Checklist for Hazardous Materials Installations

This checklist simply highlights some critical items stipulated in the guidelines and standards mainly are the provision of v*entilation, separation, containment, fire protection system, caution label and warning sign etc.* Where appropriate, one may add to this checklist to enhance further as this is not an all-inclusive checklist.

This checklist has been compiled to assist QP and RI to design and inspect for projects regarding the storage and use of hazardous materials. The use of it does not necessarily assure full compliance with all rules and requirements.

In general, QP and RI are to make sure the proposed hazardous materials installation do not obstruct fire alarm boxes, sprinkler system controls, sprinkler heads, fire extinguishers, first-aid equipment, lights, and electric switches. All exits and aisles must be kept clear at all times and shall be appropriately marked. “No Smoking” signs shall be posted where necessary throughout the warehouses and premises which involve the storage and handling.

Inspected by :

Name: _____ **Date: _____**

Location of Inspection:

_____

(A) Outdoor Storage Tank

Please cross the box if the listed item is provided and comply with			
		Provided and Comply With	**Remarks/Comments**
A	***Separation Distance***		
1	Tank to Tank	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Tank to boundary line	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Tank to bundwall	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Tank to building (include unprotected opening calculation)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

5	Tank to Ignition Source	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	Tank to combustible materials (such as parking cars & outdoor storage etc)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
B	***Tank Design***		
1	Tank design and construction including venting	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Element of structure supporting directly to storage tank (2 hours rating)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Pressure testing & commissioning	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
C	***Bundwall***		
1	Height Limit (internal and external)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Containment capacity	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Bund wall to boundary line	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Drainage system with control valve	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	Bund wall construction material	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

D	***Fire Engine Access Road***		
1	At least three sides of the tank farm surrounded by the 4m wide fire engine access road for refineries and bulk storage terminals (lay-by shall be provided)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Storage tank is located not more than 45m from any fire engine access road	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
E	***Fire Protection System***		
1	Fire Hydrant is pump feed from fire water ring main system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Fixed water spray system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Fixed Foam system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Fixed monitor system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	Total water demand calculation	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	Breeching inlets for fire fighting and protection system at the bund wall	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
7	Portable foam and water monitors (the selection of such monitors are coordinated with the pre-determined possible deployment site and water supply)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
8	100% back-up foam stock	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

(B) Outdoor Package

		Provided and Comply With	Remarks/Comments
A	***Separation Distance***		
1	Between storage piles	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Pile to bund wall	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Pile to boundary line	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Pile to building line (including the unprotected opening calculation)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	Pile to Ignition Source	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	Pile to combustible materials (such as parking cars & outdoor storage etc)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
7	Pile capacity limit and height limit	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
B	***Bund wall***		
1	Containment capacity	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Bund wall to boundary line	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Drainage system with gate valve	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Bund wall construction material	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

C	***Fire Engine Access Road***		
1	Any point from the pile to the fire engine access road is not more than 60m	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
D	***Fire Protection System***		
1	Fire Hydrant is pump feed from fire water ring main system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Fixed foam monitor is provided	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Total water demand calculation	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	100% back-up foam stock	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	Materials stored in tiers are secured by blocks, interlocking or other means suitable to prevent the stack from sliding, falling or collapsing.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

(C) Indoor Package

		Provided and Comply With	Remarks/Comments
A	***Separation Distance***		
1	Only at the ground floor	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	At lest 5m away from the boundary line with fire rated external wall (2 hours for non-sprinkler and 1 hour for sprinkler protected)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Fully fire compartmentalized from other area or space	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	At least one wall is facing directly to the exterior open space for loading/unloading and fire fighting purpose. The parking truck for loading and unloading is located at least 3m away from the boundary line	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
B	***Compartment size and storage height***		
1	The compartment size is restricted base on type of hazardous materials and fire protection system (the Chemical Warehouse Guidelines)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	The storage height is base on NFPA 30 for non-sprinkler protected but restricted to max of 3.6m.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	The travel distance is base on the high hazard purpose group, 10/20m for non-sprinkler or 20/35m for sprinkler	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
C	***Containment and Drainage system***		
1	The containment capacity	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	At least 150mm high curb or cut-off drain is provided	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

