of the stable zones and kept wet with disinfectant, in order to disinfect the hooves of the horses entering and exiting the stables.

2.5.2 The stable zones shall be cleaned daily to keep neat and tidy. The competition field and training field shall be cleaned after each use. The stables, passages and other areas, facilities and tools related to feeding activities shall be disinfected regularly.

2.5.3 The horse manure, leftover feed and forage, contaminated bedding and other wastes in the stables shall be cleaned up daily, all of which shall be sealed and stored in designated places and centralized cleaning

for environmentally sound treatment.

2.5.4 After horses leave the venues, the frames and passages where they stay shall be cleaned and disinfected. After all horses in the same stable leave, the entire stable, passages, facilities shall be thoroughly cleaned and disinfected. After all horses leave the venues, the field and facilities in core areas of the venues shall be thoroughly cleaned and disinfected.

2.5.5 In case of contingencies such as epidemics or horse deaths, the relevant stables, passageways, facilities and equipment shall be disinfected for disease prevention according to the requirements of the contingency disposal plan.

2.6 All disinfectants used shall comply with the laws and regulations of the People's Republic of China.

2.7 In accordance with relevant laws and regulations, the implementation of disease prevention and disinfection treatment will be required by Customs on entry and exit goods, sites, vehicles, containers and other quarantine objects. It shall be carried out by quarantine and disinfection treatment units that have been identified by the Customs entry and exit quarantine unit and obtained the approval certificate of quarantine treatment unit issued by the Customs.

3. Stable Cleaning Procedures

This procedure applies to the cleaning of stables (including the isolation stables) of the Asian Games Equestrian event venue. The purpose is to keep the stables and facilities clean and provide a good living environment for horses.

3.1 All stables and associated facilities shall be cleaned before and after use in order to maintain cleanliness.

3.2 Pre-arrival cleaning and disinfection of horses

3.2.1 The solid waste from grounds and facility surfaces shall be cleaned up and placed in designated waste bins.

3.2.2 The grounds and equipment shall be rinsed with water. The grounds and the surfaces of the equipment shall be cleaned with ordinary household or industrial soap and scrubbed. The stable walls shall be cleaned from top to bottom, from the rear to the front. The stable shall be thoroughly cleaned, including fixtures and water feeders.

3.2.3 Then the cleaning agent shall be rinsed off with clean water.

3.2.4 Spray disinfection of the grounds and equipment with chemical disinfectants approved by the Customs and other regulatory authorities. Stable walls shall be sprayed evenly from top to bottom, from the rear to the front, and from the interior to the exterior of the stables. The disinfectant shall remain on the grounds and the surface of equipment for at least 10 minutes.

3.2.5 When disinfection is complete and the disinfectant has dried, the stable walls, floors and corridors shall be sprayed with insecticide.

3.2.6 Finally, rinse off insecticide with clean water.

3.2.7 Personnel responsible for cleaning shall wear gloves, masks and special work clothes for personal protection when carrying out disinfection treatment.

3.3 Movable objects in the stables that will contact horses shall be soaked in disinfectant for at least 10 minutes and then rinsed with water.

3.4 After the cleaning is completed, the surface of all cleaned objects shall be thoroughly dried. Air drying is recommended. In case of urgent use, other methods could be used to dry quickly as long as safety is ensured.

3.5 Stable cleaning after horse arrival

3.5.1 Upon arrival of horses, the horse worker is responsible for the cleaning of the stables of the respective horse. The manure shall be cleaned at least twice a day.

3.5.2 Horse manure and residual feed shall be collected, sealed in the disposal bags and placed in the waste bins at the temporary storage point outside stables. The lid of the waste bins shall be kept closed.

3.5.3 The waste at the temporary storage point shall be cleaned up at least twice a day by designated personnel and transferred by special vehicles to special container in the waste dump of the venue for storage.

3.6 Cleaning of contaminated stables

3.6.1 Personnel in the contaminated stables shall be disinfected at the exit of the contaminated stable by spraying disinfectant that is safe for skin contact (using at a diluted concentration according to the manufacturer's instructions). After disinfection, the contaminated work clothes and disposables shall be changed and collected in special disposal bags and disposed as medical waste.

3.6.2 The contaminated stables shall be immediately sprayed with disinfectant. After spray disinfected, the horse manure shall be collected and sealed in disposal bags and disposed of in accordance with the regulations on environmentally sound treatment.

3.6.3 If the stables are suspected to be contaminated with insect-borne diseases, they shall be treated with insecticides in accordance with the laws and regulations of the People's Republic of China.

3.6.4 After disinfection and insect removal, the leftover feed and bedding shall be collected according to the regulations and then implemented for environmentally sound treatment.

3.6.5 Thoroughly clean and decontaminate the contaminated stables as described in 3.2.

3.7 Cleaning and disinfection of isolation stables

3.7.1 Before the arrival of horses, isolation stables shall be cleaned and disinfected as described in 3.2 and shall be kept clean and ready for use.

3.7.2 Horses entering isolation stables shall be cleaned as described in 3.5.

3.7.3 Horses exiting the isolation stables shall be cleaned as described in 3.6

3.7.4 Isolation stable staff shall not enter other stables and contact other horses.

4. Environmentally Sound Treatment Procedures

This procedure applies to the collection, storage, transportation and environmentally sound treatment of waste in Asian Games Equestrian Events Venue. The purpose is to ensure that the waste disposal in venues complies with relevant hygiene standards and reduces the risk of cross-contamination.

