

## **DIAL - 101**

**(FOR PROMPT ASSISTANCE IN FIRE & EMERGENCIES)**



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The Goa Fire and Emergency Services have completed 26 years since inception. On the occasion of National Fire Service Day 14<sup>th</sup> April 2010, we Officers and other personnel of the Department pay our homage to our professional brethren who made the supreme sacrifice in the cause of saving others' lives and property.

In order to generate fire safety awareness, the theme selected this year for Fire Prevention Week is **Our Commitment Fire Accident Free Society** .

### **ROLE OF THE FIRE AND EMERGENCY SERVICES**

Protection of life and property is one of the responsibilities of Government. It is seen that fire has been the major reason for the destruction of life, as much as it has been a vital means of source of sustenance for mankind. It is always so much easier to talk about things that are being done or that have been done rather than to project one's mind in to the future. Many would regard the role of the Fire and Emergency Service as generally to extinguish fire and save life but I hope that everyone would find the following statement to be acceptable:

To contribute to the provision of a safer environment, by minimizing;

- (a) Number of fires.
- (b) The loss of life and damage from fire.
- (c) The loss of life and damage from other hazards.

Lately the most significant change has been the emergence of the Department as a Multi-Hazard Emergency Response Force. Goa has been witnessing tremendous growth in economic and commercial field. Growing population has increased the demand for residential space; leading to vertical growth in commercial activities has similarly led to growth in shopping complexes and Malls.

### **BE PREPARED**

At present there are 14 Fire Stations with an approved technical strength of 546 personnel and a fleet of 42 articulated vehicles of various nomenclatures Viz; Hydraulic Platform, High Pressure Co2 Foam Tender, Emergency Tender, Multi-purpose High Pressure Tender, Water Tender, Utility Van, Recovery Van, Ambulances and staff cars for Fire & Emergency Department. These Fire Stations are located in the township of respective local bodies/municipalities and which also includes the Industrial Fire Station at Verna and Kundaim Industrial Estate.

In order to ensure effective command and control, Fire Stations are grouped under the command of Asst. Divisional Officer for operational activities. There are three District Fire Stations namely District Fire Station Panaji having jurisdiction over Fire Station Panaji, Mapusa, Pernem & Vasco, Central Fire Station Ponda having jurisdiction over Fire Station

Ponda, Old-Goa, Bicholim, Valpoi & Kundaim , District Fire Station Margao having jurisdiction over Fire Station Margao, Curchorem, Canacona and Verna. The Fire Force Headquarters at St.Inez, Panaji is the Logistic Centre. These Fire Stations will be the first responders for all types of Fire and Emergencies which include natural and man-made disasters under their jurisdiction.

Two/Three appliances and an ambulance are provided under the charge of Station Fire Officer/Sub-Officer, depending on the risk potential and area to be covered by the Fire Station. The Taluka in which the Fire Station is located generally becomes the Fire Station ground area, legally for operational activities. As on today every Taluka except Sanguem in Goa has been provided with a Fire Station. In the coming years, new fire stations envisaged are namely Saligao/Calangute Fire Station, Usgao Fire Station and Cuncolim Fire Station. A new Fire Station Out - Post will be set up at EDC Complex at Patto, Panaji to cater to High Rise Building Fire Safety & Life Rescue. Training the occupants of the building in safe evacuation and forming Quick Response Group to tackle any exigencies would be the primary responsibility of the Fire Station out post at Patto Plaza, Panaji. .

### **FIRE PREVENTION, TRAINING & RESPONSE**

The Fire Prevention Cell renders technical advice in fire safety management to Industries and is also responsible for fire safety inspections in occupancies as required under statutory requirements to prevent the outbreak of fires and minimize its consequential loss. While we give preponderance in prevention of fires by raising awareness among people through public relation cell with the help of audio-visual aids, regular

training is imparted to industrial and in-service personnel in Fire Safety Management. We have established a training Centre at Panaji, where tailored training courses for various categories of staff are being conducted on regular basis. During the last 5 years, 9008 candidates from different parts of the country have attended various types of courses ranging from 3 days training to 6 months strenuous General Fire Prevention and Fire Fighting Course at the Fire Force Training Centre, located at St. Inez, Panaji.

Government of India has identified the Goa Fire Force Training Centre as a Regional Training Centre for conducting junior officer's course of the National Fire Service College, Government of India, Ministry of Home Affairs, Nagpur.

