

Blue Tack

1. What can be done to improve the fire detection in a container cargo under deck?
A possible combination between smoke and heat detection. Containers with 'fire hazardous' cargo (if allowed under deck) could be 'equipped' with a remote sensor (I'm not sure whether this technique is already available)
2. What can be done to improve the fire detection in a container cargo on deck?
Use of thermal imaging cameras could be an option (Stena Line has them installed on the top deck of their ferries)
3. What can be done to enable a more precise and quick fire localisation?
Use of thermal imaging cameras in combination with Remote sensors
4. What can be done to compensate the deficiencies of CO₂ with regard to smothering a fire in a container stow under deck?
Not much from the outset
 - 1) It is almost impossible that CO₂ will actually penetrate into a single container.
 - 2) CO₂ is used to fill the cargo space but that only has a limited effect. Due to the movement of the ship, the many openings and the effects of wind (etc.) it will be impossible to maintain the minimal level of CO₂ needed to 'control' the fire spread in that specific hold.
5. What can be done to improve the confinement of a fire in containers under deck to the particular cargo hold?
Once a container is on fire, it is of importance that the container on fire is detected and localized as quick as possible. This enhances the response of the crew and therefore the chance to control the fire and to avoid fire spread.
6. What can be done to improve the confinement of a fire in containers on deck to the particular bay or section thereof?
See answer point 5. This in combination with, for example:
 - 1) water monitors,
 - 2) a 'mobile and easy to deploy deluge system,
 - 3) a fixed sprinkler/deluge system in between particular bay or sections (in combination with a certain degree of segregation of fire hazardous cargo).
7. What can be done to improve active firefighting on deck bearing in mind reduced crew and local conditions?
See point 6
8. What can be done to protect vital ship structures under deck and on deck from excessive heat?
The only options I could think of are
 - 1) distance,
 - 2) 'fire proofing
 - 3) the use of water as cooling medium
9. What can be done to improve the protection of deck house and life-saving appliances?
The best way is to adopt part of the fire safety measures, concerning sprinklers/deluges/water monitors, applicable on tankers.