4.1 Domestic waste, horse manure and other wastes in the venues shall be stored in separate areas, collected by cleaning staff once a day on time, and transported to the unified storage point along designated route. Ensure timely waste removal and no backlog. Waste collection shall be scheduled at a different time from feed transportation, to avoid the risk of cross-contamination from possible feed contact.

4.2 Special vehicles shall be used for waste removal. Before and after use, the vehicles shall be cleaned and disinfected. During transportation, the vehicles shall pass through the wheel disinfection pool and receive spray disinfection in accordance with the *Disease prevention and Disinfection Procedures*.

4.3 The waste shall be stored in sealed containers or leak-proof disposal bags. After disinfection and treated

with insecticide, the waste shall be transported out of the venues and implemented with environmentally sound treatment according to regulations by a qualified disposal unit.

4.4 The waste bins shall be cleaned and disinfected after being emptied every day. Clean the surrounding place and keep it clean and sanitary, without missing waste, accumulation of debris, stagnant water, or odor, but the implementation of effective disinfection.

4.5 The channel for waste removal shall be cleaned and disinfected after the waste removal.

4.6 The sewage in the venues shall be implemented environmentally sound treatment in a centralized manner, only discharged after meeting the relevant discharge standards.

4.7 The carcasses of horses or other animals shall be packed in sealed containers or plastic bags, disinfected with disease prevention and disinfection, and then handed over to the relevant sanitation authorities for environmentally sound treatment.

5. Vector Control Procedures

This procedure applies to the implementation of vector control for the Asian Games Equestrian Event Venue. The purpose is to ensure effective vector control, in order to minimize the potential risk of these vectors endangering environmental health, spreading equine diseases, and interfering with the safety and comfort of horses.

5.1 Vector background investigation

5.1.1 After the completion of the equestrian event venue, a background investigation of vector organisms (including rodents, flies, mosquitoes, cockroaches, ticks, red fire ants, etc.) shall be carried out in venues and the designated area within 5 Km around the venue, in conjunction with the vector organism monitoring in EDFZ.

5.1.2 A vector surveillance database will be established. According to the surveillance status, the biosafety control objects in venues shall be determined and the vector control shall be implemented.

5.1.3 After the equestrian events, the venue and surrounding area shall be investigated once more, to assess the risk of incoming foreign horses carrying the epidemics and the effect of biosecurity control measures.

5.2 Vector control

5.2.1 All doors and windows of stables shall be installed with insect-proof screen doors and windows, to prevent mosquitoes from entering the stables. Each stable shall be installed with at least two indoor mosquito control lamps.

5.2.2 In buildings such as feed warehouse, equine clinic and indoor playground in the venues, one indoor mosquito lamp or other traps shall be installed for every 100-150 m². In key outdoor areas for horse activities, one ultraviolet insect trap or other insect trapping equipment shall be set up for every 500-800 m² without affecting horse activities.

5.2.3 In areas such as waste and manure storage and disposal areas, canals and sewage treatment facilities, the regular anti-vector drug spraying and light trapping shall be used for vector control.

5.2.4 Staff in the stable area shall check daily whether the anti-mosquito yarn is broken and whether the traps are working properly. If broken or damaged, repair or replace it as soon as possible.

5.2.5 In accordance with GB/T 23795-2009 for the surveillance on the cockroach density. The level of cockroach density in the venues shall be controlled to meet the requirements of SN/T 4743.5-2017.

5.2.6 In accordance with GB/T 23796-2009 for the surveillance on the fly density. The level of fly density in different environments of venues shall be controlled to meet the requirements of SN/T 4743.5-2017.

5.2.7 In accordance with GB/T 23797-2009 for the surveillance on the mosquito density. The level of mosquito density in the venues shall be controlled to meet the requirements of SN/T 4743.5-2017.

5.2.8 In accordance with GB/T 23798-2009 for the surveillance on the rodent density. The level of rodent density in the venues shall be controlled to meet the requirements of SN/T 4743.5-2017.

5.2.9 In accordance with SN/T 4743.5-2017 for the surveillance on the red fire ant density. The level of red fire ant density shall be controlled to meet the requirements of SN/T 4743.5-2017.

6. Wildlife and Stray Animal Control Procedures

This procedure applies to the control of wildlife and stray animals in the equestrian event venues. The purpose is to provide guidance for biosecurity staff, veterinarians and the authorized personnel entering the stable area to prevent wildlife and stray animals from entering the venues.

6.1 The objects of wildlife and stray animal control are mainly wildlife such as monkeys and snakes, and stray domestic animals such as dogs and cats.

6.2 Except for the participating horses, no other animals of any kind shall be fed in the venues, and no other animals shall be brought into the venues.

6.3 Double access control system will be set up at the entrances and exits of core areas. After personnel and vehicles pass the first access control, the security personnel shall check and confirm that no wildlife or stray animals are trailing. Only after the first access control is completely closed, the second access control shall be opened.

6.4 Security personnel shall always monitor the area around the entrances and exits of the venue, to prevent wildlife and stray animals from entering. Once found trying to enter the venue, the wildlife and stray animals shall be immediately stopped and removed under the premise of ensuring their safety and humanity.

6.5 A full-time wildlife and stray animal disposal team responsible for wildlife and stray animal control in the venues shall be established, equipped with communication equipment, animal capture tools, protective equipment, cages and other instruments and equipment.

