Health, Safety and Environmental Management in Offshore and Petroleum Engineering

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Module – 03
Accident modeling, risk assessment and management
Lecture – 21
Safety practices for Fire protection

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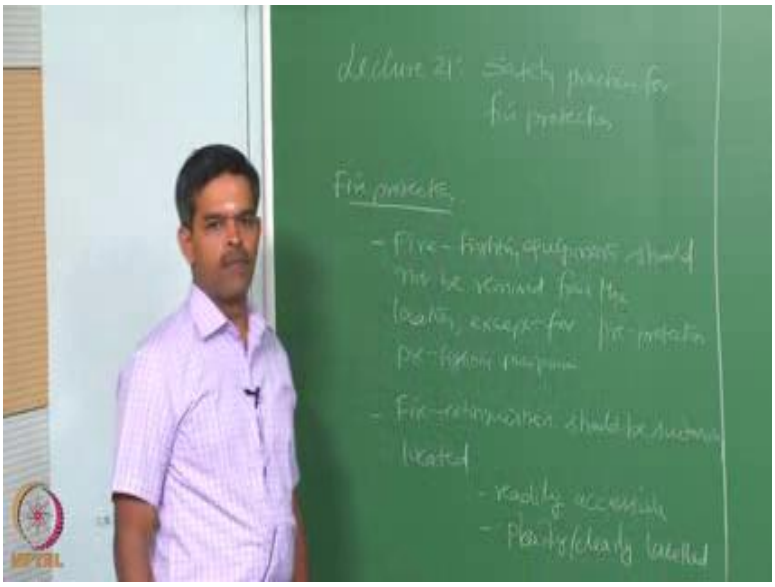

Friends, let us look in to the 21st lecture on module-3, Safety Practices.

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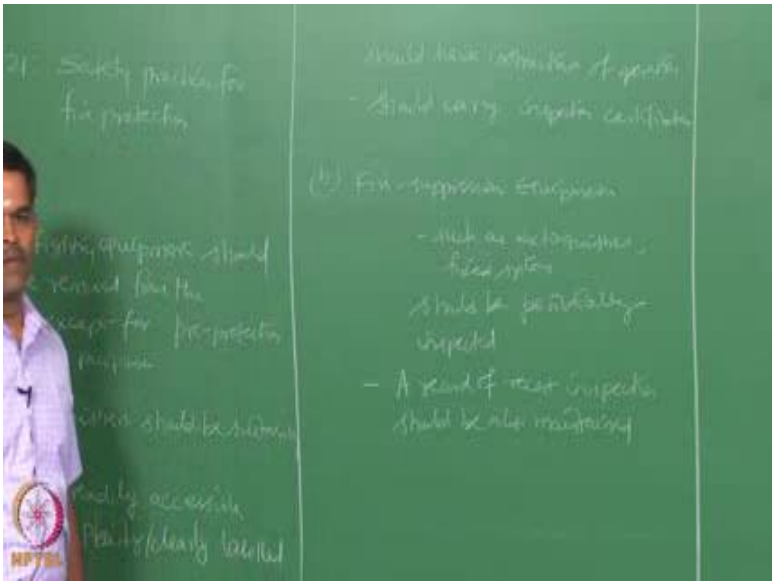

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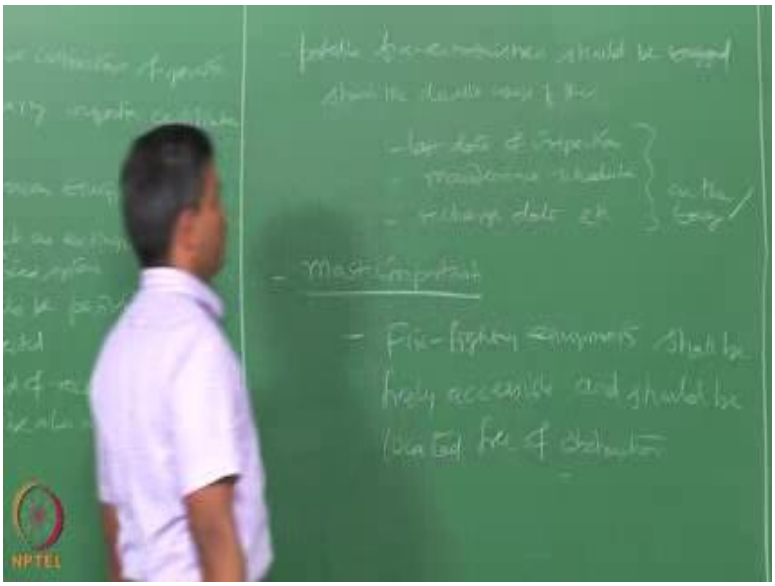

So, interestingly some of the important points what we discussed here are necessary, for safety practices in fire protection. So, if you looked at the fire protection systems or fire suppression equipments the most important concept is they should be located free from of structure and they should be freely accessible.

