FIRE SAFETY GAZETTE NOTIFICATIONS

INDEX

Foreword

Covid second wave was in full swing, when I joined as Director General, Fire Services in March, 2021. There was clamour for beds in hospitals from covid patients. The ambulances carrying covid patients from Andhra Pradesh to Hyderabad were stopped by police at border of Telangana State, resulting in some patients dying in waiting ambulances. Seeing such a painful situation unfolding in the State, I asked myself what can I do to ameliorate the situation?

On my desk, found over 300 hospital applications for "No Objection Certificate" with specific "not recommended" status pending. These hospitals don't satisfy 6 meters set back and other requirements for issuing NOC. Carefully weighted my duty of following rules and consequences if I strictly follow the rules which meant denying these hospitals permission to operate and offer much needed beds to patients in distress.(Classic Bhagwat Geeta Arjuna's dilemma). Then decided to waive the rules and granted all 300 hospitals to operate immediately thus providing some relief to public.

Having permitted so many hospitals to operate without following rules, I am responsible for any fire incidents. During the second wave, unfortunately, every week, a major hospital fire was being reported across India particularly in Gujarat & Maharastra. We have studied the root cause of all these accidents and found that they are due to Electrical Short Circuit. Immediately, prepared an "Electrical Safety Checklist" and implemented across all hospitals with the help of Indian Medical Association. In Government hospitals, we have put extinguishers and stationed our fire tenders as these hospitals lacked basic safety measures. Our efforts yielded good results in ensuring accident free Second COVID Wave season in the State even though over 220 people died across India in hospital fires during that period.

Cont....2p.

Learning from those experiences, we have evolved pragmatic methods of handling hospital fires and notified though Government Gazette so that everyone knows what should be done to avert hospital fires. I am particularly thankful to all medical community for enthusiastic reception of this notification and its implementation even in Government hospitals improving safety and reducing costs. For example, this notification has saved Rs. 40 Crores to AP Medical Infrastructure Corporation which has been building 16 new medical colleges in the State.

Incorporating above learnings and analysing major school fire accidents in the country, we have similarly issued a notification for Educational Institutions.

In case of Industries, we have studied major Industrial accidents such as Bhopal Gas Tragedy, Beirut Explosion, LG Polymers Gas Leak and Pasarlapudi Blowout etc. Drawing invaluable lessons from these incidents, we have evolved an ingenious method of preventing such major disasters in the country and issued Gazette notification. This primarily relies on "Disclosure" of Toxic Chemicals information to public and letting the established traditions of Democratic Checks and balances to work their magic as has been done in United States following Bhopal Gas Tragedy through Community Right-to-Know Act. The roles and responsibilities of District Collector and other Officials clearly spelt out to prevent such major incidents.

We have also relived on "Trust but verify" Principle in issuing "No Objection Certificate" to Industry to support "Ease of Doing Business" in the State.

Accepting the challenge of saving the structure of Cold Storage in case of fire incidents (which remained unsolved problem), experimented with liquid Nitrogen, liquid Carbon dioxide and Aerosol. Finding liquid CO_2 being effective, we are acquiring 10,000kg liquid CO_2 tankers/ fire tenders to be stationed in Cold Storage Cluster.

Cont....3p.

Finally, in commercial buildings, we have a major challenge of ensuring safety of people watching movies in multiplexes housed in the top floors of Malls, which have highly inflammable cloth show rooms. In our experience, we found that any cloth showroom fire generates huge amount of smoke and toxic fumes within a short time. No existing fire fighting technology can prevent generation of such smoke and fumes. So the only way is to ensure that smoke, generated in Mall in case of any Fire outbreak, doesn't enter into top floor theatres or escape corridors or exit stair cases at least for an hour so that any family watching movie in multiplex can escape without getting suffocated. This we termed as "Smoke Test" and prescribed it as the basic test that need to be passed by all Multiplexes located in Malls, while giving a list of methods and technologies to accomplish the same.

In addition, we evolved "Smoke Management" for all other commercial buildings as the smoke is responsible for most causalities in fire accidents. Spelling out the above, we issued notification for Commercial/business etc. buildings.

These notifications are issued under the provisions of AP Fire Services Act 1999, which empowered the Director General. They are deemed as the "Provisional No Objection Certificate" for the respective categories of buildings. Similarly, "Occupancy and Renewal No Objection Certificate" issuance has been simplified to support "Ease of doing Business" in the State.

Realising that we are not as strong as Lord Hanuman, who carried entire mountain unable to identify Sanjeevani to save life of unconscious Lakshmana, we have distilled the essence of preventing fire incidents and prescribed in the form of Sanjeevani: "Electrical Safety Checklist"; "Smoke Management"; and "Disclosure" to save lives.

Cont....4p.

The processes of extensive consultation with various stakeholders, listening to their complaints, drawing lessons from major incidents has been very rewarding Public Service experience for me. My sincere gratitude to all officers and men of Fire Department for educating me.

Hope this will be helpful to Public at large.

(PRATAP MADIREDDY, I.P.S.,)

DIRECTOR GENERAL
State Disaster Response & Fire Services,
A.P., Vijayawada.

Sri. Chandra Sekhar, Director, Indian Institute of Management Visakhapatnam:

Dear Shri Pratap garu,

Let me at the outset, congratulate you and compliment you on the issuance of the gazette notification dated 30/9/2022, stipulating the measures to prevent, detect, correct and remediate fire-hazards and the avoidable consequences arising therefrom.

Your notification is seminal in many respects. Admitting that the Fire Dept. was also not adequately prepared in its timely response regarding the LG Polymer case was bold and courageous. It is a sign of the strength of the courage of conviction. The notification citing experiences, case studies and use-cases is another first to your credit.

That hazardous chemical manufacture and storage must have antidotes ready, is a brilliant prescription, leveraging the learning from the experiences gained.

Toxic Release Inventory too is a step in the right direction.

Public Disclosures termed as Democratic Checks and Balances towards better Public Safety is indeed a laudable measure. Public awareness, public-participation and public scrutiny are important measures for shoring up safety. They serve the purpose of "social audits". Putting the power in the hands of the people likely to be affected is a further step in the right direction.

Your approach is appreciation-worthy, inasmuch as it follows the quote of Vince Lombardi, the legendary American football coach. "Perfection is not attainable in this less than perfect world. But if you chase perfection, you will catch excellence".

Mutual aid agreements are a brilliant instrument of improving disaster response.

(Contd..2P)

"Trust and Verify" is also a practical approach for nudging the industries and establishments towards voluntary compliance. Deemed grant of NOCs is thus a good system promoting transparency and ease of doing business.

Conduct of mock drills is a good step towards ensuring continued operability and good functioning of fire-fighting equipment, processes, procedures and practices.

It is also a creative and innovative idea on the use of "Behavioral Insights" and behavior change following the work - Nudge: Improving Decisions about Health, Wealth, and Happiness (2008) by the University of Chicago economist and Nobel Laureate Richard H. Thaler and Harvard Law School Professor Cass R. Sunstein, which you said, prompted you to introduce the scheme of voluntary disclosures.

I must say in conclusion that your proposed steps are people- and industry-friendly and will go a long way in reducing hassles and strengthening the image and identity, vibrancy and visibility of AP as a preferred destination. It is on the strength of measures such as yours that the State has been ranked 1st consecutively for the past three years on the Ease of Doing Business, a matter of great pride.

May you bring out many more transformational measures like this!

Finally, as I mentioned, we are in the process of installing the decentralized, mobile fire-fighting systems as suggested in your notification and stand committed to operationalizing the same, sooner than later.

With warm personal regards,

Chandrasekhar
Director
Indian Institute of Management Visakhapatnam

Registered No. HSE-49/2016

RIGHT TO INFORMATION

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THE ANDHRA PRADESH GAZETTE

PUBLISHED BY AUTHORITY

W.No.2 AMARAVATI, TUESDAY, JANUARY 18, 2022 G.560

PART II - MISCELLANEOUS NOTIFICATIONS OF INTEREST TO THE PUBLIC

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NOTIFICATIONS BY HEADS OF DEPARTMENTS Etc.,

ANDHRA PRADESH STATE DISASTER RESPONSE AND FIRE SERVICES DEPARTMENT

I. Notification to include Plunger Pumps, Fire Engine Pumps etc., to Design "De-Centralised Fire Safety" Systems – Reg.

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1) The basis of power conferred on Director General, Fire Services to issue "No Objection Certificate" for Fire Safety:

As per Section 13 of A.P Fire Service Act,1999 Issue of No Objection Certificate: *.(1) Any person proposing to construct a building of more than 15 meters height for commercial/business purpose, 18 meters and above height for residential purpose, and buildings of public congregation like schools, cinema halls, function halls, religious places, which are more than 500 Sq. Meter in plot area or 6 meters and above in height shall apply to the Director General or any member of the service duly authorized by him in this behalf, before submission of such building plans to the authority or officer competent to approve the same under the relevant law, for the time being in force, for a no objection certificate along with such fee as may be prescribed.*

The Director General or any member of the service duly authorized by him in this behalf, shall within sixty days of receipt of such application, on being ***"Satisfied"*** *about the provision of fire prevention and safety measures as stipulated in the [National Building Code Guidelines, as amended from time to time] or any other law for the time being in force regulating such purpose or activity, shall issue a no objection certificate with such conditions as may be considered necessary and if not so satisfied, reject the same for reasons to be recorded in writing.*

2) The purpose of this notification:

The purpose is to define or elaborate the word ***"Satisfied"*** *to include "Decentralized fire safety" system using plunger pumps, Fire Engine Pumps as an alternative to Conventional "Centralized Down Comer/Wetriser" system in all types of structures/Occupancies. However, the choice is left to the managements.*

3) The nature of the National Building Code of India:

The National Building Code of India(NBC), promulgated by the Bureau of Indian Standards, is a comprehensive Building Code containing ***guidelines*** *for regulating building construction activities across the country. Relevant paragraphs of the "Foreword" to the NBC are extracted hereunder:*

"The Code contains regulations which can be immediately adopted or enacted for use by various departments, municipal administrations and public bodies. It lays down a set of minimum provisions designed to protect the safety of the public with regard to structural sufficiency, fire hazards and health aspects of buildings; so long as these basic requirements are met, the choice of materials and methods of design and construction are left to the ingenuity of the building professionals.

The provisions of this Code are intended to serve as a model for adoption by local bodies, Public Works Departments and other government construction departments, and other construction agencies. Existing PWD codes, municipal byelaws and other regulatory media could either be replaced by the National Building Code of India or suitably modified to cater to local requirements in accordance with the provisions of the Code. Any difficulties encountered in adoption of the Code could be brought to the notice of the National Building Code Sectional Committee for corrective action".

From the above, it is evident that NBC does not have the force of law and is ***not statutory in nature.*** *It serves as a* ***Model Code*** *for adoption by all agencies involved in the building construction works.*

4) The intent or objectives behind Part-4 of National Building Code which deals with "Fire and Life Safety":

An extract from the Foreword to Part 4 of the NBC:

"Absolute safety from fire is not attainable in practice. The objective of this Part is to specify measures that will provide that degree of safety from fire which can be reasonably achieved. ***The Code endeavors to avoid requirements that might involve unreasonable hardships or unnecessary inconvenience or interference with normal use and occupancy of buildings*** *but insists upon compliance with minimum standards of fire safety necessary for building occupants and users".*

5) Power conferred on Director General of Fire Services to remove practical difficulties and to prescribe modern technologies for designing fire safety systems:

Yes, there is.

a) *The 'satisfaction' in 13(2) can be defined to include cost effective, Modern Fire Fighting Equipment that is equivalent or better in effectiveness of dousing fires than the existing conventional Fire Equipment.*

b) *As per clause 5.1 Part II of NBC,2016 : the provisions of the Code are not intended to prevent the use of any material or method of design or construction not specifically prescribed by the Code, provided any such alternative has been approved.*

As per clause 5.2 Part II of NBC,2016 : The Authority (Director General of Fire Services) may approve any such alternative provided it is found that the proposed alternative is satisfactory and conforms to the provisions of relevant parts regarding material, design and construction and that material, method, or work offered is, for the purpose intended, at least equivalent to that prescribed in the code in quality, strength, compatibility, effectiveness, fire and water resistance, durability and safety.

c) *In addition, National Building Code Guidelines, give explicit powers to the Director General of Fire Services to remove hardships and practical difficulties in implementing provisions of National Building Code.*

As per Clause 3.4.2 of Part-IV of NBC,2016: Exceptions and deviations to the general provisions of requirements of individual occupancies are given as applicable to each type of occupancy in 6.1 to 6.9. In case of practical difficulty or to avoid unnecessary hardship, without sacrificing reasonable safety, local head, fire services (Director General, Fire Services) may consider exemptions from the Code.

6) The Conventional Fire Fighting System:

(a) Conventional system is designed to have 3.5kg/cm² water pressure in downcomer/wet riser pipe. This pipe is run across all parts of the building/structure and hose reels are kept @ each floor of the building so that we can

get a water jet @3.5kg/cm^2 pressure in case of fire accident. This pressure is accessed by manually attaching hose reel to the downcomer / Wet riser by any person happens to be present in the building on fire. To do it properly, all occupants of the building are expected to undergo training about using the hose reel, fixing to downcomer /wet riser system. This system is designed to have various levels of discharge of water ranging from 180 L.P.M to 900 Liters per Minute.

(b) To maintain this pressure of 3.5kg/cm^2 in Down Comer/Wet riser pipelines, a pump house having combination of i) Jockey Pump of min.10 H.P ii) Booster Pump of min.10 H.P iii) Electrical Main Pump of min.40 H.P and iv) Diesel Standby Pump of of min.40 H.P Capacity is being installed at the basement/Ground Floor of every building. These machines need to kept on always "Auto Mode" or "Live Mode" so that in case of any pressure of water reducing below 3.5kg/cm^2 in Down comer/Wet Riser pipeline, the above mentioned pumps automatically start functioning to maintain the water pressure in thepipeline.

This maintenance of water pressure is to be done even when normal electrical power to the building is switched off, because we don't know when the fire accident breaks out. In addition, the standard advice/Precaution is to switch off main electrical power to the building in case of any fire accident. Therefore, the system of pumps/machines are designed to work continuously (i.e., 24/7 and 365 days non-Stop) so that we can access water jet of 3.5 kg/cm^2 through a hose pipe as and when fire accident happens. This is in short description of "Conventional Centralized Fire Fighting System"

This is the only solution being used or prescribed to meet the satisfaction of Director General, Fire Services as noted in Section 13(2) of A.P Fire Service Act,1999.

As such, this Conventional system is being installed to satisfy the requirements of issuing NOC in all types of buildings ranging from schools, Hospitals, Multistoried buildings, Malls, Office Towers, Star Hotels, Green Industries and even in Chemical factories.

It is like ***"Wielding a hammer and assuming that all fire situations/ problems are like nails which can be solved by single solution of using hammer".***

7) The practical difficulties /hardships in using conventional Fire Fighting System:

Using the conventional system in all types of buildings has resulted in following hardships and practical problems. Let us examine the following fire accidents that happened wherein the conventional system failed in its basic purpose.

i).Wal-Mart India Pvt Ltd., Vijayawada: *The Wal-Mart building is a Wholesale shopping mall constructed as a single block in a total extent of approx.5 acres of land with around 6,000 Sq.Mtrs built-up area in prime area of the city. The building was equipped with conventional Fire Fighting equipment as per National Building Code of India like Automatic Sprinkler System, Automatic Detection & Alarm system, Yard Hydrant & Wet Riser system.*

On 10.07.2016, early hours, a fire accident happened, and the entire mall & material turned into ashes. Though the conventional automatic sprinkler system was installed and but not in working condition, as management "turned off" water due to leakages from pipelines and such leakages can spoil the goods stored in the mall. Therefore, the conventional system is not appropriate to this application.

***ii). Sri Kanya Sneha complex** consisting of three theatre screens is located at Gajuwaka Visakhapatnam. The theatre complex was refurbished in the year 2013 with all facilities.*

On 17 September 2018 in the early hours, a fire accident happened. At the time of incident, the automatic sprinkler system, water pump house and detection system were kept on "switched off" 'mode and hence the system did not respond to the fire in the incipient stage. This is done to prevent leakages from fire pipes which got corroded due to coastal environment. This shows that the conventional system is not technically suitable to coastal areas.

***iii).Swarna Palace, Vijayawada** was running as a hotel occupancy since 20 years, which is three star category hotel. Due to corona, the hotel was temporarily converted as Covid hospital in the first wave. The hotel was provided with all the conventional firefighting equipment like the Wet Riser, Sprinkler's system, Terrace Pump and Terrace Water Tank. In the last 20 years, no fire incident occurred in the hotel.*

On 9th August 2020 at 4:50 AM, fire accident happened near electrical panel board and the reception staff noticed the fire and tried to extinguish the fire with the available hose reel system, but the pipelines are not charged with water and hence they could not douse the fire. Consequently, the fire spread to the first floor and second floor, and the smoke engulfed into the entire building. The inmates in the building who tried to rush out due to panic were affected by the toxic smoke and about 10 patients died due to suffocation. The management of the building closed the water valve that is meant for charging the sprinkler system and "down comer" system as the pipes were leaking due to corrosion.

***iv).RAK ceramics Private Limited** is UAE-based Company manufacturing various ceramics like tiles, sanitary ware, tableware commodities and washbasins. The industry is located near Peddapuram in East Godavari district with an extent of hundred acres.*

It is a low hazard industry but installed the conventional equipment like Hose reel, Wet Riser, Hydrant system and pump house.

On 1 November 2018 at 11:30 AM fire mishap occurred near engineering store and maintenance room due to spark while welding work was going on. The fire then rapidly spread to the tile store area where all the staff are available at the site and noticed the fire within time and tried to use hose reel and yard hydrant, however, the pumps were not kept in working condition and hence the whole system failed leading to huge loss of property worth Rs.30 Crores. It shows that the conventional system is very fragile and requires lot of maintenance with qualified technical staff.

v) Azico Biophore Pharmaceutical Industry, Visakhapatnam: *The pharma firm caught fire in 2016. The Industry is situated near sea coast. The management has provided all conventional Fire Fighting Equipment. However, due to corrosion of MS Pipes, the Fire Pipe Lines was damaged and structurally weakened. It was noticed that,* ***the MS Pipes got rusted very early before the specified lifetime.*** *As, replacement was not done leading to huge loss of property as the conventional system failed in its basic purpose. This shows that there is a need for corrosion proof system in coastal areas.*

vi).Cold Storage Fires: *On Observation of Cold Storages Fires in Guntur District, it was found that once the cold storage catches fire it would result in complete burning of stored material and even the entire structure collapses even though the Conventional Fire Fighting System in good working condition due to the difficult and inaccessible nature of entry into the cold storage building. Further,* ***the provision of sprinkler system may result in damage of the stored material. (red chilies) in case of any leakage.*** *This shows that conventional system is not suitable to cold storages.*

vii). Ware Houses and processing units in Pharma/Chemical Industries: *The provision of sprinkler system in Pharma/Chemical industries is not advisable due to presence of water reactive chemicals stored/processed in such industries. Any water leakage incident in such plants may lead to disastrous consequences, which pose the real danger than any fire accident.* ***Especially in Drug Formulation Units, the water in sprinkler/Down Comer System can foster microbial growth. Hence, the sprinkler system is not advisable in such plants/industries.***

8) A better way of having water jet at 3.5kg/cm² pressure (as per table-7 part-IV of NBC,2016Guidelines):

Yes, there is. We can design a decentralized system that can produce 3.5 kg/cm² or even 10 times higher pressure using " Plunger Pumps" and "Fire Engine Pump".

*The new **plunger pumps** can generate 10 times more water pressure at a press of a button in case of any fire accident. These pumps do not need the pump house and it's associated complex machinery. It can be simply connected to normal existing plumb lines of any building and therefore doesn't need any dedicated down comer/Wet Riser pipelines. Therefore, this system is corrosion proof.*

Wherever " Fire Load" is expected to be very high/ Highly hazardous, Fire Engine Pump can be used in design of Fire safety equipment in this Decentralized system in place of Centralized fragile conventional system.

9) The types of decentralized pumps like plunger/Fire Engine pumps:

(a) Plunger Pumps are available from 2 HP to 16 HP and can be driven by corresponding 2 HP to 16 HP petrol engine or electrical motors.
*(b) These pumps can be fitted on to a mobile frame and can be carried from building to building or floor to floor just like a **" suitcase on wheels"** as they don't weigh more than 15KG.*
(c) Fire Engine Pumps of Centrifugal and exhaust ejector pumps.
All the above pumps are ISI certified and widely available in the market.

10) The Decentralized pumps like plunger/Fire Engine pump designed:

The plunger pump system is designed to produce water pressure of 40 kg/cm² to 200 kg/cm² and water discharges of 15 to 80 liters per minute. These pumps discharge water both in the form of mist and jet. Due to high-pressure, these pumps can throw water from 15 feet to 30 feet.

The fire engine pump is designed to produce water discharge ranging 180 to 20,000 Liters per minute. The design of water pressure should be customized by increasing water head based on Fire Load requirements in the building.

This system requires less water storage in buildings, enables firefighting from a distance and more efficient due to high water pressure and ability to generate 'mist'.

11) Water mist – Working Principle:

Water mist system is a fire protection system, which uses very fine water sprays (i.e., water mist). The small water droplets allow the water mist to control, suppress, or extinguish fires by ***cooling both the flame and surrounding gases by evaporation, displacing oxygen by evaporation.***

When water mist is used, it generates several other extinguishing effects that destroy the conditions necessary for fires to burn, and/or which can result in neutralizing the actual combustion.

1. Heat extraction:

The large water surface formed by the small droplets creates the conditions for an optimal exchange of energy between the water mist and the surrounding area. When the water droplets come into contact with the fire, they extract the heat until they evaporate. Of all known extinguishing materials, water has the highest evaporation enthalpy (2442 J / g).

2. Inerting effect:

The water mist is drawn into the fire by the air, where due to the high heat, it quickly evaporates. Due to the enormous increase in the volume of the water droplets as they evaporate, the oxygen is displaced at the source of the fire, and the fire is extinguished.

Additional positive side effects are the precipitation of gas, the leaching of smoke and gas, the increased safety for fire crews and personnel (because water mist lowers temperatures faster than any other medium, neutralizes the effect of smoke and cools down the objects).

12) Effectiveness of water mist in fighting fires:

Water mist has a central advantage over the conventional water jet, in that the mist can penetrate everywhere and thus cool and extinguish very efficiently. The advantage of such smaller droplets is that they create a larger water surface and can therefore, form a larger surface area to transport heat. The fine mist also has a lower sedimentation speed and can envelop the burning object. It can often even reach into hidden sources of fire that cannot be reached with traditional hoses.

The water mist allows more heat to be extracted from the source of the fire and the cooling effect has a very positive direct impact on the ambient temperature. Water mist also quickly binds and precipitates smoke and particles of soot.

13) The decentralized system using Plunger Pumps, Fire Engine Pumps etc., help to resolve the practical problems/Hardships highlighted in para.7:

Yes. It does.

In Fire Fighting, the most important thing for effective fire control is to use water at high pressure and minimize the discharge so that we do not exhaust water quickly. High pressure enables us to spray water in mist form, which is highly effective in controlling fires.

Exactly the plunger /Fire Engine pump is having such features.

*1) **In the case of Walmart India Private Limited Fire incident at Vijayawada**, the sprinkler system was not activated and that has affected the other fire protection systems, which failed due to system complexity in conventional system.*

Alternatively, if the plunger pump was in place, the staff could have used it immediately after noticing the fire and control it at the incipient stage only. The Plunger pump is flexible and easy to operate and can be put into operation at each floor thereby making firefighting very effective in controlling the fire at initial stage itself. Thereby, such a huge loss of property could have been avoided.

*2) **In the case of Sri Kanya theatre fire accident at Visakhapatnam,** the conventional fire fighting system components like Sprinkler Line & Hydrant Line were cut off from Water and Detection system was switched off and pump house was not in 'auto mode'. Therefore, all fire safety systems were ineffective and the fire could not be controlled by the conventional system.*

If we use Plunger pump system, after noticing the fire, it would have controlled the fire quickly with less quantity of water by Mist as it covers more surface area in fire when compared to water jet of conventional system.

*3) **In Swarna Palace fire accident and RAK ceramic incident,** the management noticed the fire and tried to douse with the available Conventional Firefighting equipment but due to non-availability of water in the pipelines, as the pumps were in working condition, the fire spread to the entire building.*

In those situations, if the New Plunger pumps are available at the site, the maintenance staff themselves operate the pumps easily to extinguish the fire at incipient stage, as each plunger pump is independent. Given that these are multiple pumps in any factory, failure of any one pump wouldn't have hampered firefighting efforts.

*4) **In Azico Biophore Pharmaceutical Industry fire accident,** the MS pipeline used in Wet riser system got rusted and small holes formed due to close proximity of industry to the Sea Coast, and the charged water was not effective, as it could not reach the fire spot with required pressure due to leakages in the pipe.*

The new technology Pumps like plunger or fire engine pumps are made of non-corrosive steel material and the suction/delivery of water is also through plumbing pipeline made up of plastic, which never gets rusted and very effective during fire. These pumps are more resilient and resist corrosion, hence effective for firefighting.

14) Comparison of Centralized system with Decentralized system using plunger pumps:

***(a) Cost Effectiveness:** The Decentralized system using New Plunger Pumps costs about 20% of the cost of installation of the conventional Fire Fighting Systems.*

***(b) Ease of Operation:** The Plunger Pumps are easy to operate and does not require technical training whereas Conventional Fire Fighting System requires technically trained persons for operation.*

These New Plunger Pump systems can also be useful in day-to-day activity such as Floor Cleaning, Wash Room Cleaning and Gardening etc. This day to day familiarity with new system, leads to better maintenance and "ease of use" in time of Fire Accident, which is a high stress event causing panic. Due to everyday use, people will not be afraid to use in case of fire. The conventional equipment is coloured red, can't be used for other purposes and designed to be used with trained persons only in case of fire accident.

As the Fire Accidents are low frequency events or happen rarely(less than once in 10 years), exclusive usage led to poor maintenance of the installed equipment.

In fact, in the recent major fire incident at Swarna Palace, Vijayawada in which 10 people lost their lives, the conventional system didn't function at all due to poor maintenance.

This malfunctioning can be clearly avoided in the Decentralized plunger pump based system as it can be regularly used for maintenance purposes.

(c) Maintenance: *The maintenance cost to replace the parts and peripherals in conventional Firefighting System is high and takes time but where as in the Decentralized System, the maintenance cost is low and doesn't required qualified engineers.*

(d) Resilience: *In case of Fire emergency/incidents at adjacent/nearby Buildings/Blocks, a mobile fuel Plunger pump of 5 or 16H.P, is flexible to be shared from neighborhood buildings in the area due to its mobility. In addition, it enables easy sharing of water from neighboring premises, if any additional requirement of water is required, whereas, the conventional system is not mobile as it is rigidly fixed to the buildings and can't be shared.*

(e) System Complexity: *In Conventional Fire Fighting Systems, two or more pumps were interconnected with various peripherals. In such complex system, if any component fails the whole system become futile. Decentralized plunger pump system, the pumps are independent units and can be mobile. So, even if some of them fail, other pumps can be used to douse fires as any building has multiple pumps.*

(f) Corrosion: *The conventional Fire Fighting components were manufactured with MS (Mild Steel) it leads to the corrosion due to the hardness of water and the atmospheric conditions, where the system is charged with water under the pressure of 3.5 Kg/Cm2 all the time. Further it will lead to leakage in various components thereby sometimes the input valves were shut off manually. In such cases, during any fire emergency the conventional system cannot be operated instantly.*

The Decentralized system using plunger pumps is made with non-corrosive materials. Hence, the above problems don't occur.

(g) Discharge Water and pressure: *The pumps in the conventional Fire Fighting systems were 450/900/1620/2280/2850 LPM (Liters per minute) water discharge with a single impeller, but the water pressure is 3.5 kg/cm² .So the volume of water discharge is very high but pressure is low. Hence it can discharge water only in Jet form, thus requires large storage of water.*

But in the Decentralized system using plunger pumps, the volume of water discharge is low (20 LPM to 80 LPM). However, the pressure of water discharge is very high (40 Kg/cm² to 120 kg/cm²) which can generate mist which is very effective in dousing fires, thus requires less storage of water.

In case more water discharge is required for any application , then more than one pump (16 HP) can be installed. It further enhances reliability and is still very affordable as it costs less than 20% of Conventional system.

In Decentralised system, for very high fire load applications, fire engine pump can be included that can produce water discharge ranging 180 to 20,000 Litres per minute.