6.6 Within 30 days to 10 days before the entry of the participating horses, at least 2 clean-ups of wildlife and stray animals shall be carried out in the whole venues. Wildlife and stray animals found in the venues shall be caught, through placing traps and dispersants (such as sulfur to disperse snakes) appropriately in potential places, to ensure that no wildlife or stray animals are present in the venues.

6.7 From 10 days before the entry of the participating horses to the end of the competition, the disposal team will organize daily inspections within the venues, focusing on checking whether there are animals, whether the traps are working properly, whether the dispersant needs to be replenished, etc. The disposal team shall fill in the inspection records, record the location, species, quantity and disposal methods of the animals found.

6.8 Anyone who finds wildlife or stray animals in the venues shall notify the disposal team to dispose of the wildlife or stray animals properly.

6.9 The captured wildlife or stray animals shall be transferred to the local municipal city management or forestry department for disposal in accordance with relevant regulations.

7. Horse Transportation Biosecurity Control Procedures

This procedure is suitable for the biosecurity control during the transportation of horses participating in equestrian competitions.

7.1 The designated port of entry for foreign horses is Hangzhou International Airport, which is connected to the Tonglu venue by a biosecurity pathway.

7.2 A dedicated horse loading site at the airport cargo area, surrounded by fences to prevent horses from escaping during loading, will be cleaned and disinfected before the arrival of horses. Unauthorized personnel shall not be allowed to enter the loading site.

7.3 All transporting vehicles should arrive at the designated parking place 2 hours before the arrival of horses and be disinfected under the supervision of the customs.

7.4 After the horse arrival, the consignor or its authorized agent shall cooperate with the customs to implement quarantine, submit the relevant documents as required (original quarantine certificate and attachments, horse passport, consignment note, etc.), and accept the on-site inspection.

7.5 When entering the country, the accompanying groom or transportation personnel should pull the horse out of the air stall after arriving at the loading site, and then enter the designated cabinet of the transport vehicles via the loading platform to secure it properly.

7.6 When leaving the country, the accompanying groom or transportation personnel should pull the horse out of the transport vehicles, step into the air stall, and safely load it on the plane. The air-conditioning of transport vehicle shall be turned on all the way to ensure that the temperature in the vehicle remains stable and cool. Each horse must be able to maintain a natural posture of standing on all fours in the cabinet, and the head and neck can rotate freely.

7.7 Each transportation must be accompanied by a veterinarian to observe the condition of the horse at any time. Any abnormal clinical signs will be dealt with immediately. If the condition seriously endangers the horse's health, the team must consult with the team veterinarian, the FEI veterinary committee and the supervisory authority to implement the emergency treatment plan.

7.8 A horse ambulance should accompany each transportation, and at least one spare truck should be prepared for emergency.

7.9 Transport vehicle shall run on the biosecurity pathway designed by EDFZ.

7.10 All personnel must ensure that horses are not in contact with other animals during the transportation, and there is no leakage of waste.

7.11 According to *Disease prevention and Disinfection Procedures*, vehicles should be thoroughly cleaned and disinfected after transportation.

7.12 Emergencies during the horse transportation shall be handled in accordance with the *Biosecurity Emergency response Procedures*.

8. Horse Health Monitoring and Reporting Procedures

This work procedure is used for reporting on the health monitoring and abnormal conditions of the participating horses in the equestrian venue during the rearing, training and competition in accordance with the prevailing epidemiological methods. The purpose is to maintain a high level of health of the participating horses in the stadium, provide an early warning system for infectious equine diseases, and detect and report abnormal conditions in time.

8.1 Health monitoring

8.1.1 All horses entering the equestrian venue shall have their body temperature taken (rectal temperature) twice a day (once in the morning and once in the afternoon) by their horsemen and temperature registered in the health monitoring record form.

8.1.2 Any horse with a body temperature above 38.5°C/101.5°F can be considered as fever.

8.1.3 The event veterinarian will conduct at least one health inspection of the horses in the field every day, checking the body temperature records and observing whether the horses have any clinical signs of infectious diseases or other health problems.

8.2 Abnormal condition report

8.2.1 Once a fever has found, the groom should immediately report it to the stable manager, veterinarian or biosecurity coordinator.

8.2.2 Once any clinical signs of infectious diseases or other health problems during the health inspection, the event veterinarian should immediately report to the veterinary manager, initiate the relevant epidemiological investigation and notify the biosecurity coordinator. After receiving a report of fever or other abnormal condition, the biosecurity coordinator shall report to the customs officer immediately.

8.2.3 After receiving a report of fever or other health abnormalities in the horse, treating veterinarian or veterinarian on duty must immediately conduct an epidemiological investigation, collect samples and submit them to the clinical laboratory for testing, and at the same time take appropriate treatment.

8.3 Abnormal condition investigation

8.3.1 For fever cases, check the arrival time of the horse at the venue first. If the horse has just arrived, it should be allowed to rest for 2 hours and the temperature should be checked again. If the temperature returns to normal, the risk of infectious diseases will be excluded.

8.3.2 The treating veterinarian must conduct clinical investigations and collect necessary clinical samples from any unexplained fever cases and/or any horses showing clinical signs of infectious diseases.

8.3.3 The abnormal horse will accept a comprehensive clinical examination. Blood or other samples will be collected for laboratory testing, if necessary.

8.3.4 Every unexplained fever case needs to be sampled for detection and investigation of the following diseases:

- (1) Equine influenza (EI): nasopharyngeal swabs for ELISA or PCR.
- (2) Equine strangles: nasopharyngeal swabs for bacterial culture or PCR.
- (3) Equine Viral Arteritis (EVA): serum for virus neutralization or ELISA.