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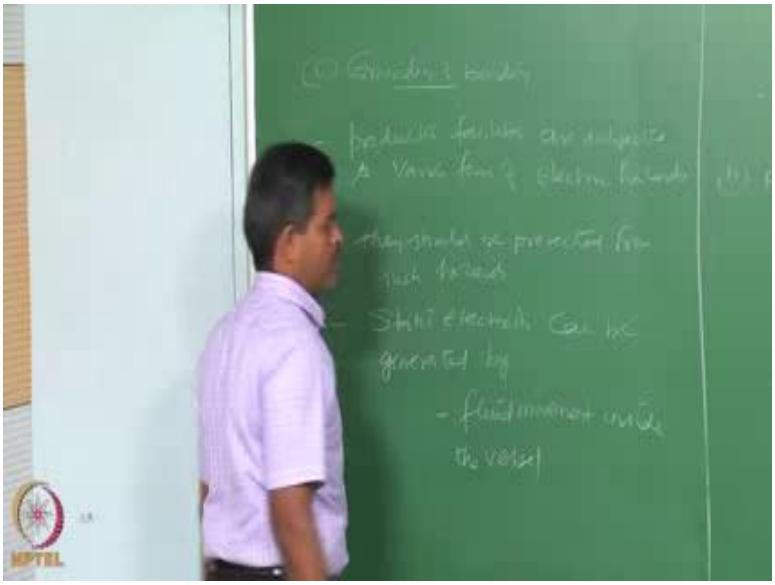

Let us talk about something on grounding and bonding. Production facilities are generally subjected to.

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Static electricity is one of the main problems, which generally comes from the fluid movement inside the vessel. One need to actually ground and bond properly all the

production equipments, so, that this problem does not alloys is one of the important source of electric hazards.

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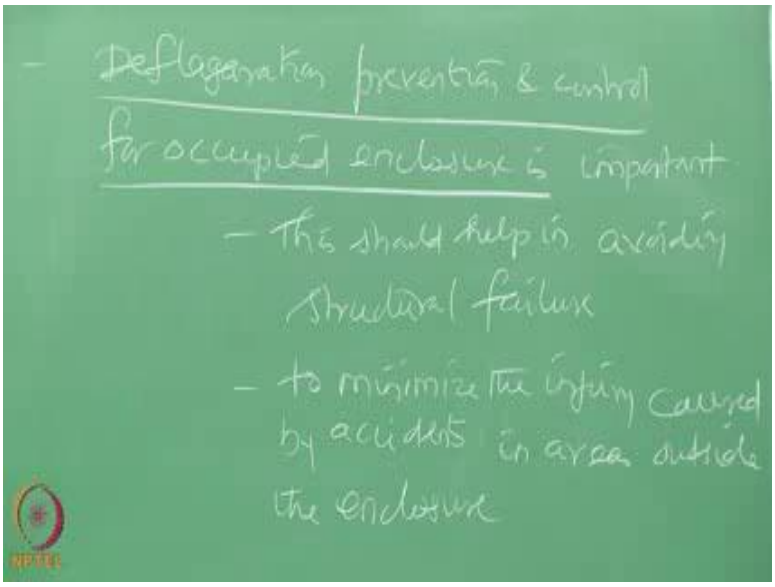

So, the next category could be other general equipments, where deflagration control for the occupied enclosure is important.

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So, to check the structures from deflagration hazards, one can prepare compliance reports. One can do performance base design or prescriptive based design.

