



File No. DFES/FP/C-1/3/17-18/ 528

Dated:- 16/02/2018

Sub:- Uses of places and trades for purpose involving risk from fires. Regarding issue of Initial/Provisional No Objection Certificate for "Goa College of Engineering", Bhausahab Bandodkar Technical Education Complex, Farmagudi, Ponda, Goa.

Ref:- 1) This office letter No. DFES/DO/C-1/3/17-18/2353, dt; 31.01.2018.
2) Your letter No. GEC/AICTE/Approval 2018-19/136/773 dated; 13.02.2018.

With reference to the above, this office has no objection to the said proposal for "Goa College of Engineering" Building subject to the compliance of the conditions as agreed by you vide undertaking dated; 13.02.2018.

The Initial/Provisional No Objection given is specific to the undertaking submitted to this department. Any changes other than the undertaking submitted and the recommendation given by this office will need prior approval of this Directorate.

The Final No Objection Certificate be obtained from this office on satisfactory compliance of fire safety requirements as stipulated in the Annexure "A".

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26/01/2019

Ashok Menon
(ASHOK MENON)
DIRECTOR



FIRE & EMERGENCY SERVICES

Encl:- Annexure "A"

To,

Shri. V.N. Shet,
Principal,
Goa College of Engineering,
Bhausahab Bandodkar Technical Education Complex,
Farmagudi, Ponda, Goa.

Julia / Anand
fire safety certificate for AICTE
approval

SH
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ANNEXURE "A"

I) FIRE FIGHTING REQUIREMENTS FOR EXISTING BUILDING:-

- a) THE EXISTING OVERHEAD WATER STORAGE TANK:- The existing overhead tank available in the premises of the college shall be connected to the fire fighting courtyard hydrants and hose reel hose to be provided in the existing buildings on all floors of each blocks of the premises by suitable fire pumps.
- b) COURTYARD HYDRANT :- Four Nos. of Courtyard Hydrants shall be located in the courtyard of **Main Engineering Building** which shall be connected to the existing overhead tank with a minimum size of the main being not less than 100 mm. which shall be pillar post type with 63 mm single outlet conforming to BIS:908 and shall be connected to the existing water tank. The provision and maintenance of the Hydrant system shall be as per IS: 3844:1989.
- c) HOSE REEL HOSE : Hose Reel Hose of 30mtrs each confirming to IS : 884 / 1985 should be provided on Ground and First floors of **Main Engineering Building, IT Building Academic Department, Computer Department, Mining Department , Electronic Department and Boys & Girls Hostel Buildings Workshop, Store, Mechanical Engineering Department, Electrical Department, Electrical Department Annex, Mechanical Department, Mechanical Department Annex, Gymkhana, Civil Engineering Department, P.G. Civil Laboratory Department, Science and Humanity Department** in such a way as not to reduce the width of the corridor and no part of the floor more than 6 mtrs. away from the nozzle when fully extended, which should be connected to the existing water storage tank and coupled to Fire Fighting pump capable of maintaining a pressure of not less than $3\text{kg}/\text{Cm}^2$ should be provided in the premises.
- d) FIRE PUMP:-
- i) An electric fire pump capable of delivering 1680 liters/min. of water at ground level at a pressure of not less than 3.5 Kg/cm. at the further most hydrant.