3	Local and/or remote containment	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Drainage system with gate valve (to be used only by the fire fighting team)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
D	***Fire Engine Access Road***		
1	Comply with the chemical warehouse guidelines	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
E	***Fire Protection System***		
1	Provided with the following fire alarm and protection system (please tick) Manual Fire Alarm ☐ Automatic Fire Alarm ☐ Sprinkler (deluge) system ☐ Foam sprinkler ☐	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Decam system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	The discharge density is designed accordingly to CP52 and, bases the type of content and storage height limit.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	The storage height is restricted to 15m or 18m base on the chemical warehouse guidelines	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
F	***Ventilation***		
1	Natural or mechanical ventilation	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Comply with the general warehouse requirements	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

3	The ventilation design allows air-movement across all portions of the floor or room to prevent the accumulation of vapors.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	The daily operated mechanical ventilation systems for vapor removal is interlocked with the smoke control system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	All access and ventilation opening is located at least 5m away from any combustible material such as parking car etc	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
G	***General***		
1	Each package is restricted not more than 250L and kept in metal container (not more than 250L is allow to be transported within building at any one time)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

(D) Compressed Gases

		Provided and Comply With	Remarks/Comments
A	***Outdoor Storage (Separation Distance)*** ***(Refer to Chapter 7 of NFPA 55 for various types of gases)***		
1	Storage to building (include unprotected opening calculation)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Storage to Ignition Source (min of 7.6m)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Storage to boundary line (min 3m and comply with above item 2)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Storage to combustible materials (min 3m such as parking cars & outdoor storage etc)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	All non-compatible storage such as other hazard classification materials is located at least 7.6m away	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	Storage to flammable and combustible liquid (comply with Table 10.3.2.2.1 of NFPA 55)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
B	***Indoor storage***		
1	Maximum Allowable Quantity follows Table 6.3.1 of NFPA 55	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	The room using such compressed gas cylinders is fully fire compartmented (Control Area)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Separation of different type of gas (incompatible) is comply with cl 7.1.6.2 of NFPA 55 – Table 7.1.6.2	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	A designated gas room with special provisions (25% of the perimeter wall is an exterior wall)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

5	Gas room is always remain as negative pressure in relationship to the surrounding area	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	Gas cabinet – exhaust ventilation system designed to operate at a negative pressure relative to the surrounding area (cl 6.17.1)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
7	Gas cabinet used to contain toxic or pyrophoric gases, is internally sprinklered & contain not more than three cylinders	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
8	The automatic gas leak detection or monitoring system is able to - detect the leak, - sound the alarm to alert occupant, - shut-off gas supply & - activate designated extraction system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
9	For hydrogen gas – follow Chapter 10 of NFPA 55 (Table 10.3.2.2.1 – the min to boundary is 3m or 1.5m with a fire wall and comply with the min 7.6m to any ignition source)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

(E) LPG

		Provided And Comply With	Remarks/Comments
A	***Separation Distance***		
1	Kept in secured gas metal cabinet (only at ground floor externally)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Capacity limit (capacity per bank per cluster per building)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Gas cylinder to exit door	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Gas cylinder to unprotected opening	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	Gas cylinder to mechanical ventilation opening	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	Gas cylinder to combustible materials (such as parking cars)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
B	***Control and Safety Devices***		
1	Regulator	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Over Pressure Device	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Emergency shut-off valve	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Solenoid automatic shut-off valve	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

5	Vaporizer	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	The automatic gas leak detection or monitoring system is able to - detect the leak, - sound the alarm to alert occupant, - shut-off gas supply & - activate designated extraction system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
7	Kitchen fire suppression system is interlock with the gas supply	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
8	Metal pipe sleeve and gas leak detection system are provided as per CP51	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
9	The gas pipe penetration shaft is comply with CP51 and the Fire Code	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

(F) Fire Safety Cabinet

		Provided And Comply With	Remarks/Comments
A	***Separation Distance***		
1	Each cabinet capacity is not more than 250L	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	Total allowable capacity is base on the storage density (per square meter of the floor area)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Distance between cabinets	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Listed cabinet such as UL, FM or PSB etc	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	At least 3m way from any ignition source	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	At least 3m away from any combustible material	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