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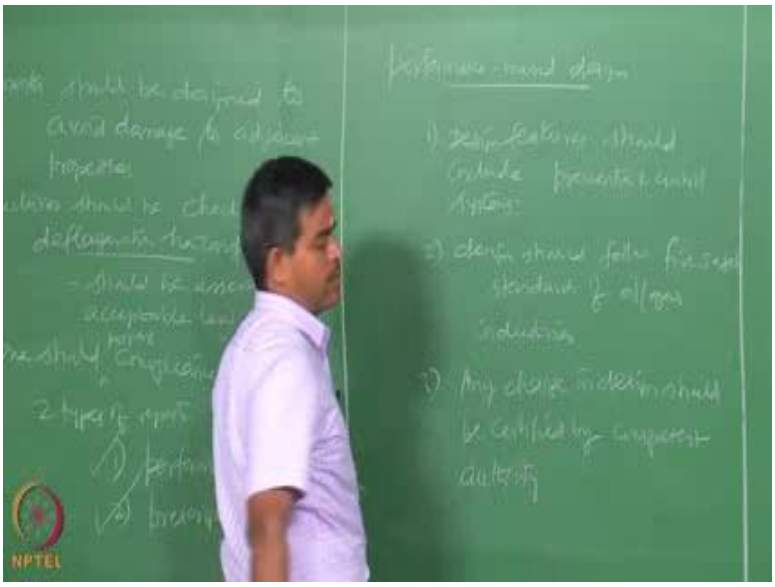

In this case, design features should include prevention and control systems design should follow fire safety standards.

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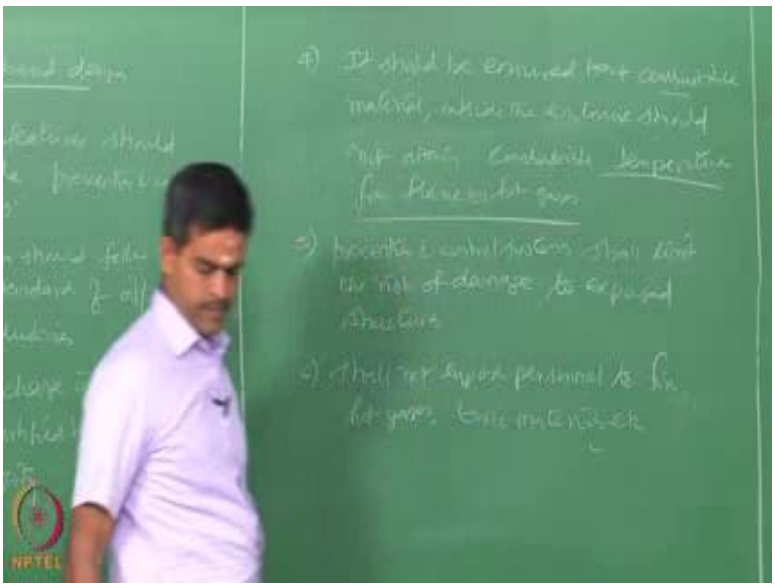

So, it is very important that the compression material should not attain prevention and control systems should limit the risk of damage to exposed structures, the design shall not expose personal.

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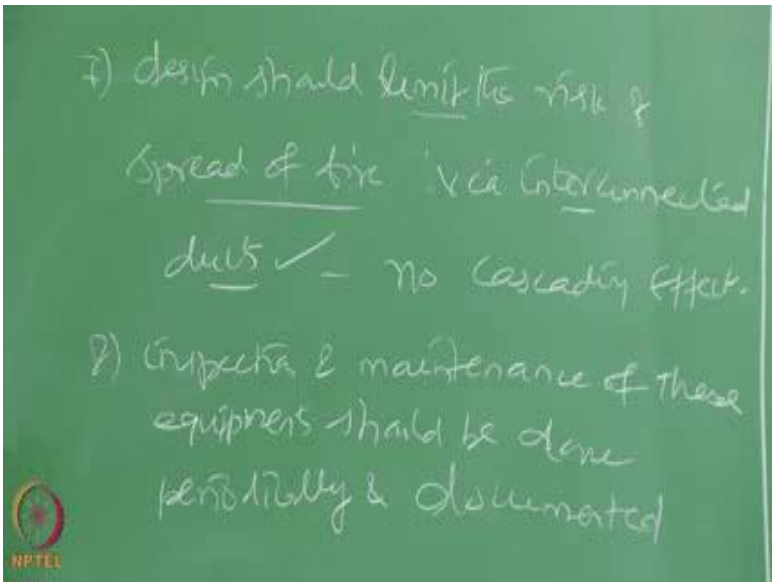

The design should limit this spread of fire actually that is very important. So, that is very important, the interconnected ducts should be design in such a manner there they should not have a cascading effect.