8.3.5 Once typical clinical symptoms of infectious diseases are found, samples should be taken for test of related diseases.

8.3.6 The abnormal horses that cannot be ruled out as suspected infectious diseases should be immediately transferred to the diseased horse isolation stable for independent breeding.

8.3.7 If an outbreak is suspected, investigators should immediately report to customs, agriculture and other regulatory authorities. Only with the permission of the customs and the FEI Veterinary Committee, can biological samples be tested for equine infectious diseases.

8.4 Treatment

8.4.1 Horses that have been excluded from infectious disease will be released from the isolation state and treated properly.

8.4.2 If an infectious disease case is confirmed, it shall be dealt with in accordance with the relevant emergency response plan. If it is a major animal epidemic, the customs shall initiate emergency response in accordance with the corresponding emergency response plan for a major animal epidemic.

8.4.3 The dead horses shall be treated in a harmless manner in accordance with the *Environmentally Sound Treatment Procedures*.

9. Biosecurity Training Procedures

This procedure is applicable to the biosecurity training of all personnel who need to enter the biosecurity core areas. The purpose is to make sure personnel entering the core area aware of the goals and requirements of biosecurity control in equestrian venues, establish biosecurity awareness, and comply with biosecurity measures.

9.1 All personnel entering the biosecurity core area of the Asian Games equestrian venues should receive biosecurity training, understand the principles and objectives of biosecurity control, and recognize the responsibilities of biosecurity control and disease prevention.

9.2 The biosecurity department designated by the Asian Organizing Committee is responsible for the biosecurity training of personnel entering the core area. The training includes biosecurity common sense, control measures and working procedures, management requirements, etc.

9.3 All core area staff and volunteers should pass the on-site training courses and online courses.

9.4 The biosecurity department formulates training plans, arranges training time and courses, invites lecturers to carry out training, or designs online courses to provide remote training.

9.5 For each training, a training file should be established, recording the list of successfully completed training personnel. The personnel authorization and security department should be notified to authorize and release the relevant personnel.

9.6 Biosecurity training is divided into three levels according to different areas visited by authorized personnel to implement different biosecurity control.

9.6.1 Biosecurity training level-1

- (1) Biosecurity training level-1 is suitable for VIPs, horse owners, team leaders, staff and visitors who temporarily need to enter the core area. They may have very limited contact with horses. Entry into the core area is usually not planned in advance and requires immediate training.
- (2) Biosecurity training level-1 mainly contains the overall biosecurity strategy and requirements. Training can be provided in the form of short on-site training or reading biosecurity instructions.
- (3) The personnel who complete the training shall sign the biosecurity instructions and the certification validity, which shall be checked and retained by the on-site securities.

9.6.2 Biosecurity training level-2

- (1) Biosecurity training level-2 is suitable for personnel who work in stable and training area. They often have close contact with horses, leading to a relatively high biosecurity risk.
- (2) Biosecurity training level-2 requires a more comprehensive understanding of the overall biosecurity

strategy and basic principles, a mastery of operating and working procedures, and proactive implementation of biosecurity and disease prevention measures.

- (3) All relevant personnel must complete the biosecurity training level-2. The training files will be kept by the biosecurity department. The training list will be provided to the security department for authorization of relevant personnel.

9.6.3 Biosecurity training level-3

- (1) Biosecurity training level-3 is applicable to management in core area, such as biosecurity coordinator, event veterinarians, laboratory staff, on-site supervisors, etc., who have potential risks of contacting sick horses and dealing with sudden biosecurity incidents, leading to high biosecurity risks.
- (2) Biosecurity training level-3 requires relevant personnel to have a comprehensive and in-depth understanding of biosecurity principles, professional knowledge and skills in biosecurity control, familiarity with the epidemiological characteristics of equine infectious diseases and preventive control measures, and the ability to explain the biosecurity control measures in the venue and supervise their implementation.
- (3) All relevant personnel must complete the biosecurity training level-3. The training files will be kept by the biosecurity department. The training list will be provided to the security department for authorization of relevant personnel.

9.7 The biosecurity level of personnel who enter the core area is determined by the biosecurity department through risk assessment. They will be adopted corresponding biosecurity procedures and passes corresponding level of biosecurity training.

9.8 For special personnel, biosecurity department can formulate special biosecurity requirements other than the above-mentioned three-level biosecurity training based on the risk assessment results.

10. Biosecurity Emergency response Procedures

This procedure is applicable for emergency response of biosecurity contingencies that occur during transportation, competition and training of horses. The purpose is to detect, identify and deal with abnormal situations in time, and to minimize the risk of contingencies affecting the health of horses.

10.1 Emergency response of contingencies during transportation

10.1.1 Horses show suspected clinical signs of infectious disease after arriving at the port of entry

- (1) When horses show suspected clinical signs of infectious disease (such as fever, anorexia, depression, cough, runny nose, etc.) after arriving at the port of entry, relevant personnel shall notify the on-site event veterinarian immediately.
- (2) The event veterinarian should immediately conduct a clinical examination of the abnormal horses, assess the health situation of the horses and determine the risk of infectious diseases. The abnormal horses can be unloaded into the temporary storage site for observation, if necessary. At the same time, this situation shall be reported to the customs supervisor.
- (3) If infectious diseases have been excluded, the horse can go back to the equestrian venues after taking necessary biosecurity measures; If the symptoms are mild and serious infectious diseases are excluded, the sick horse will be immediately transported to the emergency isolation and quarantine facility with the air box, after taking biosecurity measures, and other healthy horses in the same group should enter the equestrian venue for quarantine; If the possibility of serious infectious diseases cannot be excluded, the entire group of horses shall be immediately transported to the emergency isolation facility for quarantine, after taking biosecurity measures.