- ii) Another electric Pump of 180 ltrs/min. shall be provided.
- iii) Electric supply to these pumps shall be on independent circuit preferably on D.G.Set.
- e) **MANUALLY OPERATED ELECTRIC FIRE ALARM SYSTEM:** The Main Engineering Building, IT Building, Academic Department, Computer Department, Mining Department , Electronic Department and Boys & Girls Hostel Buildings shall be provided with the above system conforming to BIS:2189/1999 with the main control panel at ground floor and pill boxes, hooters and Manual Call Points on all Floors of above blocks. The Layout shall be in accordance with Indian Standard Specification.
- f) **UPS CUM BATTERY ROOM:-** The UPS/Battery shall be shifted from the First floor of Academic department at a safe ventilated area and shall be suitably protected with Clean Agent Gas Based Detection cum Suppression System. LPG Cylinders are used in the canteen of the Hostel Building premises in both Boys and Girls Hostels. The storage of LPG cylinders shall be in accordance with IS: 6044 (Part): 2001 Code of Practice for LPG storage.
- g) **LABORATORY SAFETY:-**
- a) Intrinsically Safe Fans to be provided in the Chemical Stores and their corresponding Laboratories.
- b) Standard Operating Procedure, Material Safety Data Sheets (MSDS) of Chemicals, First Aid Box etc. **shall be in accordance with IS:4209:2013 Chemical Laboratories – Code of Safety.**
- c) To ensure safety of the occupants handling Chemical, Personnel Protective Equipments shall be provided at the storage facility.
- h) **PORTABLE FIRE EXTINGUISHERS:-** There shall be Fire Points recessed to the wall 0.9 mtr. above floor comprising of Carbon-di-Oxide extinguisher 4.5kgs capacity and ABC Type Fire extinguisher 4 kgs capacity confirming to BIS:15683/2006 shall be provided on all Floors of each blocks of the staircases of Main Engineering Building, Academic Department, Computer Department, IT Department, Mining Department , Electronic Department and Boys & Girls Hostel Buildings and Workshop, Store, P.G. Civil Laboratory Department, Science and Humanity Department.



- i) The Fire Safety Signages and Emergency Escape Signages shall be installed at the appropriate places on all floor as per Indian Standard IS:12349.
- j) "NO SMOKING" Boards shall be prominently displayed in the premises.

II) FIRE FIGHTING REQUIREMENTS FOR NEW BUILDING:-

- a) **UNDERGROUD STATIC WATER STORAGE TANK:-** The underground Static Water Storage tank of 25,000 liters capacity shall be provided for each blocks of New Buildings at ground level as per design specified in the rules with baffled wall.
- b) **HOSE REEL HOSE :** Hose Reel Hose of 30mtrs each confirming to IS : 884 / 1985 should be provided on all floors of each blocks of the New Buildings in such a way as not to reduce the width of the corridor and no part of the floor more than 6 mtrs. away from the nozzle when fully extended, which should be connected to the existing water storage tank and coupled to Fire Fighting pump capable of maintaining a pressure of not less than 3kg/Cm² should be provided in the premises.
- c) **MANUALLY OPERATED ELECTRIC FIRE ALARM SYSTEM:** The **Newly Constructed Building** shall be provided with the above system conforming to BIS:2189/1999 with the main control panel at ground floor and pill boxes, hooters and Manual Call Points on all Floors of each blocks of the buildings. The Layout shall be on in accordance with Indian Standard Specification.
- d) **PORTABLE FIRE EXTINGUISHERS:-** There shall be Fire Points recessed to the wall 0.9 mtr. above floor comprising of Carbon-di-Oxide extinguisher 4.5kgs capacity and ABC Type Fire extinguisher 4 kgs capacity confirming to BIS:15683/2006 shall be provided on all floor each blocks of the staircases of **Newly Constructed Building**.
- e) The Fire Safety Signages and Emergency Escape Signages shall be installed at the appropriate places on all floor as per Indian Standard IS:12349.
- f) "NO SMOKING" Boards shall be prominently displayed in the premises.



- g) **ALTERNATE SOURCE OF POWER SUPPLY:-** Independent Secondary Circuit fed by Secondary source of Power supply with appropriate change over switch preferably D.G.Set shall be provided for the Fire systems viz. Corridor lighting, Manual Fire Alarm system, Fire Pumps etc. in the **Existing and the New Constructed Buildings.**



(Signature)
(ASHOK MENON)
DIRECTOR

FIRE & EMERGENCY SERVICES

Encl: Schedule.

SCHEDULE

The owner/management shall comply with the requirements as indicated in the schedule. Contravention of any of these requirements as indicated below shall lead to the cancellation of the certificate without any prejudice.