(h) Power Consumption: *This pressure of water is maintained 24/7, 365 days so that water is available @3.5kg/cm² pressure when any fire accident happens. For maintaining such pressure, lot of technical equipments such as Electrical Pump, Diesel Pump and Jockey pumps etc., are installed. They need to be 'ON' all the time and hence this centralized system consumes power every hour, whether there is accident or not.*

Whereas, plunger pumps generates 40kg/cm² and upto 200 kg/cm² water pressure whenever required. There is no need to operate the pumps 24/7 and 365 days but they can be made operational when any fire accident breaks out instantaneously. Therefore, there is no wastage of power continuously in this system.

(I) Availability:

Various plunger pumps with ISI mark are available in the market from 0.5 Hp capacity to 200 Hp respectively. Indian Companies like Greentech, Kisan, Ultra Jet, Pressure Jet and Ambica Tools are the leading manufacturers of these Plunger Pumps.

These plunger pumps are same as the mist generating pumps which are widely employed in Indian Railways in the cleaning of coaches, Tracks, Wash room and Platforms etc.,and also used in Hydro Jetting, Hydro Blasting, High pressure Cleaners, Hydro static testing, Sewer Cleaning, Drain Jetty pumps and Wet sand blasting. Therefore, they are widely available and affordable.

(II) Fire Engine Pumps:

The Fire Engine pumps manufactured by leading companies like Wadia, Firex, Fireply, kirloskar, Grandfos and godiva , which are ISI certified pumps and widely available in the market. Different water discharge capacities of pumps ranging from 180 to 20,000 LPM are available. Most of the Fire Engines in India are mounted with these pumps only.

15) Experts:

The following experts have tested the plunger pumps and Decentralized system.

Sl.No.	***Name***	***Name of the University***	***Qualification***
i.	*Prof. K.N.Satyanarayana*	*IIT, Tirupati*	*PhD Civil Engineering*
ii.	*Sri P.C.Ramesh Kumar*	*R & B Chief Engineer*	*M.Tech, LLB*
iii.	*Prof. S. Srinivasa Prasad*	*V.R. Siddartha Engineering college*	*PhD Mechanical Engineering*
iv.	*Prof. Manas Kumar Pal*	*VIT – AP Campus*	*PhD Mechanical Engineering*
v.	*Prof. N. Venkata*	*SRM University*	*PhD Mechanical Engineering*
vi.	*Sri D. Seshi Reddy*	*KL University*	*M Tech, EEE*

They have opined that the "Decentralized system" is better than conventional "Centralized system"

16) In view of the circumstances as explained above and in accordance with section 13(2) of AP Fire Service Act,1999, the Director General, Fire Services clarifies that the word 'Satisfaction' includes Decentralized fire safety system using Plunger pumps, Fire Engine Pumps as an alternative to conventional Down Comer / Wetriser system in all types of structures / Occupancies. However, the choice is left to the managements.

PRATAP MADIREDDY,
Director General,
AP State Disaster Response
and Fire Services.

ANDHRA PRADESH STATE DISASTER RESPONSE AND FIRE SERVICES DEPARTMENT

II. Notification of Alternatives to Water Sprinklers in Design of Fire Safety Systems–Reg.

@@@@

1) The basis of power conferred on Director General, AP Fire services to issue No Objection Certificate for Fire Safety:

(1) As per Section 13 of A.P. Fire Service Act, 1999 Issue of No Objection Certificate: (1) Any person proposing to construct a building of more than 15 meters height for commercial/business purpose, 18 meters and above height for residential purpose, and buildings of public congregation like schools, cinema halls, function halls, religious places, which are more than 500Sq. Meter in plot area or 6 meters and above in height shall apply to the Director General or any member of the service duly authorized by him in this behalf, before submission of such building plans to the authority or officer competent to approve the same under the relevant law, for the time being in force, for a no objection certificate along with such fee as may be prescribed.

(2) The Director General or any member of the service duly authorized by him in this behalf, shall within sixty days of receipt of such application, on being **'satisfied'** about the provision of fire prevention and safety measures as stipulated in the [National Building Code Guidelines, as amended from time to time] or any other law for the time being in force regulating such purpose or activity, shall issue a no objection certificate with such conditions as may be considered necessary and if not so satisfied, reject the same for reasons to be recorded in writing.

2) The purpose of this notification:

The purpose is to define and elaborate the word **"satisfied"** to include the following six alternative technologies to conventional water sprinkler system in all types of structures /Occupancies. However, the choice is left to the managements.

1. Installation of Temperature and Heat Sensors connected to hooters.
2. Aerosol Automatic extinguishing devices.
3. Dry Chemical Powder modular system.
4. CO_2 flooding system.
5. N_2 flooding system.
6. The clean agent flooding system.

3) Nature of the National Building Code of India:

The National Building Code of India(NBC), promulgated by the Bureau of Indian Standards, is a comprehensive building code containing ***guidelines*** *for regulating building construction activities across the country. Relevant paragraphs of the "Foreword" to the NBC are extracted hereunder:*

"The Code contains regulations which can be immediately adopted or enacted for use by various departments, municipal administrations and public bodies. It lays down a set of minimum provisions designed to protect the safety of the public about structural sufficiency, fire hazards and health aspects of buildings; so long as these basic requirements are met, the choice of materials and methods of design and construction are left to the ingenuity of the building professionals".

"The provisions of this Code are intended to serve as a model for adoption by local bodies, Public Works Departments and other government construction departments, and other construction agencies. Existing PWD codes, municipal byelaws and other regulatory media could either be replaced by the National Building Code of India or suitably modified to cater to local requirements in accordance with the provisions of the Code. Any difficulties encountered in adoption of the Code could be brought to the notice of the National Building Code Sectional Committee for corrective action".

From the above, it is evident that ***NBC does not have the force of law and is not statutory*** *in nature. It serves as* ***a Model Code*** *for adoption by all agencies involved in the building construction works.*

4) The intent and objectives behind Part-4 of National Building Code which deals with "Fire and Life Safety":

An extract from the Foreword to Part 4 of the NBC:

*"Absolute safety from fire is not attainable in practice. The objective of this Part is to specify measures that will provide that degree of safety from fire which can be reasonably achieved. (****The Code endeavors to avoid requirements that might involve unreasonable hardships or unnecessary inconvenience or interference with normal use****) and occupancy of buildings but insists upon compliance with minimum standards of fire safety necessary for building occupants and users".*

5) Power conferred on Director General of Fire Services to remove practical difficulties and to prescribe modern technologies for designing fire safety systems:

Yes, there is.

a) *The 'satisfaction' in 13(2) can be defined to include cost effective, Modern Fire Fighting Equipment that is equivalent or better in effectiveness of dousing fires than the existing conventional Fire Equipment.*

b) *As per clause 5.1 Part II of NBC,2016 : the provisions of the Code are not intended to prevent the use of any material or method of design or construction not specifically prescribed by the Code, provided any such alternative has been approved.*

"As per clause 5.2 Part II of NBC,2016 : The Authority(Director General of Fire Services) may approve any such alternative provided it is found that the proposed alternative is satisfactory and conforms to the provisions of relevant parts regarding material, design and construction and that material, method, or work offered is, for the purpose intended, at least equivalent to that prescribed in the code in quality, strength, compatibility, effectiveness, fire and water resistance, durability and safety."

c) *In addition, National Building Code Guidelines, give explicit powers to the Director General of Fire Services to remove hardships and practical difficulties in implementing provisions of National Building Code."*

"As per Clause 3.4.2 of Part-IV of NBC, 2016: Exceptions and deviations to the general provisions of requirements of individual occupancies are given as applicable to each type of occupancy in 6.1 to 6.9. In case of practical difficulty or to avoid unnecessary hardship, without sacrificing reasonable safety, local head, fire services (Director General, SDR & Fire Services) may consider exemptions from the Code."

d) *NBC-2016, 6.7 Industrial Building , 6.7.2.3 The following shall apply to high hazard industrial Occupancies:*

NOTE : All high hazard industrial occupancies shall have automatic sprinkler system or ***'such other protection'*** *as may appropriate to the particular hazard.*

e) *In place of water-based sprinkler system by treating the alternative system under* ***'any other'*** *indicated in sl.no.12 of the form no.10 under rule 26(1) of A.P. Fire and Emergency Operations&LevyofFeeRules,2006.*

6) About Water sprinklers:

Activates automatically with in the first few minutes of a fire breaking out. Sprinkler systems are designed to Limit damage to the building and Property, in case of unmanned/unnoticed areas. Otherwise, the fire exposed areas of building get over heated and decomposes concrete material leading to structural failure.

As per Table-7 part-IV of National Building Code guidelines prescribes installation of water sprinkler system in the following places:

i. *Any Building having the Basement/Cellar area exceeding200m^2.*
ii. *Residential Buildings height more than45meters.*
iii. *Hotel Buildings, where Floor area exceeding 1000 m^2 on any floor and Hotel Buildings height more than 15meters.*
iv. *Institutional Buildings height morethan15meters.*
v. *Assembly Buildings height more than 15meters.*
vi. *Business Buildings height more than 15 meters.*
vii. *Mercantile Buildings height more than15meters.*
viii. *Industrial Buildings comes under Moderate Hazard and High Hazard.*
ix. *Storage Buildings, irrespective of area and height.*
x. *Hazardous Buildings, irrespective of area and height.*

So, National ***Building Code (NBC)*** *Guidelines prescribe Sprinklers to protect buildings and their occupants from fire in almost all structures/ buildings.* ***However, these systems are typically intended to protect structures, not building contents or the ongoing operations of the business inside a building. Therefore, Hardships/Practical difficulties have arisen in various applications.***

7) The Conventional water Sprinklers System:

Automatic Sprinkler System is a Water Based System with water pipes fitted with sprinkler heads at suitable intervals and heights and designed to actuate automatically, control and extinguish fire by the discharge of water". This requires installation of centralized Down comer/Wet riser system so that we maintain and get required water pressure 24/7 and 365 days in the pipes that connect to sprinklers, as and when the sprinklers get activated due to heat or rise in temperature.

The disadvantages of such centralized system of maintaining water pressure, we have discussed and to overcome the practical difficulties/Hardships involved such system, we have notified "decentralized system" in Gazette.

8) The practical difficulties/hardships faced with water sprinklers:

i. Installing Sprinklers in Urea Go-down at Nagarjuna Fertilizers Limited:

The Nagarjuna Fertilizers and Coromandal Fertilizers Company, Kakinada is a manufacturer of fertilizer products like Urea, Ammonium Phosphate, Potash...etc. The plant is located right near the seacoast of Kakinada. As per NBC, it is required to provide Automatic Sprinkler System at storage warehouse as per table-7 part-IV. If any of the water sprinkler malfunctions and water gets leaked, the stored material gets damaged. ***Because of these technical reasons the company hesitated to install sprinklers in their go-downs. But the department denied to issue No Objection Certificate on this account for '4' years. Thus, in those areas, the traditional Automatic water Sprinkler System technically is not appropriate.***

ii. Installing Sprinklers in ITC Virginia Tobacco Godowns:

The ITC, Guntur is a leading tobacco buyer and quality tobacco exporter. They store Virginia tobacco (highest quality tobacco in the country, a premium product) at their go-downs. As per the National Building Code guidelines, the fire department personnel have insisted upon installation of sprinklers system in their godowns. But the Company hesitated, so the NOC was denied for two years on this account. If any malfunctioning of Automatic Sprinkler system occurs, the quality of the tobacco meant for export purposes will be degraded and it leads to huge damage to the value of the stored material. ***Therefore, mandating installation of sprinklers system causes genuine hard ship to the company.***

iii. Installing Sprinklers in Electronic Industry:

Foxconn and Cell one, electronic manufacturing Industries are situated at Sri city, Tirupati respectively in the State. Every Electronic Industry has a process to deal with the semiconductors, which are highly water sensitive in nature. As per the NBC guidelines, Automatic Sprinkler System has been insisted upon by the fire department, however, it is not technically appropriate to install. If Automatic Sprinkler System provided in the said Industry malfunctions, it may lead to vigorous and violent reaction. ***Therefore, it is a genuine practical difficulty.***

iv. Installing Sprinklers in Cold Storage Godowns:

There are about 278 Cold Storage Godowns existing in the State. Every Cold Storage Godown maintains the ambient temperate between (-2°c to 6°c). As per NBC guidelines, Fire Department insisted upon installation of sprinkler system. If Automatic Sprinkler System is provided, the water inside the Sprinkler system pipes gets frozen as the temperature inside the Cold Storage Go-down sometimes goes below 0°c and the purpose of the Sprinkler system will not be served.

Most godowns are used for storing red dry chilies, any water leakage from sprinklers will result in discoloring/damage to the red chilies. In addition, the sprinkler system occupies lot of economic space of the go down. ***Due to the above two critical reasons, which present genuine practical difficulties, none of the cold storages godowns in the State have installed such sprinklers and are functioning without obtaining any 'NOC' from the fire department unable to meet impractical conditionalities.***

V. Corrosion Environment: *Andhra Pradesh is having 981 KM of coastal line and major cities and industrial Occupancies are located near to sea. The corrosive nature of atmosphere near the sea, results in development of holes in iron pipes used in down comer or wet riser system that is necessary for working of water sprinklers system. Therefore, it is challenging to maintain the water sprinklers in working condition as they require continuous maintenance and frequent replacement.*

In fact, to overcome such leakages in pipes, may managements be closing valves to stop circulation of water at pressure in those pipes thus defeating the very purpose of installation of the system.

In fact, in 2020, in Swarna Palace @ Vijayawada, the management unable to maintain the frequently rusting/leaking pipelines, have stopped water from circulating in the fire pipes. For many days, nothing happened. But when, the fire accident happened on 9th Aug, 2020, the inmates tried in vain to get water from the preinstalled pipes, as there was no water, resulting in death of 10people.

Therefore, in corrosive coastal environment, we need to reduce/eliminate use of iron/GI pipes and find alternatives to this genuine and serious practical difficulty.

Vi) Pharmaceutical/Chemical Industries:

1. Solvent yard:

Solvents include different volatile chemicals like toluene, ethanol, methanol, benzene etc., and toxic chemicals like ammonia, chlorine..etc. These solvents are Poisonous and corrosive. Any water leakage results in chemical reactions with the solvents and chemicals stored. In fact, water is not the right medium to fight Fires in such chemical storage areas technically. Still Fire Department has been insisting on Sprinkler system installations citing NBC Guidelines. ***The pharma industry managements have given representation citing it as a genuine particular difficulty.***

2. Processing/Manufacturing areas:

In all pharma manufacturing blocks, most of the chemicals used in the manufacturing process are water reactive chemicals. Any accidental release of water from the sprinklers may cause spontaneous fire / explosion. In view of that, it is not recommended to provide the sprinkler system in these processing blocks and ***hence it needs to be removed supplanting with better system.***

3. Formulation unit:

Especially in Drug Formulation Units, the water in sprinkler/Down Comer System can foster microbial growth, which is dangerous for safe making of drugs as per FDA regulations. Hence, the sprinkler system is not advisable in such plants/industries.

Vii). In Addition, the Conventional automatic sprinkler system are not Technically feasible to be installed in the following premises:

1) *where the water reactive materials are stored.*
2) *where crane movement up to roof level of the building.*
3) *Where Electrical Traction with testing process is carried out.*
4) *Where, Electronic goods/Servers are located.*
5) *Where painting process is undertaken.*
6) *Where the ambient temperature is maintained below4°C.*
7) *Where processing of non-metals which are water reactive, is carried out.*
8) *Where Boiler areas/Silos areas are located.*
9) *Where the height of single roof building is more than17meters.*
10) *Where the Operation theatres, X-ray theatres and Radiation related Activities are carried out.*
11) *Where Cable galleries, Electrical Transformer are located.*

9) The alternatives to Water Sprinkle system:

The following are the alternatives to water sprinkler system:

a. *Installation of Temperature and Heat Sensors connected to hooters.*
b. *Aerosol Automatic extinguishing devices.*
c. *Dry Chemical Powder modular system.*
d. *CO_2 flooding system.*
e. *N_2 flooding system.*
f. *The clean agent flooding system.*

10) Temperature or Heat Sensors work during Fire conditions:

"Temperature Sensor" *is a device that will trigger the alarm whenever it sense the temperature above a designed temperature and also sends alerts and messages to the concerned people including the Fire Service Department.*

11) The aerosol extinguishing system:

The aerosol employs a fire extinguishing agent consisting of very fine solid particles and gaseous matter to extinguish fires.

Aerosol Equipment can be used in all class of Fires in confined Area. It has different models:

- Manual Model
- Electrical Model
- Thermal Model (Which can also be used with Sprinkler Activation as an alternate to water Sprinkler System)

Advantages:

- Installation is very easy
- Do not require Pipe, Pumps & Water etc.

12) Dry Chemical Powder modular system works:

(i) Smothering, cooling and shielding heat transfer contribute to the fire extinguishing characteristics of dry chemical agents. Dry chemical suppression not only offers protection for local areas or specific pieces of equipment but can also be used as a total flood system for enclosed rooms or spaces. These chemical agents are nonconductive and are used to protect a variety of fire hazards such as electrical transformers, flammable liquids and fuel truck loading racks.

(ii) Pharmaceutical industry:

In the process, where water reactive chemicals are used, Dry Chemical modular System built with temperature sensitive bulb can be very effective alternative to water sprinkler system.

13) N_2 flooding system works:

It uses nitrogen gas to displace oxygen from the fire source to put off the fire. Due to its inert and lightweight physical properties, Nitrogen gas is an excellent choice for use in closed electrical systems.

14) Co2 flooding system:

A fixed installation designed to displace the oxygen with Co2 in the enclosed buildings/ godowns and thus extinguish the fire.

15)Clean agent fire suppression system:

Clean agents as electrically non-conductive, volatile, or gaseous fire extinguishing agents that do not leave a residue upon evaporation. Clean agent fire suppression systems help extinguish fires in their incipient stages. They use gas instead of water to put out the fire without causing damage. When heat or smoke is detected, a signal is sent to the system that sends the clean agent directly to the hazardous area, usually within 10seconds.As the clean agent fills the room, the heat is absorbed which suppresses the fire.

Some examples of facilities that commonly use clean agent fire suppression systems include:

- *Laboratories and medical facilities with equipment*
- *Spaces that house critical building infrastructure*
- *Flammable liquid storage areas*
- *Museums*
- *Digital data repositories and record repositories*
- *Libraries*
- *Telecommunication centers*
- *Server rooms*

16) In view of the circumstances as explained above and in accordance with section13(2) of AP Fire Service Act,1999,the Director General, Fire Services clarifies that the word 'Satisfaction' includes the above six alternatives to conventional Water Sprinkler system as mentioned in Para.9 in all types of structures/Occupancies. However, the choice is left to the managements.

PRATAP MADIREDDY,
Director General,
AP State Disaster Response
and Fire Services.

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PART II - MISCELLANEOUS NOTIFICATIONS OF INTEREST TO THE PUBLIC

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NOTIFICATIONS BY HEADS OF DEPARTMENTS Etc.,

ANDHRA PRADESH STATE DISASTER RESPONSE & FIRE SERVICES DEPARTMENT

Lr.C.No.20 / DGFS / Camp / 2022. **Date: 21-04-2022.**

NOTIFICATION ON SETBACKS & OPEN SPACES

A) The purpose of this notification:

(i) About Setbacks & Open Spaces :

In case of "Setbacks & Open Spaces" the Director General, has chosen to go by the Local laws enforced by the Local buildings licensing authorities in the State of Andhra Pradesh as per Section 13(2) of Andhra Pradesh Fire Services Act, 1999 in Public Interest.

(ii) Mode of measurement of Height of buildings:

In Andhra Pradesh, Local Building Licensing Authorities treat (Stilt + 05 Floors) as buildings below 18 Meters in Height for residential purpose and (Ground + 04 Floors) as buildings below 15 meters in Height for commercial and business purposes. This will ease the burden of administration for measurement of the Height of the buildings from different adjacent roads which may be on different elevations causing confusion. We decided to adopt the definition of Local Building Licensing Authority as 'few feet above or below 18/15 Meters as the case may be', will not make much difference in fire fighting operations for issuing Fire " No Objection Certificate".

B) Whether the 'Fire Safety' can be ensured given the above?

This is an important consequential question. There are two aspects.

First, the question of fire fighting. This is be easier if we have large setbacks as mandated under National Building Code guidelines. However, under the Setbacks mandated by the local Laws, we can effectively fight fire as the "Hose Reels" which carry water under pressure to fight fire are very flexible and can be carried more than one kilometer away from fire tender to fight fires. In fact, we have been successfully attending to fire accidents in all buildings constructed before, 2006, the year AP Fire and Emergency Operations and Levy of Fee Rules, came into being, even though most of these buildings have no "Setbacks & Open Spaces". In addition, we have been successfully controlling fires in slum areas where even fire tender can't approach near to buildings from any side. Moreover, statistically, there are no more fires or fire related deaths in these buildings compared to those that comply with NBC guidelines prescribed setbacks. In addition, states like Delhi/Maharastra have removed the requirement of setbacks prescribed by NBC. This is because of availability of appropriate technical means in attending to any fire accidents given that the local laws are observed.

Second, the issue of rescue. This can be handled by ensuring the following methods already available at our disposal such as

a) Two stair cases at different places in every building.
b) Horizontal connection between two neighborhood buildings.
c) Having additional sliders in school Building or having ramps in hospital buildings in addition to staircase.
d) Installing " Tube Lifts" fitted with exhaust fans outside of buildings.
e) Having " German Chute" made with non inflammable materials.
f) Having " Jump –in" nets, etc.

Therefore, the operational preparedness of fire fighting or rescue is not compromised by preferring the choice of the Local law prescribed "Setbacks & Open Spaces" given the number of cost effective methods and technologies available at our disposal.

C) How 'Public Interest' is served with this notification?

Section 13(2) of Andhra Pradesh Fire Services Act, 1999 gives choice to Director General in choosing between NBC or any Local Laws.

When a choice of application between NBC guidelines and the Local Laws, is to be chosen as per Law, Director General needs to go by requirements meeting "Public Interest".

NBC Guidelines mandate that the open spaces shall be not less than 6 mtrs for Educational, Institutional and Assembly Buildings. However , NBC guidelines are not statutory in nature. Whereas, AP Building Rules, 2017 framed under local municipal laws are statutory in nature and prescribe different "Setbacks & Open Spaces" for different height of buildings. But there is no difference in buildings having more than 18 Metres between the local laws and NBC guidelines.

In addition, the Local Municipal Laws are amended from time to time, for example, in case of road widening, the local Laws provide for taking way of front portion of building or front Setbacks and in lieu of it permit raising height of the buildings vide G.O.Ms.No.119 MA&UD Dept, Dated.28-03-2017 and G.O.Ms.No.180 MA&UD Dept, Dated.01-10-2020. If we apply, NBC guidelines, then all such buildings subject to road widening will not be eligible for NOC. This provision is leading to a lot of confusion as buildings previously having Fire "NOC" suddenly have become not eligible for Fire "NOC" due to State Govt. Policy and public imperative of road widening. This anomaly needs to be removed by the Local fire chief i.e, "Director General" as per NBC guidelines under clause 3.4.2, part 4 of NBC, 2016.

Suppose, We are to apply NBC guidelines for Setbacks & open spaces, then none of the hospitals (buildings of both private and Govt. Hospitals) will qualify to get " NOC " in Vizag city and other cities in the State. So to close down all the Hospitals in the Urban centers across the State on this account, is clearly not in Public Interest.

Therefore, in the larger public interest, the Fire Department may follow the AP Building Rules, 2017, which are Statutory and facilitate operational requirements of Fire Safety.

D) Who has the Legal authority to enforce" Setbacks & Open Spaces" as per AP Building Rules,2017?

There is no enabling provision to authorise demolition by the AP Fire Service Authorities. Maximum punishment for violation of provisions of AP Fire Services Act, 1999 is just a fine of Rs.5,000/- or up to three month simple imprisonment, that too after successful prosecution to be imposed by Judicial Magistrate.

Whereas, the building licensing authorities are conferred with powers to demolish buildings in case of "Setbacks & Open Spaces" violations.

Clearly, the Legislature in its considered wisdom, has conferred powers of enforcing proper "Setbacks & Open Spaces" on building licensing authorities and definitely not on Fire Services Department. Therefore, the question of ensuring and enforcing appropriate "Setbacks & Open Spaces" is better left to building licensing authorities.

E) Whether the above notification is in accordance with legal provisions?

Part-4 of NBC guidelines deals with Fire Safety related matters.

An extract of the Foreword to part 4 of the NBC:

"Absolute safety from fire is not attainable in practice. The objective of this part is to specify measures that will provide that degree of safety from fire which can be reasonably achieved. The code endeavours to avoid requirements that might involve unreasonable hardships or unnecessary inconvenience or interference with normal use and occupancy of buildings, but insists upon compliance with minimum standards of fire safety necessary for building occupants and users".

It is evident that NBC does not have the force of law and is not statutory in nature. It serves as a Model Code for adoption by all agencies involved in the building construction works.

The Government of Andhra Pradesh framed Andhra Pradesh Building Rules 2017, in supersession of the Andhra Pradesh Building Rules, 2012, Vide GO M.S.No.119 Municipal Administration and Urban Development (H) Department dated 28.03.2017.Rule 57 in Chapter VIII of the said Building Rules sets out tables specifying the minimum setback limits in relation to the height of a building. The Government further amended the said Building Rules vide GO Ms.No:180 Municipal Administration and Urban Development (H) Department dated 01.10.2020.

The said AP Building Rules, 2017 are statutory in nature and are framed by the Government in exercise of its powers under the GHMC Act, 1955, Andhra Pradesh Municipal Corporations Act, 1994, Andhra Pradesh Municipalities Act, 1965, Andhra Pradesh Town Planning Act, 1920, Andhra Pradesh Capital Region Development Authority Act, 2015, and Andhra Pradesh Metropolitan Region and Urban Development Authorities Act, 2016.

The Hon'ble Supreme Court in Life Insurance Corporation of India and Ors. vs. D.J. Bahadur and Ors., reported in AIR 1980 SC 2181, and Ajay Kumar Banerjee and Ors. v. Union of India and Ors..reported in (1984) ILLJ 368 SC held that a prior special law would yield to a later general law, if either of the following two conditions is satisfied viz. i) the two are inconsistent with each other, or ii) there is some express reference in the later to the earlier enactment. If either of these conditions is fulfilled, the later law, even though general will prevail.

The Andhra Pradesh Fire Services Act was enacted in the year 1999, the National Building Code was published in the year 2016 and the AP Building Rules, 2017 came into force in the year 2017.

Therefore, applying the aforesaid rules of interpretation, the requirements set out in the aforesaid AP Building Rules, 2017 shall prevail, as it is the later general Law.

F) Does it improve transparency:

In absence of such clarity given under this notification, the Fire Service officers have been giving temporary 'No Objection Certificates' with conditionalities, which have been leading to unethical conduct in the Department at times. This kind of removal of ambiguities definitely improves transparency in issuing 'No Objection Certificates'.

G) Therefore, in case of "Setbacks & Open Spaces" the Director General has chosen to go by Local laws enforced by the Local Building licensing authorities in the State of Andhra Pradesh as per Section 13 (2) of A. P. Fire Services Act,1999 in the larger public interest.

Further, We adopt the definition of Local Building Licensing Authority (Stilt + 05 Floors = 18 Meters for residential buildings and Ground + 04 floors =15 Meters for Commercial/Business buildings) to ease the burden of administration in measuring the Height of buildings while issuing Fire 'No Objection Certificate'.

This enables fire department officials to focus on ensuring installation of appropriate "Fire Safety" Equipment in all categories of buildings.

PRATAP MADIREDDY,
Director General,
State Disaster Response & Fire Services,
Andhra Pradesh, Vijayawada.

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PART II - MISCELLANEOUS NOTIFICATIONS OF INTEREST TO THE PUBLIC

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NOTIFICATIONS BY HEADS OF DEPARTMENTS Etc.,

DIRECTOR GENERAL
DISASTER RESPONSE AND FIRE SERVICES DEPARTMENT
ANDHRA PRADESH

Lr.C.No.28 / DGFS / Camp / 2022. **Date : 09-06-2022.**

NOTIFICATION FOR HOSPITALS IN ANDHRA PRADESH

NOTIFICATION FOR HOSPITALS

1) Legal power governing the issue of "No Objection Certificate" to Hospitals:

According to Section 13 (2) of Andhra Pradesh Fire Service Act, 1999.The Director General or any member of the service duly authorized by him in this behalf, shall ***within sixty days*** *of receipt of such application, on being* ***satisfied*** *about the provision of fire prevention and safety measures as stipulated in the [National Building Code of India, as amended from time to time] or any other law for the time being in force regulating such purpose or activity, shall issue* ***No Objection Certificate*** *with such conditions as may be considered necessary and if not so satisfied, reject the same for reasons to be recorded in writing.*

2) The purpose is :

First, to define principles, standards and minimum requirements that will ***satisfy*** to meet the fire safety in Hospital buildings up to 10 floors for issuing "No Objection Certificate" as envisaged in Sec 13(2) of Andhra Pradesh Fire Services Act,1999.