(4) Airplanes, cages, vehicles, as well as landing and loading areas must be thoroughly cleaned and disinfected.

(5) After entering the contingency quarantine field

- a. Event veterinarians, along with customs supervisors and team veterinarians, shall conduct clinical inspections (including vaccination status and historical clinical inspection records) and necessary laboratory tests on isolated horses suspected of infectious diseases. Under the premise of unanimous approval of the three parties, the abnormal horses shall be treated if necessary.
- b. If test results and the clinical performance of the participating horses can be excluded of infectious diseases, with the approval of the customs and the veterinary committee, the participating horses shall be released from contingency isolation and transported to the equestrian venues to continue the competition.
- c. If test results and the clinical performance of the participating horses cannot be excluded of infectious diseases, the participating horses shall keep quarantined, waiting for further treatment.
- d. Event veterinarian will report to customs supervisors. The horses that fail the test will be treated according to the customs' response opinions.
- e. Isolation stable should be thoroughly cleaned and disinfected. If any horse dies, the body must be treated harmlessly in accordance with relevant regulations.

10.1.2 Emergency response of horses with injuries when entering the country

- (1) Unload the horse in good health as soon as possible.
- (2) Team veterinarian and event veterinarian will inspect the injured horses. Pay close attention to the loading and unloading process of horses with minor injuries. If necessary, with the consent of the customs, the horses can be treated urgently in the designated loading and unloading area.
- (3) Transport the injured horses to the equine clinic of the equestrian event venues for treatment by independent vehicle or separate cabinet in the vehicle.
- (4) Event veterinarian will discuss the treatment of all seriously injured horses with the team veterinarian/personnel and obtain the approval of the customs and the veterinary committee.

10.1.3 Emergency response in case of traffic accidents during transportation after entry

- (1) If the following accidents occur during transportation, the person in charge of transportation should immediately report to the person in charge of biosecurity and customs as required:
 - a. The transport vehicle fails and cannot continue to travel;
 - b. Road is impassable due to car accident, road blockade, weather, etc.
 - c. It is necessary to deviate from the designated transportation route for any reason;
 - d. Horses are sick or injured during transportation
 - d. Notified equine disease occurs in the route area.
- (2) The person in charge of transportation and the event veterinarian shall take all reasonable measures to ensure the safety of all personnel and horses.

(3) Protect the horses as much as possible to prevent them from escaping or coming into contact with animals of unknown health status.

(4) If you need to change the route, you must obtain the consent of the customs, agriculture and other regulatory authorities. To ensure safety, the change will be under the escort of the traffic police department.

10.1.4 Emergency response of horses in case of accidents during exporting

(1) If contingency occurs during transportation, the person in charge of transportation should immediately report to biosecurity coordinator and customs in accordance with regulations. If the horse is slightly injured and suitable for transportation, it will be inspected and treated by the team veterinarian and export as normal.

(2) If the horse is not suitable for long-distance transportation, it will be sent back to the equine clinic in equine center for treatment, with the approval of customs.

(3) If the flight is delayed due to weather, aircraft failure, etc., the organizing committee, customs and participating teams will determine the response measures together according to the latest boarding time. If horses need to stay in the airport and wait, biosecurity control should be done; if the delay is too long, the horses must return to the equestrian venues along the biosecurity pathway and wait for reloading.

(4) If the flight is cancelled, the horses will be transported back to the equestrian venues along the biosecurity pathway.

10.1.5 Emergency response for the death of horse during transportation

(1) If a horse dead, the event veterinarian should examine the body and make a preliminary analysis of the cause of death.

(2) If the cause of death is not infectious, the body shall be harmlessly treated in accordance with the *Environmentally Sound Treatment Procedures*, with the consent of the customs. The remaining horses shall be transported as normal.

(3) If the cause of death is infectious, or other horses in the same group have suspected clinical signs of an infectious disease, they shall be dealt with in accordance with the requirements of 10.1.1. If necessary, an autopsy will be conducted and samples will be taken, with the consent of the customs.

(4) The samples taken from horse body for the purpose of disease investigation must be placed in clean, sterilized plastic sample bags or containers, sealed and stored under suitable temperature conditions, and sent to the laboratory as soon as possible.

(5) The bodies for environmentally sound treatment should be sprayed with disinfectant under safe conditions and placed in a sealed leak-proof bag and transported in an approved special vehicle.

(6) Loading and unloading sites, vehicles, etc. should be disinfected according to the *Disease prevention and Disinfection Procedures*.

10.2 Emergency response to suspected infectious diseases during entry quarantine and competitions.

10.2.1 If participating horses show any clinical signs of suspected infectious diseases, such as fever (body temperature of 39°C or above, not due to training or transportation), anorexia, depression, cough, runny nose, etc., relevant personnel must immediately notify the event veterinarian and customs supervisor. According to the actual situation and customs requirements, the sick horse shall be transferred to the sick horse isolation stable. Other horses in the same stable shall be separated and marked.

10.2.2 Event veterinarians, team veterinarians or customs supervisors will conduct clinical investigations on

isolated/separated horses suspected of infectious diseases. If necessary, samples will be sent to the laboratory for testing.

