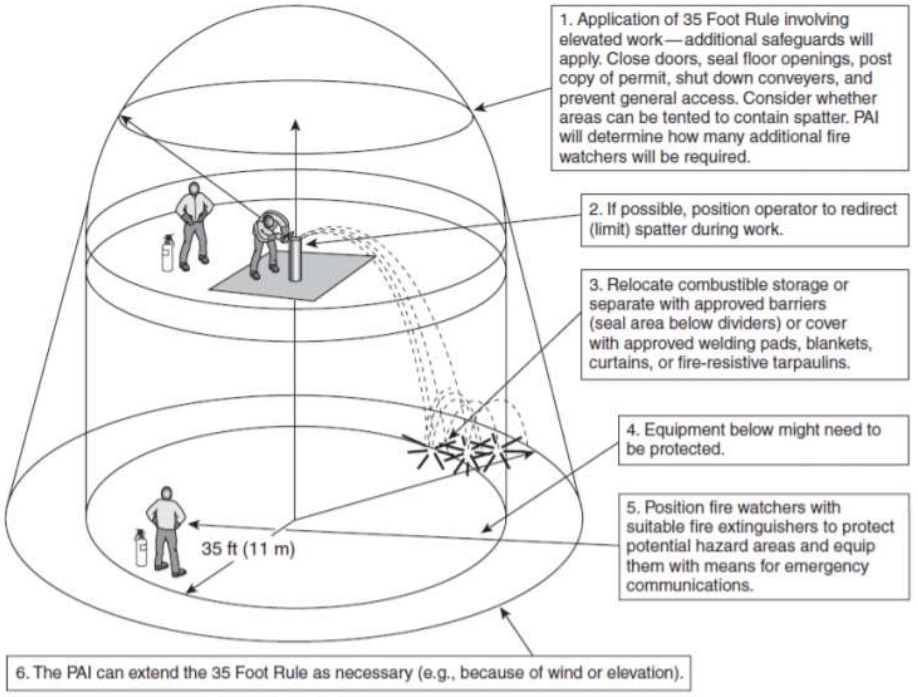
Hot Work Activities – poorly planned and badly executed continue to kill !

- Hot work activities that result in fire or explosion continue to be one of the biggest causes of work fatalities and serious injuries
  - *Just over a month ago 4 people were killed and 1 injured in an explosion at a wastewater treatment plant in Avonmouth, UK. It is believed the five people were involved in hot work above the digester which contained wastewater sludge, or biosolids. The explosion blew open the top of the digester.*
- A few years ago, in a similar incident, an explosion at a paper mill resulted in the death of 3 contractors and 7 serious injuries. Welding was being carried out above a foul water storage tank.
- There was very limited awareness about the hazards of the flammable turpentine layer on top of the water.

Hot Work Activities – key planning considerations

- Always look at alternatives to hot work.
  - *Can it be delayed until a shutdown when tanks are de-inventoried?*
  - *Can the repair work (eg: valve) be done in a workshop?*
  - *Can we cold cut…….etc?*
- Knowledge of the process and the hazards of chemicals inside tanks and pipelines is vital.
- People managing and those working in the area must be fully aware of the chemical hazards and risks.
- Never rely on valves as a means of isolation.
- Scope of the work activities must be fully understood and risks assessed.
- A site visit must always be conducted.
- Hot work at height requires special attention.



[Note : PAI = Permit Issuer]

Notes :

HOT WORK…….anything that can ignite flammable or combustible materials.

- **Naked flames -** welding, cutting, burning, grinding, bitumen tar boilers, hot air guns
- **Potential spark producing -** sand-blasting, metal on metal, metal on concrete, drilling, electric tools, battery powered instruments {radios / cameras}, vehicle engines, static from clothing / shoes

INCIDENT DETAILS …….Paper Mill explosion – the volume of turpentine on top of the water layer in the storage tank was greater than normal. The tank contents had cooled and sucked air in through the pressure vacuum breaker forming an explosive mixture. The operating team authorising the hot work were familiar with the process but did not know that the vapour in the tank could be explosive.

Learning with respect to the execution of hot work to follow in part 2