Second, to ensure compliance by notifying authorities competent to inspect, test and certify the functioning of fire safety equipment and other safety measures such as exits etc.

Third, to lay down procedures for time bound disposal of applications for "No Objection Certificate" (NOC) ***within sixty days*** of its submission as prescribed in the Act, 1999. Following the doctrine of legitimate expectations, specifying the conditions for deemed approval in case of Renewal of "No Objection Certificate" applications.

And **finally**, to remove ambiguities and to notify Clinics/ non-bedded Hospitals which don't require "No Objection Certificate" to bring transparency in the process.

3) The principles governing the Fire Safety Norms:

An extract from the Foreword to Part 4 of the National Building Code.

"Absolute safety from fire is not attainable in practice. The objective of this part is to specify measures that will provide the degree of safety from fire which can be reasonably achieved. ***The Code endeavors to avoid requirements that might involve unreasonable hardship or unnecessary inconvenience or interference with normal use and occupancy of buildings*** *but insists upon compliance with minimum standards of fire safety necessary for building occupants and users".*

Analyzing the "Root Causes" of Fire accidents in Hospitals to prescribe reasonable ***Fire Safety Measures to prevent the Fire accidents from happening in the first place, to save lives and to minimize damage to property.***

The Endeavour is to deploy modern technologies that are ***resilient, maintenance free, easy to operate in case of emergency and don't get rusted in the largely Coastal Environment*** of the State.

The governing principle is to have large margin of Safety or failure proof deployment of Fire Fighting Equipment in "Decentralized Way" so that any individual Equipment failure will not affect the Fire Fighting capabilities as there are many similar Equipments in any building. Even the Fire Fighting Equipments of neighborhood buildings can also be used for fighting fire as all these pumps are designed to be "mobile" and can operate either on "Electric" or "Fuel motors" besides being versatile in drawing water from any source such as Sumps, Overhead tanks, any municipal water tanks, or any tap in the building or any well or drum.

Therefore, ***the above versatility and mobility of the pumps deployed in buildings will multiply the margin of safety manifold unlike the case of immobile Centralized Pumping System.***

The above is just a layman expression of a well known mathematical proof that any Centralized Complex System with many interdependent components however reliable, is "fragile" compared to Decentralized System having independent components of similar reliability.

In any particular hospital the incidents of fire accidents are very rare events (very low probability events) as per the last 25 years recorded fire accidents in the State. Given human tendency to attend to immediate requirements and neglect rare occurrences (which is the principal reason why centralized dedicated fire equipment often doesn't work in case of emergency), we need to incorporate machines that are **maintenance free** and **multipurpose** that can be used for daily purposes such as ensuring hygiene/sanitation so that functioning and familiarity with the use of equipment are automatically ensured. ***This feature further enhances margin of Safety.***

Moreover, the building design Engineers to have flexibility in deploying any advanced technology pumps of different ratings depending on the Fire load expected.

Above all, highest priority is accorded to Passive Safety measures such as ensuring two exits, not co-locating with highly inflammable shops having cloths, chemical or explosives and following Electrical Safety Checklist and Oxygen Cylinder Safety.

Finally, minimization of Energy use (Sustainability) and Cost Effectiveness are to be observed. Let us be comforted with the fact that "no hospital is an island" in itself to handle any fire outbreak but thankfully, there are professional fire fighters spread across the State in 180 Fire Stations available "on duty" 24 x 7 and 365 days.

Please refer Andhra Pradesh Government Gazette No. W.No.02, Dated.18-01-2022 authorizing the Decentralized System; Aerosol, CO_2 , Neutral Gas and N_2 Flooding Systems.

4) Root-Causes of Fire in Hospitals?

a) In our analysis of major fire accidents in Hospitals across India, the Root cause of fire is ***Electrical Short Circuit in 90% of cases***.

b) In some cases, it is ***Oxygen Cylinder*** Explosion and other causes.

5) Safety measures mandated to prevent Electrical Origin Fires:

Electrical Safety Checklist		
What safety measures are mandated to reasonably mitigate Electrical Short Circuits ?		**Compliance**
(i)	All Electrical wirings in the building shall confirm the code of practise for Electrical wiring IS:732:1989 and also shall confirm for Fire Safety Wiring of the building Electrical Installations as per IS:1646:2015. Most common mistake is that the neutral wires to the three pin plugs are not of sufficient thickness to carry the current in case of any short circuits.	
(ii)	Installation of Miniature Circuit Breakers (MCB s) in all floors and to protect high power intensive equipment such as MRI, CATH labs etc.	
(iii)	No Overloading or every bed to have a power socket in Intensive Care Units.	
(iv)	Electrical wiring to be changed every ten years, wherever high power consuming appliances such as Air conditioners, MRI Machines, ICU's, Scanners, X-ray units etc.	
(v)	LED lights in Closed Rooms , Corridors , Staircases connected to inverter (Battery) to ensure well light pathways for Exit or Evacuation inspite of regular power failure in any Emergency.	
(vi)	Grounding/Earthing Shall be done. For details refer IS 3043:1987.	
(vii)	For above 500 bed capacity buildings, it is required to install non pressurized Aerosol suppression system (or) CO_2 flooding system in Electrical Panel Rooms.	

(viii)	Lightening conductors may be provided for high rise buildings exceeding 5 floors.	
(ix)	All the above safety measures shall be Certified by the authorized Electrical Engineer.	
(x)	***No "Conditional NOC" or "Renewal NOC" shall be issued without satisfying Electrical Safety Checklist including item 5(iv) above under any circumstances as this will compromise basic safety of patients.***	

6) Checklist for Storage and Handling of Oxygen Cylinders:

What safety measures are mandated for Storage and Handling of Oxygen Cylinder ?		**Compliance**
(i)	Appliances containing an open flame (heaters, fireplaces etc) must not be used in any room containing Medical Oxygen.	
(ii)	Never permit any form of lubricant (oil, grease, baby oil, lubricating gel etc.) to come into contact with oxygen fittings or hoses.	
(iii)	Ensure that compressed Medical Oxygen (Gas) cylinders are not placed near any heat sources.	
(iv)	Smoking shall not be permitted in any room containing Medical Oxygen.	
(v)	The above to be certified by an authorized Civil Engineer.	
(vi)	***No "Conditional NOC" or "Renewal NOC" shall be issued without satisfying clause (6) under any circumstances as this will compromise basic safety.***	

7) Fire Safety Equipment to be installed for immediate response to fire breakout observing the principles stated below:

CHECKLIST FOR FIRE & LIFE SAFETY IN HOSPITAL BUILDINGS			
S. No	**Details of Parameter**	**Fire Safety Measure**	**Compliance**
1.	**Fire Fighting Equipment**	**a) 01 No. of Fire Extinguisher of ABC/CO2 type for every 100 Sq. Meters Area:** As most fires are of Electrical origin, the above Fire Extinguishers which are handy, easy to use and very effective against small fires are mandated to be provided in all parts of Hospitals within accessible distance on all floors.	
2.	**Fire Fighting Equipment**	**b) Manually Operated Fire Alarm system:** There is a need for an alarm system so that if there is a fire breakout in any part of a Hospital, all the staff should be immediately alerted so that they can take appropriate actions as practiced in Mock Drills. As Hospitals function 24x7, we have mandated manual alarm systems to reduce false alarms in Indian conditions. However, reliable automated alarm systems can also be employed at the option of managements.	
3.	**Fire Fighting Equipment**	**c) Total Minimum water Storage: 5000 Litres (Over head tank + Ground sump).** There is a need for adequate water storage to fight fires using installed fire fighting Equipment. Building Architects are required to provide assured water storage that lasts for at least an hour when all the installed fire fighting Equipment is fully operational. We have indicated minimum assured storage of 5,000 liters (over head tank + Ground Sump) for each building/ block in Hospitals. However, the architects are advised to make additional storage available using their judgment about water availability in the area and fire load expected in the buildings. In big campuses, where there are many buildings/blocks , architect can optimize the total storage as water can be shared between neighborhood blocks and normally fire doesn't happen in more than one block at a time.	

	Fire Fighting Equipment	**d) Up to 05 Floors height of buildings :** (i) 02 HP (Plunger Pump+ Electrical Motors connected to main Generator or Fuel Motor @ one per floor) connected to normal plumbing system instead of down comer or wet riser. (ii) And for 100 bed Hospitals additionally, one 5 Hp (Plunger Pump + Petrol Engine) on wheels at ground floor sump. We prescribed ***2HP plunger pumps*** as they can ***generate upto 40 Kg/Cm² water pressure where as NBC recommends only 4Kg/Cm² water pressure*** if their suction pipe is connected to any water source such as sump, overhead tank, any water tank or even dropped in a water drum. These pumps can generate "mist" which is highly effective in controlling fires. These pumps work on either Electrical Motors or Fuel Motors. They are light weight and can be fitted with Wheels to make them "mobile". We advise the builders to provide water tapping points at two places on each floor preferably close to each Staircase. We need these pumps to function even in case of power failure. Hence, we advise that in case of using Electrical Motor driven pumps, let them be connected to main generator. Also, use some fuel Motor driven pumps for better reliability. However, the Architects are advised to use higher capacity pumps (upto 16 HP Plunger Pumps or Fire Engine Pumps that are available in the market with ISI markings) depending on the expected fireload in each floor and if the floor area exceeds 10,000 Square feet. They may have new plumbing system if required to support high capacity pumps. In addition, the Architects are encouraged to use any new technology systems that can reliably generate water pressure of 10 Kg/Cm² as and when fire breaks out. Also, in case of less than 5 floors buildings with more than 100 beds, we prescribed an additional 5 Hp pump as this can generate upto 60 Kg/Cm² water pressure which can reach even top floor from ground Sump. This is an additional reliability measure to ensure safety in such a big Hospital.	

	Fire Fighting Equipment	We prescribed about 30 meters delivery plastic pipe connected to all the above pumps so that all floors in a building can covered with multiple pumps as 30 meters delivery pipe can be carried through Staircase to all floors even from ground floors without moving the pumps. This improves resiliency or margin of safety of the installed Fire Safety Equipment. **e) If any building higher than 05 Floors and upto 10 floors :** **(i)** 02 HP (Pump + Electrical Motors connected to main Generator or Fuel Motor) @ one per floor connected to normal plumbing system instead of down comer or wet-riser. **(ii)** 16 HP (Pump + Petrol Engine) on wheels at Ground floor sump. **(iii)** 02 Nos. of Trolley Mounted ABC 150 Kg Fire Extinguishers to be provided. In addition to what has been mandated in small Hospitals, we have enhanced Electrical fire fighting ability by prescribing 150 Kg trolley mounted ABC powder Cylinders. There are mobile, maintenance free and are effective against Electrical fires besides being cost effective. They may be kept at floors having Electrical intensive Equipment. Finally, 16 HP Plunger Pumps are suggested for High Rise buildings at ground Sump as they can generate up to 120 Kg/ Cm^2 water pressure and the water jet can cover upto 10 floors height of the building easily. These pumps are also effective in generating mist and are easy to operate. However, Architects can install any advanced technology that can be similarly effective in High Rise buildings keeping in view of the above principles.	
4.	**Fire Fighting Equipment**	If underground parking is provided then temperature sensors connected to hooter and also that can give alerts via cell phone to security persons and Management is prescribed. As Hospitals function 24x7, this system can reliably alert the required security staff and others, to act as per Standard Operating procedure in case of Fire outbreaks.	

		However, management may choose to install reliable automatic fire alarm systems and automatic sprinkler system (The Sprinklers shall be connected to CPVC pipe as per clause 11.8.2 of 15:15105:2021 and pipeline connected to overhead tank) in basement, but not compulsory.	
5.	**Fire Fighting Equipment**	**Yard Hydrant :** The guiding principle, in case of 500 bed or more hospital with large extent of land, is to have many water points at various places so that the various plunger pumps and fire engine pumps can draw water to fight large fires. This can be accomplished by having water sumps at many places or with underground CPVC pipeline (called Yard Hydrant) connected to water source fitted with water tapping points wherever fire load is high. In case Yard Hydrant is chosen, its design details are in IS 16088, IS 16534 and water in the pipeline need not be under pressure as the pumps prescribed generate required pressure.	
6.	**Fire Fighting Equipment**	**Kitchens Safety:** 1) One 5HP Plunger Pump, Fire Extinguishers, Gas Detection and Alarm System shall be installed and be kept in good working condition. 2) The Kitchen shall be separated from other parts of the same building by 60 minutes fire rated wall and 60 minutes fire resistance doors.	
7.	**Mixed Occupancies**	It is strictly not permitted to have hospitals in buildings having shops of highly inflammable substances such as cloths/garments/textiles/gases/dangerous explosive chemicals etc.. in the adjoining/above/below the hospital facilities. This is to prevent fire accidents happening in those shops not to have serious adverse impact on patient safety. ***No "Conditional NOC" or "Renewal NOC" shall be issued in the above cases of Mixed Occupancy under any circumstances as this will compromise basic safety of patients.***	

		While observing the above, "No Objection Certificate" be issued to any hospital in mixed occupancy building taking into account fulfillment of above prescribed requirements including two exists without insisting on the whole building to have "No Objection Certificate" to avoid practical problems arising out of multiple owners.	
8.		**Display the Following No's at important places** (i) Fire Department Number (101). (ii) Ambulance (108). (iii) Police (100).	
9.	***The above to be certified by an authorized Civil Engineer.***		

8) Means of Escape:

Providing suitable means of Escape to evacuate patients in case of fire outbreak is essential to save lives of people. In many prominent fire accidents such as Kumbakonam school fire, Surat Coaching Center fire, many students lost their lives due to absence of second staircase for escaping as the only staircase engulfed in fire. Therefore, the guiding principle is to provide at least two good ways of Exit or Evacuation in all Hospital buildings. The building architects to provide for appropriate means of escape depending on the number of patients on each floor Choosing among the following options:

(i) One Staircase and a ramp widely separated from each other.

(ii) Two Staircases widely separated from each other.

(iii) One Staircase and fenced pathway to adjacent buildings on all floors suitable for Evacuation of patients.

(iv) One Staircase and a tube lift (transparent fire proof lift fitted outside the building) with an Exhaust fan on top (to remove smoke from the lift if any) powered by main generator.

As this kind of passive preventive measure is very effective in saving lives, no exemption shall be given for providing two good ways of exit. ***No "Conditional NOC" be issued pending provision of two ways of exit under any circumstances as this will jeopardize basic essential patient safety.***

9) Mock Drills:

a) Every Year mock drills to be conducted and all the staff and Management should sign a document certifying the following and keep in record.

We observe that it is the staff, patients and their attenders who lose lives in case of any major fire accident in Hospitals. Very rarely owners of buildings are affected. Therefore, ***we intend to put power in the hands of most affected people*** by mandating that the signatures of all participants in Mock Drill to be taken in the register for inspection. These "Mock drills" familiarize all concerned people about the status of safety in their workplace. Though, Mock drill is prescribed at least once a year, we urge the managements to have them frequently in the interest of safety, particularly during summer months.

Proforma enclosed:

S.No.	Name of the Employee	Remarks/ Observations	Signature
1.			
2.			
3.			

Certifying that all Pumps and other fire fighting equipment are in working condition and the Fire Extinguishers are not outdated.

b) That all staff know Exits and Assembly points and what to do in Emergency.

c) The Mock drill records to be submitted during any inspection.

d) Endeavour to be made to use the various pumps on daily basis for up keep of buildings and campus, so that, people can readily deploy them during fire emergencies which normally induce panic. Also, regular use will keep all the equipment in good working condition.

10) Inspections & Fire Safety Audit:

There are about 180 fire stations in the State. The Station Fire Officer (SFO) has to be available to respond to Emergency "fire and rescue" calls 365 days and 24x7. In addition, there are about 7,500 Hospitals, 40,000 Schools/Colleges besides many industrial and business Establishments where fire safety inspections for different purposes have to be carried out. It is administratively not practical to get all inspections done through the Fire department officials.

Moreover, many SFO's have just intermediate qualification and hence SFO's with such qualifications are "not competent" to inspect technical aspects of Electrical Safety or fire Safety Equipment.

Therefore, the following technically competent people employed with State Government (so that they can be made accountable for accuracy of their reports) are authorized in accordance with powers conferred on Director General for inspection purposes.

a) All Electrical Engineers Employed with State Government or its undertakings or any State University are authorized to inspect and issue certificate for Electrical Safety after satisfying about the compliance with "Electrical Safety Checklist" (Clause 5).

b) All Civil Engineers Employed with State Government or its undertakings or any State University are authorized to inspect and issue Certificate of compliance with proper working of installed Fire safety Equipment, plumbing, water availability and suitable Exits as prescribed in (Clauses 6 and 7).

c) For conducting "***General Fire Safety Audits***" from time to time, as per guidelines prescribed in this notification, the District Collector or District Medical & Health Officer are authorized to constitute teams of Electrical Engineers and Civil Engineers.

d) Is there any inspection required for issuing Provisional "No Objection Certificate"?

No inspection necessary as per G.O Ms. 120, Home (Prisons & Fire) Department, Dated. 25-10-2021.

e) Who can carryout inspection for issuing Occupancy "No Objection Certificate"?

The application for Occupancy "No Objection Certificate" should have Fire Audit Certificates of Electrical Engineer and Civil Engineer as authorized in 10(a) & 10(b).

If further inspection is necessary, the Director General of Fire Services can nominate "Non Jurisdictional" Fire Officer of Station Fire Officer & above rank to carryout inspection as per G.O Ms.120, Home (Prisons & Fire) Department, Dated: 25.10.2021. The guiding principle is to do away with monopoly of jurisdictional officers in conducting all inspections to improve transparency.

f) Can Jurisdictional Officers carryout Inspections?

The Government has issued G.O Ms. 90, Home (Prisons & Fire) Department Dt. 13-08-2021, authorizing to conduct joint inspections along with Health department Officials.

11) Delegation of powers and Deemed Approval for Renewal of "No Objection Certificate":

Not only that there are about 7,500 Hospitals and 40,000 Schools etc... but the list of such establishments will be growing as the State develops. Hence, the renewal applications will be cumulatively growing leading to huge administrative burden given that there are only about 100 total fire personnel per district (including all ranks and just 5 to 10 officers above SFO rank). They need to be on operational duty 24x7 and 365 days. Hence, the necessity of delegation of powers.

(a) Delegation of Powers:

Applications for renewal of "No Objection Certificate" can be submitted to District Medical & Health Officer or Municipal Commissioners having jurisdiction. Both are equally competent to renew "No Objection Certificate".

The above officers are here by authorized in accordance with powers conferred on Director General in Sec 13(2) A.P. Fire Services Act, 1999, to renew "No Objection Certificate" after ensuring Fire Audit Certificates of authorized Electrical Engineer and Civil Engineer besides payment of prescribed fee through challan.

The renewal applications shall accompany with affidavit signed by management declaring that all the above said Prudential Safety norms are complied with. All such renewals orders shall be copy marked to District Chief Fire Officer and Director General for proper record.

The applications for renewal can continue to be submitted directly to Director General's Office. This will do away with monopoly powers of any particular office, thereby improving transparency.

(b) Deemed Approval:

As mandated under Sec 13(2) A.P. Fire Services Act, 1999, the Director General or any officer authorized by him shall issue "No Objection Certificate" within 60 days of the date of complete application. The date of Challan payment is to be treated as date of application for this purpose following the date of said Fire Audit Certificates. If not issued, the Renewal of "No Objection Certificate" is deemed to have been issued, following the doctrine of legitimate expectations as all criteria have been met.

Therefore, the above delegation of powers go a long way in "Ease of doing business" in the State while improving administrative convenience and transparency without compromising Safety.

12) Ambiguities Removal:

a) About Set backs & Open spaces and measurement of height of buildings.

See Andhra Pradesh Government Gazette W.No.16 dated: 21-04-2022 regarding the above two issues.

b) Is it necessary to submit drawings of buildings to apply for "No Objection Certificate"?

There is no requirement to submit detailed plans & drawings of buildings. This will avoid unnecessary issue of safety of such sensitive documents specially if submitted online. Such detailed maps may fall into hands of cross border terrorists etc. Therefore, this requirement is dispensed with.

c) Can fire Department Officials insist on any particular agency to install Fire Safety Equipment?

No, the management have full discretion as to the agencies, manufacturers as long as the equipment installed is either of ISI standards or any International Standards or Industry Recognized Standards.

d) Are the above prescribed Prudential Fire Safety measures confirm to National building Code (NBC), 2016?

Yes.

NBC, 2016 has no statutory basis and is a set of guidelines to be followed. Moreover, NBC 2016 guidelines provides for authorization of new technologies, methods to remove any hardships or practical difficulties to Director General, Fire Services (clause-5.1,part-II and clause-3.4.2 of part-IV of NBC,2016).

Carefully conducting root cause analysis of major fire accidents of last 15 years in the State and understanding the hardships and practical difficulties in deploying Conventional Centralised Plumbimg System (Part-IV, Table 7 of NBC 2016), the Director General has authorized the following technologies and methods after due testing:

(a) Decentralised Fire Safety System using Plunger Pumps, Fire Engine Pumps etc.

(b) Aerosol Automatic Extinguishing devices.

(c) Dry Chemical Powder Modular System.

(d) CO_2 flooding system.

(e) N_2 flooding system.

(f) Clean agent flooding system.

(g) Installation of automatic heat and temperature sensing devices.

For more details please refer to Andhra Pradesh Government Gazette Notification dated: 18.01.2022.

Therefore, the technologies and methods as notified above are authorized extention of NBC,2016 in Andhra Pradesh State.

Part-IV,Table 7 of NBC 2016, doesn't mention about either Electrical Safety or Oxygen Cylinder Safety measures. However, in our root cause analysis of major fire accidents in the country, we found 90% of accidents are due to Electrical Short Circuits and some are due to Oxygen Cylinder Explosion in hospitals.

Hence, the Director General exercising powers conferred in Sec13(2) of Andhra Pradesh Fire Services Act, 1999 has mandated observance of Electrical safety Checklist and Oxygen Safety in the hospitals across the State.

13) Who doesn't need "No Objection Certificate" given their inherent nature of activities?

Non bedded facilities such as Clinics, Polyclinics, Day care centers, Dental Hospitals/consultancy rooms etc., irrespective of floor area/built up area/plot area, provided they are in buildings less than 15 meters height, which do not otherwise require any "No Objection Certificate" as per the law, are hereby exempted from obtaining "No Objection Certificate".

In the last 25 years, there are no recorded fire accidents in the above category of non-bedded facilities in the State. Hence, the above exemption is justifiable on the grounds of easing administrative burden and increasing Citizen Convenience.

However, all such non-bedded facilities shall observe "Electrical Safety Checklist" of clause 5, install adequate number of fire extinguishers as per clause 7(a) and conduct mock drills as per clause 9. They have to show "Electrical Safety Audit" certified by any authorized Electrical Engineer and "Mock Drill" register as prescribed in clause 9 to any authorized inspection authority under the law. In essence, they are not exempted from observing basic safety measures.

14) Alignment of Interests:

In case of fire accident, the hospital Owners/management suffer not only property damage but also irreparable loss of reputation especially if any patient's life is lost. In many doctor

managed hospitals (in fact, they are majority in the State), the doctor stays on the top floor of the hospital with his family. Obviously, the hospital managements/owner's interest in ensuring "Fire Safety" is in alignment with fire department objectives, provided the mandated requirements are pragmatic.

In arriving at above pragmatic requirements, we have consulted all stakeholders, analyzed major hospital fire accidents across the country, capitalized on the accumulated experience of fire fighting personnel of all ranks in the department, took advantage of modern technologies, methods and tested in presence of following experts.

Sl. No.	Name	Name of the University	Qualification
1.	Prof. K.N. Satyanarayana	IIT, Tirupati	PhD Civil Engineering
2.	Sri. P.C. Ramesh Kumar	R & B Chief Engineer	M.Tech, LLB
3.	Prof. S. Srinivasa Prasad	V.R. Siddartha Engineering College	PhD Mechanical Engineering
4.	Prof. Manas Kumar Pal	VIT – Andhra Pradesh Campus	PhD Mechanical Engineering
5.	Prof. Tarkeshwar Mahto	SRM University	PhD Electrical and Electronics Engineering
6.	Sri. D. Seshi Reddy	KL University	M Tech, EEE
7.	Dr. Majeeda	Specialist Officer Andhra Pradesh Vaidya Vidhan Parishad	MBBS Civil surgeon (Anaesthetist)
8.	Dr. Vinod Kumar.V (IAS-2015)	Commissioner Andhra Pradesh Vaidya Vidhan Parishad	MBBS

The experts and all stakeholders are satisfied with the prescriptions of this notification as adequate to stop/control fires in the incipient stages given that the professional fire fighters located in about 180 fire stations across the State are ever ready to step in, within minutes, working 24 x 7 and 365 days.

In designing, testing, evaluating and in creatively finding solutions, the invaluable contributions of Sri S. Vara Prasad, Driver Operator, Vizianagaram, Sri J. Ramanaiah, District Chief Fire Officer, Tirupati District, Sri B. Srinivasa Rao, District Chief Fire Officer, West Godavari District and many others are hereby acknowledged and commended.

The above minimum requirements for issue of "No Objection Certificate" are hereby notified to avoid compelling owners to install escalating ladder of equipments and to ensure transparency.

Any violation of the above minimum safety provisions will attract prosecution not only under relevant provisions of A.P. Fire Services Act, 1999 but also under appropriate provisions of Indian Penal Code, particularly if the Passive Safety Measures are willfully disregarded as this will compromise basic patient safety.

In addition, Courts and Tribunals observe whether management has followed the said prudential Safety Measures prescribed by Professional Fire Service, while awarding compensation to the victims of fire accidents in hospitals.

Therefore, the above notification is hereby issued in larger "Public Interest".

PRATAP MADIREDDY,
Director General,
State Disaster Response & Fire Services,
A.P., Vijayawada.

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PART II - MISCELLANEOUS NOTIFICATIONS OF INTEREST TO THE PUBLIC

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NOTIFICATIONS BY HEADS OF DEPARTMENTS Etc.,

DIRECTOR GENERAL
DISASTER RESPONSE & FIRE SERVICES DEPARTMENT
ANDHRA PRADESH

Lr.C.No.31 / DGFS / Camp / 2022. **Date: 16-06-2022.**

NOTIFICATION FOR EDUCATIONAL INSTITUTIONS

NOTIFICATION FOR EDUCATIONAL INSTITUTIONS

1) Legal power governing the issue of "No Objection Certificate" (NOC) to Educational Institutions and landmark Supreme Court Judgment:

a) According to Section 13 (1) of Andhra Pradesh Fire Service Act, 1999. Any person proposing to construct a building of more than 15 meters height for residential purpose, and buildings of public congregation like schools, cinema halls, function halls, religious places, which are more than 500 Sq. Meter in plot area or 6 meters and above in height shall apply to the Director General or any member of the service duly authorised by him in this behalf, before submission of such building plans to the authority or officer competent to approve the same under the relevant law, for the time being in force, for a ***No Objection Certificate*** *along with such fee as may be prescribed.*

Educational Buildings include any building used for School, College, University, Coaching Center, administrative training institutes, training academies, all other professional training institutes involving assembly for instruction, education or recreation for not less than 20 students. It includes hostels, dormitories and other buildings located in the same campus.

In Surat Coaching Center located in a commercial complex, a devastating fire accident due to ***Electrical Short Circuit*** took place on 24th May 2019, afternoon. Spectators were horrified to see the rapid intensification of the fire, with the students clinging desperately to the exterior of the building to save themselves from its dense smoke effects, and ultimately falling down as they lost hold.

In this unfortunate incident 22 students of an ***Unauthorised Coaching Center*** located on top floor of 4-story commercial building with ***Single Stair Case***, lost their lives.