10.2.3 If the results of the test and the clinical examination eliminate the suspected infectious disease, the participating horses may be released from quarantined/separation. If the test results and the clinical examination cannot eliminate the suspected infectious disease, the participating horses shall be kept quarantined/separation, waiting for further processing.

10.2.4 If the infectious disease or parasitic disease has been confirmed, the event veterinary committee, team veterinarian or team representatives shall discuss the response of positive horses with customs, agriculture and other regulatory authorities. Other horses in the same group shall be observed in the quarantine field or other designated places.

10.2.5 The affected isolation stable area must be cleaned and disinfected with disinfectant approved by the customs.

10.2.6 If any horse dies, the body must be treated harmlessly. 10.3 Disposal of wild/stray animals in Tonglu Equestrian Center

10.3.1 After receiving the report that wild/stray animals have entered the venue, the wild/stray animal disposal team will immediately implement the capture action.

10.3.2 Send the captured wild/stray animals out of the equestrian competition venue, hand over to relevant departments for processing, and make records.

10.3.3 The affected area must be cleaned and disinfected with disinfectant approved by the customs. 10.4 Emergency response at alternate airport

10.4.1 Shanghai Pudong International Airport is the designated alternate airport for entry of horses participating in the Asian Games. Due to weather or other reasons, planes carrying horses for the Asian Games cannot land at Hangzhou International Airport but can land at Shanghai Pudong International Airport.

10.4.2 Once the alternate airport is activated, relevant departments such as horse transportation and event veterinarians will immediately dispatch contingency support teams to Shanghai Pudong International Airport to coordinate arrangements for horse transportation, welfare and/or medical care and other related matters.

10.4.3 The transportation team coordinates horse transportation with relevant departments of Shanghai Pudong Airport, determines the flight arrival time, and guarantees the transportation of horses in accordance with the *Horse Transportation Biosecurity Control Procedures*.

10.4.4 After unloaded at Shanghai Pudong Airport, horses will be transferred to the Tonglu equestrian venue according to the route designated by the regulatory authority.

Annex 3

Emergency Plan for Tonglu Equine Disease-Free Zone, Hangzhou

Document Issued by General Office of the People's Government of Hangzhou

Hang Zheng Ban Han (2020) No.46

A Notice of General Office of the People's Government of Hangzhou on Issuing the Contingency Plan for Equine Disease Free Zone in Tonglu, Hangzhou

The relevant governments at district or county (city) levels, all departments and institutions affiliated to the municipal government,

Emergency Plan for Tonglu Equine Disease-Free Zone, Hangzhou has been approved by the Municipal Government and is hereby issued to you. Please follow it accordingly.

General Office of the People's Government of Hangzhou

19th October 2020

(The document is made available to the public.)

Emergency Plan for Tonglu Equine Disease-Free Zone, Hangzhou

In order to timely and effectively control and eradicate any equine epidemic disease, prevent its spreading and ensure the success of the equestrian events of the 19th Asian Games in 2022, this Contingency Plan is hereby formulated in accordance with the *Animal Epidemic Prevention Law of the People's Republic of China*, *Law of the People's Republic of China on Entry and Exit Animal and Plant Quarantine*, *Regulations on Emergency Response to Major Animal Epidemics*, and *Emergency Plan for Major Animal Epidemic in Zhejiang Province* and *Plan for Establishment of an Equine Disease Free Zone (EDFZ) in Tonglu, Hangzhou*, with practicality taken into consideration.

I. Applicability

This plan discusses emergency responses in case of occurrence of any of the 19 equine diseases in the EDFZ, protection zone and biosafety pathways in Tonglu, Hangzhou, including dourine, equine influenza, equine viral arteritis, equine piroplasmiasis, *Trypanosoma evansi* (Surra disease), Japanese encephalitis, equine infectious anemia, glanders, AHS, vesicular stomatitis, equine encephalomyelitis (Eastern and Western), Nipah virus disease, contagious equine metritis, Hendra disease, Venezuelan equine encephalomyelitis, West Nile Fever, rabies, anthrax and equine rhinopneumonitis (EHV-1).

II. Structure and Responsibilities

1. **The Commander for Emergency Management:** The Municipal Headquarter for Animal Epidemics Control (hereinafter referred as the “Municipal Headquarter”) is responsible for directing, organizing, guiding and coordinating the emergency response citywide according to the duties assigned to each unit and the Plan. Headquarters for Animal Epidemics Control (hereinafter referred as the “County Headquarters”) are established by People's Governments at the district/county (city) levels to take charge of the prevention, control and emergency responses accordingly.
2. **Departments Concerned and Responsibilities Defined:** The Municipal and County Headquarters require joint efforts from departments including Agriculture and Rural, Health, Customs, Finance, Public Security, Market Supervision, Publicity, Transportation and Forestry, with each unit fulfilling its responsibilities defined in the *Emergency Plan for Major Animal Epidemic in Hangzhou Municipality*.
3. **Emergency Expert Teams:** Expert teams are set up at the municipal and district/county (city) levels, so as to provide suggestions and technical support on the diagnosis, prevention and control of equine diseases, hold training sessions for first line responders and formulate action plans.
4. **Emergency Response Organizations**
 - 1) **Emergency Action Teams:** The emergency action teams composed of members of the Headquarters, technical experts and veterinarians are set up at the municipal and district/county (city) levels. Each team comprises crews for control and

eradication of equine diseases, disinfection and supporting services. When necessary, qualified citizens with relevant knowledge and skills are recruited to help guide, slaughter, isolate, disinfect and process materials at the site of disease outbreak.