A Degree Course in B.Sc. Fire Technology affiliated to Goa University is conducted in collaboration with the State Fire and Emergency Department in association with the Dhempe College of Arts and Science, Miramar, Panaji Goa. The third batch of graduates will be passing out this year. Employment of past graduates has been satisfactory. Proposal for a Post Graduate Course in Fire Technology & Industrial Safety is under examination by the Government.

The Department has published its Citizen Charter and made copies available to every Municipality, Panchayat and Consumer Group in the State. It is also displayed on the Department's Website [www.goadfes.gov.in](http://www.goadfes.gov.in) for ready access by Citizens.

During the year 2009-10, the Department has attended 3957 Fire and Emergency incidents and saved property worth Rs.144.46 crores and saved 284 human lives and 248 animal lives. The Statistics of the Fire & Eemergency Services for the last 5 years is, (a) Number of Fire & Emergency Calls attended: 17,946; (b) Number of lives saved: 826-Animal, 866-Human; (c) Amount of Property saved: Rs.431.47 Crores.

### **AND FINALLY**

In the recent past our Country has witnessed a rise in Fire incidents where smoke has been a major hazard affecting escape/rescue operation.

Smoke and fire gases, inherent in all accidental fires, are dangerous products of combustion that have critical influences on life safety, property protection, and fire suppression practices in buildings. In some fires, the volume and density of smoke is so great that it may fill an entire building and obscure visibility at the street level to such an extent that it is difficult to identify the fire-involved building. In other incidents, the volume of smoke generated may be considerably less, although the danger to life is not necessarily diminished because of the presence of other airborne products of combustion.

Combustion products in the form of solids, liquids and gases are the main threat to life in building fires. They comprise of gaseous products including the flammable and the toxic gases. The solids and liquids suspended in gas phase are known as smoke. Due to its particulate nature smoke can reduce the ability of a person to see when trying to escape from a fire Zone. Smoke also affects occupants in remote locations since it migrates

to different parts of the building hitherto unaffected by fire, thereby vitiating the environment and trapping more people who would have escaped had there been no smoke. Smoke and Fire gases can easily reach areas in an enclosed structure where the heat may not be able to reach, and so the damage caused by these products, especially with respect to Life Safety, is much more than that by heat damage.

Many Fire gases are toxic; some of them being lethal even in small doses. As carbon is generated during most solid as well as liquid fires, Carbon Monoxide and Carbon-di-Oxide are two gases that are generated during most fires. Other gases that are produced are Hydrogen Sulphide, Sulphur dioxide, Ammonia, Hydrogen Cyanide, Nitrous and Nitric Oxides, Hydrogen chloride and Phosgene. Different types of gases are generated depending upon the composition of the fuel, amount of oxygen available, and the temperatures reached during combustion.

The problems of smoke are well known, it causes irritation of the eyes, nose, respiratory tract and lungs. Breathing smoke can cause great discomfort, even for a short duration, and can cause damage if inhaled in large quantities. It also causes coughing and sneezing. Cooling can cause condensation of gases on smoke particles, and if inhaled, this can also result in dangerous effects on the respiratory system. The other important effect is that of reduced visibility. As the solid particles can block light, they can impair vision, and persons unable to view exits or exit passages, can develop a panic psychosis. The fact that smoke induces tears in the eyes further complicates the problem of visibility. Smoke is one of the first indications of fire, as well as a leading cause of deaths in many indoor fires.

The hot buoyant fire gases move upwards, they cause mixing with the air, which gets entrained during upward movement. The resultant mixture of hot, toxic gases and entrained air also causes condensation of the hot gases, resulting in formation of some particulate matter (soot), which varies in colour from light colour to black. This mixture, which rises from the fire is known as the Smoke plume, and will move vertically upward till it encounters obstructions such as the ceiling.

It will then begin to move in a radially outward direction, as a thin smoke layer till it meets the boundaries of the room; from the top down will continue till an opening, in the form of an open door or window, is available for the smoke to come out of the enclosed space. Tall and high rise buildings pose different problems with respect to smoke movement. While the heat and expansion of gases are mainly responsible for movement of smoke, the building height and temperature differences between the interior and exterior of the building greatly affect the smoke movement. This significant factor, known as the 'stack effect' causes the vertical movement of air, from the lower levels to the roof of the building, and is responsible for the spread of smoke and fire gases within a high rise building. Other factors which are significant with respect to the smoke movement are the influence of external wind forces, and the forced (mechanical) air movement in the building.

The Department is endeavoring to spread awareness about the smoke hazard and enhance the quality of response to smoke situations, and save more lives in the process.

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