Therefore, it is mandatory to obtain NOC for all Coaching Centers.

b) According to Section 13 (2) of Andhra Pradesh Fire Service Act, 1999.The Director General or any member of the service duly authorized by him in this behalf, shall ***within sixty days*** *of receipt of such application, on being* ***satisfied*** *about the provision of fire prevention and safety measures as stipulated in the [National Building Code of India, as amended from time to time] or any other law for the time being in force regulating such purpose or activity, shall issue* ***No Objection Certificate*** *with such conditions as may be considered necessary and if not so satisfied, reject the same for reasons to be recorded in writing.*

c) Supreme Court Judgment in Kumbakonam School fire accident (Writ petition (Civil) No. 483 of 2004):

This important case relates to a major fire accident that swept through the Lord Krishna Middle School in Kumbakonam District, Tamil Nadu State. The fire started in the school's kitchen while cooks were preparing mid-day meal. In this accident 93 children were burnt alive.

This unfortunate incident happened because the school building housed more than 900 students in a crowded, thatched-roof ***structure of two floors with single narrow stairway. This highlights the importance of safe structure with two good ways of exit.***

The case also cites the following incident. In the year 1995, a school prize-giving ceremony in a Northern Indian town turned to tragedy when a fire broke out, killing nearly 400 people, many of them children and teenagers. The fire was caused by an ***Electrical Short Circuit*** in the town of Dabwali in the State of Haryana. This highlights the importance of ensuring "Electrical Safety". ***Therefore, even temporary structures for assembly purpose must have multiple exits and observe "Electrical Safety Checklist". It shall be the responsibility of the Head of the Institution such as Head Master / Principal / Director / Registrar etc.***

This notification not only gives effect to the directives of this Supreme Court Judgment prescribing authorized resilient technologies and modern methods, but also goes beyond the directives by mandating "Electrical Safety" in all Educational Institutions to prevent fires.

2) The purpose is :

First, to define principles, standards and minimum requirements that will ***satisfy*** to meet the fire safety in all Educational buildings including coaching centers up to 10 floors for issuing "No Objection Certificate" as envisaged in Sec 13(2) of Andhra Pradesh Fire Services Act,1999.

Second, to ensure compliance by notifying authorities competent to inspect, test and certify the functioning of fire safety Equipment and other safety measures such as exits etc.

Third, to lay down procedures for time bound disposal of applications for "No Objection Certificate" (NOC) ***within sixty days*** of its submission as prescribed in the Act, 1999. Following the doctrine of legitimate expectations, specifying the conditions for deemed approval in case of Renewal of "No Objection Certificate" applications.

And **finally**, to remove ambiguities and to notify Educational Institution buildings which don't require "No Objection Certificate" to bring transparency in the process.

3) The principles governing the Fire Safety Norms:

An extract from the Foreword to Part 4 of the National Building Code.

"Absolute safety from fire is not attainable in practice. The objective of this part is to specify measures that will provide the degree of safety from fire which can be reasonably achieved.

The Code endeavors to avoid requirements that might involve unreasonable hardship or unnecessary inconvenience or interference with normal use and occupancy of buildings *but insists upon compliance with minimum standards of fire safety necessary for building occupants and users".*

Analyzing the "Root Causes" of Fire accidents in Educational Institutions to prescribe reasonable ***Fire Safety Measures to prevent the Fire accidents from happening in the first place, to save lives and to minimize damage to property.***

The Endeavour is to deploy modern technologies that are ***resilient, maintenance free, easy to operate in case of emergency and don't get rusted in the largely Coastal Environment*** of the State.

The governing principle is to have large margin of Safety or failure proof deployment of Fire Fighting Equipment in "Decentralized Way" so that any individual Equipment failure will not affect the Fire Fighting capabilities as there are many similar Equipments in any building. Even the Fire Fighting Equipments of neighborhood buildings can also be used for fighting fire as all these pumps are designed to be "mobile" and can operate either on "Electric" or "Fuel motors" besides being versatile in drawing water from any source such as Sumps, Overhead tanks, any municipal water tanks, or any tap in the building or any well or drum.

Therefore, ***the above versatility and mobility of the pumps deployed in buildings will multiply the margin of safety manifold unlike the case of immobile Centralized Pumping System.***

The above is just a layman expression of a well known mathematical proof that any Centralized Complex System with many interdependent components however reliable, is "fragile" compared to Decentralized System having independent components of similar reliability.

In any particular Educational Building the incidents of fire accidents are very rare events (very low probability events) as per the last 25 years recorded fire accidents in the State. Given human tendency to attend to immediate requirements and neglect rare occurrences (which is the principle reason why centralized dedicated fire equipment often doesn't work in case of emergency), we need to incorporate machines that are **maintenance free** and **multipurpose** that can be used for daily purposes such as ensuring hygiene/sanitation so that functioning and familiarity with the use of equipment are automatically ensured. ***This feature further enhances margin of Safety.***

Moreover, the building design Engineers to have flexibility in deploying any advanced technology pumps of different ratings depending on the Fire load expected.

Above all, highest priority is accorded to Passive Safety measures such as ensuring two exits; not co-locating with highly inflammable shops having cloths, chemical or explosives; and following Electrical Safety Checklist.

Finally, minimization of Energy use (Sustainability) and Cost Effectiveness are to be observed. Let us be comforted with the fact that "no educational institute is an island" in itself to handle any fire outbreak but thankfully, there are professional fire fighters spread across the State in about 180 Fire Stations available "on duty" 24 x 7 and 365 days.

Please refer Andhra Pradesh Government Gazette No. W.No.02, Dated.18-01-2022 authorizing the Decentralized System ; Aerosol, CO_2 , Neutral Gas and N_2 Flooding Systems.

4) Root-Causes of Fire in Educational Institutions?

a) In our analysis of major fire accidents in Educational Buildings across India, the Root cause of fire is ***Electrical Short Circuit in most of cases***, specially in Mixed Occupancy Buildings.

b) Another cause is unsafe kitchens within educational building.

c) Spillage of Chemicals in the laboratories and other causes.

5) Safety measures mandated to prevent Electrical Origin Fires:

Electrical Safety Checklist		
What safety measures are mandated to reasonably mitigate Electrical Short Circuits ?		**Compliance**
(i)	All Electrical wirings in the building shall confirm to the code of practise for Electrical wiring IS:732:1989 and also shall confirm for Fire Safety Wiring of the building Electrical Installations as per IS:1646:2015. Most common mistake is that the neutral wires to the three pin plugs are not of sufficient thickness to carry the current in case of any short circuits.	
(ii)	Installation of Miniature Circuit Breakers, (MCB s) in all floors.	
(iii)	No Overloading of power socket in any Educational Building.	
(iv)	10 years old wiring to be changed specially where ever high power consuming appliances such as Air conditioners, Electrical/Mechanical/Computer labs, Data Centers, High tech labs, MRI machines, X-ray in Medical Colleges etc.	
(v)	Grounding/Earthing Shall be done. For details refer IS 3043:1987.	
(vi)	Lightening conductors may be provided for high rise buildings exceeding 5 floors.	
(vii)	No High Tension Lines should run inside or in close proximity (≤ 6 meters) to any Educational institution buildings.	
(viii)	All the above safety measures shall be Certified by the authorized Electrical Engineer.	
(ix)	***No "Conditional NOC" or "Renewal NOC" shall be issued without satisfying Electrical Safety Checklist including item 5(iv) above under any circumstances as this will compromise basic safety of students.***	

6) Fire Safety Equipment to be installed for immediate response to fire breakout observing the principles stated below:

CHECKLIST FOR FIRE & LIFE SAFETY IN EDUCATIONAL BUILDINGS			
S. No	**Details of Parameter**	**Fire Safety Measure**	**Compliance**
1.	**Fire Fighting Equipment**	**a) One Fire Extinguisher of ABC/CO2 type for every 100 Sq. Meters Area:** As most fires are of Electrical origin, the above Fire Extinguishers which are handy, easy to use and very effective against small fires are mandated to be provided in all parts of Educational Institutions within accessible distance on all floors.	
2.	**Fire Fighting Equipment**	**b) Manually Operated Fire Alarm system:** There is a need for an alarm system so that if there is a fire breakout in any part of institute, all the students/staff should be immediately alerted so that they can take appropriate actions as practiced in Mock Drills. As Educational Institutions mostly function in day time, we have mandated manual alarm systems to reduce false alarms in Indian conditions. However, reliable automated alarm systems can also be employed at the option of managements.	
3.	**Fire Fighting Equipment**	**c) Water storage : 5,000 Liters (Overhead tank + Ground Sump), However, big schools having more than 1000 students to have 10,000 Liters of water minimum storage .** There is a need for adequate water storage to fight fires using installed fire fighting Equipment. Building Architects are required to provide assured water storage that lasts for at least an hour when all the installed fire fighting Equipment is fully operational.	

	Fire Fighting Equipment	We have indicated minimum assured storage of 5,000 liters (over head tank + Ground Sump) for each building/ block in Educational Institutions. However, the architects are advised to make additional storage available using their judgment about water availability in the area and fire load expected in the buildings. In big campuses, where there are many buildings/blocks , architect can optimize the total storage as water can be shared between neighborhood blocks and normally fire doesn't happen in more than one block at a time.	
4.	**Fire Fighting Equipment**	**d) Up to 05 Floors height of buildings :** **Up to 05 floors with up to 1000 Students:** 2 HP (Pump + Electrical Motors connected to main Generator) @ one per each floor connected to normal plumbing system instead of down comer/special pipes. **Upto 05 floors with more than 1000 students** : 2 HP (Pump + Electrical Motors connected to main Generator) @ one per each floor connected to normal plumbing system instead of down comer/special pipes and 5 HP (Pump + Petrol Engine) on wheels at Ground floor. For Universities, IIT's, AIIMS, NIT having big campuses, two 150 Kg ABC Powder trolley mounted should be provided. They may be stationed at lab facilities where fire load is high. This can handle Chemical, Electrical Fires. We prescribed ***2HP plunger pumps*** as they can ***generate upto 40 Kg/Cm² water pressure where as NBC recommends only 4Kg/Cm² water pressure*** if their suction pipe is connected to any water source such as sump, overhead tank, any water tank or even dropped in a water drum. These pumps can generate "mist" which is highly effective in controlling fires. These pumps work on either Electrical Motors or Fuel Motors. They are light weight and can be fitted with Wheels to make them "mobile". We advise the builders to provide water tapping points at two places on each floor preferably close to each Staircase.	

	Fire Fighting Equipment	We need these pumps to function even in case of power failure. Hence, we advise that in case of using Electrical Motor driven pumps, let them be connected to main generator. Also, use some fuel Motor driven pumps for better reliability. However, the Architects are advised to use higher capacity pumps (upto 16 HP Plunger Pumps or Fire Engine Pumps that are available in the market with ISI markings) depending on the expected fireload in each floor. They may have new plumbing system if required to support high capacity pumps. In addition, the Architects are encouraged to use any new technology systems that can reliably generate water pressure of 10 Kg/Cm^2 as and when fire breaks out. Also, in case of upto 5 floors buildings with more than 1000 Students, we prescribed an additional 5 Hp pump as this can generate upto 60 Kg/Cm^2 water pressure which can reach even top floor from ground Sump. This is an additional reliability measure to ensure safety in such a big school/College campuses. We prescribed about 30 meters delivery plastic pipe connected to all the above pumps so that all floors in a building can covered with multiple pumps as 30 meters delivery pipe can be carried through Staircase to all floors even from ground floors without moving the pumps. This improves resiliency or margin of safety of the installed Fire Safety Equipment.	

5.	**Fire Fighting Equipment**	**e) If any building higher than 05 Floors and upto 10 floors:** **(i)** 02 HP (Pump + Electrical Motors connected to main Generator or Fuel Motor) @ one per floor connected to normal plumbing system instead of down comer or wet-riser. **(ii)** 16 HP (Pump + Petrol Engine) on wheels at Ground floor sump. **(iii)** 02 Nos. of Trolley Mounted ABC 150 Kg Fire Extinguishers to be provided. In addition to what has been mandated in small Educational Institutions, we have enhanced Electrical fire fighting ability by prescribing 150 Kg trolley mounted ABC powder Cylinders. There are mobile, maintenance free and are effective against Electrical fires besides being cost effective. They may be kept at floors having Electrical intensive Equipment. Finally, 16 HP Plunger Pumps are suggested for High Rise buildings at ground Sump as they can generate up to 120 Kg/ Cm^2 water pressure and the water jet can cover upto 10 floors height of the building easily. These pumps are also effective in generating mist and are easy to operate. However, Architects can install any advanced technology that can be similarly effective in High Rise buildings keeping in view of the above principles.	
6.	**Fire Fighting Equipment**	**Auditorium Safety:** Multiple exits and Fire Extinguishers are essential. If underground parking is provided then temperature sensors connected to hooter and also that can give alerts via cell phone to security persons and Management is prescribed. As this system can reliably alert the required security staff and others, to act as per Standard Operating procedure in case of Fire outbreaks. However, management may choose to install reliable automatic fire alarm systems and automatic sprinkler system (The Sprinklers shall be connected to CPVC pipe as per clause 11.8.2 of 15:15105:2021 and pipeline connected to overhead tank) in basement, but not compulsory.	

7.	**Fire Fighting Equipment**	**Library & Laboratory Safety:** - 4.5 kg CO_2Fire Extinguishers @ one per 100 sqmtr. - 5 HP (Pump + Electrical Motors powdered by main Generator) connected to normal plumbing system. - PESO guidelines/Norms to be followed in case of any explosive, chemical material storage facilities or where ever applicable. However, Data Centers, High Tech labs and any important record rooms etc., are recommended to be fitted with automatic Aerosol/CO_2/N_2/Neutral Gas Flooding Systems for better safety.	
8.	**Fire Fighting Equipment**	**Kitchens Safety:** 1) Kitchen should be away from class rooms, dormitories and labs. Preferably in separate building. 2) The Kitchen shall be separated from other parts of the same building by 60 min fire rated wall and 60 min fire resistance doors. *3)* However, no kitchen shall be allowed in the same multi-storey building having classrooms or dormitories in upper floors. ***No "Conditional NOC" shall be given under any circumstances as this will compromise basic safety of students.*** 4) One 5HP Plunger Pump, two 4.5 Kg CO_2 Fire Extinguishers, Gas Detection and Alarm System shall be installed. They shall be kept in good working condition. 5) LPG Cylinders shall be located outside the kitchen with proper ventilation and protection from Rain and Sunlight. 6) Five Ways of putting up LPG Cylinder Fires (Pictorial / Cartoon) shall be displayed in the kitchen.	

9.	**Mixed Occupancies**	It is strictly not permitted to have Educational Institutions including coaching centers in buildings having shops of highly inflammable substances such as cloths/garments/textiles/gases/dangerous explosive chemicals etc., in the adjoining/above/below the classroom or dormitories. This is to prevent fire accidents happening in those shops not to have serious adverse impact on student's safety. ***No "Conditional NOC" or "Renewal NOC" shall be issued in the above cases of Mixed Occupancy under any circumstances as this will compromise basic safety of students.*** While observing the above, "No Objection Certificate" be issued to any Educational Institution in mixed occupancy building taking into account fulfillment of above prescribed requirements including two exists without insisting on the whole building to have "No Objection Certificate" to avoid practical problems arising out of multiple owners.	
10.	**Kindergarten**	Kindergarten Class Rooms Shall be located on Ground Floor preferably.	
11.	**Height restriction**	The Maximum height of the educational building should not exceed total 10 floors.	
12.	**Structural Safety**	All Educational buildings shall preferably be "A" class construction with brick/stone masonry walls with Reinforced Cement Concrete (RCC) roofing. Where it is not possible to provide RCC roofing, only non-combustible fire proof heat resistance materials should be used.	
13.		**Display the Following No's at important places** (i) Fire Department Number (101). (ii) Ambulance (108). (iii) Police (100).	
14.	***The above to be certified by an authorized Civil Engineer.***		

7) Means of Escape:

Providing suitable means of Escape to evacuate the students in case of fire outbreak is essential to save lives of people. In many prominent fire accidents such as Kumbakonam school fire, Surat Coaching Center fire, many students lost their lives due to absence of second staircase for escaping as the only staircase engulfed in fire. Therefore, the guiding principle is to provide at least two good ways of Exit or Evacuation in all Educational buildings. The building architects to provide for appropriate means of escape depending on the number of Occupants on each floor Choosing among the following options:

(i) Two Staircases widely separated from each other.

(ii) One Staircase and a ramp widely separated from each other.

(iii) One Staircase and fenced pathway to adjacent buildings on all floors suitable for Evacuation of Occupants.

(iv) One Staircase and a tube lift (transparent fire proof lift fitted outside the building) with an Exhaust fan on top (to remove smoke from the lift if any) powered by main generator.

(v) Spiral staircases are not allowed under any circumstances as they are not suitable for mass evacuation in panic situations.

(vi) All exists are marked clearly and that there are no objects obstructing the Entry and Exit of all Educational buildings.

As this kind of passive preventive measure is very effective in saving lives, no exemption shall be given for providing two good ways of exit. ***No "Conditional NOC" be issued pending provision of two ways of exit under any circumstances as this will jeopardize basic essential Occupant safety.***

8) Mock Drills:

All Educational Institutes must prepare an emergency response plan that delineates staff responsibilities, communication modes, and training and updating procedures for all members of the faculty, staff and students.

a) Every Year mock drills to be conducted and all the staff, Some parents, Students and Management should sign a document certifying the following and keep in record.

We observe that it is the staff, Students and their attenders who lose lives in case of any major fire accident in Educational Institutions. Very rarely owners of buildings are affected. Therefore, ***we intend to put power in the hands of most affected people*** by mandating that the signatures of all participants in Mock Drill to be taken in the register for inspection. These "Mock drills" familiarize all concerned people about the status of safety in their workplace. Though, Mock drill is prescribed at least once a year, we urge the managements to have them frequently in the interest of safety particularly during summer months.

Proforma enclosed:

S.No.	Name of the Students/Staff	Remarks/ Observations	Signature
1.			
2.			
3.			

Certifying that all Pumps and other fire fighting equipment are in working condition and the Fire Extinguishers are not outdated.

b) That all students and staff know Exits and Assembly points and what to do in Emergency.

c) The Mock drill records to be submitted during any inspection.

Endeavour to be made to use the various pumps on daily basis involving students for upkeep of buildings and campus, so that, people can readily deploy them during fire emergencies which normally induce panic. Also, regular use will keep all the equipment in good working condition.

9) Inspections & Fire Safety Audit:

There are about 180 fire stations in the State. The Station Fire Officer (SFO) has to be available to respond to Emergency "fire and rescue" calls 365 days and 24x7. In addition, there are 40,000 Schools/Colleges besides many industrial and business establishments where fire safety inspections for different purposes have to be carried out. It is administratively not practical to get all inspections done through the Fire department officials.

Moreover, many SFO's have just intermediate qualification and hence SFO's with such qualifications are "not competent" to inspect technical aspects of Electrical Safety or fire Safety Equipment.

Therefore, the following technically competent people employed with State Government (so that they can be made accountable for accuracy of their reports) are authorized in accordance with powers conferred on Director General for inspection purposes.

a) All Electrical Engineers Employed with State Government or its undertakings or any State University are authorized to inspect and issue certificate for Electrical Safety after satisfying about the compliance with "Electrical Safety Checklist" (Clause 5).

b) All Civil Engineers Employed with State Government or its undertakings or any State University are authorized to inspect and issue Certificate of compliance with proper working of installed Fire safety Equipment, plumbing, water availability and suitable Exits as prescribed in (Clauses 6 and 7).

c) For conducting "General Fire Safety Audits" from time to time, as per guidelines prescribed in this notification, the District Collector or District Educational Officer is authorized to constitute teams of Electrical Engineers and Civil Engineers.

District Collector to ensure "Fire Safety Audit" is conducted at least once in two years with authorized Electrical [9(a)] and Civil Engineers [9(b)] as mandated by Supreme Court vide Judgment in Kumbakonam School fire case.

d) Is there any inspection required for issuing Provisional "No Objection Certificate"?

No inspection is necessary as per G.O Ms. 120, Home (Prisons & Fire) Department, Dated. 25-10-2021.

e) Who can carryout inspection for issuing Occupancy "No Objection Certificate"?

The application for Occupancy "No Objection Certificate" should have Fire Audit Certificates of Electrical Engineer and Civil Engineer as authorized in 10(a) & 10(b).

If further inspection is necessary, the Director General of Fire Services can nominate "Non Jurisdictional" Fire Officer of Station Fire Officer & above rank to carryout inspection as per G.O Ms.120, Home (Prisons & Fire) Department, Dated: 25.10.2021. The guiding principle is to do away with monopoly of jurisdiction officers in conducting all inspections to improve transparency.

f) Can Jurisdictional Officers carryout Inspections?

The Government has issued G.O Ms. 90, Home (Prisons & Fire) Department Dt. 13-08-2021, authorizing to conduct joint inspections along with Education department Officials.

10) Renewal of "No Objection Certificate":

(a) Who doesn't need Renewal of NOC:

Educational buildings of less than 6 meters in height (Ground + first floor only), are exempted from applying and obtaining renewal of NOC as per the provisions of Sec 13(1) of Andhra Pradesh Fire Service Act,1999.

However, it is important to note that they are not exempt from "Occupancy NOC" for an year. This is to ensure that all essential Passive Safety measures are in place including two exits (clause-7) no co-location of classrooms with shops having highly inflammable substances such as cloths/garments/textiles/gases/ dangerous

explosive chemicals etc; no kitchen in the ground floor of the multistoried building having classrooms/dormitories, and following Electrical Safety Checklist (clause-5).

The above Passive Safety measures are critical in ensuring safety of children given our experience of major fire accidents such as Kumbakonam School Fire (Ground + First floor building), Surat Coaching Center fire etc. Even these minimum critical safety measures may not be followed if we exempt from "Occupancy NOC" and hence the above prescription. This is in accordance with the observations made by the Supreme Court in Kumbakonam case.

(b) Delegation of Powers:

Not only that there are 40,000 Schools etc... but the list of such establishments will be growing as the State develops. Hence, the renewal applications will be cumulatively growing leading to huge administrative burden given that there are only about 100 total fire personnel per district (including all ranks and just 5 to 10 officers of SFO rank). They need to be on operational duty 24x7 and 365 days. Hence, the necessity of delegation of powers.

Applications for renewal of "No Objection Certificate" can be submitted to State University Registrar in case of affiliated colleges and university buildings, District Educational Officer or Municipal Commissioners having jurisdiction for all Educational Buildings. In addition, all District Chief Fire Officers can receive renewal applications in case of Government Educational Institutions.

The above officers are here by authorized in accordance with powers conferred on Director General in Sec 13(2) A.P. Fire Services Act, 1999, to renew "No Objection Certificate" after ensuring Fire Audit Certificates of authorized Electrical Engineer and Civil Engineer besides payment of prescribed fee through challan. The applications shall also accompany affidavit signed by management testifying observance of all the above prescribed Prudential Safety norms. All such renewals orders shall be copy marked to District Chief Fire Officer and Director General for proper record.

The applications for renewal can continue to be submitted directly to Director General's Office. This will do away with monopoly powers of any particular office, thereby improving transparency.

(c) Deemed Approval:

As mandated under Sec 13(2) A.P. Fire Services Act, 1999, the Director General or any officer authorized by him shall issue "No Objection Certificate" within 60 days of the date of complete application. The date of Challan payment is to be treated as date of application for this purpose following the date of said Fire Audit Certificates. If not issued, the Renewal of "No Objection Certificate" is deemed to have been issued, following the doctrine of legitimate expectations as all criteria have been met.

Therefore, the above delegation of powers goes a long way in "Ease of doing business" in the State while improving administrative convenience and transparency without compromising Safety.

11) Ambiguities Removal:

a) About Set backs & Open spaces and measurement of height of buildings.

See Andhra Pradesh Government Gazette W.No.16 dated: 21-04-2022 regarding the above two issues.

b) Is it necessary to submit drawings of buildings to apply for "No Objection Certificate"?

There is no requirement to submit detailed plans & drawings of buildings. This will avoid unnecessary issue of safety of such sensitive documents specially if submitted online. Such detailed maps may fall into hands of cross border terrorists etc. Therefore, this requirement is dispensed with. However, the building plans shall be scrutinized by authorised Civil Engineer.

c) Can fire Department Officials insist on any particular agency to install Fire Safety Equipment?

No, the management have full discretion as to the agencies, manufacturers as long as the equipment installed is either of ISI standards or any International Standards or Industry Recognized Standards.

d) Are the above prescribed Prudential Fire Safety measures confirm to National building Code (NBC), 2016?

Yes.

NBC, 2016 has no statutory basis and is a set of guidelines to be followed. Moreover, NBC 2016 guidelines provides for authorization of new technologies, methods to remove any hardships or practical difficulties to Director General, Fire Services (clause-5.1,part-II and clause-3.4.2 of part-IV of NBC,2016).

Carefully conducting root cause analysis of major fire accidents of last 15 years in the State and understanding the hardships and practical difficulties in deploying Conventional Centralised Plumbimg System (Part-IV, Table 7 of NBC 2016), the Director General has authorized the following technologies and methods after due testing:

(a) Decentralised Fire Safety System using Plunger Pumps, Fire Engine Pumps etc.
(b) Aerosol Automatic Extinguishing devices.
(c) Dry Chemical Powder Modular System.
(d) CO_2 flooding system.
(e) N_2 flooding system.
(f) Clean agent flooding system.
(g) Installation of automatic heat and temperature sensing devices.

For more details please refer to Andhra Pradesh Government Gazette Notification dated: 18.01.2022.

Therefore, the technologies and methods as notified above are authorized extension of NBC,2016 in Andhra Pradesh State.

In fact, the notification goes beyond NBC 2016 (Part-IV, Table 7), as NBC doesn't mention about Electrical Safety. However, in our root cause analysis of major fire accidents in the country, we found 90% of accidents are due to Electrical Short Circuits.

Hence, the Director General exercising powers conferred in Sec13(2) of Andhra Pradesh Fire Service Act, 1999 has mandated observance of Electrical safety Checklist in the Educational Institutions across the State.

e) Does Fire department has any role in determing the strength of School/Educational Institution?

No. Education Department may determine strength though GOs such as G.O Ms. 41 dated:11.05.2006 amended from time to time. AICTE will authorise strength in Engineering Colleges and MCI authorises strength in Medical Colleges etc.

f) Does the Fire Department should go into aspects of building that is beyond the above said Prudential Fire Safety norms?

No. The State Legislature, in its considered wisdom, has authorised Building Licensing Officials to check about certain aspects of the building including scrutinizing and approving building plans; and Revenue Officials to check about titles of land on which buildings stand etc. Hence, let the respective departments do their mandated duty and let the Fire Department Officials confine to ensuring adherence to the said Prudential Fire Safety norms.

12) Who doesn't need "No Objection Certificate".

Ground Floor Educational Buildings with Reinforced Cement Concrete (RCC) roof and multiple exits are hereby exempted from Fire "No Objection Certificate" irrespective of Built up Area/Plot area, as such facilities provide easy escape for its occupants in case of any fire accident.

There are no recorded incidents of fire in such facilities in the State. Therefore, the above exemption is justifiable on the grounds of easing administrative burden and enhancing Citizen Convenience.

However, all such Educational Buildings shall observe "Electrical Safety Checklist" of clause-5, Library & Laboratory safety as per clause-6.7 and Kitchen Safety as per clause-6.8 and conduct mock drills as per clause-8. They have to show "Electrical Safety Audit" certified by any authorized Electrical Engineer and "Mock Drill" register as prescribed in clause-8 to any authorized inspection authority under the law. In essence, there is no exemption from observing Prudential Fire Safety norms.

13) Alignment of Interests:

In case of fire accident, the Educational Institute Owners/management suffer not only property damage but also irreparable reputation damage especially if any student's life is lost. Obviously, the managements/owner's interest in ensuring "Fire Safety" is in alignment with fire department objectives, provided the mandated requirements are pragmatic.

In arriving at above pragmatic requirements, we have consulted all stakeholders, analyzed major Educational Building fire accidents across the country, capitalized on the accumulated experience of fire fighting personnel of all ranks in the department, took advantage of modern technologies, methods and tested in presence of following experts.

Sl. No.	Name	Name of the University	Qualification
1.	Prof. K.N. Satyanarayana	IIT, Tirupati	PhD Civil Engineering
2.	Sri. P.C. Ramesh Kumar	R & B Chief Engineer	M.Tech, LLB
3.	Prof. S. Srinivasa Prasad	V.R. Siddartha Engineering College	PhD Mechanical Engineering
4.	Prof. Manas Kumar Pal	VIT – Andhra Pradesh Campus	PhD Mechanical Engineering
5.	Prof. Tarkeshwar Mahto	SRM University	PhD Electrical and Electronics Engineering
6.	Sri. D. Seshi Reddy	KL University	M Tech, EEE

The experts and all stakeholders are satisfied with the prescriptions of this notification as adequate to stop/control fires in the incipient stages given that the professional fire fighters located in about 180 fire stations across the State are ever ready to step in, within minutes, working 24 x 7 and 365 days.