- 2) **District/County (City) Bureaus of Animal Husbandry and Veterinary Medicine:** They take charge of the diagnosis, surveillance, epidemiological investigation and laboratory testing of equine diseases. Besides, relevant information is collected, analyzed, filed and communicated to the governmental divisions for agricultural and rural affairs at the same level. They shall formulate action plans, acquire proper vaccines, prepare and manage backup supplies as well as complete other tasks assigned by the commander for emergency management and the corresponding governmental division for agricultural and rural affairs.

III. Prevention, Control, Surveillance, Risk Evaluation and Management

1. **Prevention and Control:** The district/county (city) divisions for agricultural and rural affairs shall strengthen the institutional construction of the first line force for animal epidemic prevention, organize the registration, identification and compulsory immunization of equids, surveillance of diseases and vector control. Additionally, they shall supervise the circulation of equids and equine derived products, disease control in susceptible animal farms, slaughterhouses and quarantine farms, and eradicate equine diseases.
2. **Surveillance:** Local governments shall practically construct the surveillance & reporting networks and executive teams to carry out equine disease monitoring, risk assessment and information filing.
3. **Risk Evaluation and Management:** When there's a case report of equine diseases in the adjacent provinces and cities that poses potential risk of transmission, the Municipal Headquarter shall timely conduct risk assessment, issue warnings or circulars, take measures to quarantine, supervise and test susceptible animals and products related. The Municipal Headquarter shall keep in touch with the district and county (city) government divisions affected for updates. The Municipal Headquarter should strengthen the quarantine supervision of animals, animal products imported, their packages and carrying vehicles, etc., promote education on the monitoring, prevention and control of diseases during rearing, transportation and sales and prepare for emergency actions.

IV. Report, Diagnosis and Confirmation of an Equine Disease

1. **Case Report:** Any entity or individual has the right to report possible equine disease occurrence or risks to the authority for animal disease control above the county level, or report to the superior governments about failure of entities or individuals concerned to respond or follow the regulations associated. Hotlines reaching the agricultural and rural departments above the county level should be available to the public.

2. **Reporting Entities or Individuals:** Reporting entities include the municipal, district/county (city) governments; agricultural and rural departments at all levels; animal epidemic prevention and control institutions at all levels, wildlife epidemic monitoring station (spot), customs and relevant research institution and university; any subjects involved in the animal farming, slaughtering, operation or transportation, and production, operation and processing of animal products, as well as all kinds of animal diagnosis and treatment institutions. The reporter held accountable is the staff of the entities above.

3. **Ways to Report, Reaction Time, Procedures and Content:** In case of occurrence of any of the

12 kinds of equine diseases, including AHS, vesicular stomatitis, equine encephalomyelitis (Eastern and Western), Nipah virus disease, contagious equine metritis, Hendra disease, Venezuelan equine encephalomyelitis, West Nile fever, rabies, anthrax, equine infectious anemia and glanders, the report form, time limit, procedure and content shall follow with the *Emergency Plan for Major Animal Epidemic in Hangzhou Municipality*. In case of occurrence of any of the 7 following equine diseases, including dourine, equine influenza, equine viral arteritis, equine piroplasmiasis, equine rhino pneumonia, *Trypanosoma evansi* (Sura disease) and Japanese encephalitis, the local animal disease control institution shall report the situations to the municipal animal disease control institution and the agricultural and rural department at the same level within one hour.

4. **Diagnosis and Confirmation:** The diagnosis shall be timely, scientific and accurate specific to equine diseases. After receiving the report, the animal husbandry and veterinary institutions of all districts and counties (cities) shall immediately organize the investigation, analysis and clinical diagnosis in site. If necessary, the municipal or provincial animal husbandry and veterinary institutions may be invited to assist in diagnosis. If the agricultural and rural departments above the county level preliminarily determine whether it is a suspected equine epidemic disease or not according to the on-site diagnosis results and epidemiological investigation, the specimen shall be immediately collected for testing and diagnosis as required. For certain diseases which are confirmed by the provincial and national designated technical agency, the specimen shall be sent to such agency for diagnosis as stipulated. Meanwhile, the decisive and effective measures shall be taken for early treatment as specified, so as to prevent the spread of epidemic sources and situations.

V. Emergency Response

1. **Principles:** After the occurrence of equine diseases, the local agricultural and rural department shall organize an expert team to evaluate the situations within the own jurisdiction, and then put forward suggestions on how to initiate emergency response to the governments at the same level. Meanwhile, the expert team shall analyze the tendency of epidemic situations according to the nature, characteristics, occurrence

and development rules of different equine diseases, and timely put forward suggestions on how to adjust the response level, so as to effectively control the epidemic situations and reduce the harmful impact.