1. All the means of escape specified on the plans shall be properly maintained and kept free from obstruction of all type of combustible storage.
2. All entry/ exit doors specified on the plans through which a person may have to pass shall not be locked or fastened.
3. All stairs and steps comprising parts of means of escape in case of Fire and Emergency specified on the plans shall be maintained with non-slippery and even surfaces.
4. On those occasions, if disabled and handicapped persons are present in the premises, such as special arrangements as may be necessary in the circumstances shall be made so as to enable all persons to leave the premises safely in the event of fire.
5. All floor, walls and ceilings shall be kept in a satisfactory state of repair.
6. Any proposed change to the surface finishing on walls, partitions and ceilings from those specified, which would have effect of increasing the rate of surface spread of flame must be notified to the fire authority.
7. Alternate Source of Power Supply provided for the Fire systems viz. Corridor lighting, Fire Detection & Alarm system, Fire Pumps, Fire Lifts etc. shall be checked and maintained in functional condition for use in the event of any emergency.
8. All fire fighting equipments installed in the premises shall be maintained in efficient working order.
9. All portable **Fire Extinguishers** shall be examined at least **once annually** and tested by a competent person. **Fire Pumps, Fire Hydrants and Hose Reel Hose** shall be **tested monthly** to ensure that they are in working order and produce satisfactory jet of water to reach to the farthest point.

Contd...2/-



10. The Automatic Fire Detection System installed in the premises shall be maintained in an efficient working condition and shall be tested **monthly**. In addition the Manual Call Points and Hooters connected to the Fire Alarm System shall be **tested weekly using a different Manual Call Point for each successive test** to ensure that it operates satisfactorily. The results of such inspection shall be recorded in the log book.
11. **Fire Drill** shall be conducted in the premises in accordance with the Fire Safety Plan, at least once every three months as per requirements of '**Annex D**' **Clause D-3.1, D-3.2, and D-3.3** of National Building Code of India 2016, Fire & Life Safety (Part 4).
12. An appropriate place shall be designated as "**Assembly Point**" for assembly of occupants in the event of any emergency.
13. A logbook shall be maintained, in which details of periodical Tests/ Examination of the Fire Detection & Protection Systems, Fire Drills conducted shall be mandatorily recorded. The same should be readily available for inspections as and when required by the inspecting authority.
14. Emergency lighting shall be operative during the whole of the time as required, to facilitate escape from the premises and shall be effectively maintained in good working order. The emergency lighting shall be tested at regular intervals, not exceeding **six months** and results shall be recorded in the log book.
15. The premises shall have a comprehensive '**Fire Safety Plan**' as per requirements of Annex D Clause D-5, Clause D-9.10 of National Building Code of India 2016, Fire & Life Safety (Part 4) all persons in the premises shall be given instructions and training in "**What to do In Case of Fire**".
16. A "**Fire Command Centre**" should be established in the building as per requirements of '**Annex D**', **Clause D-6** of National Building Code of India 2016, Fire & Life Safety (Part 4).











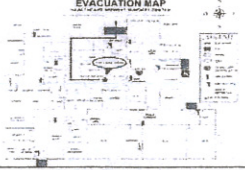


(Signature)
(ASHOK MENON)

DIRECTOR

(Signature)
FIRE & EMERGENCY SERVICES

ANNEXURE

The colour of the Directional and Fire Safety signages shall be **RED** with Graphic symbol in **WHITE** colour and the colour of the Emergency escape signages shall be **GREEN** with Graphic symbol in **WHITE** colour as per IS 9457:2005.

Sr. No.	DESCRIPTION	SIZE (mm)	IMAGES
	Emergency Exit Signages (Photoluminescent)		
1	Emergency Exit light Wall mounted with Rechargeable Battery Backup		
2	Exit Signage	100 X 300	
3	Staircase Identification Signage (Photoluminescent)	100 X 300	
4	Staircase Identification Signage (Photoluminescent)	100 X 300	
5	Fire Alarm Signage	200 X 250	
6	Fire Extinguisher Signage	200 X 200	
7	Hose Reel Hose Signage	200 X 250	
8	Assembly Point Signage	600 X 600	
9	Emergency Escape Plan Signage	A3 Size	
10	Arrow Tape (Line of Escape) Signage	80mm x 10mtr	
11	Signage to be installed near AHU Room, Hub Room, UPS Room Battery Room, Electrical Panel Room etc.	100 X 300	

(R.A. HALDANKAR)
DIVISIONAL OFFICER
CENTRAL ZONE