In designing, testing, evaluating and in creatively finding solutions, the invaluable contributions of Sri S. Vara Prasad, Driver Operator, Vizianagaram, Sri J. Ramanaiah, District Chief Fire Officer, Tirupati District, Sri M. Sreenivasa Reddy, District Chief Fire Officer, NTR District and many others are hereby acknowledged and commended.

The above minimum requirements for issue of "No Objection Certificate" are hereby notified to avoid compelling owners to install escalating ladder of equipments and to ensure transparency.

Any violation of the above minimum safety provisions will attract prosecution not only under relevant provisions of A.P. Fire Services Act, 1999 but also under appropriate provisions of Indian Penal Code, particularly if the Passive Safety measures are willfully disregarded as this will compromise basic student's safety.

14) Insurance and Affiliation:

(a) Fire third party insurance is mandatory for all Educational Institutions having more than 5,000 students under single management in multiple locations. However, Government Educational Institutes are exempt from this provision as the Government is always generous in paying compensation in all cases. This is in accordance with the contents in the Judgment of Supreme Court in Kumbakonam school fire case, which further opined that as all insurance companies will definately inspect the Educational Institution premises before agreeing to provide insurance cover, which ensures adherence to the highest safety standards by Educational Institutions.

In addition, Courts and Tribunals observe whether management has followed the said Prudential Safety Measures prescribed by Professional Fire Service, while awarding compensation to the victims of fire accidents in Educational Institutions.

(b) As per the directions of Supreme Court in Kumbakonam School fire case, the concerned authorities are to ensure that buildings are safe and secure from every angle and therefore, observe above said Prudential Fire Safety norms before granting recognition or affiliation, and for their continuation.

Therefore, the above notification is hereby issued in larger "Public Interest".

PRATAP MADIREDDY,
Director General,
State Disaster Response & Fire Services,
A.P., Vijayawada.

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RIGHT TO INFORMATION

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THE ANDHRA PRADESH GAZETTE

PUBLISHED BY AUTHORITY

W.No.39 AMARAVATI, FRIDAY, SEPTEMBER 30, 2022 G.897

PART II - MISCELLANEOUS NOTIFICATIONS OF INTEREST TO THE PUBLIC

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NOTIFICATIONS BY HEADS OF DEPARTMENTS Etc.,

DIRECTOR GENERAL

DISASTER RESPONSE & FIRE SERVICES DEPARTMENT

ANDHRA PRADESH

Lr.C.No.52 / DGFS / Camp / 2022. **Date: 30-09-2022.**

NOTIFICATION FOR INDUSTRIES

NOTIFICATION FOR INDUSTRIES

INDEX

NOTIFICATION FOR INDUSTRIES

1) Legal powers governing this Notification:

According to Section 14 (1) of Andhra Pradesh Fire Service Act, 1999,the Director General by notification required the owners or Occupiers of the Premises used for purposes which in their opinion, are likely to cause a risk of Fire, to take such precautions as may be specified in such Notification.

According to Section 14 (2) of Andhra Pradesh Fire Service Act, 1999, it shall be lawful for the Director General or any other authorized by the Government in this behalf to direct in writing the removal of objects or goods likely to cause a risk of fire, to a place of safety: and an failure of the owner or occupier to do so, the Director General or such other officer may, after giving the owner or occupier a reasonable opportunity of making a representation, seize, detain or remove such objects or goods or order the closure of the premises.

2) The purpose is :

First, to institutionalize Preventive Measures such as Joint Mock Drills, Community Awareness Programs etc., that are required in case of accidental leakage of Toxic, Poisonous, Explosive and Dangerous Chemicals that are likely to cause fire and harm human health.

Second, to define Principles, Standards and minimum requirements that will "***Satisfy***" to meet the Fire Safety in Industrial Buildings for Issuing "No Objection Certificate". Therefore, this notification is deemed as Provisional NOC.

Third, to specify industrial Park level Fire Safety measures for optimization and resource pooling.

Fourth, to ensure compliance by notifying roles and responsibilities of district authorities competent to ensure "Disclosure of Information", suggest precautions, conduct "Mock Drills", and

Finally, to remove ambiguities and to notify Industrial buildings that don't require Fire "No Objection Certificate" to bring transparency.

3) Necessity of Disclosure:

(a) LG Polymers gas Leakage:

On May 7, 2020, Styrene monomer vaporised due to intense heat generated in an uncontrolled exothermic reaction and leaked out of storage tank in the LG Polymers Plant located in Visakhapatnam city. The incident happened around 03.00 AM, when the people were sleeping, primarily affecting five neighbouring villages namely R.R. Venkatapuram, Padmapuram, BC Colony, Gopalapatnam and Kancherapalem.

As a result 12 people died, more than 1000 were hospitalised and many domestic animals were killed in the incident. Even now more than 30% of the residents of the above five villages suffer from anxiety and psychological issues as per survey conducted by Alluri Sitharamaraju Viganana Kendram and Research Centre. The survivors are still living under fear and many are yet to recover from trauma.

An official committee investigated the incident and made recommendations. It pointed out glaring omissions of the company management and unpreparedness of both the company employees and first responders including Fire Department in handling such serious accidental situations affecting community in the neighbourhood of the factory.

(b) Gas Leakage at Brandix India Apparel Company:

On 3rd June, 2022, around 140 women employees fell sick after inhaling some poisonous gas at the Quantum seeds, the second unit of Brandix India Apparel Company (BIAC) at Atchuthapuram in Anakapalli District. However, the origin of the gas and the cause of the leak, have not been established immediately.

(c) Bhopal Gas Tragedy:

On the night of December 2, 1984, Chemical Methyl Iso Cyanide (MIC) gas leaked from Union Carbide India Limited (UCIL) Pesticide Factory, turned the city of Bhopal into a colossal gas chamber. It was India's first major industrial disaster and considered the world's worst in history.

Officially 3,928 people died as a result of the Bhopal gas disaster and 5,58,125 survivors suffered respiratory problems, blindness and other health injuries as per Government affidavit. In 2010, several former executives of the company were convicted of gross negligence.

(i) How it happened:

To make the pesticide, the methyl isocyanate, or MIC, was stored in the three partly buried tanks, each with a 15,000-gallon capacity. During the late evening hours of December 2, 1984, water entered an MIC Tank. Introduction of water began a runaway exothermic reaction, which was accelerated by contaminants, high ambient temperatures and presence of iron.

December 3, 1984 12:40 am: A worker, while investigating a gas leak, stood on a concrete slab above three large, buried storage tanks holding the chemical MIC. The slab suddenly began to vibrate beneath him. He witnessed 6 inch thick crack on the slab and heard a loud hissing sound and he saw gas shoot out of a tall stack connected to the tank, forming a white cloud that drifted over the plant and toward sleeping residential areas nearby. In a short span of time, the gas leak went out of control.

December 3, 1984 12:50 am: ***The public siren briefly sounded and was quickly turned off, as per company procedure meant to avoid alarming the public around the factory over tiny leaks but it was a huge leakage***. Workers, evacuated the UCIL plant. The control room operator turned on the vent gas scrubber, a device designed to neutralize escaping toxic gas, but the scrubber didn't work. As such, the gas was not neutralized but was shooting out of the stack, forming into cloud and settling over the neighborhood.

December 3, 1984 1:15-1:30 am: At Bhopal's 1,200-bed Hamidia Hospital, the first patient with eye trouble reported. Within minutes, there were thousands of patients. ***Calls to the UCIL plant by police were twice falsely assured that "everything is OK",*** and on the last attempt made, "we don't know what has happened, sir" was the reply. Mean while, in the plant, MIC began to engulf the control room and the adjoining offices.

December 3, 1984 3:00 am: ***The police were not told earlier because the company management had an informal policy of not involving the local authorities in gas leaks. Meanwhile, people were dying by the hundreds outside the factory. Some died in their sleep. Others ran into the gas cloud, breathing in more and more gas and dropping dead in their tracks.***

This tragedy is a result of not prioritizing safety in a plant which deals with toxic gases that can injure and kill people. An internal company report warned that "a runaway exothermic reaction could occur in the MIC storage tanks", but no action was taken.

(ii) Importance of exchange of information:

With the lack of timely information exchange between Union Carbide India Limited (UCIL) and Bhopal city authorities, the city's Hamidia ***Hospital was first told that the gas leak was suspected to be ammonia, then phosgene.***

After couple of hours, hospital was finally told that it was methyl isocyanate (MIC), which hospital staff had never heard of, had no antidote for, and have no stock of essential medicines to deal with the increasing number of patients.

The gas cloud, composed mainly of materials denser than air, stayed close to the ground and spread affecting the nearby communities. Most city residents who were exposed to the MIC gas were first made aware of the leak by exposure to the gas itself, but not through any alarm system. The residents don't know how to respond to such an emergency. Even the first responders (hospitals, police and Fire) were clueless and completely unprepared to handle such emerging situation.

(Source: Research article of Dr. R. Chakravarthy)

(iii) What United States did:

Following Bhopal Gas Tragedy, US Congress passed the ***"Emergency Planning and Community Right-to-Know Act (EPCRA)"*** to mitigate hazards posed by the storage and handling of toxic chemicals.

Community Right-to-Know provisions increase the public's knowledge and access to information on toxic chemicals at individual facilities. The information is made available in a publicly accessible database, called ***"Toxic Release Inventory" (TRI).***

This public disclosure has been a great success in reducing release of toxic chemicals in the United States by nudging the companies to reduce impact on human beings of such releases by the following methods:

(1) By relocating the storage of toxic chemicals far away from any residential habitations and bringing only small daily required quantities or below critical quantities (which even if accidentally released cannot cause serious harm either to workers or to the community) to the factory for processing.

(2) By substituting the toxic chemicals with non-toxic chemicals.

(3) ***By relocating companies using toxic Chemicals to places far away from any residential habitation.***

The above methods were adopted by companies (located near residential areas) due to public disclosure of storage of toxic chemicals to avoid damage to their brand reputation and consequent reduction in their share price, and in public patronage of their goods and services. This kind of large public safety benefit resulting from such simple "Public Disclosure" is aptly termed as "Democratic Checks and Balances" working to ensure "Public Safety".

Bhopal Gas Tragedy Lessons:

It highlights the importance of providing right information to the neighbourhood community (what kind of toxic chemicals are stored; what precautions are necessary etc.) and essential training for immediate first responders (Fire Fighters, Police and Emergency Medical Services) to adopt right safety procedures including conducting mock drills.

(d) 2020 Beirut Explosion:

A massive chemical detonation occurred on August 4, 2020 in Beirut Port, Lebanon. ***An uncontrolled fire ignited ~2,750 tons of Ammonium Nitrate (AN) stored in a Port warehouse for more than 5 years, producing one of the most devastating blasts in recent history.*** The blast supersonic pressure and heat wave claimed the lives of 220 people and injured more than 6,500 instantaneously, with severe damage to the nearby dense residential and commercial areas.

It produced a 140 m wide crater and an earthquake of 3.3 magnitudes on Richter scale. The Blast in Beirut was categorized as the third most devastating urban explosions of all time after the Hiroshima and Nagasaki nuclear bombings at the end of World War II.

Following the Beirut incident, Indian authorities carried out inspection of warehouses across all ports in India and found large storage of ammonium nitrate in Chennai port stored for a long time. It was immediately removed.

This highlights the importance of avoiding storage of explosive and toxic chemicals in port warehouses for a longer period.

How the"Disclosure of Information"prevents disasters:

1. LG Polymers:

If the large storage of styrene, a toxic gas, been known to community surrounding the factory, the management, under public scrutiny, would have followed any of the above methods [clause 3(iii)(1),(2),(3)]. Any of the three methods would have prevented the accident or even if it happens, the harm caused to health of community or workers would have been minimal as the quantity of toxic gas released would have been below critical quantity to cause any major harm.

2. Brandix Gas leakage:

Investigations about sources of toxic gas leakage at Brandix Apparel Company revealed that there is no source in the premises of the company. The toxic gas has come from a company located in the same industrial area. Therefore, it took many weeks to find the source of toxic gas which affected 140 people.

If storage of toxic chemicals in all factories is made known to public, it would have easy to pin point the source of toxic gas leakage immediately, which would help us to stop further leakage and to take preventive measures.

Moreover, if any of the above three preventive methods [clause 3(iii) (1),(2),(3)] were following in handling and storage of toxic chemicals, then this accident would have been prevented and even if it had happened, it wouldn't cause such major harm to human health as the release would have been of not significant quantity to cause such harm.

3. Beirut Explosion:

Had the public disclosure of such hazardous or explosive or toxic chemicals information been done, the resulting public awareness would certainly cause it to be appropriately disposed off by the relevant authorities within a short time.

Thus, the "Democratic Checks and Balances" resulting from "Public Disclosure" will go a long way in preventing such major disaster. This is particularly important in Andhra Pradesh State which has about 990 km of coast line with five operational ports and more ports upcoming. In addition, Ammonium Nitrate, a common fertilizer and explosive chemical (explodes if stored for a long time in humid coastal environment) is being imported through Vizag Port.

Therefore, the Director General hereby notifies (under section 14(1) of AP Fire Services Act, 1999) mandating all Companies/Industries/Individuals including Port Authorities storing or processing any toxic, Hazardous or Explosive Chemicals in the State, to disclose the information on such chemicals specified under MSIHC (Manufacture, Storage and Import of Hazardous Chemical) Rules ,1989 (as amended from time to time) in the following format every three months and in enclosed Annex B (IS 4209:2013) just once both electronically and physically to the local fire station to enable the first responders (Fire, Police, Medical) to conduct joint mock drills and awareness programs among the neighbouring community to prepare and protect themselves.

Port authorities/ managements of all Ports (Major and Minor) shall ensure to disclose information of any Toxic, Hazardous or Explosive Chemicals stored in the Godowns and Warehouses located in the Port Lands.

Format:

Name of the Industry: Address: Geo Coordinates (Lat, Long): Emergency Contact Name: Emergency Contact Number (Landline): Emergency Contact Number (Mobile): Nearby Fire Station: Nearby Fire Station Contact Number:

For each Chemical:

Chemical Name	MSDS Code	Hazchem Code	Storage Quantity	Storage Quantity Units (Tons/Kgs/Ltrs)	Nature of Chemical (Toxic/Poisonous Flammable/ explosive/ hazardous)

Flash Point OC	Boiling Point OC	LEL %	UEL %	Incompatible With

Incase of Fire: Fire Fighting media and instructions	Personnel Protective Equipment	Spill Cleanup procedure	In case of contact with Eye/Skin, procedure to follow	Any other remarks

4) The principles governing the Fire Safety Norms:

An extract from the Foreword to Part 4 of the National Building Code.

"Absolute safety from fire is not attainable in practice. The objective of this part is to specify measures that will provide the degree of safety from fire which can be reasonably achieved. ***The Code endeavors to avoid requirements that might involve unreasonable hardship or unnecessary inconvenience or interference with normal use and occupancy of buildings*** *but insists upon compliance with minimum standards of fire safety necessary for building occupants and users".*

Every Industry is different and faces different hazards. Therefore, the managements shall refer to the respective Indian/International Code of Practice with appropriate modifications to confirm to the following principles, methods and technologies in designing and installation of fire safety systems.

The Endeavour is to deploy modern technologies that are ***resilient, maintenance free, easy to operate in case of emergency and don't get rusted in the largely Coastal Environment*** of the State.

The governing principle is to have large margin of Safety or failure proof deployment of Fire Fighting Equipment in "Decentralized Way" so that any individual Equipment failure will not affect the Fire Fighting capabilities as there are many similar Equipments in any building. Even the Fire Fighting Equipments of neighborhood buildings or industries can also be used for fighting fire as all these pumps are designed to be "mobile" and can operate either on "Electric" or "Fuel motors" besides being versatile in drawing water from any source such as Sumps, Overhead tanks, any municipal water tanks, or any tap in the building or any well or drum.

Therefore, ***the above versatility and mobility of the pumps deployed in buildings will multiply the margin of safety manifold unlike the case of immobile Centralized Pumping System***.

The above is just a layman expression of a well known mathematical proof that any Centralized Complex System with many interdependent components however reliable, is "fragile" compared to Decentralized System having independent components of similar reliability.

In addition, the centralized pumping system and water sprinklers can also be deployed at the sole discretion of the managements depending on the application. ***The existing such deployments can continue with a condition that they shall be maintained mandatorily replacing all rusting parts every three years with qualified technical teams so that they will be useful in case of actual emergencies instead of just being show pieces.***

Finally, minimization of Energy use (Sustainability) and Cost Effectiveness are to be observed. Let us be comforted with the fact that "no Industry is an island" in itself to handle any fire outbreak but thankfully, there are professional fire fighters spread across the State in 180 Fire Stations available "on duty" 24 x 7 and 365 days. In addition, neighbouring industries are every ready to part with their mobile fire fighting equipments along with their trained fire fighters to help control the fires. ***To ensure this, we have mandated signing of mutual aid agreements among industries.***

5) Fire Safety Measures:

General Fire safety Guidelines:

(i) NBC 2016 (Table VII) prescribes fire safety measures only for small scale industries. Whereas, for other category industries, it has left to the Director General and hence the following fire safety measures are prescribed to remove ambiguities; and to improve transparency and "ease of doing business".

Fire Extinguishers are to be provided as per IS 2190, amended from time to time and Electrical safety is to be ensured following good practices prescribed in Indian Electrical Code (IEC) and Central Electricity Authority rules. Licensed "Electrical contractors" are recommended to be used for doing electrical works as per law.

We have authorized the following technologies and methods vide Andhra Pradesh Government Gazette No. W.No.02, Dated.18-01-2022 after due testing considering the hardships and practical difficulties in deploying conventional centralized systems.

(a) Decentralized Fire Safety System using Plunger Pumps, Fire Engine Pumps etc.
(b) Aerosol Automatic Extinguishing devices.
(c) Dry Chemical Powder Modular System.
(d) CO_2 flooding system.
(e) N_2 flooding system.
(f) Clean agent flooding system.

(g) Installation of automatic heat and temperature sensing Devices or Fire Detection and Alarm System.

In addition, Foam Generators are hereby authorized to be used for oil related fires and wherever applicable.

Given the superiority of Decentralized System compared to conventional centralized hydrant system in ensuring large margin of safety as discussed in governing principles, we urge the managements to give priority to Decentralized design of fire safety systems.

The individual equipments/pumps to be of ISI or Industry or International Standards and that can work both in auto or manual mode capable of discharging right quantity of water or foam or any gas at right pressure depending on the fire load, and nature of hazard.

For instance, ONGC has deployed four pumps in four corners of a gas well at Narsapur, West Godavari District, Andhra Pradesh State which handles natural gas at 10,000 PSI pressure. The deployed pumps are capable of discharging water at 36,000 Ltrs per minute at different angles on to the flame burning such high pressure inflammable gas. Whereas, office buildings and engineering stores don't require such water pressure or quantity as these facilities have low fire load.

Hence, we expect the managements to take help of industry experts to assess fire load at different locations and facilities to ***deploy right kind of fire fighting and electrical equipment freely drawing from modern technology practices without being constrained by any particular code which may not have been updated for a long time, provided the technology deployed provides better safety than what is recommended in the relevant codes.***

It may be noted that (b) to (g) are meant to be alternatives to conventional Water Sprinkler System and they can be deployed in automatic work mode depending on the application. For example, Aerosol or Dry chemical powder gets released if temperature exceeds

58°C just as in case of Water Sprinkler's. Similarly, any gas (Foam/CO_2/N_2/Clean agent etc.,) can be made to work in auto flooding mode using temperature sensors and/or smoke sensors.

In addition, Yard Hydrant can be designed with HDPE/CPVC pipeline burried underground (so that it won't be burnt during fire) or connect to existing Yard Hydrant line and water tapping outlets (made of steel) can be attached to that pipeline, where ever required. This is intended to avoid iron pipes in coastal rust prone environment of the State.

The managements shall ensure compliance with QRA (Quantitative Risk Assessment) and Dispersion Analysis or HARA (Hazard Analysis & Risk Assessment) report; OISD (Oil Industry Safety Directorate); PESO (Petroleum Explosive Safety Organization) norms where ever applicable and prepare "on site"/"off site" Emergency evacuation plan before commencing the operations.

ii) Cold Storage Fires:

There are about 278 Cold Storage Godowns existing in the State. Every Cold Storage Godown maintains the ambient temperate between (-2°C to 6°C). Conventional Water Sprinklers are not appropriate for these Godowns.

Most of the Godowns are used for storing red dry chilies, any water leakage from sprinklers will result in discoloring/damage to the red chilies. In addition, the sprinkler system occupies lot of economic space of the Godown. The water inside the Sprinkler system pipes sometimes gets frozen as the temperature goes below its freezing point. Due to the above critical reasons, which present genuine practical difficulties, most of the Cold Storages Godowns in the State have not installed Conventional Water Sprinklers.

(a) In a major fire accident due to short circuit, huge stocks of chilli were gutted in a Cold Storages Godown at Ankireddipalem, Guntur District, on 27 April, 2011. Fire could be extinguished only after all the stored material was burnt lasting 5 days, leading to collapse of the entire structure.

(b) On June 14, 2018, Boppudi Cold Storage, Chilakaluripet, had fire in the B Chamber destroying huge stocks of red gram, black gram, chilli, bengal gram and turmeric stock. Fire officials were able to save stocks in A Chamber. Inspite of ten fire tenders working to douse the fire, the entire Cold Storage building collapsed.

Similarly, going by the last 20 years experience of handling such fires in the State, we found that ***once the Cold Storage catches fire, it would result in burning of all stored material leading to collapse of entire structure. Hence, we recognized this as an unsolved problem for which a pragmatic technology solution needs to be found.***

We conducted experiments using liquid Nitrogen, Aerosol and liquid Carbon Dioxide taking advantage of the fact that Cold Storage buildings are completely sealed, have one or two doors with no human presence inside during fire accidents. We have involved ONGC and industry experts during these experiments. These experiments proved the effectiveness of the liquid CO_2 if used in sufficient quantity in controlling the fire, definitely saving the structure of the Cold Storage from collapse.

Having successfully solved the problem, the fire department is acquiring liquid carbon dioxide fire tenders (10,000 Kg capacity liquid CO_2 tank fitted on 28 ton chasis) to be stationed near clusters of Cold Storage Godowns.

Isolated Cold Storages are to have a bank of CO_2 cylinders in manifold as it takes time for the liquid CO_2 fire tender to reach the location. Two or more Cold Storages can have a common CO_2 storage tank. It is an elegant low cost but effective solution for challenging problem of controlling fires in Cold Storage Godowns.

Therefore, Liquid CO_2 flooding system connected to CO_2 storage tank is prescribed to control fires in Cold Storages to meet the "satisfaction" of Director General for issue of "No Objection Certificate".

The process of issuing "NOC" dealt under category of MSME (Micro, Small & Medium Enterprises).

(iii) Pharma Industry: There are more than 220 Pharma units in the State. Many have multiple exothermic reactors. ***Root cause of the most of the fatal accidents in the State is because of explosion of these reactors due to run away exothermic reactions. We urge the managements to adopt latest safety technologies in case of reactors hosting exothermic reactions in addition to posting qualified, well trained, full time employees at these reactors.***

It has to be understood that we can have equipment to fight fire but not explosion. Hence, all care is to be taken to avoid conditions leading to explosion which don't give any time for escape.

On 13th April, 2022, a major explosion took place in a 3,000 liter capacity reactor at Porus Laboratories Private Limited, Akkireddy gudem, Eluru District of Andhra Pradesh. The explosion was due to exothermic reaction of chemicals generating about 200°c of heat. The impact was felt over a 10 KM radius resulting in death of 10 workers including five workers charred to death. The fire service personnel were able to stop the fire from spreading to 15 other reactors in the factory and solvent tanks, thus averting a major disaster.

This highlights the importance of following the safety precautions suggested in Hazard Analysis and Risk Assessment (HARA), Third party safety audit report under MSIHC (Manufacture, Storage and Import of Hazardous Chemicals) Rules,1989 (as amended from time to time) and practicing Emergency Evacuation Plan (EEP). And the role of Inspector of Factories to ensure the managements adopt modern technologies in the design of exothermic reactors and adhere to industry best practices in maintenance of these reactors to prevent such ghastly incidents.

Therefore, installation of appropriate fire safety equipment in compliance with HARA report, Safety Audit under MSIHC (Manufacture, Storage and Import of Hazardous Chemicals) Rules,1989 (as amended from time to time) and Emergency Evacuation Plan and Disaster Emergency Management Plan (DEMP) will "Satisfy" the Director General for issuing "No Objection Certificate".

(iv) Oil & Gas Industry:

Andhra Pradesh State has a long coastline endowed with Oil and Natural Gas reserves both offshore and onshore. The State also has many ports used for export and import of petroleum products and edible oil. Therefore, there are extensive oil and Gas installations including refineries, strategic oil reserves, storage depots, transportation pipelines and distribution points such as petrol bunks and LPG storage Godowns across the State. Let us examine most prominent fire incidents in this industry.

(a) LPG Cloud Explosion @ HPCL, Vizag: In Sept. 1997, leakage occurred during receipt of LPG Cargo from a pressurized ship. The leaked gas formed into Vapor cloud and spread throughout the refinery tank farm before getting ignited. The resulting blaze killed 60 people. It took 14 days to fully extinguish fires with several fire tenders working continuously. About 70,000 people living around the HPCL refinery have fled due to this blaze.

Justice S.C. Jain Commission investigated the incident and recommended to ensure flow of information to the district off-site Emergency authority and to caution the people with public address system besides ***ensuring that only technically qualified people be employed in performing sensitive operational and maintenance duties instead of casual labor.***

(β) GAIL pipeline blaze in Konaseema area: On 27th June, 2014, fire broke out at 5:30 AM on the pipeline running through Nagaram Village. The gas leak seems to have been taking place for couple of days prior to the incident with hissing sound but villagers don't know where to report. The leaked gas cloud caught fire when a tea stall owner lit a stove early morning. This led to a blast followed by large ball of fire.

The explosion with flames reached 250 meters high leaving a trail of death and destruction in which 15 people lost their lives.

This explosion highlights the importance of public awareness so that they can immediately inform authorities about any leaks and preventive maintenance of Gas pipelines.

(γ) Pasarlapudi blowout: It was largest blowout ever recorded in the history of India's oil and Natural gas exploration that happened in an oil rig on 8th Jan 1995 in Pasarlapudi near Amalapuram, Andhra Pradesh. The fire continued for 65 days and could be brought under control with the help of international experts. About 1500 people living in surrounding 7 villages were evacuated but there were no causalities.

The geological complexity of the fields and the presence of high pressure zones in the Krishna - Godavari basin, particularly in the wells at Amalapuram, Razole and Narasapur have led to major disasters. These may happen again in this area.

This highlights the importance of fully complying with Oil Mines Regulations, 2017. Therefore, for new wells or expansion of any existing wells or installations, respective Mines Manager shall submit an undertaking stating that all the applicable provisions of Oil Mines Regulation, 2017 or any other applicable Indian Standards are complied with. ***Such Mines Manager's undertaking shall meet the "Satisfaction" of Director General for issuing 'NOC'.***

The companies particularly ONGC shall spend CSR funds to replace thatched roof houses with pucca houses or any other fire prone civil structures surrounding their operational area in coordination with district administration.

District Collectors of Dr. B.R. Ambedkar Konaseema District and West Godavari district shall periodically review compliance with Safety procedures with concerned companies and conduct community awareness programs given the geological complexity of Oil & Gas fields in these districts.

6) Mock Drills:

a) Every three months fire mock drills to be conducted and all the workers and Management should sign a document certifying the following and keep in record.

We observe that it is the workers or their supervisors who lose lives in case of any major fire accident in Industries. Very rarely owners are affected. Therefore, ***we intend to put power in the hands of most affected people*** by mandating that the signatures of all participants including Emergency Response Team in Mock Drill to be taken in the register for inspection. These "Mock drills" familiarize all concerned people about the status of safety in their workplace. Necessary training and awareness programs on emergency response to be conducted to all employees and maintain training records for inspection.

Proforma enclosed:

S.No.	Name of the Employee	Remarks/ Observations	Signature
1.			
2.			
3.			

Certifying that all Pumps and other firefighting equipment are in working condition and the Fire Extinguishers are not outdated.

b) That all workers know Exits and Assembly points and what to do in Emergency.

c) Endeavour is to be made to conduct joint Mock Drills with Local Fire Station and local bodies like Village Secretariat so that everyone will know what kind of dress to wear, where to take position and what to do in any emergency.