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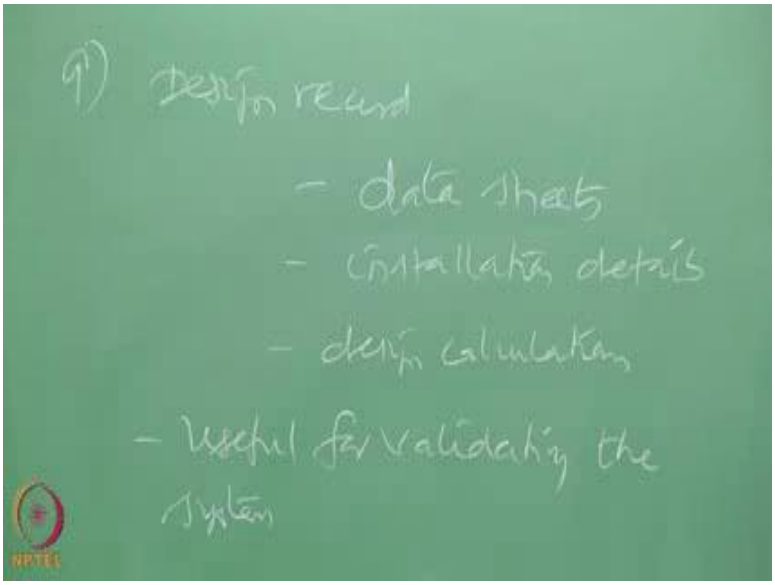

So, one should maintain a design record.

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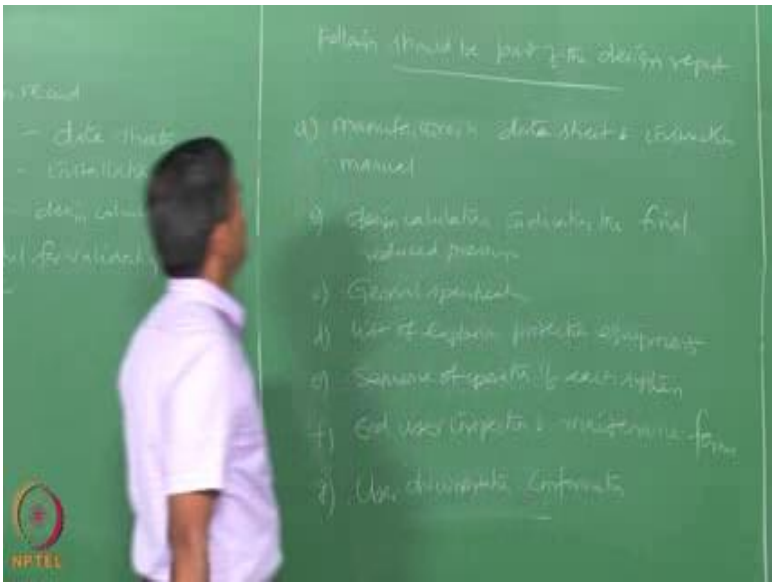

That is a design (Refer Time: 20:24) should contain the following. General specifications list of explosion, protection equipments sequence of operation and user documentation conformed.

So, the design report should contain all this data, which are useful for validating the design and updating it.

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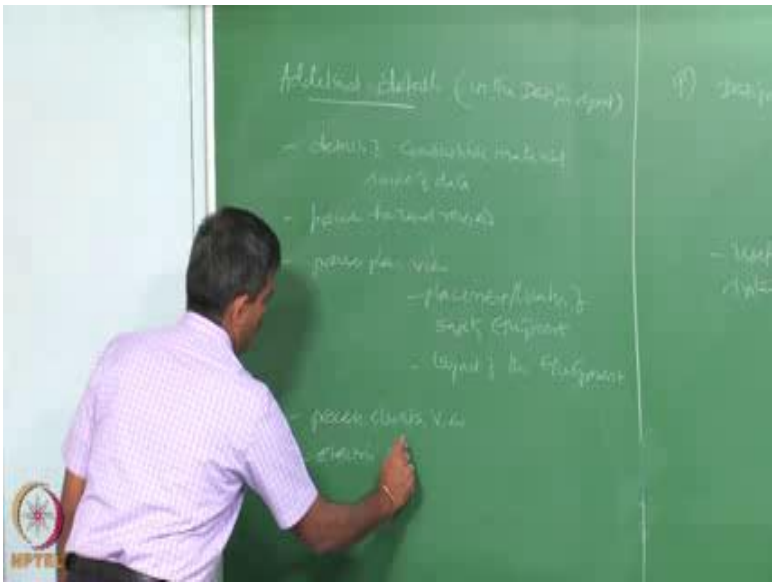

There are some additional details or also require to represent details of compressible material process hazard review process plan view which includes placement or location of the safety equipments, layout of the equipments, process eligaion view, electric wiring diagram.

