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I. Objective

1. Objective

- (1) “Guidance Standards on Fire Prevention for Facilities at EXPO 2005” (hereinafter referred to as “the Guidelines”) set forth the requirements specified by the fire service headquarters of Nagakute Town, the venue of the Exposition, for facilities at the Exposition sites. All the facilities installed at the Exposition sites shall satisfy the requirements.

Official Participants (hereinafter referred to as “Participants”) are also requested to comply with the Guidelines.

2. Relevant Laws and Ordinances

- (1) Fire Service Law (Law No. 186 of 1948)
- (2) Enforcement Ordinance relative to Fire Service Law (Ordinance No. 37 of 1961)
- (3) Nagakute Town Fire Prevention Ordinance (Municipal Ordinance No. 1 of 1962)

II. Guidance Standards on Fire Prevention for Facilities at EXPO 2005

1. Purpose

Unless otherwise specified, these Guidelines apply to water storage facilities for fire extinguishing and fire control facilities and equipment covered by Article 22 of the Nagakute Town Guidelines for Housing Land Development (enforced on April 1, 1994) or Article 17 of the Fire Service Law (Law No. 186 of 1948, hereinafter referred to as “the Law”) that are used for facilities in the Youth Park area, one of the 2005 World Exposition sites (hereinafter referred to as “Exposition Facilities”).

2. Safety Measures, etc. for Exposition Facilities

1) Interior Finish Materials

Interior finish materials used for Exposition Facilities shall have fire-retarding performance equivalent to or higher than that of incombustible materials.

However, when the safety of visitors and others is ensured by the evacuation safety verification method specified in Enforcement Ordinance relative to the Building Standard Law (Ordinance No. 338 of 1950), or other similar method, other interior finish materials having required levels of fire-retarding performance may be used.

2) Evacuation Route

Exposition Facilities shall have two or more evacuation routes, unless the safety of visitors and others is ensured by an evacuation safety verification method specified in the above section.

3) Categorization under Fire Service Law

Under the Fire Service Law, Exposition Facilities shall be categorized as follows:

- (1) Exhibition facilities shall fall under item (1) or (4) listed in Appendix I of Enforcement Ordinance relative to the Fire Service Law (Ordinance No. 37 of 1961, hereinafter referred to as “the Ordinance”).
- (2) Eating and drinking facilities shall fall under item (3) listed in Appendix I of the Ordinance.
- (3) Facilities for sale of products shall fall under item (4) listed in Appendix I of the Ordinance.
- (4) Resting places and other facilities shall fall under item (3) or (15) listed in Appendix I of the Ordinance.

3. Fire Control Equipment etc.

Among Exposition Facilities, permanent facilities shall be equipped with fire control equipment etc. in accordance with the technical standards stipulated by Article 17 of the Law, and temporary facilities shall conform to the following standards:

1) Fire Apparatus

Fire apparatus shall be installed in compliance with the provisions of Article 10 of the Ordinance. In addition, the following requirements shall be met:

- (1) Dry chemical extinguishers or other fire apparatus shall be provided in transfer vehicles etc., so that security guards, venue control staff, volunteers or other person who detect fire can fight the fire quickly at the initial stage.

- (2) For Global Loop, decks and other sections for outdoor use, installation of fire apparatus may not be required.
- (3) Pushcart-type facilities (stalls) shall be equipped with fire extinguisher of suitable type for each facility.