2. **Preliminaries:** For suspected equine diseases, the local agricultural and rural department shall take temporary measures for isolation and control as soon as possible in accordance with the principle of "investigation, verification and response at the same time". If necessary, the local people's governments above the county level can make a decision on blockade, and take some preliminary measures, such as culling, destroying, disinfecting, restricting or stopping the movement and trading of animals and animal products.
3. **Scenario-based Response:**
 - 1) In case of occurrence of 12 kinds of equine diseases, including AHS, vesicular stomatitis, equine encephalomyelitis (Eastern and Western), Nipah virus disease, contagious equine metritis, Hendra disease, Venezuelan equine encephalomyelitis, West Nile fever, rabies, anthrax, equine infectious anemia and glanders, or the corresponding pathogens are detected as positive, the local agricultural and rural department shall immediately delimit the epidemic spot, epidemic area and threatened area. The local government shall initiate the emergency response and take measures in accordance with the *Emergency Plan for Major Animal Epidemic in Hangzhou Municipality* and this Plan.
 - 2) In case of occurrence of 7 equine diseases, including dourine, equine influenza, equine viral arteritis, equine piroplasmiasis, equine rhinopneumonitis (EHV-1), *Trypanosoma evansi* (Suradisease) and Japanese encephalitis, or the pathogens are detected positive, and when the disease outbreak occurs, or major changes happened in aspect of host range, pathogenicity and etiological characteristics of the epidemic diseases, which are confirmed through the emergency epidemiological investigation and assessment, the emergency response shall be initiated and emergency measures shall be taken in accordance with the *Emergency Plan for Major Animal Epidemic in Hangzhou Municipality* and this Plan. Otherwise, the corresponding measures shall be taken according to the relevant emergency response technical scheme, including limiting the movement of equine animals and products, emergency monitoring and epidemiological investigation, carrying out emergency immunization against relevant epidemic diseases if necessary; innocuous treatment of excreta, contaminated or possibly contaminated feed and bedding materials; thorough disinfection of contaminated articles, tools, sites and related facilities; control of insect vectors; and strengthening quarantine supervision. Exporting or euthanizing sick and positive animals if necessary.
 - 3) During the epidemic inspection, monitoring and epidemiological investigation, if the serum is positive, but the pathogen is tested negative and the susceptible

animal is clinically normal for 7 equine diseases, including dourine, equine influenza, equine viral arteritis, equine piroplasmiasis, equine rhinopneumonitis (EHV-1), *Trypanosoma evansi* (Sura disease) and Japanese encephalitis, it shall not be treated as epidemic diseases. However, it is necessary to carry out the follow-up monitoring, thoroughly clean and disinfect the site, strengthen insect vector treatment and risk prevention.

VI. Post Response

1. **Assess the Response:** At the end of the response, the agricultural and rural departments at all levels shall, under the leadership of the government at the corresponding level, organize to evaluate its impact, and submit the assessment report to the government at the same level.
2. **Compensate for the Loss:** In order to extinguish or prevent the spread of equine diseases, the entity and individual whose livestock or property suffered losses shall be compensated according to the regulations on disaster compensation. The compensation criteria shall follow with the applicable national or provincial rules and criteria; if there are no such rules and criteria, the municipal Agricultural & Rural Bureau shall formulate such compensation criteria together with the municipal Finance Bureau.
3. **Resume Production:** After the equine disease is treated, the emergency measures shall be cancelled for trade restriction and circulation control. In view of the features of equine diseases, it is necessary to continuously monitor the epidemic spots and areas. Only when the requirements are met, it is allowed to resume the animal breeding and the production, processing and business of animal and animal products.

VII. Safeguard Measures

1. **Technical Support:** The municipal, district/county (city) expert team shall direct the emergency response to equine diseases and provide the technical supports.
2. **Fund Guarantee:** According to the financial management system and budget management, as well as the principle of consistent powers and expenditure responsibilities, the municipal, district/county (city) governments shall allocate the necessary financial support to prevent and control equine epidemics and emergency response. Such funds shall be included in the budget at the same level.
3. **Supply Security:** the agricultural and rural departments at the municipal, district/county (city) levels shall reserve the materials for equine epidemic prevention and implement dynamic management as required, so as to ensure the materials available yearly. The reserve materials mainly cover vaccines for equine diseases, diagnostic reagents, disinfection devices, protective articles, the communication tools (e.g.: intercoms) and so on.
4. **Traffic Security:** the transportation department shall give priority to the dispatch and

transportation of emergency materials for epidemic prevention.

5. **Medical Health Security:** The health department is responsible for monitoring some equine diseases (zoonoses), and prevention and medical treatment of people in the epidemic areas. The agricultural and rural departments at all levels shall timely report the situations and actively cooperate with the health departments to carry out such works.
6. **Publicity and Education:** the local governments above the county level shall organize therelevant sectors to widely educate how to prevent and control equine epidemic situations bymeans of television, radio and so on, especially give full play to the role of social organizations, such as the Association for Science and Technology, so as to guide the public to prevent equine epidemic situations scientifically.
7. **Training and Drills:** Headquarters at all levels shall conduct the systematic training and organizethe regular drills for the emergency team, so as to ensure that they grasp the competence necessary to the equine epidemic.
8. **Accountability:** The governments at all levels shall seriously investigate any responsible persons with dereliction of duty during the emergency response of equine diseases as regulations. If a crime is constituted, the criminal responsibility shall be investigated according to the law.

VIII. Supplementary Provisions

1. The municipal agricultural and rural bureau is responsible for formulation and implementation of the technical plan for emergency response to equine diseases; the government of each district/county (city) shall formulate the own emergency or implementation plans according to thelocal conditions.
2. The emergency response to equine diseases in equids imported or exported shall be executed by the Customs Department in accordance with the applicable laws or regulation.
3. This Plan takes effect since its issuing date and remains valid until 31st December 2022. The municipal agricultural and rural bureau is responsible to explain the Plan.

Copy to: All departments of the Municipal Party Committee, the Municipal Commission for Discipline Inspection, Hangzhou Police District, and various mass organizations in Hangzhou;
General Office of the Standing Committee of the Municipal People's Congress, General Office of Municipal Political Consultative Conference, the Municipal Court and the Municipal Procuratorate;
All democratic parties in Hangzhou

General Office of the People's Government of
Hangzhou

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