The Approval of Fire-fighting Facility Inspection of Ministry of the Interior

Date of issue: March 27, 2017

Issue Number: N. S. X. Z. No. 1060821837

Applicant: Focus Fire Engineering Co. Ltd (5F., No.465, Xiyuan Rd., Xindian Dist., New Taipei City 23150)

Subject: The application for approval is subject to the following contents

Description:

1. The application shall be handled according to The Approval of Fire-fighting Facility Inspection on November 21, 2016 and the case of National Fire Agency on March 7, 2017, letter F. Z. No. 1060307-1.

2. The contents of the case approved as follows:

<table>
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<th>Information of the case application</th>
<th>Title of Case</th>
<th>Main Purpose</th>
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<tr>
<td>Fire Eater IG-541 (Inergen) (200bar, 300bar) Automatic Extinguisher (General Approval)</td>
<td>For the use of extinguishing of fire of Class A, B and C.</td>
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Approved contents

1. The equipment is specifically the IG-541 (Inergen) (200bar, 300bar) automatic fire extinguishing system agented by Focus Fire Engineering Co. Ltd from Fire Eater A/S, Company of Denmark. Its performance is shown in the workflow chart (Refer to the attachment).

2. If the equipment intends to replace fire extinguishing appliance stipulated in “the set standard of various places for Fire-fighting Facility”, the case shall be submitted case by case to Fire Protection Technical Committee of National Fire Agency for review and approval.

3. The valid period of this certificate is 3 years (since the date of issue).

4. User who would like to lengthen the approval, please submit the application to National Fire Agency three months prior to the expiration.
Attention:

1. The equipment should comply with the requirements of NFPA 2001 (Clean Agent Extinguishing System Standard, 2015 Edition) and the main components and document should be certified by UL. (According to the updated specifications)

2. The design concentration: shall be in the range of 34.2% to 52%. At minimum ambient temperature, the concentration shall not be less than 34.2%; at maximum ambient temperature, the concentration shall not be more than 52%. However, for Class B fire, the design concentration of the original design manual shall be used and an appropriate delay shall be set to ensure that the personnel can evacuate before the release of the agent.

3. The releasing time: to reach the minimum required concentration of 95% of the required amount in 60 seconds.

4. Set up the warning sign to protect the personal safety: the fire extinguishing agent release indicator lamp body shall be marked with “IG-541 Agent Release. Danger! No Entry!”. “Once IG-541 agent release alarm sounds, please exit immediately” shall be clearly marked in visible places. The sign “IG-541 agent is not allowed to enter during releasing or after release, without fire suit and self-contained breathing apparatus”.

5. Nozzle type is Mono orifice nozzle which shall be installed in the ceiling. The releasing pressure is above 20bar. The maximum protection radius is 7.32m. The height of protection space is 0.3m to 4.7m for one layer. The space need to be configured in different layers if the height is out of range. And the upper nozzle should be located in the ceiling or 1m below floor. (The design manual shall be updated according to the provisions of updating)

6. The flow calculation software to be used should be IMT V2.2.XX version or higher.

7. The emergency power supply system wiring of this equipment shall be equipped with fire or heat protection according to the provisions of Article 235 and Article 236 of various fire safety equipment.
8. Once the fire is detected, air condition, exhaust system and other openings shall be automatically interlocked to be shut off.

9. The cylinder should be the original and should not be filled with fire extinguishing agent except IG-541 (52% N2, 40% Ar, and 8% CO2). Once released, the cylinder should be sent back to original factory for re-inspection before re-filling in accordance with provisions. Cylinders should be marked in accordance with the Code of Conduct of Hazardous and Dangerous Materials.

10. The storage sites of the fire extinguishing agent cylinders should meet the following specifications:
   a) Cylinders shall be located in the special room for cylinder outside the protection zone, and marked as storage site for fire extinguishing agent cylinder.
   b) Cylinders shall be located at a place with easy access where is free of risk of extended fire and collision damage, under the temperature of 40 °C and with smaller changes in temperature, and without exposure to rain or sunlight.

11. The discharge device shall be set in the discharge area according to Article 94 of fire safety equipment standards for various places, and appliances with high temperature surface such as boilers are forbidden.

12. Blast pipe through the fire zone, should meet the requirements stipulated in Article 85 of construction technology rules and regulations of architecture design and construction. If glass windows and doors are needed, fireproof doors and windows with more than 30-minute fireproofing time shall be used.

13. The installation site should be equipped with the product specifications and manual for design, installation and maintenance, besides fire inspectors under requirement, technical personnel with fire profession qualifications associated with the design sites should be provided so as to help the implementation of the design, manufacturing, installation or maintenance service.

14. The equipment shall be designed according to the original design manual, and construction shall be conducted according to the design
drawings, the original installation manual and relevant standards and specification.

15. The above-mentioned and design plans should be certificated by fire engineers or special technicians of fire safety with certificate to provisionally engaged in fire safety equipment design or supervision.

16. After the installation of equipment, the hose shall be inspected every 5 years in accordance with the provisions of NFPA2001.

17. Before the final acceptance of construction, the case design drawings & illustrations, technical (construction) standards, maintenance manuals, testing methods and other information shall be submitted to the local fire authorities for check and reference.

18. Before the final acceptance of construction, the airtight test shall be conducted according to NFPA2001 provisions by airtight test equipment approved by the Ministry of the Interior.

19. The case of approval serves only to inspect the drawing for which the applicant applied. If the applicant or the producer is found forgery, issuing false reports, infringing other’s rights or submits application material disagreeing with actual design and construction which leads to danger or damage, depending on the circumstances, the approval can be revoked, and shall be called to account respectively.

20. From the date of issue of this Approval, the applicant should compile the record of the use & installation of the system annually, including the user, name, address, telephone number, location, date of completion and maintenance status of the installed building, and shall keep the records for at least 3 years for random inspection. In order to ensure the quality of the approval, the National Fire Agency has obligation to appoint personnel for field inspection and the unqualified use or installation may lead to the cancellation of the Approval.

Ministry of the Interior
Workflow Chart of IG-541(Inergen) Fire Suppression System Activation