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Mechanical installation drawings, electrical installation drawings, process inter log details, what we call process and instrumentation diagram, employee training requirements design and installation parameters, most importantly as built to drawings and details.

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Because these are required for, it also requires under specification details. In the design report it should contain the mounting locations of the safety equipments, manufacturers' specifications location of explosion, prevention systems. While choosing locations for explosion prevention system, this should be chosen in such a manner there should not exceed temperature, easily accessible. So, there are few factors for selecting the mounting locations in addition there are few additional safety requirements.

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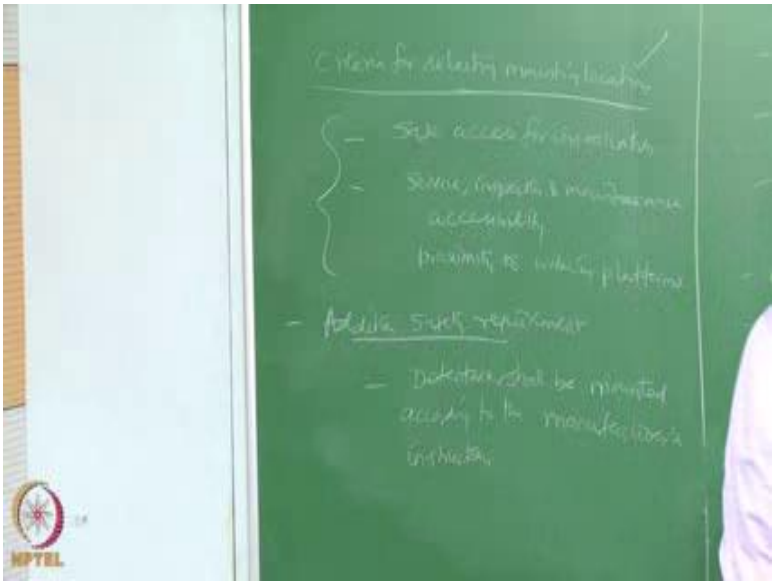

One should install detectors, according to the manufactures instruction.

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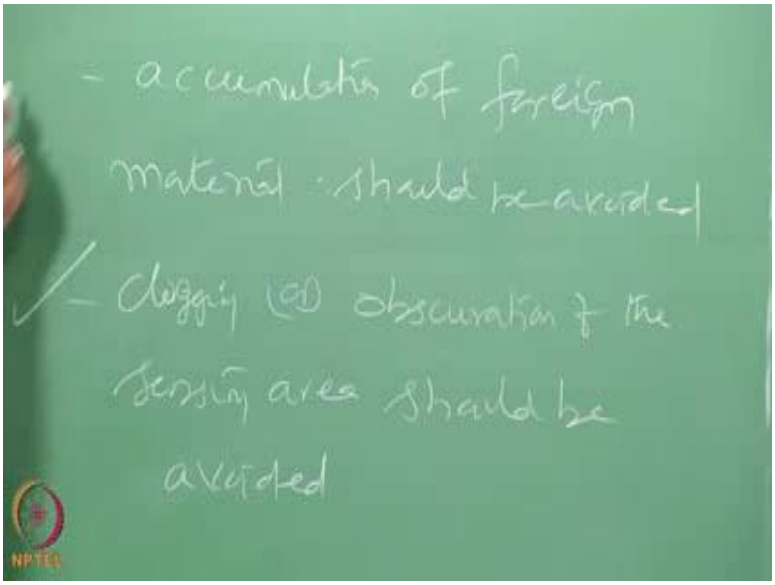

Mainly clogging or obscuration of the sensing area should be avoided.