2) Indoor Fire Hydrant System

In principle, easy-to-operate indoor fire hydrants (Fire and Disaster Management Agency Fire Prevention Division Notice No. 254 of 1996) shall be installed in compliance with the provision of Article 11 of the Law. In addition, the following guidelines shall apply:

- (1) Where an existing elevated water tank can be effectively used, the elevated tank method may be employed instead of the pressure water supplying system.
- (2) Where an existing elevated water tank can be effectively used is defined as having a minimum water discharge pressure of 0.17 MPa and a minimum water discharge volume of 130 liters per minute, even when two indoor fire hydrants are simultaneously used on any floor of the Exposition Facility.
- (3) Piping from an existing elevated water tank shall be exclusively used for fire extinguishing equipment; provided, however, that the water service pipes used in the Exposition Facility may also be used for the fire extinguishing system in areas where the minimum water discharge pressure and volume stipulated in the above section can be achieved.
- (4) When synthetic resin pipes are employed for piping for fire extinguishing, such pipes shall conform to the standards for synthetic resin pipes and pipe joints (Fire and Disaster Management Agency Notification No. 19 of 2001). However, where pipes are laid underground and not affected by outside pressure or unequal ground settlement, HIVP (hard vinyl-chloride pipes) may be used.
- (5) Use of fire extinguishing package system in place of indoor water hydrant system shall accord with the notice "Handling of Alternative Equipment to Indoor Fire Hydrant and Sprinkler Systems" (Fire and Disaster Management Agency Fire Prevention Division Notice No. 182 of 1997).

3) Sprinkler System

Sprinkler systems shall be installed in accordance with the provisions of Article 12 of the Law, as well as the guidelines set forth in Sections 2-(1), (3) and (4) above.

4) Outdoor Fire Hydrant System

Outdoor fire hydrant systems shall be installed in accordance with the provisions of Article 19 of the Law, and the following guidelines:

- (1) The hose connection of an outdoor fire hydrant shall fit well with a hose of nominal diameter 50 mm.
- (2) As a substitute for connected water supply piping, another hose thread outlet can be installed on the outdoor fire hydrant. In that case, the nozzle pressure per outlet shall be minimum 0.25 MPa at the time of simultaneous discharge of water from four outlets of two outdoor fire hydrants (two-way), and the installation spacing between connected water supply pipes shall conform to the installation standards for outdoor fire hydrant systems.
- (3) The guidelines set forth in Sections 2-(1), (3) and (4) above may be applied to pressure water supply system and pipes.

5) Automatic Fire Alarm System

Automatic fire alarm systems shall be installed in accordance with the provisions of Article 21 of the Law, and the following guidelines:

- (1) For fire detection, centralized surveillance shall be carried out in a facility overlooking the entire site (hereinafter referred to as “Self-surveillance Center (tentative name)”), which is equipped with sub-receivers and a remote device for emergency broadcasting.
- (2) For each management unit of an Exposition Facility, a transmitter or other communication apparatus that can send information to Self-surveillance Center (tentative name) shall be installed.
- (3) Efforts shall be made to enhance the reliability of fire detection by employing a fire detection system comprising a fire detector with address function and an analog detector.
- (4) Efforts shall also be made to take measures for early detection of forest fire.

6) Emergency Alarm System

Emergency alarm systems shall be installed in accordance with the provisions of Article 24 of the Law, and the following guidelines:

- (1) In general, broadcasting equipment shall be installed in each Exposition Facility. In addition, arrangements shall be made to enable broadcasting from Self-surveillance Center to Exposition Facilities.

7) Fire Escape Equipment

Fire escape equipment shall be installed in accordance with the provisions of Article 25 of the Law, and the following guidelines:

- (1) In place of fire escape equipment, emergency stairs leading directly outdoors, which are effective for evacuation, may be installed. In that case, evacuation safety shall be ensured by the evacuation safety verification method or other similar method.

8) Emergency Evacuation Light and Sign

Emergency evacuation lights and signs shall be installed in accordance with the provisions of Article 26 of the Law, although installation of blinking evacuation lights is preferable.

9) Water Supply and Water Facility for Fire Extinguishing

Private fire hydrant systems, and reservoirs or other installations that are effective for fire extinguishing shall be installed to cover an area with a radius of 100 meters from the center of the major area of the Exposition site, and with a radius of 120 meters for other areas.

Water supply capacity shall conform to the standards for water supply for fire extinguishing (Fire and Disaster Management Agency Notification No. 7 of 1964).