7) Fire Safety Audit:

There are about 180 fire stations in the State. The Station Fire Officer (SFO) has to be available to respond to Emergency "fire and rescue" calls 365 days and 24x7. In addition, there are about 7,500 Hospitals, 40,000 Schools/Colleges besides many industrial and business Establishments where fire safety inspections for different purposes have to be carried out. It is administratively not practical to get all Fire Safety Audits done through the Fire department officials.

In addition, there is no qualified Chemical, Electrical, Mechanical or Civil Engineers in the ranks of Fire Department.

Therefore, the following technically competent people employed with State Government (so that they can be made accountable for accuracy of their reports) or duly licensed persons are authorized in accordance with powers conferred on Director General for Fire Safety Audit purpose.

a) All Civil, Electrical, Mechanical and Chemical Engineers Employed with State Government or its undertakings or any State University are authorized. In addition, all Degree or Diploma holders in Electrical Engineering licensed by A.P. Electrical Licensing Board are authorized to conduct "Electrical Safety" audit after inspecting and satisfying themselves with Electrical Safety.

b) Who can carry out Fire Safety Audit for issuing Precautionary measures under Sec 14 of the Act, 1999?

The Director General or District Collector may nominate teams of a Civil Engineer, an Electrical Engineer, a Mechanical Engineer or a Chemical Engineer along with a fire officer so that proper methodical Safety Audit is done to suggest precautions to be taken in handling hazardous or toxic or explosive chemicals.

8) What can be done by District Administration to prepare for incidents such as LG Polymers gas leak, explosion of exothermic reactors and major blowouts in Oil and Gas installations?

(a) District Collector to constitute "District Safety Committee" with the members chosen among the following:

(i) District Superintendent of Police / Commissioner of police or their nominee.

(ii) District Health & Medical Officer.

(iii) District Chief Fire Officer.

(iv) District Electrical Inspector.

(v) District Pollution Control Board Officer.

(vi) District Industries Center, General Manager (or) Zonal Manager, APIIC.

(vii) District Factories Inspector / Boiler Inspector / Labor Inspector.

(viii) District CII & FAPSII president.

(ix) All presidents of Industrial Park Safety Committees.

(x) Chief Safety Officer Ports.

(xi) Any major industry such as ONGC, GAIL, Reliance, Steel Plant etc., representatives as decided by District Collector.

(b) The District Safety Committee shall meet atleast once in a year and more frequently in industrialized districts such as Visakhapatnam, Anakapalli and Tirupati.

(c) ***The Pollution Control Board shall maintain the Repository of storage of toxic chemicals across the State and give public access via user friendly Website.***

The companies holding toxic chemicals shall upload the information every three months electronically. All public authorities including Fire Service having such information shall the Repository.

(d) The District Collector shall ***ensure that the disclosure of information related to the storage of toxic, hazardous and explosive Chemicals as mandated in clause (3) is upto date and conduct Public Awareness Programs.***

Such Public Awareness nudges the Company Boards (some times located far away in other countries in case of M/s LG Polymers at Korea and at USA in case of Bhopal Gas tragedy) to follow the methods listed in [clause (3) (iii) (1), (2), (3)] for better public safety.

(e) The District Collector to direct ***District Health and Medical Officer or private hospitals having collaboration with industries handling toxic chemicals to store relevant emergency medicines all the time***. The concerned companies are hereby mandated to ensure compliance to the orders of District Collector as per Sec 14 of the Act, 1999.

(f) The District Collector shall ***ensure signing "Mutual Aid Agreements"*** by all industries located in the district so that they collaborate in fighting major incidents of fire.

(g) The District Safety Committee shall have Electronic Collaboration (for instance through WhatsApp group). The District Chief Fire Officer to maintain contact persons cell phone numbers and mobile fire fighting equipment so that they can be readily accessed when needed.

(h) ***The District Collector is empowered to get Safety Audits and Mock drills conducted and to give notice to any industry handling toxic chemicals to take such precautions as may be recommend by the "Safety Audits".***

In case of non-compliance, the District Collector can take legal action (under Sec 14 of the Act 1999) either to stop operations or to immediately remove such chemicals with a copy to the Director General.

(i) District Chief Fire Officer to present this Gazette whenever the following officers join the district.

(i) District Collector/ District Joint Collector.

(ii) District Superintend of Police/ Commissioner of Police.

(iii) District Medical & Health Officer.

(iv) District PCB Engineer.

District Chief Fire Officer should also give locational information of toxic chemical storages and industries hosting exothermic reactors and oil wells on a map to get the information at a glance.

9) Ambiguities Removal:

a) About Set backs & Open spaces and measurement of height of buildings.

See Andhra Pradesh Government Gazette W.No.16 dated: 21-04-2022 regarding the above two issues.

b) What principles are observed in issuing No Objection Certificates for Industries?

As the provisions of law provides for prescribing precautions for industrial Fire Safety any time and empowers the Director General with powers to mandate such precautions under Sec 14 of the Act, 1999, but doesn't mention industries under Sec 13 of the Act, we have ***adopted the principle of "Trust but Verify" in issuing "No Objection Certificates".***

This will hold the top most company official (Chief Executive Officer or Managing Director) responsible for safety. While trusting his undertaking affidavit, the process eliminates any delay in granting approvals. We, then, undertake mock drills, multi disciplinary check to specify any further precautions to be taken etc.

The above will go a long way in "Ease of Doing Business" in the State while ensuring Public Safety as per law.

c) Is it necessary to submit drawings of buildings to apply for "No Objection Certificate"?

There is no requirement to submit detailed plans & drawings of buildings. The Department has no qualified staff (No Civil Engineers or architects or even diploma holders) who can understand building drawings.

Moreover, this will avoid unnecessary issue of safety of such sensitive documents specially if submitted online. Such detailed maps may fall into hands of cross border terrorists as it happened in case of Taj Hotel, Mumbai in 2008 etc. Therefore, this requirement is dispensed with.

d) Can fire Department Officials insist on any particular agency to install Fire Safety Equipment?

No, the management have full discretion as to the agencies, manufacturers as long as the equipment installed is either of ISI standards or any International Standards or Industry Recognized Standards.

e) Are the above prescribed Prudential Fire Safety measures confirm to National building Code (NBC), 2016?

Yes.

NBC, 2016 specifies Fire Safety Measures only for small scale industries. It specifically leaves the Fire Safety Measures to the Director General in case of all other categories of Industries.

f) Is it necessary to deploy Fire Tenders in mock drill?

Yes. It is required preparation to effectively fight fires.

g) Is there any inspection required for issuing Provisional "No Objection Certificate"?

No inspection is necessary as per G.O Ms. 120, Home (Prisons & Fire) Department, Dated. 25-10-2021.

h) Can Jurisdictional Officers carryout Inspections?

The Government has issued G.O Ms. 90, Home (Prisons & Fire) Department Dt. 13-08-2021, authorizing to conduct only joint inspections. ***Jurisdiction officers are encouraged to conduct joint mock drills to familiarize everyone with the equipment available, precautions to be taken and to work as a team to effectively handle any emergency.***

The frequency of joint mock drills is to be arrived depending on the nature of hazards in consultation with management of the company.

10) "No Objection Certificate" for MSME and Green Category Industries:

(a) Park Level or Cluster Level "No Objection Certificate":

It is decided to issue one time park level fire safety certificate for industrial parks hosting MSME (Micro, Small & Medium Enterprises) industries and Green Category industries of any scale to encourage and promote fire safety in the State without collecting any fee as NOC is not mandated under Sec 13,14 for such industries.

The following are the prescribed norms:

(i) There should be park level safety committees constituted.

(ii) Mutual Aid Agreement to be signed by members of the park.

(iii) There should be two water sources (park level total minimum one lakh liters) connected via pipeline (HDPC/PVC underground) that brings water near to all buildings with multiple water tapping points at each building (water needn't be under pressure as we can use pressure pumps).

(iv) Every industrial unit to have atleast two 5HP pumps (which generate more than 10/cm^2 pressure when connected to water tapping points). They may use higher rated pumps depending on fire load expected. These pumps to be mobile so that multiple pumps can be deployed in case of fire.

(v) The entire park is recommended to have Electrical works under taken by licensed "Electrical Contractors" of the A.P Electrical Licensing Board.

(vi) The park safety committee to have two 150kg/75kg trolley mounted ABC powder cylinders. They can be deployed in case of fires of Electrical or Chemical Origin.

(vii) In case of Cold Storages, (i),(ii),(v),(vi) and installing pipes suitable to pump liquid CO_2 uniformly inside godown connected to a common storage tank.

The above said conditions meet the satisfaction of the Director General to issue "Park Level Fire No Objection Certificate".

On submission of an undertaking Affidavit signed by "Park Level Safety Committee" stating that the above conditions are met, the 'Park Level Fire No Objection Certificate' is deemed to have been granted and the orders communicated immediately through Single Window Portal of Industries Department with a copy marked to Director General.

(b) Individual "Occupancy NOC" for any industry excluding Red and Orange Categories:

If required, it will be granted .The following are prescribed precautions.

(i) Installation of proper capacity fire fighting pumps at all work locations depending on fire load with adequate water storage (min 10,000 Ltrs).

(ii) Put CO_2/ABC cylinders at all work places within 25 meters accessible distance to workmen.

(iii) Mutual Aid Agreement is signed with at least two other industries in its neighbourhood or in the District.

(iv) All Electrical works to be done through Licensed Electrical Contractors (by A.P. Electrical Licensing Board) to ensure Electrical Safety.

(v) The company has remitted to State Treasury one year prescribed fee through any approved Banks or Electronic Payment methods.

An undertaking affidavit signed by (Chief Executive Officer or Managing Director or his authorized representative) stating that the above are complied is required.

On Submission of such an affidavit, "Occupancy NOC" is deemed to have been granted and the orders communicated through Single Window Portal of Industries Department with a copy marked to Director General.

In case of any issue with Single Window Portal, (in (a) or (b)) the Director General will issue the "No Objection Certificate" immediately to support "Ease of doing Business" in the State. Later, he may get Mock drills conducted to get familiarity with the equipment deployed or to suggest any improvements.

11) "Ease of Doing Business": (Issuing "Occupancy NOC" and "Renewal NOCs" for Red and Orange Category industries):

In case of fire accident, the Industry Owners/management suffer not only property damage but also irreparable loss of reputation especially if any workers life is lost. Obviously, the management interest in ensuring "Fire Safety" is in alignment with fire department objectives, provided the mandated requirements are pragmatic.

The law makers have wisely given powers to Director General through Sec 14 of the Act, 1999 to require the Owners or Occupiers of any premises used for storing or processing any hazardous or toxic explosive chemicals that are likely to cause fire, to take precautions. In case of non-compliance, the Director General is empowered to direct the concerned to remove such chemicals or to close the premises. This is a powerful provision
to ensure industrial safety balancing requirement of attracting investments to create jobs for youth.

However, the Legislature has avoided including industries in the Sec 13 dealing with Fire "NOC" but the Pollution Control Board has made obtaining "NOC" mandatory for Orange and Hazardous Category industries, so that these industries can be dealt under Sec 14(1) of the Act, 1999.

Therefore, ***we observe the principle of "Trust but Verify" in processing applications to eliminate any delay.*** In accordance with the mandate of law, we permit the industry to commence and continue operations subject to submitting an undertaking affidavit signed by the Managing Director or Chief Executive Officer, or his authorized signatory, stating the following:

(a) Conducted QRA (Quantitative Risk Assessment) and Dispersion Analysis or HARA (Hazard Analysis and Risk Assessment).These assessments are done through multi disciplinary experts. They include fire safety checking by industry experts.

(b) All norms regarding PESO (Petroleum and Explosives Safety Organization) observed.

(c) All norms of OISD (Oil Industry Safety Directorate) observed.

In case of (a),(b) & (c), if applicable.

(d) Installed proper capacity fire fighting equipment at all work places depending on "fire load".

(e) That the company have employed well trained full time, employees at all critical processes and at all exothermic reactors.

(f) That the company shall update toxic/hazardous/explosive chemicals information as mandated under clause(3).

(g) That the company shall ensure availability of essential medicines that are antidote to toxic/hazardous/explosive chemicals stored by them in case of any mishap.

(h) Prepared "On Site and Off site" Emergency Evacuation Plan.

(i) That the company will abide by any further precautions suggested by the Director General or District Collector in the interest of Public Safety.

(j) The Government prescribed fee is remitted to State Treasury through any approved Banks or Electronic payment methods.

On submission of said "affidavit", the "Occupancy NOC"/ "Renewal NOC" is deemed to have been granted and orders communicated immediately for all categories of industries through Single Window Portal of Industrial Department. The duration of such NOC's is for 5 years at a time as per G.O.Ms.No.120, Home (Prisons & Fire) Department, Dated: 25-10-2021.

In case of new oil exploration sites, on submission of Mine Manager's undertaking stating that all relevant safety norms are observed, "Occupancy NOC" is deemed to have been granted and order communicated immediately through Single Window Portal of Industries Department with copy marked to Director General.

The Director General may direct District Chief Fire Officer to conduct mock drill as soon as possible to familiarize everyone with the industry.

In case of any issue with Single Window Portal, the Director General will issue the above "No Objection Certificates" immediately as envisaged to support "Ease of Doing Business" in the State.

As and when required, the Director General may constitute multi disciplinary teams to suggest any precautions, to be adopted in the interest of Public Safety.

Any violations of the above minimum safety provisions will attract prosecution not only under relevant provisions of A.P. Fire Services Act, 1999 but also under appropriate provisions of Indian Penal Code.

In addition, Courts and Tribunals observe whether management has followed the said Prudential Safety Measures prescribed by Professional Fire Service, while awarding compensation to the victims of fire accidents.

12) Stakeholder Consultation:

In arriving at above pragmatic requirements, we have consulted all stakeholders, analyzed major industrial fire accidents across the country, capitalized on the accumulated experience of fire fighting personnel of all ranks in the department, took advantage of modern technologies.

In designing, testing, evaluating and in creatively finding solutions, the invaluable contributions of Sri. Dinesh Kumar, General Manager (ONGC, Fire Services); Fire Experts Sri. K.T Krishna Murthy and Sri. C. Andrew; Sri. Shaik Samiuddin of CII; Sri. J. Subba Rao, Secretary, JN Pharma City; Sri. K. Chakradhararao, Colgate-Palmolive in Sricity; Sri. J. Ramanaiah, DCFO, Tirupati; Sri. B. Lakshmana Swamy, DCFO, Anakapalli; Sri. P. Anil Kumar, DCFO, Annamayya; Sri. V. Sreenivasa Reddy, DCFO, Ananthapur and many others are hereby acknowledged.

The encouragement of Sri. Sameer Sharma, Chief Secretary in uging to use the "Behavioural Insights" of Noble Laureate Richard Thaler and Cass Sunstein, authors of Nudge, led to the idea of "Disclosure".

Though major disasters are like "Black Swan" events, this notification is a David's attempt to build "Ant fragility" relying on the open democratic traditions of our country.

Trust that the enlightened leadership of our country may take these meaningful steps into account while formulating national response.

Therefore, the above notification is hereby issued in larger "Public Interest".

PRATAP MADIREDDY,
Director General,
State Disaster Response & Fire Services,
A.P., Vijayawada.

IS 4209:2013

ANNEX B
(Clause 8.4.1)

MATERIAL SAFETY DATA SHEET FORMAT

B-1 MATERIAL SAFETY DATA SHEET FORMAT

Identity (As Used on Label and List) and Maximum Quantity handled at any time.

1. Chemical Identity			
Chemical Name		Chemical Classification	
Synonyms		Trade Name	
Formula		CAS NO.	U.N. No.
Regulated Identification		Shipping Name Codes/Label	Hazchem No:
		Hazardous Waste I.D. No:	
Hazardous Ingredients	CAS No.	Hazardous Ingredients	CAS No.
1.		3.	
2.		4.	
2. Physical and Chemical Data			
Boiling Range/Point °C	Physical State		Appearance
Melting/Freezing Point °C	Vapour Pressure @ 35 °C mm Hg		Odour
Vapour Density (Air=1)	Solubility in water @ 30 °C		Others
Specific Gravity	*p*H		
Water = 1			
3. Fire and Explosion Hazard Data			
Flammability Yes/No	LEL %	Flash Point °C	Auto ignition Temperature °C
TDG Flammability	UEL %	Flash Point °C	
Explosion Sensitivity to Impact	Explosion Sensitivity to Static Electricity		Hazardous Combustion Products
Hazardous Polymerization			
Combustible Liquid	Explosive Material		Corrosive Material
Flammable Material	Oxidiser		Others
Pyrophoric Material	Organic Peroxide		
4. Reactivity Data			
Chemical Stability			
Incompatibility with other material			
Reactivity			
Hazardous Reaction			
Products			

NOTE – Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

5. Health Hazard Data					
Routes of entry					
Effects of Exposure/ symptoms					
Emergency treatment					
TLV (ACGIH)	ppm	mg/m^3	STEL	ppm	mg/m^3
Permissible Exposure Limit	ppm	mg/m^3	Odour Threshold	ppm	mg/m^3
LD_{50}			LD_{50}		
NEPA Hazard Signals	Health	Flammability	Stability	Special	
6. PREVENTIVE MEASURES					
Personnel					
Protective					
Equipment					
Handling and Storage					
Precautions					
7. Emergency and First-Aid Measure					
Fire	Fire Extinguishing Media				
Fire	Special Procedures				
	Unusual hazards				
Exposure	First-Aid Measures				
	Antidotes/Dosages				
Spills	Steps to be taken				
	Waste Disposal Method				
8. Additional Information/References					
9. Manufacturer/Suppliers Data					
Name of Firm Mailing Address Telephone/Telex Nos. Telegraphic Address	Contact person in emergency				
	Local bodies involved				
	Standard packing				
	Tremcard Details/Ref				
	Other				
10.Disclaimer					
Information contained in this material safety data sheet is believed to be reliable but no representation guarantee of warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is upto the manufacturer/seller to censure that the information contained in the material safety data sheet is relevant to the product manufactures/handled or sold by him as the case may be. The government makes no warranties expressed or implied in respect of the adequacy of this document for any particular purpose.					

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RIGHT TO INFORMATION

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THE ANDHRA PRADESH GAZETTE

PUBLISHED BY AUTHORITY

W.No.41 AMARAVATI, THURSDAY, OCTOBER 13, 2022 **G.958**

PART II - MISCELLANEOUS NOTIFICATIONS OF INTEREST TO THE PUBLIC

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NOTIFICATIONS BY HEADS OF DEPARTMENTS Etc.,

DIRECTOR GENERAL

DISASTER RESPONSE & FIRE SERVICES DEPARTMENT

ANDHRA PRADESH

D.O.Lr.No.58 / DGFS / Camp / 2022. **Date: 12-10-2022.**

NOTIFICATION FOR COMMERCIAL / BUSINESS / ASSEMBLY / HIGH RISE BUILDINGS

NOTIFICATION FOR COMMERCIAL/BUSINESS/ASSEMBLY/HIGH RISE BUILDINGS

1) The purpose is:

First, to define principles, standards and minimum requirements that will ***satisfy*** to meet the fire safety in various buildings for issuing "No Objection Certificate" as envisaged in Sec13(2) of Andhra Pradesh Fire Services Act,1999. Therefore, this notification is deemed as Provisional NOC.

Second, to ensure compliance by notifying authorities competent to inspect, test and certify the functioning of fire safety equipment and other safety measures such as exits etc.

Third, to lay down procedures for time bound disposal of applications for "No Objection Certificate" (NOC) ***within sixty days*** of its submission as prescribed in the Act, 1999. Following the doctrine of legitimate expectations, specifying the conditions for deemed approval in case of Renewal of "No Objection Certificate" applications, and

Finally, to remove ambiguities and to notify the Buildings which don't require "No Objection Certificate" to bring transparency.

2) **Buildings under the purview of this notification:**

(*I*) Mandatory Fire Safety Provisions in these Buildings:

(a) Commercial buildings used for office, business, hotel, retail or any Commercial activity (Stilt/Ground + 4 floors and above).

(b) All malls with multiplexes irrespective of height and independent theaters.

(c) All function and assembly halls including State Assembly and Zilla Parishad buildings.

(d) High-rise residential buildings (Stilt/Ground +5 floors and above).

(II) Recommendatory Fire Safety Provisions in these Buildings:

(a) All judicial buildings.

(b) Currency Chests, Data Centers, Libraries and any place of storage of valuable documents .

3) The principles governing the Fire Safety Norms:

An extract from the Foreword to Part 4 of the National Building Code.

"Absolute safety from fire is not attainable in practice. The objective of this part is to specify measures that will provide the degree of safety from fire which can be reasonably achieved. ***The Code endeavors to avoid requirements that might involve unreasonable hardship or unnecessary inconvenience or interference with normal use and occupancy of buildings*** *but insists upon compliance with minimum standards of fire safety necessary for building occupants and users".*

Analyzing the "Root Causes" of Fire accidents in the buildings to prescribe reasonable ***Fire Safety Measures to prevent Fire accidents from happening in the first place, to save lives and to minimize damage to property.***

The endeavour is to deploy modern technologies that are ***resilient, maintenance free, easy to operate in case of emergency and don't get rusted in the largely Coastal Environment*** of the State.

The governing principle is to have large margin of Safety or failure proof deployment of Fire Fighting Equipment in "Decentralized Way" so that any individual Equipment failure will not affect the Fire Fighting capabilities as there are many similar Equipments in any building. Even the Fire Fighting Equipments of neighborhood buildings can also be used for fighting fire as all these pumps are designed to be "mobile" and can operate either on "Electric" or "Fuel motors" besides being versatile in drawing water from any source such as Sumps, Overhead tanks, any municipal water tanks, or any tap in the building or any well or drum.

Therefore, ***the above versatility and mobility of the pumps deployed in buildings will multiply the margin of safety manifold unlike the case of immobile CentralizedPumping System.***

The above is just a layman expression of a well known mathematical proof that any Centralized Complex System with many interdependent components however reliable, is "fragile" compared to Decentralized System having independent components of similar reliability.

The existing Centralized Pumping System can continue with a condition that they shall be maintained mandatorily with qualified technical teams replacing all rusting parts every three years so that they will be useful in case of actual emergencies instead of just being show pieces.

In any particular building, the fire accidents are very rare events (very low probability events) as per the last 25 years recorded fire accidents in the State. Given human tendency to attend to immediate requirements and neglect rare occurrences (which is the principal reason why centralized dedicated fire equipment often doesn't work in case of emergency), we need to incorporate machines that are **maintenance free** and **multipurpose** that can be used for daily purposes such as ensuring hygiene/sanitation so that functioning and familiarity with the use of equipment are automatically ensured. ***This feature further enhances margin of Safety.***

Moreover, the building design Engineers to have flexibility in deploying any advanced technology depending on the Fire load expected.

We have authorized the following technologies and methods vide Andhra Pradesh Government Gazette No. W.No.02, Dated.18-01-2022 after due testing considering the hardships and practical difficulties in deploying conventional centralized systems.

(a) Decentralized Fire Safety System using Plunger Pumps, Fire Engine Pumps etc.
(b) Aerosol Automatic Extinguishing devices.
(c) Dry Chemical Powder Modular System.
(d) CO_2 flooding system.
(e) N_2 flooding system.
(f) Clean agent flooding system.
(g) Installation of automatic heat and temperature sensing Devices or Fire Detection and Alarm System.

In addition, Foam Generators are hereby authorized to be used for oil related fires and wherever applicable.

It may be noted that (b) to (g) are meant to be alternatives to conventional Water Sprinkler System and they can be deployed in automatic work mode depending on the application. For example, Aerosol or Dry chemical powder gets released if temperature exceeds 58^0C just as in case of Water Sprinkler's. Similarly, any gas (Foam/CO_2/N_2/Clean agent etc.,) can be made to work in auto flooding mode using temperature sensors and/or smoke sensors.

In addition, Yard Hydrant can be designed with HDPE/CPVC pipeline burried underground (so that it won't be burnt during fire) and water tapping outlets (made of steel) can be attached to that pipeline, where ever required. This is intended to avoid iron pipes in coastal rust prone environment of the State. It shall be installed in big campuses.

Above all, highest priority is accorded to Passive Safety measures such as ensuring two exits, following Electrical Safety Checklist and Smoke management guidelines.

Finally, minimization of Energy use (Sustainability) and Cost Effectiveness are to be observed. Let us be comforted with the fact that "no building is an island" in itself to handle any fire outbreak but thankfully, there are professional fire fighters spread across the State in 180 Fire Stations available "on duty" 24 x 7 and 365 days. In addition, neibhours are ready to help with their mobile fire fighting equipment and trained persons. ***To encourage this, we recommended signing of Mutual Aid Agreements.***

4) Root-Causes:

In our analysis of major fire accidents in these buildings across India, the Root cause of fire is ***Electrical Short Circuit in 90% of cases*** and **leakage of LPG**.

Most casualities are due to inhaling smoke and lack of multiple exits.

5) Safety measures mandated to prevent Electrical Origin Fires:

	Electrical Safety Checklist	**Compliance**
(i)	All Electrical wirings in the building shall confirm the code of practice for Electrical wiring IS:732:1989 and also shall confirm for Fire Safety Wiring of the building Electrical Installations as per IS:1646:2015.Most common mistake is that the neutral wires to the three pin plugs are not of sufficient thickness to carry the current in case of any short circuits.	
(ii)	Installation of Miniature Circuit Breakers (MCBs) in all floors.	
(iii)	No Overloading or to have a different power socket for different equipments.	
(iv)	Electrical wiring to be changed every ten years, wherever high power consuming appliances such as Air conditioner sets.	
(v)	LED lights in Closed Rooms, Corridors, Staircases connected to inverter (Battery) to ensure well light pathways for Exit or Evacuation inspite of regular power failure in any Emergency.	
(vi)	Grounding/Earthing Shall be done. For details refer IS 3043:1987.	
(vii)	For Larger buildings, it is recommended to install non pressurized Aerosol suppression system (or) CO_2 flooding system in Electrical Panel Rooms.	
(viii)	Lightening conductors may be provided for high rise buildings exceeding 5 floors.	
(ix)	Generator and Transformer Safety: **(a)** We recommend the Generators and Transformers are located outside the buildings. **(b)** In case of indoor installation. **First**, enclose with 2 hours fire rated walls and provide for appropriate smoke ventilation so as to ensure that smoke shall not enter into staircases or occupied areas.	

	Second, recommended to provide automatic aerosol or CO_2 flooding system.	
(x)	All the above safety measures shall be Certified by the authorized Electrical Engineer.	
(xi)	***No "Conditional NOC" or "Renewal NOC" shall be issued without satisfying Electrical Safety Checklist including item 5(iv) above under any circumstances as this will compromise basic safety of occupants.***	

6) Kitchens Safety:

Fire safety measures	**compliance**
1) Piped LPG is recommended in all new constructions with pipelines running in separate shafts away from staircases on external walls. **2)** In commercial buildings, One 5HP Plunger Pump, Fire Extinguishers, Gas Detection and Alarm System shall be installed and be kept in good working condition. **3)** In commercial buildings, the Kitchen shall be separated from other parts of the same building by 60 minutes fire rated wall and 60 minutes fire resistance doors. **4)** In commercial kitchens, flameless cooking technologies such as steam or electrical etc are recommended. **5)** In residential buildings, the LPG cylinders to be stored outside Kitchen with adequate ventilation. **6)** There shall be smoke exhaust in all kitchens. **7)** Periodic checking of LPG stoves/pipes/cylinders by authorised Mechanic of Gas Dealer is highly recommended.	

7) Smoke Management and Ventilation System:

I) Smoke is the main killer in any fire incident. In some fire situations, the generation of smoke is so huge that it may fill an entire building within short time and obscure visibility. Smoke and fumes which are the dangerous products of combustion have critical influence on life safety and fire suppression practices.

II) ***Smoke management aims at venting smoke in such a way that people inside can safely exit any building under fire, without getting suffocated.***

III) Smoke Venting:

Removal of hot smoky gases from the upper parts of any building under Fire and entry of air from outside is termed as **"Venting".** Without fire ventilation, the temperature reaches nearly three times that with ventilators working.

The *main objectives* of smoke venting are:

(a) To allow people to escape from the building involved in Fire by restricting spread of smoke and hot gases in the escape route.
(b)To facilitate Fire Fighter to enter the building and to locate the seat of the Fire so as to control the Fire quickly, Safely and more efficiently.
(c)To reduce damage due to smoke and heat.

IV) In Delhi Commercial building, on 14 th may, 2022 at 4pm, a fire broke out in Generator room kept under only staircase due to electric short circuit. It quickly spread due to stored diesel cans generating huge smoke and fumes. The smoke engulfed the only staircase blocking escape of over 70 young executives having business meeting in upper floor. Many jumped out of windows leaving 27 people dead due to inhalation of smoke and fumes.

