



FIRE RISK MANAGEMENT

FIRE RISK MANAGEMENT: PLANNING TO AVOID LOSSES

We often seriously focus on the fire fighter fatalities and loss of trained industrial manpower, we suffer each year, and, of course, we should do whatever we can to decrease this number, which has been on increasing trend in developing countries. A risk management plan can help do this.

Fire services day 14th April is refresher for all the industrial Fire and Safety Custodians to revisit their Fire Risk Management philosophy and effectiveness of FRM plan. We always feel that YES, my FRM system is good and working. However, still small incidents are happening but responsibility for it, is put on Human Error. This ends the whole process of revamping and overhauling the system.

FRM is a dynamic plan which should be always in eyes of custodians. Let us have look for the inbuilt principles of the FRM. FRM plan can help an organization identify and correct hazards and substandard work practices before bad things happen. Risk management is by far one of the most effective deterrents to organizational loss and Fatalities.

A risk management plan can help a department avoid these hazards through the implementation of a system of checks and balances, which essentially consolidates these risk-prone areas under one watchful organizational umbrella.

NFPA 1250 defines a hazard as a condition, an object, or an activity with the potential of causing personal injury, equipment damage, loss of material, or reduction of the ability to accomplish the mission. It defines risk as the chance of injury or loss. Mitigation is defined as the prevention or reduction of potentially negative effects.

Because large amounts of flammable gases and liquids are daily handled and routinely stored and because of the chemical reactions involved in the manufacturing processes, chemical plants are believed to be continuously exposed to the risk of fires and explosion accidents. The best preventive method is to remove the causes of accidents. In other words, prevention is the best cure. To realize this objective Fire Risk Management methods for the prevention of fires and explosion accidents are urgently required.

FRM Plan consists of Fire Prevention, Fire Protection, Fire Mitigation and FIRE Management.

Fire Prevention:

1. Fire prevention starts from the blue print of the Project. Hazards and Risk assessment activities starts from Project Conceptualization stage called Screening PHA. It ends through Preliminary Hazard Assessment, Process Hazard Analysis including HAZOP and lastly PSSR.
2. Existing Plants should undergo exercise for Identification on probable sources of leakage which can result into fire and explosion. Maximum Credible Accident should be decided and adequacy of Prevention/Mitigation measures will be assessed for each situation.
3. Facility siting principles should also be applied to reduce the fire risk. Fire load density on each floor will be indication for the separation distances and stability of the structure against the thermal load.
4. Probable ignition sources and proximity of electrical gadget installations near the source of fuel. Hazardous area classification is the right tool for selection of the electrical gadgets.
5. Inventory Management of hazardous chemicals should be focus area for reducing the Heat Load inside the process unit.

Fire Protection System:

1. Review of the passive fire protection system.
2. Review of the active fire protection system.
3. Evaluation if additional fire protection system required.
4. Review of the fire hydrant points for approachability and adequacy to serve the desired fire prone area.

Fire Water Network Design and Adequacy study:

1. Hydraulic calculation for the pressure drop for the farthest and highest points.
2. Revamping of the pipe sizing should be done for existing facility as expansion of the facilities are always on anvil.
3. Fire water storage requirement, not only as per the statutory requirement but also for the locational intricacies.

Fire Management System:

1. Review of the procedures for ITPM of Fire Protection system both Active and Passive.
2. Emergency Planning and Response procedures to attack the incidents.
3. Manning of Fire Respondents and their skill evaluation.
4. Adequacy of mitigation resources and its mobilization procedures.
5. Effectiveness and Efficiency of Mock drills and compliance of system inadequacies.

The Fire Risk Management Plan can be prepared in a format suitable to the premises. However a certain methodology should be followed. The methodology described called “The 5 steps to risk assessment.”

Step 1 – Identifying fire hazards

Step 2 - Identifying people at risk

Step 3 – Evaluate and protect from risks

Step 4 - Record, plan, instruct, inform & train

Step 5 – Review and revise assessment

An FRM Plan is a working document, which should be reviewed and revised on regular basis. Timescales are not set. However, as a guide, a review should be undertaken as a risk or hazard changes or as new ones are introduced to the workplace. To ensure compliance, assessments should be checked at least once every 12 months.

NOT THE LAST BUT LEAST

FRM for the existing plants is a process to check whether, or not, there is an influence on the urban development surrounding the facilities at risk. This is based upon a scenario of the envisaged disaster and its extent, which is fundamental to the development of community awareness and mitigation plan for the people living in the surrounding area. This will incorporate various kinds of disaster prevention countermeasures, for localizing the disaster. One of the contents of FRM is comprised of an investigation of the extent of the disaster and the calculation of the areas likely to be affected by it.

The assessment will also address problems regarding disaster prevention and the establishment of preventive countermeasures.

Let us look back and ensure that are we only satisfied with Fire Fighting Facility evaluation only???.Today's call is complete FRM study, Implement and rest assure comfort level to all working with organisation.

This can be considered as **TRIBUTE** to the martyrs who sacrificed their lives for the mitigation of ill effects of Fire, Explosion and Toxic gases release.

Note: The previous Newsletters are available on the website in download section.