(G) Laboratory

		Provided and Comply With	Remarks/Comments
A	***Comply fully with the general requirements as stipulated in NFPA 45 and FSSD's guidelines published in SCDF web-site***		
1	The maximum allowable capacity of hazardous materials is base on the FSSD's guidelines for compressed gas cylinders and liquid	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	All lab unit is fully fire compartmented from other room and space.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	Lab units or lab work areas is continuously maintained at a negative pressure - min. 4 A/C at night and weekends - min 8 A/C when lab is occupied	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	The air-conditioning system is not sharing with other lab unit and non-lab unit.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	Sprinkler system is designed to Ordinary Hazard Group 3 Special (CP52);	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	No combustible materials is placed within the 3m buffer range of the gas cylinder	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
7	No Flammable liquid is placed within 6m buffer range of the gas cylinder;	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
8	For toxic gases, gas leak detection system is provided and shut off the gas supply automatically	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
9	The automatic gas leak detection or monitoring system is able to - detect the leak, - sound the alarm to alert occupant, - shut-off gas supply & - activate designated extraction system	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

10	Oxygen-level monitoring system is put in placed to reduce the possibility of Oxygen-depletion (Asphyxiation)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
11	MSDS are properly documented and are kept on site readily for emergency use	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
12	Signages are provided (pl cross the box) Caution labels shall be provided at all the laboratory entrances and exits complying to SS 286 - Hazmat sign at all the access doors (inside and outside) ☐ - Warning Sign ☐ - No smoking sign ☐ - Emergency Information Panel ☐	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
13	Different Classes and incompatible materials to be stored in separate cabinets	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
14	Portable Fire extinguishers are provided	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
15	Designated fume hood with exhausted system is provided to extract vapor and gases directly to the exterior.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
16	All liquid not in use are kept within the UL/FM listed safety cabinets and only 10% of the allowable maximum liquid capacity are kept on the working bench during office hour.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
17	All BLS 3 (Bio-Safety Level 3) and 4 is protected with Sprinkler system.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
18	All BSL 3 or 4 is fully fire compartmented with 2 hour fire rating.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
19	Additional stagging area (the same requirements as fire fighting lobby) is provided at the main entrance of BSL 3 or 4 including the provision of landing valve	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
20	FSSD/SCDF has been notified officially for any new erection of such BSL3 or 4	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

(H) General

		Provided and Comply With	Remarks/Comments
1	QRA Study has been carried out and approved by the authorities concern.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
2	All the safety provisions, specifications and recommendations stipulated in the QRA study are observed and comply with.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
3	MSDS are properly documented and are kept on site readily for emergency use	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
4	Signages are provided (pl cross the box) Caution labels or hazmat sign shall be provided at all the laboratory entrances and exits - Hazmat sign at all the exit access doors (inside and outside) ☐ - Warning Sign ☐ - No smoking sign ☐ - Emergency Information Panel ☐	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
5	Different classes and incompatible materials are stored in separate fire compartment	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
6	Hazmat that react with water (Class 4.3) are stored in separate fire compartment with the appropriate caution label on all the access doors.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
7	Portable Fire extinguishers	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
8	50Kg fire extinguishers are provided at the loading and unloading area.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
9	Cryogenic fluid such as liquefied nitrogen storage tank is provided with 2nd containment (bundwall) and, be placed at least 3m away from the boundary line and combustible material.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

10	Building owner, the operator and the QP are fully aware of the hazard involved and have exercised their professionalism by adopting all the possible good engineering design, practices and good housekeeping.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
11	Risk assessment study has been carried out (part of MOM requirements).	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
12	Clear identification of the function of any safety valves, switches and control actuator are provided.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
13	The storage area kept free of weeds, debris and other combustible material.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
14	Drain with gate valve is terminated at a safe location and directly accessible by fire-fighting team.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
15	All hazardous materials installations are kept under secured area.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
16	Restriction of type of storage and it respective height limit etc are indicated clearly on plan. The operator and FSM are well aware of such “Do and Don’t” restriction.	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
17	The storage height limit is adequately indicated on the wall	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
18	All fire-fighting equipment are located at safe place and be away from any fire risk area	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
19	All proposed fire walls are masonry construction	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
20	Comply with SS 254 or NFPA 70 (SS254: Specification for Electrical apparatus for explosives gas atmospheres)	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____
21	Duplicate approved sit plan and detailed floor layouts are kept with security guard or FSM at specific location for ease of retrieval during emergency. All fire fighting equipment are highlighted	**Yes** ☐ **No** ☐ **NA** ☐	**Comments:** _____ _____ _____

22		**Yes ☐** **No ☐** **NA ☐**	**Comments:** _____ _____ _____