This highlights the importance of Electrical Safety, multiple exits and most importantly preventing the smoke from engulfing the staircases so that they can be safe exits.

Therefore, we urge the architects to design smoke vents in such a way that the exit pathways are kept clean of smoke and fumes for atleast an hour (upto 2 hours depending on occupancy) using the following:

(a) Fire rated wall enclosures.
(b) Fire rated Doors, Shutters, Curtains and Glass to seal the passage ways or exits from smoke and fumes.
(c) Providing appropriate vents or exhaust fans to evacuate smoke and fumes without engulfing the safe exit/passages.

(d) Ensuring smoke vents in all closed glass façade buildings.

(e) Making sure Air Conditioner ducts don't compound the problem by carrying smoke to all parts of buildings by providing automatic dampeners etc.

(f) Any other advanced technology materials that are fire rated and shield smoke can be used.

V) ***The above is most crucial in multiplexes, function halls and conference rooms located in upper floors of a mall or hotel where highly inflammable cloths or oils or kitchens are housed in lower floors.***

Not only that there should be adequate width staircases for evacuation from multiplexes etc. in case of any fire incident, but also it is essential to ensure that smoke doesn't enter either the theaters or exist staircases for atleast an hour appropriately deploying the above technologies.

VI) ***The method of testing to know whether the smoke enters theaters or exit staircases is called "Smoke Test", where in smoke is generated artificially in mall area and tested whether it enters theater or passage exits/staircases for an hour.***

The idea of "Smoke Test" is to make sure that a family watching an interesting movie in the multiplex located in any mall, can walk out safely, without suffocating with smoke and fumes, in case of any unfortunate incident of fire breakout in any part of the mall.

8) Fire Safety Equipment to be installed for immediate response to fire breakout observing the principles stated below:

A) Commercial buildings above stilt/Ground +4 floor is used for office, business, hotel, retail or any commercial activity.

CHECKLIST FOR FIRE AND LIFE SAFETY IN COMMERCIAL BUILDINGS		
S.No	**Fire Safety Measure**	**Compliance**
1.	**01 No. of Fire Extinguisher of ABC/CO2 type for every 100 Sq. Meters Area:** As most fires are of Electrical origin, the above Fire Extinguishers which are handy, easy to use and very effective against small fires are mandated to be provided in all parts of building within accessible distance on all floors.	

2.	**Fire Alarm system:** There is a need for an alarm system so that if there is a fire breakout in any part of a building, all the staff should be immediately alerted so that they can take appropriate actions as practiced in Mock Drills. As security personnel function 24x7, we have mandated manual alarm systems to reduce false alarms in Indian conditions. However, reliable automated alarm systems can also be employed at the option of managements.	
3.	**a) Total Minimum water Storage: 5000 Liters (Over head tank + Ground sump).** There is a need for adequate water storage to fight fires using installed fire fighting Equipment. Building Architects are required to provide assured water storage that lasts for at least an hour when all the installed fire fighting Equipment is fully operational. We have indicated minimum assured storage of 5,000 liters (over head tank + Ground Sump) for each building/Block. However, the architects are advised to make additional storage available using their judgment about water availability in the area and fire load expected in the buildings. In big complexes, where there are many buildings/blocks , architect can optimize the total storage as water can be shared between neighborhood blocks and normally fire doesn't happen in more than one block at a time. **b) Up to 05 Floors height of buildings :** (i) 02 HP (Plunger Pump+ Electrical Motors connected to main Generator or Fuel Motor @ one per floor) connected to normal plumbing system. (ii) And for floor area more than 1000sqmtrs on each floor additionally, one 5 Hp (Plunger Pump + Petrol Engine) on wheels at ground floor sump.	

c) If any Commercial building higher than 05 Floors:

(i) 05 HP (Pump + Electrical Motors connected to main Generator) with isolated power line @ one on even number floors and 5 HP (Pump + Petrol Engine Motor) @ one on odd number floors. These shall be connected to normal plumbing system with Hose Pipe which covers total floor area or 30 Metres length whichever is more. These should be **"on wheels"** and hence mobile. There shall be water tapping points at each floor near staircase.

(ii) 16 HP (Pump + Petrol Engine) on wheels at Ground floor sump.

(iii) Where the height of the building is more than 30 Meters or more than 10 floors sprinklers should be provided in all floors from 11th floor upwards. The sprinklers shall be connected to **CPVC** pipe as prescribed in clause 11.8.2 of IS:15105:2021 and the Overhead tank with piping design in accordance with good engineering practice.

iv) Two Number trolley mounted 50 KG/ 100 KG ABC Cylinders for the whole campus.

In addition to what has been mandated in small commercial establishments, we have enhanced Electrical fire fighting ability by prescribing 150 Kg trolley mounted ABC powder Cylinders. There is mobile, maintenance free and are effective against Electrical fires besides being cost effective. They may be kept at floors having Electrical intensive Equipment.

Finally, 16 HP Plunger Pumps are suggested for High Rise buildings at ground Sump as they can generate up to 120 Kg/ Cm^2 water pressure and the water jet can cover upto 10 floors height of the building easily. These pumps are also effective in generating mist and are easy to operate. However, Architects can install any advanced technology that can be similarly effective in High Rise buildings keeping in view of the above principles.

4.	If underground parking is provided, then temperature sensors connected to hooter and also that can give alerts via cell phone to security persons and Management is prescribed. As the security personnel function 24x7, this system can reliably alert the required security staff and others, to act as per Standard Operating procedure in case of Fire outbreaks. However, management may choose to install reliable automatic fire alarm systems and automatic sprinkler system (The Sprinklers shall be connected to CPVC pipe as per clause 11.8.2 of 15:15105:2021 and pipeline connected to overhead tank) in basement, but not compulsory.	
5.	The water tapping points to connect the plunger Pumps to normal Plumbing system are to be provided at two separate places in each floor preferably at staircase.	
6.	**Display the Following No's at important places** (i) Fire Department Number (101). (ii) Ambulance (108). (iii) Police (100).	
7.	***The above to be certified by an authorized Civil Engineer.***	

B) Multiplexes in Malls and Independent Theaters:

	Minimum Fire safety equipment to be provided:
(a)	**01 No. of Fire Extinguisher of ABC/CO2 type for every 100 Sq. Meters Area:** As most fires are of Electrical origin, the above Fire Extinguishers which are handy, easy to use and very effective against small fires are mandated to be provided in all parts of building within accessible distance on all floors.

(b)	**Fire Alarm system:** There is a need for an alarm system so that if there is a fire breakout in any part of a building, all the staff should be immediately alerted so that they can take appropriate actions as practiced in Mock Drills. As security personnel function 24x7, we have mandated manual alarm systems to reduce false alarms in Indian conditions. However, reliable automated alarm systems can also be employed at the option of managements.
(c)	Total Minimum water Storage required as per Table.7 Part IV of National Building Code of India, 2016 and as amended from time to time.
d)	(i) 05 HP (Pump + Electrical Motors connected to main Generator) with isolated power line @ one on eachfloors and 5 HP (Pump + Petrol Engine Motor) @ one on each screen. These shall be connected to normal plumbing system with Hose Pipe which covers total floor area or 30 Metres length whichever is more. These should be **"on wheels"** and hence mobile. There shall be water tapping points at each floor near staircase. However, higher capacity pumps in more number can be deployed depending on fire load expected. (ii) Two Number trolley mounted 50 KG/ 100 KG ABC Cylinders for the whole campus.
(e)	If underground parking is there, then Temperature sensors connected to Hooters and also that can give alerts via cell phone to Security persons and Management be installed. Parking Area can have suitable water tap points and 08 HP (Pump + Petrol Engine) in each Basement. More than one level of basement is there, then Automatic Exhaust fans be fitted to evacuate smoke.
(f)	The water tapping points to connect the plunger Pumps to normal Plumbing system are to be provided at five separate places in each floor preferably at staircase.
(g)	**No conditional "NOC" shall be granted without passing "Smoke Test", without complying with electrical and kitchen safety for Multiplexes in Malls.** This is not applicable to independent theatres or multiplexes without mall.

c) Function/Assembly Halls:

CHECK LIST FOR FIRE & LIFE SAFETY IN ASSEMBLY BUILDINGS		
S.No	**Fire Safety Measure**	**Compliance**
1.	**01 No. of Fire Extinguisher of ABC/CO2 type for every 100 Sq. Meters Area:** As most fires are of Electrical origin, the above Fire Extinguishers which are handy, easy to use and very effective against small fires are mandated to be provided in all parts of building within accessible distance on all floors.	
2.	**Fire Alarm system:** There is a need for an alarm system so that if there is a fire breakout in any part of a building, all the staff should be immediately alerted so that they can take appropriate actions. As security personnel function 24x7, we have mandated manual alarm systems to reduce false alarms in Indian conditions. However, reliable automated alarm systems can also be employed at the option of managements.	
3.	**a) Up to 05 Floors height of buildings :** 02 HP (Plunger Pump+ Electrical Motors connected to main Generator or Fuel Motor @ one per floor) connected to normal plumbing system. We prescribed ***2HP plunger pumps*** as they can ***generate upto 40 Kg/Cm² water pressure where as NBC recommends only 4Kg/Cm² water pressure*** if their suction pipe is connected to any water source such as sump, overhead tank, any water tank or even dropped in a water drum. These pumps can generate "mist" which is highly effective in controlling fires. These pumps work on either Electrical Motors or Fuel Motors. They are light weight and can be fitted with Wheels to make them "mobile". We advise the builders to provide water tapping points at two places on each floor preferably close to each Staircase.	

	We need these pumps to function even in case of power failure. Hence, we advise that in case of using Electrical Motor driven pumps, let them be connected to main generator. Also, use some fuel Motor driven pumps for better reliability. However, the Architects are advised to use higher capacity pumps (upto 16 HP Plunger Pumps or Fire Engine Pumps that are available in the market with ISI markings) depending on the expected fire load in each floor and if the floor area exceeds 10,000 Square feet. They may have new plumbing system if required to support high capacity pumps. In addition, the Architects are encouraged to use any new technology systems that can reliably generate water pressure of 10 Kg/Cm^2 as and when fire breaks out. Also, in case of less than 5 floors buildings with more than 1000 sq mtrs floor area, we prescribed an additional 5 Hp pump as this can generate upto 60 Kg/Cm^2 water pressure which can reach even top floor from ground Sump. This is an additional reliability measure to ensure safety in such a big facilities. We prescribed about 30 meters delivery plastic pipe connected to all the above pumps so that all floors in a building can be covered with multiple pumps as 30 meters delivery pipe can be carried through Staircase to all floors even from ground floors without moving the pumps. This improves resiliency or margin of safety of the installed Fire Safety Equipment.	

	b) If any building higher than 05 Floors and upto 10 floors : **(i)** 02 HP (Pump + Electrical Motors connected to main Generator or Fuel Motor) @ one per floor connected to normal plumbing system. **(ii)** 16 HP (Pump + Petrol Engine) on wheels at Ground floor sump. **(iii)** 02 Nos. of Trolley Mounted ABC 150 Kg Fire Extinguishers to be provided.	
	In addition to what has been mandated in small assembly buildings, we have enhanced Electrical fire fighting ability by prescribing 150 Kg trolley mounted ABC powder Cylinders. There are mobile, maintenance free and are effective against Electrical fires besides being cost effective. They may be kept at floors having Electrical intensive Equipment. Finally, 16 HP Plunger Pumps are suggested for High Rise buildings at ground Sump as they can generate up to 120 Kg/ Cm^2 water pressure and the water jet can cover upto 10 floors height of the building easily. These pumps are also effective in generating mist and are easy to operate. However, Architects can install any advanced technology that can be similarly effective in High Rise buildings keeping in view of the above principles.	

4.	**Underground Parking:** If underground parking is provided then temperature sensors connected to hooter and also that can give alerts via cell phone to security persons and Management is prescribed. This system can reliably alert the required security staff and others, to act as per Standard Operating procedure in case of Fire outbreaks. However, management may choose to install reliable automatic fire alarm systems and automatic sprinkler system (The Sprinklers shall be connected to CPVC pipe as per clause 11.8.2 of 15:15105:2021 and pipeline connected to overhead tank) in basement, but not compulsory.	
5.	It is not recommended to have the buildings having shops of highly inflammable substances such as cloths/garments/textiles/gases/dangerous explosive chemicals etc.. below these facilities. This is to prevent fire accidents happening in those shops not to have serious adverse impact on occupant safety. ***No "Conditional NOC" or "Renewal NOC" shall be issued in the above cases of Mixed Occupancy under any circumstances as this will compromise basic safety of occupants without passing "Smoke Test".***	
6.	**Display the Following No's at important places** (iv) Fire Department Number (101). (v) Ambulance (108). (vi) Police (100).	

D) HIGH RISE RESIDENTIAL(Group-A) BUILDINGS:

	Minimum Fire safety equipment to be provided:
(a)	**01 No. of Fire Extinguisher of ABC/CO2 type for every 100 Sq. Meters Area:** As most fires are of Electrical origin, the above Fire Extinguishers which are handy, easy to use and very effective against small fires are mandated to be provided in all parts of building within accessible distance on all floors.
(b)	**Fire Alarm system:** There is a need for an alarm system so that if there is a fire breakout in any part of a building, all the staff should be immediately alerted so that they can take appropriate actions. As security personnel function 24x7, we have mandated manual alarm systems to reduce false alarms in Indian conditions. However, reliable automated alarm systems can also be employed at the option of managements.
(c)	Total Minimum water Storage required as per Table.7 Part IV of National Building Code of India, 2016 and as amended from time to time.
(d)	(i) 05 HP (Pump + Electrical Motors connected to main Generator) with isolated power line @ one on even number floors and 5 HP (Pump + Petrol Engine Motor) @ one on odd number floors. These shall be connected to normal plumbing system with Hose Pipe which covers total floor area or 30 Metres length whichever is more. These should be **"on wheels"** and hence mobile. There shall be multiple water tapping points at each floor near staircase. (ii) Where the height of the building is more than 45 Meters or more than 15 floors, sprinklers shall be provided in all floors from 16th floor upwards. The sprinklers shall be connected to **CPVC** pipe as prescribed in clause 11.8.2 of IS:15105:2021 and the Overhead tank with piping design in accordanee with good engineering practice .

	(iii) Yard Hydrant Stand Post run with CPVC Pipeline (shall comply with IS 16088, bearing ISI mark and fittings shall comply with the IS 16534 with regard to its fabrication and installation) at underground shall be provided around the building premises to feed water to Fire Engines in case of emergency . These pipeline shall connect to Water Tank duly connecting the pump of not less than 900 LPM discharge. Using CPVC pipeline to avoid damage due to corrosion in coastal environment of the State. iv) Two Number trolley mounted 50 KG/ 100 KG ABC Cylinders for the whole campus.
(e)	If underground parking is there, then Temperature sensors connected to Hooters and also that can give alerts via cell phone to Security persons and Management be installed. Parking Area can have suitable water tap points and 08 HP (Pump + Petrol Engine) in each Basement. More than one level of basement is there, then Automatic Exhaust fans be fitted to evacuate smoke.
(f)	The water tapping points to connect the plunger Pumps to normal Plumbing system are to be provided at two separate places in each floor preferably at staircase.
(g)	Smoke Management, Kitchen Safety and Electrical Safety shall be ensured.

E) Judicial/Data Centers/Library/Bank Currency Chests :

S.No	Fire Safety Measure	Compliance
1.	**01 No. of Fire Extinguisher of ABC/CO2 type for every 100 Sq. Meters Area:** As most fires are of Electrical origin, the above Fire Extinguishers which are handy, easy to use and very effective against small fires are mandated to be provided in all parts of building within accessible distance on all floors.	
2.	**Fire Alarm system:** There is a need for an alarm system so that if there is a fire breakout in any part of a building, all the staff should be immediately alerted so that they can take appropriate actions as practiced in Mock Drills. As security personnel function 24x7, we have mandated manual alarm systems to reduce false alarms in Indian conditions. However, reliable automated alarm systems can also be employed at the option of managements.	
3.	**a) Total water storage: 5,000 Liters (Overhead tank + Ground Sump) for District Courts, However, High Court 10,000 Liters of water storage in total.** There is a need for adequate water storage to fight fires using installed fire fighting Equipment. Building Architects are required to provide assured water storage that lasts for at least an hour when all the installed fire fighting Equipment is fully operational. **b) For all Buildings**: 2 HP (Pump + Electrical Motors connected to main Generator) @ one per each floor connected to normal plumbing system 5 HP (Pump + Petrol Engine) on wheels at Ground floor.	

	We prescribed ***2HP plunger pumps*** as they can ***generate upto 40 Kg/Cm² water pressure where as NBC recommends only 4Kg/Cm² water pressure*** if their suction pipe is connected to any water source such as sump, overhead tank, any water tank or even dropped in a water drum. These pumps can generate "mist" which is highly effective in controlling fires. These pumps work on either Electrical Motors or Fuel Motors. They are light weight and can be fitted with Wheels to make them "mobile". We advise the builders to provide water tapping points at two places on each floor preferably close to each Staircase. We need these pumps to function even in case of power failure. Hence, we advise that in case of using Electrical Motor driven pumps, let them be connected to main generator. Also, use some fuel Motor driven pumps for better reliability.	
4.	**Library/Data center Safety:** In addition, Data Centers, Book Shelves and important record rooms etc., are recommended to be installed with automatic Aerosol/CO_2/N_2/Neutral Gas Flooding Systems for better safety.	
5.	**Display the Following No's at important places** (i) Fire Department Number (101). (ii) Ambulance (108). (iii) Police (100).	

09) Means of Escape:

Providing suitable means of Escape to evacuate patients in case of fire outbreak is essential to save lives of people. In many prominent fire accidents such as Kumbakonam school fire, Surat Coaching Center fire, many students lost their lives due to absence of second staircase for escaping as the only staircase engulfed in fire.

Therefore, the guiding principle is to provide at least two good ways of Exit or Evacuation in all buildings. The building architects to provide for appropriate means of escape depending on the number of patients on each floor Choosing among the following options:

(i) One Staircase and a ramp widely separated from each other.

(ii) Two Staircases widely separated from each other.

(iii) One Staircase and fenced pathway to adjacent buildings on all Floors suitable for safe Evacuation.

(iv) One Staircase and a tube lift (transparent fire proof lift fitted outside the building) with an Exhaust fan on top (to remove smoke from the lift if any) powered by main generator.

As this kind of passive preventive measure is very effective in saving lives, no exemption shall be given for providing two good ways of exit. ***No "Conditional NOC" be issued pending provision of two ways of exit under any circumstances as this will jeopardize basic essential occupant safety.***

10) Mock Drills:

a) Every Year mock drills to be conducted and all the staff and Management should sign a document certifying the following and keep in record.

We observe that, it is the staffand their attenders who lose lives in case of any major fire accident. Very rarely owners of buildings are affected. Therefore, ***we intend to put power in the hands of most affected people***by mandating that the signatures of all participants in Mock Drill to be taken in the register for inspection. These "Mock drills"familiarize all concerned people about the status of safety in their workplace. Though, Mock drill is prescribed at least once a year, we urge the managements to have them frequently in the interest of safety, particularly during summer months.

Proforma enclosed:

S.No.	Name of the Employee	Remarks/ Observations	Signature
1.			
2.			
3.			

Certifying that all Pumps and other fire fighting equipment are in working condition and the Fire Extinguishers are not outdated.

a) That all staff know Exits and Assembly points and what to do in Emergency.

b) The Mock drill records to be submitted during any inspection.

c) Endeavour to be made to use the various pumps on daily basis for up keep of buildings and campus, so that, people can readily deploy them during fire emergencies which normally induce panic. Also, regular use will keep all the equipment in good working condition.

11) Inspections & Fire Safety Audit:

There are about 180 fire stations in the State. The Station Fire Officer (SFO) has to be available to respond to Emergency "fire and rescue" calls 365 days and 24x7. In addition, there are about 7,500 Hospitals, 40,000 Schools/Colleges besides many industrial and business Establishments where fire safety inspections for different purposes have to be carried out. It is administratively not practical to get all inspections done through the Fire department officials.

Moreover, many SFO's have just intermediate qualification and hence SFO's with such qualifications are "not competent" to inspect technical aspects of Electrical Safety of fire Safety Equipment.

Therefore, the following technically competent people employed with State Government (so thatthey can be made accountable for accuracy of their reports) are authorized in accordance with powers conferred on Director General for inspection purposes.

a) All Electrical Engineers Employed with State Government or its undertakings or any StateUniversity are authorized to inspect and issue certificate for Electrical Safety after satisfying about the compliance with "Electrical Safety Checklist".

b) All Civil Engineers Employed with State Government or its undertakings or any State University are authorized to inspect and issue Certificate of compliance with proper working of installed Fire safety Equipment, plumbing, water availability and suitable Exits.

c) For conducting ***"General Fire Safety Audits"*** from time to time, as per guidelines prescribed in this notification, the District Collector is authorized to constitute teams of Electrical Engineers and Civil Engineers along with fire officers.

d) Is there any inspection required for issuing Provisional "No Objection Certificate"?

No inspection necessary as per G.O Ms. 120, Home (Prisons & Fire) Department, Dated.25-10-2021. This notification is deemed as "Provisional NOC".

e) Who can carryout inspection for issuing Occupancy "No Objection Certificate"?

The application for Occupancy "No Objection Certificate" should have Fire Audit Certificates of Electrical Engineer and Civil Engineer.

If further inspection is necessary, the Director General of Fire Services can nominate "Non Jurisdictional" Fire Officer of Station Fire Officer & above rank to carryout inspection as per G.O Ms.120, Home (Prisons & Fire) Department, Dated: 25.10.2021. The guiding principle is to do away with monopoly of jurisdictional officers in conducting all inspections to improve transparency.

f) Can Jurisdictional Officers carryout Inspections?

The Government has issued G.O Ms. 90, Home (Prisons & Fire) Department Dt. 13-08-2021, authorizing to conduct joint inspections along with the concerned department Officials. However, they are encouraged to conduct Mock Drills.

12) Delegation of powers and Deemed Approval forRenewal of "NoObjection Certificate":

Not only that there are about 7,500 Hospitals and 40,000 Schools etc... but the list of such establishments will be growing as the State develops. Hence, the renewal applications will be cumulatively growing leading to huge administrative burden given that there are only about 100 total fire personnel per district (including all ranks and just 5 to 10 officers above SFO rank). They need to be on operational duty 24x7 and 365 days. Hence, the necessity of delegation of powers.

(a) Delegation of Powers:

Applications for renewal of "No Objection Certificate" can be submitted to District Collector or Municipal Commissioners having jurisdiction. Both are equally competent to renew "No Objection Certificate".

The above officers are here by authorized in accordance with powers conferred on Director General in Sec 13(2) A.P. Fire Services Act, 1999, to renew "No Objection Certificate" after ensuring Fire Audit Certificates of authorized Electrical Engineer and Civil Engineer besides payment of prescribed fee through challan.

The renewal applications shall accompany with affidavit signed by management declaring that all the above said Prudential Safety norms are complied with. All such renewals orders shall be copy marked to District Chief Fire Officer and Director General for proper record.

The applications for renewal can continue to be submitted directly to Director General's Office. This will do away with monopoly powers of any particular office, thereby improving transparency.

(b) Deemed Approval:

As mandated under Sec 13(2) A.P. Fire Services Act, 1999, the Director General or any officer authorized by him shall issue "No Objection Certificate" within 60 days of the date of complete application.The date of Challan payment is to be treated as date of application for this purpose following the date of said Fire Audit Certificates.If not issued, the Renewal of "No Objection Certificate" is deemed to have been issued, following the doctrine of legitimate expectations as all criteria have been met.

Therefore, the above delegation of powers go a long way in "Ease of doing business" in the State while improving administrative convenience and transparency without compromising Safety.

13) Ambiguities Removal:

a) About Set backs& Open spaces and measurement of height of buildings.

See Andhra Pradesh Government Gazette W.No.16 dated: 21-04-2022 regarding the above two issues.

b) Is it necessary to submit drawings of buildings to apply for "No Objection Certificate"?

There is no requirement to submit detailed plans & drawings of buildings. This will avoid unnecessary issue of safety of such sensitive documents specially if submitted online. Such detailed maps may fall into hands of cross border terrorists etc. Therefore, this requirement is dispensed with.

c)Can fire Department Officials insist on any particular agency to installFire Safety Equipment?

No, the management have full discretion as to the agencies, manufacturers as long asthe equipment installed is either of ISI standards or any International Standards or Industry Recognized Standards.

d) Are the above prescribed Prudential Fire Safety measures confirm to National building Code (NBC), 2016?

Yes.

NBC, 2016 has no statutory basis and is a set of guidelines to be followed.Moreover, NBC 2016 guidelines provides for authorization of new technologies,methods to remove any hardships or practical difficulties to Director General,Fire Services (clause-5.1,part-II and clause-3.4.2 of part-IV of NBC,2016).

Carefully conducting root cause analysis of major fire accidents of last 15 years in the State and understanding the hardships and practical difficulties in deploying Conventional Centralized Plumbing System (Part-IV, Table 7 of NBC 2016), the Director General has authorized the following technologies and methods after due testing:

(i) Decentralized Fire Safety System using Plunger Pumps, Fire Engine Pumps etc.

(ii) Aerosol Automatic Extinguishing devices.

(iii) Dry Chemical Powder Modular System.

(iv) CO_2 flooding system.

(v) N_2 flooding system.

(vi) Clean agent flooding system.

(vii) Installation of automatic heat and temperature sensing devices.

For more details please refer to Andhra Pradesh Government Gazette Notification dated: 18.01.2022.

Therefore, the technologies and methods as notified above are authorized extension of NBC,2016 in Andhra Pradesh State. Part-IV, Table 7 of NBC 2016, doesn't mention about either Electrical Safety. However, in our root cause analysis of major fire accidents in the country, we found 90% of accidents are due to Electrical Short Circuits and leakage of LPG.

Hence, the Director General exercising powers conferred in Sec13(2) of Andhra Pradesh Fire Services Act,1999 has mandated observance of Electrical safety Checklist, kitchen safety and smoke management in the buildings across the State.

14) Who doesn't need "No Objection Certificate" given their inherent nature of activities?

The Apartment Buildings below 18 mtrs height, Commercial/Office(Business)/Hotel Buildings height less than 15 mtrs and below 1000Sqmtrs floor area on each floor, which do not otherwise require any "No Objection Certificate" as per the law, are hereby exempted from obtaining "No Objection Certificate".

However, all such facilities shall observe "Electrical Safety Checklist", "Smoke Management", Kitchen Safety besides installing adequate number of fire extinguishers and conduct mock drills. In essence, they are not exempted from observing basic safety measures.

15) Alignment of Interests:

In case of fire accident, the Building Owners/management suffers not only property damage but also irreparable loss of reputation especially if any occupant life is lost.

Obviously, the building managements/owner's interest in ensuring "Fire Safety" is in alignment with fire department objectives, provided the mandated requirements are pragmatic.

In arriving at above pragmatic requirements, we have consulted all stakeholders, analyzed major building fire accidents across the country, capitalized on the accumulated experience of fire fighting personnel of all ranks in the department, took advantage of modern technologies, methods and tested.

In designing, testing, evaluating and in creatively finding solutions, the invaluable contributions of Sri. P.Venkata Ramana, Director of Fire Services, Sri. K. Radha Krishna, Architect, Sri. K.V.K.Vikram Kumar, Advocate and many others are hereby acknowledged.

The above minimum requirements for issue of "No Objection Certificate" are hereby notified to avoid compelling owners to install escalating ladder of equipments and to ensure transparency.

Any violation of the above minimum safety provisions will attract prosecution not only under relevant provisions of A.P. Fire Services Act, 1999 but also under appropriate provisions of Indian Penal Code, particularly if the Passive Safety Measures are willfully disregarded as this will compromise basic occupant safety.

In addition, Courts and Tribunals observe whether management has followed the said prudential Safety Measures prescribed by Professional Fire Service, while awarding compensation to the victims of fire accidents in the buildings.

Therefore, the above notification is hereby issued in larger "Public Interest".

PRATAP MADIREDDY,
Director General,
State Disaster Response & Fire Services,
A.P., Vijayawada.

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C.V. Mohan Reddy
Senior Advocate

Date: 13.12.2021

To,
Sri.Pratap Madireddy, IPS
Director General,
Disaster Response and Fire Services Department,
Andhra Pradesh,
2nd Floor, Fire Station Building,
Governorpet, Vijayawada-520002

Sir,

Sub:- Legal Opinion pertaining to the conflict between the minimum requirements relating to setbacks and open spaces prescribed under the Municipal Laws and the AP Fire Services Act, 1999, and collection of 24% penal interest in respect of Fire Protection Fees for delayed Fire NOC applications – Reg.