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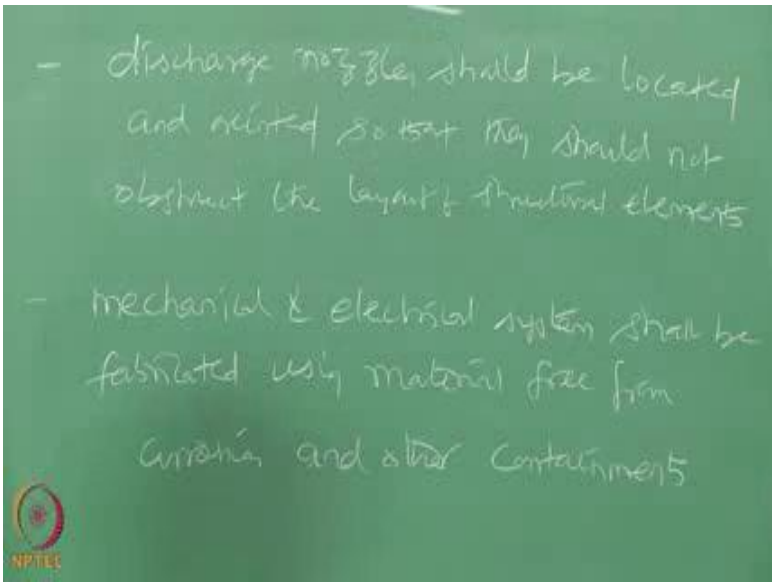

So, friends let us talk about requirements for process safety, mechanical electrical system shall be fabricated talk about safety guidelines detectors.

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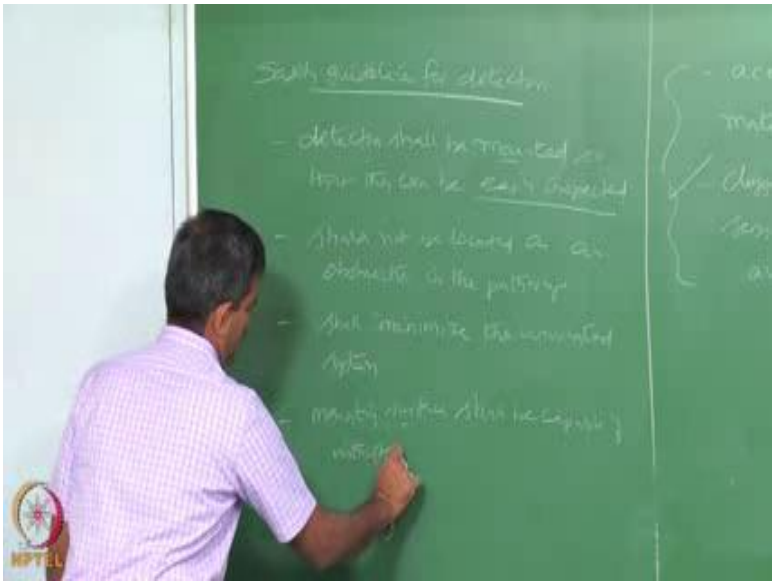

They should be mounted in such a manner that they can be easily inspected, they should not be located. The unwanted system the mounting surface shall be capable of withstanding static and dynamic shocks.

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All electrical installations shall comply with NFPA 70. All terminals and connectors should be protected from moisture, wiring for input and output locations should be isolated, required for emergency evacuation.

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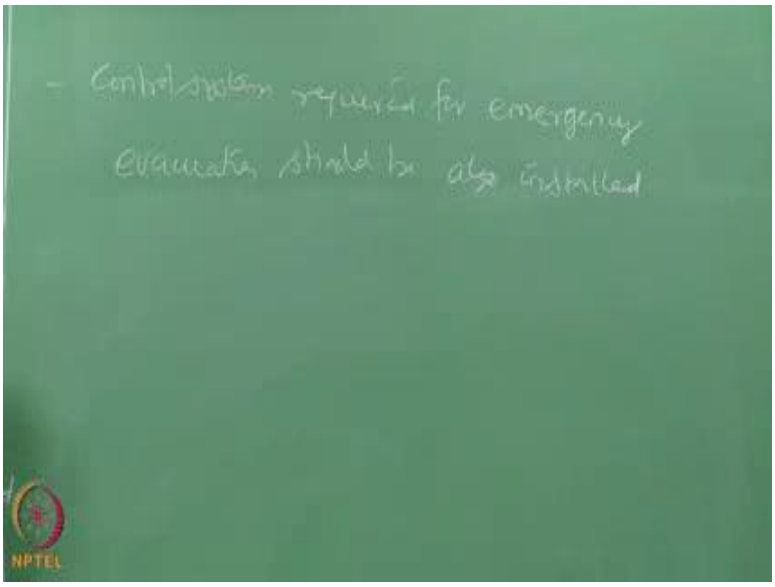

So friends, in this lecture we discussed about some of the important safety practices with which we will conclude the lectures on module 3. I hope you have enjoyed the lectures and module 3, please post a quarries to NPTEL IIT, madras.

Thank you.