Ref:- 1) Your letter dated nil seeking Legal Opinion
2) My letter dated 22.10.2021 seeking clarifications
3) Your letter dated 19.11.2021 providing clarifications
4) My letter dated 20.11.2021 requesting relevant documents
5) National Building Code of India 2016
6) GO Ms.No.119 Municipal Administration and Urban Development (H) Department dated 28.03.2017
7) GO Ms.No.180 Municipal Administration and Urban Development (H) Department dated 01.10.2020
8) Order dated 18.12.2020 of the Hon'ble Supreme Court of India in Suo Motu Writ Petition (Civil) No.7 of 2020
9) GO Ms.No.90 Home (Prisons and Fire) Department dated 13.08.2021
10) GO Ms.No.120 Home (Prisons and Fire) Department dated 25.10.2021
11) GO Ms.No.154 Municipal Administration and Urban Development (M1) Department dated 13.03.2007

I am in receipt of your subject cited letters and documents, and have noted the contents therein. My legal opinion is sought on the following two questions:

"GANGA" H.No.1-10-249/2, Ashoknagar Extension, Hyderabad – 500 020.
Mobile. 98490-13576
Email: mohan1357@gmail.com

1) a) In the event of any conflict between the requirements relating to setbacks and open spaces prescribed under the Andhra Pradesh Building Rules, 2017 and the National Building Code, 2016, in the context of Section 13 of the AP Fire Services Act, 1999, which requirements would prevail?
   b) Whether you are within the legally permissible limits to adhere to the requirements prescribed under the Andhra Pradesh Building Rules, 2017, for the purpose of issuing No Objection Certificates under Section 13 of the AP Fire Services Act, 1999, instead of the National Building Code, 2016?
2) Whether Fire Service Department can impose penal interest at the rate of 24% in respect of Fire Protection Fees from the date of construction till such time NOC is obtained, as per GO Ms.No.154 Municipal Administration and Urban Development (M1) Department dated 13.03.2007?

Insofar as the first question is concerned, Section 13 of the AP Fire Services Act, 1999, reads as under:

13. Issue of a No Objection Certificate:

(1) Any person proposing to construct a building of more than 15 meters height for commercial/business purpose, 18 meters and above height for residential purpose, and buildings of public congregation like schools, cinema halls, function halls, religious places, which are more than 500 Sq. Meters in plot area or 6 meters and above in height shall apply to the Director General or any member of the service duly authorized by him in this behalf, before submission of such building plans to the authority or officer competent to approve the same under the relevant law, for the time being in force, for a no objection certificate along with such fee as may be prescribed.

(2) The Director General or any member of the service duly authorised by him in this behalf, shall within sixty days of receipt of such application or on inspection being satisfied about the provision of Fire Prevention and Safety measures as stipulated in the National Building Code of India, as amended from time to time or any law for the time being in force regulating such purpose or activity, shall issue a no objection certificate with such conditions as may be considered necessary and if not so satisfied, reject the same for reasons to be recorded in writing.

(3) The authority or officer competent to approve the building plans before construction under, the relevant law for the time being, in force, shall not accord such approval except on production of a no objection certificate issued, under sub-section (2) wherever required.

(4) Any person violating the conditions of a no objection certificate shall be liable to be proceeded against under the provisions of this Act.

Section 13 relates to issuance of No Objection Certificate in respect of a commercial building of more than 15 mtrs height and residential building of more than 18mtrs height. Section 13(2) provides that the Director General or any member authorized by him, on being satisfied about the provision of fire prevention and safety measures stipulated in the National Building Code or any other law for the time being in force regulating the purpose or activity stipulated in Section 13(1) shall issue no objection certificate with such conditions as may be necessary.

The National Building Code of India (NBC), promulgated by the Bureau of Indian Standards, is a comprehensive building Code containing guidelines for regulating building construction activities across the country. Relevant paragraphs of the "Foreword" to the NBC are extracted hereunder:

"The Code contains regulations which can be immediately adopted or enacted for use by various departments, municipal administrations and public bodies. It lays down a set of minimum provisions designed to protect the safety of the public with regard to structural sufficiency, fire hazards and health aspects of buildings; so long as these basic requirements are met, the choice of materials and methods of design and construction are left to the ingenuity of the building professionals.

.....

The provisions of this Code are intended to serve as a model for adoption by local bodies, Public Works Departments and other government construction departments, and other construction agencies. Existing PWD codes, municipal byelaws and other regulatory media could either be replaced by the National Building Code of India or suitably modified to cater to local requirements in accordance with the provisions of the Code. Any difficulties encountered in adoption of the Code could be brought to the notice of the National Building Code Sectional Committee for corrective action."

From the above, it is evident that NBC does not have the force of law and is not statutory in nature. It serves as a Model Code for adoption by all agencies involved in the building construction works. The Code mainly contains administrative regulations, development control rules, general building requirements, fire safety requirements, etc. Part 4 of the NBC deals with "Fire and Life Safety". Part 4 covers the requirements for fire prevention, life safety in relation to fire, and fire protection of buildings. Provision 3.4.4 in Part 4 of the NBC relates to Maximum Height, Floor Area Ratio and Open Spaces. Provision 3.4.4.1 reads as under:

3.4.4.1 Every building shall be restricted in its height above the ground level and the number of storeys, depending upon its occupancy and the type of construction. The height shall be measured as specified in Part 3 Development Control Rules and General Building Requirements of the Code. The maximum permissible height for any combination of occupancy and types of construction should necessarily be related to the width of street fronting the building, or floor area ratios and the local firefighting facilities available.

NOTE Set-back distances (according to the permissible height for each type of building as per the occupancy), width of streets providing approach to the building, permitted floor area ratio (FAR), permitted open space around or inside buildings, provision of adequate passageway and clearances required for firefighting vehicles, etc. shall be strictly governed by the provisions of Part 3 Development Control Rules and General Building Requirements of the Code.

As per the Note to Provision 3.4.4.1, the requirements relating to setbacks and open spaces set out in Part 3 of the NBC have to be followed in order to meet fire safety standards. Provision 8 in Part 3 of the NBC deals with "Open Spaces (Within a Plot)". Provision 8.1.3 defines open space as the minimum distance measured between the front, rear and side of the building and the respective plot boundaries. Provisions 8.2 and 8.3 in Part 3 of the NBC prescribe the minimum setbacks and open spaces to be maintained in respect of various buildings.

Without reference to the requirements relating to setbacks and open spaces stipulated in the NBC, the Government of Andhra Pradesh framed Andhra Pradesh Building Rules 2017, in supersession of the Andhra Pradesh Building Rules, 2012, vide GO Ms.No.119 Municipal Administration and Urban Development (H) Department dated 28.03.2017. Rule 57 in Chapter VIII of the said Building Rules sets out tables specifying the minimum setback limits in relation to the height of a building. The Government further amended the said Building Rules vide GO Ms.No.180 Municipal Administration and Urban

Development (H) Department dated 01.10.2020. The said Building Rules are statutory in nature and are framed by the Government in exercise of its powers under the GHMC Act, 1955, AP Municipal Corporations Act, 1994, Andhra Pradesh Municipalities Act, 1965, Andhra Pradesh Town Planning Act, 1920, AP Capital Region Development Authority Act, 2015, and Andhra Pradesh Metropolitan Region and Urban Development Authorities Act, 2016.

It is seen from your letters that the minimum setback limits prescribed in Part 3 of the NBC are different from the minimum setback limits prescribed in the aforesaid Building Rules, in respect of buildings up to a certain height. Neither does Section 13(2) of the AP Fire Services Act mandate application of NBC to all building constructions nor stipulates that a building constructed in contravention of the NBC is not entitled to No Objection Certificate. The language employed in Section 13(2) makes it abundantly clear that the Director General or any member authorized by him, has an option to assess compliance of fire prevention and safety measures as per the NBC or any other law for the time being in force regulating the purpose or activity stipulated in Section 13(1) i.e. commercial /business purpose, residential purpose and for public congregation purpose. The aforesaid Building Rules do fall under the purview of "any other law" contained in Section 13(2). Strictly speaking, the aforesaid Building Rules do not prescribe any specific fire prevention and safety measures. **Therefore, the Director General or any member authorized by him are entitled to assess applications for grant of No Objection Certificates under Section 13, in light of the requirements contained in the aforesaid Building Rules, provided that the setback and open spaces requirements stipulated therein are adequate to ensure fire prevention and minimum safety standards. The Fire Services Department should objectively be satisfied that the minimum requirements prescribed in the aforesaid Building Rules are adequate to maintain fire safety standards. If the Fire Services Department is thus objectively satisfied, it can grant No Objection Certificates under Section 13, without reference to the requirements contained in the NBC. As such, there is no direct conflict or inconsistency between the requirements provided in the NBC and the aforesaid Building Rules, for the purpose of granting No Objection Certificate under Section 13. Needless to mention here that the discretion exercised under Section 13 to prefer any other law for the time being in force over the National Building Code should be supported by adequate reasons and in public interest.**

However, for the sake of argument, if we examine the differences in the requirements stipulated in the NBC and the aforesaid Building Rules as conflicting and inconsistent, then the following three rules of statutory

interpretation offer guidance to ascertain as to which requirements would prevail:

(a) When there is a conflict between the general law and the special law then the special law shall prevail. This legal principle flows from the latin maxim of generalia specialibus non derogant, i.e., general law yields to special law should they operate in the same field on same subject. In order to determine whether a statute is special or general, one should take into consideration the principal subject-matter of the statute and its particular perspective.

(b) If the earlier and later statutes can reasonably be construed in such a way so as to give effect to both, the same should be done. Only if the provisions of a later enactment are so inconsistent with or repugnant to the provisions of an earlier one that the two cannot stand together, the earlier is abrogated by the later.

(c) The Hon'ble Supreme Court in *Life Insurance Corporation of India and Ors.* vs. *D.J. Bahadur and Ors.*, reported in AIR 1980 SC 2181, and *Ajay Kumar Banerjee and Ors.* v. *Union of India and Ors.*, reported in (1984) ILLJ 368 SC held that a prior special law would yield to a later general law, if either of the following two conditions is satisfied viz. i) the two are inconsistent with each other, or ii) there is some express reference in the later to the earlier enactment. If either of these conditions is fulfilled, the later law, even though general, will prevail.

The intendment behind prescribing the requirements relating to setbacks and open spaces in the aforesaid Building Rules is to ensure that proper sunlight, ventilation, greenery, vehicular access, etc., is available to a building and that the construction of a building does not infringe upon the rights of owners/residents of other buildings. On the other hand, the intendment behind prescribing requirements relating to setbacks and open spaces in Parts 3 and 4 of the NBC is to prevent fire and offer fire protection. Under the circumstances, Municipal Laws are general in nature while the AP Fire Services Act is a special enactment dealing with the particular subject matter of fire safety. However, in the case on hand, the AP Fire Services Act was enacted in the year 1999, the National Building Code was published in the year 2016 and the aforesaid Building Rules came into force in the year 2017. As such, the Building Rules were enacted later to the AP Fire Services Act and the National Building Code. Therefore, assuming there is a direct conflict and inconsistency between the earlier Fire Services Act/National Building Rules and the later AP Building Rules, then applying the aforesaid rules of interpretation, the requirements set out in the aforesaid Building Rules prevail, as it is the later general law.

As already stated supra, there is no conflict or inconsistency between the Municipal Laws and the AP Fire Services Act, and if the Fire Services Department is objectively satisfied that the requirements stipulated in the aforesaid Building Rules are adequate to maintain fire prevention and safety, it can grant No Objection Certificates under Section 13, without reference to the requirements contained in the NBC.

You have also stated in your letter under reference 3rd cited that if the requirements under the NBC are applied, none of the hospitals in Visakhapatnam, will qualify for a No Objection Certificate under Section 13. At this juncture, it is necessary extract a portion of the Foreword to Part 4 of the NBC:

"Absolute safety from fire is not attainable in practice. The objective of this Part is to specify measures that will provide that degree of safety from fire which can be reasonably achieved. The Code endeavours to avoid requirements that might involve unreasonable hardships or unnecessary inconvenience or interference with normal use and occupancy of buildings, but insists upon compliance with minimum standards of fire safety necessary for building occupants and users."

Provision 3.4 in Part 4 of the NBC relates to the General Requirements of All Individual Occupancies. Provision 3.4.2 reads as under:

Exceptions and Deviations: Exceptions and deviations to the general provisions of requirements of individual occupancies are given as applicable to each type of occupancy in 6.1 to 6.9. In case of practical difficulty or to avoid unnecessary hardship, without sacrificing reasonable safety, local head, fire services may consider exemptions from the Code.

Provision 6.1 to 6.9 in Part 4 of the NBC classify different kinds of buildings and provide wherever applicable permissible exceptions and deviations. Under Provision 3.4.2, the Fire Services Department may consider exempting certain requirements under the NBC including those relating to setbacks and open spaces in case of practical difficulty or to avoid unnecessary hardship provided that reasonable fire safety standards are maintained. Needless to once again mention here that any exemption under Provision 3.4.2 should be supported by adequate reasons and be in public interest. Therefore, even assuming for the sake of argument that the requirements prescribed under the NBC have to be maintained for issuing No Objection Certificate under Section 13, even then the Fire Services department may exempt the said requirements in case of practical difficulty or to avoid unnecessary hardship provided that

reasonable fire safety standards are maintained. **It is however imperative for the Fire Services Department to be objectively satisfied that that the requirements stipulated in the aforesaid Building Rules or the existing setbacks/open spaces maintained by buildings in the State are adequate to maintain necessary standards of fire prevention and fire safety, and that same would in no way cause any danger to the life of the owners/residents/occupants of a building on account of fire. The Fire Services Department should ensure that No Objection Certificate for any new building is granted only if they conform to the requirements prescribed in the aforesaid Building Rules, provided that as already stated, the Fire Department is objectively satisfied that the said Building Rules are adequate to maintain fire safety standards.**

The second question relates to imposition of penal interest at the rate of 24% in respect of Fire Protection Fees from the date of construction till such time NOC is obtained, as per GO Ms.No.154 Municipal Administration and Urban Development (M1) Department dated 13.03.2007. In pursuance of the order dated 05.01.2007 passed by the erstwhile Hon'ble High Court of Andhra Pradesh in WP No.26365 of 2005, the Government constituted a High Power Committee to examine all issues in respect of buildings constructed without obtaining No Objection Certificate and make comprehensive suggestions and remedial steps. The Government issued GO Ms.No.154 Municipal Administration and Urban Development (M1) Department dated 13.03.2007 accepting the recommendations of the said High Power Committee. In the said GO, it is clearly stated that the Hyderabad Urban Development Authority, Municipal Corporation of Hyderabad, HMWSSB, AP TRANSCO and the Fire Services Department are requested to take immediate action for implementation of the said recommendations and initiate necessary proposals for amending the relevant laws. The Annexure appended to the said GO contains the recommendations of the aforesaid High Power Committee. Section A of the said Annexure deals with "Remedial Measures for existing Buildings to ensure reasonable Fire Safety". Recommendation (d) contained in the said Section stipulates that after No Objection Certificate is issued by the Fire Services Department, the owners/occupants of a building will have to apply for regularization and pay penalties at the rates fixed, failing which enforcement and coercive measures will be taken by the concerned local bodies. It is stipulated thereafter that penal interest at the rate of 24% in respect of Fire Protection Fees may be levied on a building from the date of its construction till such time NOC is obtained. The said recommendations nowhere stipulate that the Fire Services Department should be levying the aforesaid penal interest.

From the language contained in recommendation (d), it has to be implied that the said power was also conferred on the concerned local bodies. Further, you have clarified in your under reference 3rd cited that the Fire Services Department did not send the aforesaid recommendations of the high Power Committee to the Government for amending the relevant laws and that the AP Fire Services Act, 1999, was amended in pursuance thereof. As such, no authority is conferred on the Fire Services Department under law to levy or collect any penal interest on delayed applications for grant of No Objection certificate. In my opinion, it is the responsibility of the local bodies to collect the said penal interest under recommendation (d). Further, since the said levy is penal in nature and no such power to impose/levy/collect penal charges is provided under the AP Fire Services Act or the Rules framed thereunder, the Fire Services Department would not have any authority to levy/collect the same.

I express my legal opinion accordingly.

(CV MOHAN REDDY)

GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

Home Department – Fire Services – Enhancement of periodicity for issuance of Renewal of No Objection Certificates with regard to Non Residential and Residential premises by self inspection – Revised Periodicity – Joint Inspection by Fire Services Department along with other line Departments with regard to Ease of Doing Business – Amendment - Orders – Issued.

HOME (PRISONS & FIRE) DEPARTMENT

G.O.Ms.No.90. **Dated:13.08.2021.**
Read the following:-

1. G.O.Ms.No.71, Home (Prisons.A) Dept., dated 01.04.2010.
2. G.O.Ms.No.140, Home (Pri. & Fire Services) Dept., Dt:04.09.2015.
3. G.O.Ms.No.169, Home (Pri. & Fire Services) Dept., Dt:19.12.2019.
4. From the Director General, State Disaster Response and Fire Services, A.P., Vijayawada, Lr. Rc.No. 553/MSB/ER-II/LC/2014, dt.13.08.2021.

* * *

ORDER:

In the ref. 1st read above, the Government have issued orders to collect the User Charges for under taking inspections of Multi Storied Buildings and Hazardous Premises towards issuance of No Objection Certificate and other Fire Safety Measures.

2. In the ref.2nd read above, the Government have modified the orders issued vide G.O.1st cited for Sl.No.(4) of Para No.(6) as follows:

(i) "50% of the statutory fee paid on built up area during NOC, covered under Rule (15) of A.P. Fire Service Act, 1999 and A.P. Fire & Emergency Operations and Levy of Fee Rules, 2006."

(ii) "25% of the statutory fee buildings not covered under Rule (15) of A.P. Fire Service Act, 1999 and A.P. Fire & Emergency Operations and Levy of Fee Rules, 2006".

3. In the ref. 4th read above, the Director General, State Disaster Response and Fire Services, Andhra Pradesh, Vijayawada, has stated that the Department of Promotion of Industry and Internal Trade (DPIIT) Government of India has introduced the concept of Reducing Compliance Burden for all the States to Minimize the Regulatory Burden on the stakeholders. Keeping in view of the above, (2) compliances were proposed with respect to A.P. Fire Services Department, as a part of Reducing the Burden with respect to stakeholders

I. Self Inspection for issuance of Renewal NOC.

II. Joint Inspection by all concerned Authorities for issuance of Occupancy Certificate.

4. Government after careful examination of the matter and in partial modification of the orders issued vide GOs 1st, 2nd and 3rd read above, hereby instruct to conduct joint inspection for issuance of NOC for Occupancy for the Hazardous buildings by Fire Services Department along with other line departments

Contd.2/-

and also enhanced the periodicity for renewal of NOC with immediate effect, subject to the conditions specified here under:

I. PERIODICITY OF RENEWAL NO OBJECTION CERTIFICATE

SL. NO.	NAME OF THE OCCUPANCY	RENEWAL PERIOD	AMENDMENT
1.	Residential Buildings other than Hotels (Ground + 5 upper floors or 18 Mtrs., above in height)	05 Years	Self inspection/ Self Certification by the Owner/Occupier-Certification of conducting of "mock drill" signed by all Residents who participated in mock drill not less than 60% of the occupants. The self certification proforma will be communicated by the Director General of Fire Services.
2.	Educational Buildings of Height below 18.00 Meters (Ground + 5 upper floors)	05 Years	Self inspection/ Self Certification by the Owner/Occupier-Certification of conducting of "mock drill" signed by Principal, Teaching staff, non-teaching staff and at least (10) Parents who participated in mock drill. The self certification proforma will be communicated by the Director General of Fire Services.
3.	All other Non Residential Buildings Ground + 4 upper floors or 15 Mtrs., above in height	05 Years	Self inspection/ Self Certification by the Owner/Occupier-Certification of conducting of "mock drill" signed by workers not less than 60 %, management and staff who participated in mock drill. The self certification proforma will be communicated by the Director General of Fire Services.
4.	All Other Buildings with a height of 18 Mts. and above.	01 Year	**Deleted (as it is covered in Sl.No.3 above)**

I.(A) SUBJECT TO THE FOLLOWING CONDITIONS:-

(i) The Management shall obtain Renewal NOC for (3) years / (5) years after completion of (01) year period from the date of Issuance of NOC for occupancy.

(ii) The collection of user charges for Renewal of No Objection Certificate shall be done for (3) years together for Non-Residential and (5) years together for Residential Buildings.

Contd.3/-

I.(B) LIABILITY TO MAINTAIN FIRE SAFETY MEASURES:-

(i) The Occupier/Owner/Builder/Management concerned of the building (or) premises, shall maintain the Fire Prevention and Fire Safety Measures provided in the building as per the Occupancy NOC at all times for good use by the occupants (or) members of Fire Services (or) Both in the event of outbreak of Fire.

(ii) The Occupier/Owner/Builder/Management concerned of the building (or) premises shall submit declaration every year in prescribed format as furnished by Fire Services Department that Fire Prevention and Fire Safety Measures provided are being maintained in good and efficient condition, in accordance with Act and Rules.

(iii) The Director General (or) any member of the service duly authorized by him not below the rank of Station Fire Officer can enter and inspect the building or premises with a view to verifying the correctness of the declaration made and to point out the shortcomings if any with directions to remove them within a specified time. It not complied within the time so given, the Renewal NOC shall forfeit the validity.

III. JOINT INSPECTION BY ALL CONCERNED AUTHORITIES FOR ISSUANCE OF OCCUPANCY CERTIFICATE

(i) Further, with respect to joint inspection for issuance of NOC for Occupancy for the Hazardous buildings it is instructed to conduct joint inspection by Fire Services Department along with Other line Departments viz. Factories Department, Labour Department, Industries Department and Pollution Control Board etc.

(ii) This will reduce the time period and the no. of inspections and also scrutiny will be done at a time for issuance of Occupancy No Objection Certificate.

5. The Director General, State Disaster Response and Fire Services, Andhra Pradesh, Vijayawada shall take necessary action in the matter accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

KUMAR VISHWAJEET
PRINCIPAL SECRETARY TO GOVERNMENT

To
The Director General, State Disaster Response and Fire Services, A.P., Vijayawada
The Labour, Employment, Training & Factories Department (Factories) Department. Andhra Pradesh Secretariat.
The Labour Department, Andhra Pradesh Secretariat.
The Industries & Commerce Department, Andhra Pradesh Secretariat.
The Pollution Control Board
The Director of Treasuries & Accounts, Ibrahimpatnam, Vijayawada.
The Accountant General, A.P., Vijayawada.

Copy to:
The Finance (FMU-H&C) Department.
SF/SC.

//FORWARDED :: BY ORDER//

K. Lakshmi Latha

ASSISTANT SECRETARY TO GOVERNMNET

GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

Home Department – Fire Services – Enhancement of periodicity for issuance of Renewal of No Objection Certificates with regard to Non Residential and Residential premises by self inspection – Revised Periodicity–Joint Inspection by Fire Services Department along with other line Departments with regard to Ease of Doing Business – Corrigendum - Orders – Issued.

HOME (PRISONS & FIRE) DEPARTMENT

G.O.Ms.No.120 **Dated:25.10.2021**

Read the following:

1.G.O.Ms.No.90, Home(Prisons& Fire Services) Dept., Dt:13.08.2021.
2.From the DG, State Disaster Response and Fire Services, AP., Vijayawada, Lr. Rc.No.553/MSB/ER-II/LC/2014 dt.21.10.2021.

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ORDER:

In the circumstances reported by the Director General, State Disaster Response and Fire Services, Andhra Pradesh, Vijayawada the following corrigendum is issued to the orders issued in G.O.Ms.No.90, Home (Pri. & Fire Services) Department, Dated:13.08.2021.

CORRIGENDUM

In partial modification of the orders issued in G.O.Ms.No.90, Home (Prisons & Fire Services) Department, Dated:13.08.2021, the para 4 I(A) shall be read as under:

I.(A) SUBJECT TO THE FOLLOWING CONDITIONS:

The collection of user charges/fire precautionary fee be done for all five years for issuance of all categories of NOCs for Occupancy /Renewal.

Instead of:

(i) The Management shall obtain Renewal NOC for (3) years / (5) years after completion of (01) year period from the date of Issuance of NOC for occupancy.

(ii) The collection of user charges for Renewal of No Objection Certificate shall be done for (3) years together for Non-Residential and (5) years together for Residential Buildings.

The following points be added as (iii) and (iv) to para 4 II :

II. JOINT INSPECTION BY ALL CONCERNED AUTHORITIES FOR ISSUANCE OF OCCUPANCY CERTIFICATE :

(iii) The Provisional NOCs issued based on the verification of documents and plan drawings submitted by concerned.

(iv) The officers for inspections should be of Station Fire Officer or above and they should be drawn from the pool of non jurisdictional officers.

(PTO)

5. The Director General, State Disaster Response and Fire Services, Andhra Pradesh, Vijayawada shall take necessary action in the matter accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

KUMAR VISHWAJEET
PRINCIPAL SECRETARY TO GOVERNMENT

To
The Director General, State Disaster Response and Fire Services, A.P., Vijayawada
The Labour, Employment, Training &Factories Department (Factories)Department.
The Industries &Commerce Department.
The Pollution Control Board, Vijayawada.
The Director of Treasuries & Accounts, Ibrahimpatnam, Vijayawada.
The Accountant General, A.P., Vijayawada.

Copy to:
The Finance (FMU-H&C) Department.
The Home(OP)Department.
SF/SC.

//FORWARDED :: BY ORDER//

SECTION OFFICER

GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

Home Department – A.P. State Disaster Response and Fire Services – Exemption of fire precautionary fee @ Rs. 10/- per Square Meter of total built-up area for issuance of No Objection Certificates for all categories of Fire No Objection Certificates to all government hospital buildings – Orders – issued.

HOME (PRISONS & FIRE) DEPARTMENT

G.O.Ms.No.146

Dated: 30.12.2021
Read:-

From the Director General, State Disaster Response and Fire Services, Andhra Pradesh, Vijayawada, Rc.No.5896/MSB/Fire Fee/2021, dated 08.11.2021.

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ORDER:

In the letter read above, the Director General, State Disaster Response and Fire Services, Andhra Pradesh, Vijayawada has informed that, a Virtual Meeting was held on 05.11.2021 with Chief Secretary to Government on issue of Fire NOC to all Government hospitals and it is requested to exempt the Fire Precautionary Fee @ Rs.10/- per Square Meter of total built-up area for all Government hospitals.

2. As per Rule 15 (1) (c) of A.P. Fire and Emergency Operations and Levy of Fee Rules, 2006.

"A non refundable Fire Precaution fee @ Rs.10/- per Sq.meter of total built up area in all floors including Basements and Stilt floor in the form of Challan under the Head of Account "0070-109-SH (02) Fees of Fires – 001 Other receipts.

3. As per G.O.Ms.No.120, Home (Prisons & Fire) Department, dated 25.10.2021 the collection of user charges/fire precautionary fee be done for all five years for issuance of all categories of NOCs for occupancy/Renewal as the Fire No Objection Certificates for all categories of buildings being issued by this department for a period of Five Years.

4. The Director General, State Disaster Response and Fire Services, Andhra Pradesh, Vijayawada, has requested the Government to consider the exemption of fire precautionary fee @ Rs.10/- per Sq.meter of total built up area for issuance of No Objection Certificates for all categories of Fire No Objection Certificates to all government hospital buildings.

5. Government after careful examination of the proposal, hereby exempt the fire precautionary fee @ Rs.10/- per Square Meter of total built-up area for issuance of No Objection Certificates for all categories of Fire No Objection Certiifcates to all government hospital buildings.

6. The Director General, State Disaster Response and Fire Services, Andhra Pradesh, Vijayawada, shall take action accordingly in the matter.

7. This order issues with the concurrence of the Finance (HR.V-TFR-A&L-EWF) Department, vide their U.O.No.FIN01-HR0TFR (FINC)/35/2021-HR-V1585659 (1564122), dated 15.12.2021.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

GUDI VIJAYA KUMAR,
PRINCIPAL SECRETARY TO GOVERNMENT (I/C)

To
The Director General, State Disaster Response and Fire Services,
Andhra Pradesh, Vijayawada.

Copy to:-

The Finance (HR.V-TFR-A&L-EWF) Department.
The OSD to Hon'ble Minister (Home).
The P.S. to Principal Secretary to Govt., Home Department.
The Home (OP) Department.
SF/SC.

//FORWARDED :: BY ORDER//

SECTION OFFICER