Success factors in Safe Maintenance

Lessons from the Good Practice Award Examples

Healthy Workplaces Summit
Workshop 2: Good Practices in Safe Maintenance

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International research indicating serious health risks for firefighter

- Research from Swedish government agencies SP Technical Research Center of Sweden [www.sp.se](http://www.sp.se)
- Swedish Civil Contingencies Agency [www.msb.se](http://www.msb.se)
- Swedish Work Environment Authority [www.av.se](http://www.av.se)
- Swedish Work Environment Law [www.av.se/lagochratt/aml](http://www.av.se/lagochratt/aml)
But why doesn´t someone do something about it
Healthy firefighters

A collaborative project:

With contributions from:

- Swedish Civil Contingencies Agency (MSB)
- Arbetsmiljöverket
- Kommunal Räddningstjänsten
- Swedish Association of Local Authorities and Regions (SALAR)
- European Agency for Safety and Health at Work
- Friskabrandmän.nu
What do we do?

- Minimize contact with contaminated material/situations
- Well developed routines and processes for dealing with contaminated material.
- Well developed routines that include health aspects of alarms/training/education.
- We use the "Skellefteå model": from alarm → new alarm.
Risk assessment

➢ A risk is associated with a dose and the dose depends on

➢ TIME, EXPOSURE AND REPITITION.

Firefighters are exposed to substances known to be hazardous.

Firefighters are also exposed to other substances, for which knowledge about health effects is limited or non-existent.

Exposures to unknown substances also occur.
Risk assessment

- Injury can be dependent not only upon dose but also upon latency, i.e. the time from first exposure until disease develops.

- Latencies can be long, maybe 10 - 30 years.
Risk assessment

- Combination of several different hazardous substances can occur and the effects can be added or multiplied.

There is relatively little knowledge about the effects of multiple exposures.

A known example concerns the combined effects of smoking and exposure to asbestos, smoking multiplies the effects of exposure to asbestos alone.
Risk assessment

Exposure can occur through

- Inhalation
- The skin
- Orally (swallowing)
Risk assessment

Risk for exposure can occur

1. From a fire or accident
2. During follow-up extinguishing
3. Decontamination
4. During treatment/re-conditioning of contaminated material, clothing and equipment.
Healthy firefighters

- We know enough about what ash and smoke contain.
- Research indicates an increased risk for cancer and reproductive effects.
- We have work environment legislation that makes clear demands.
- We have practical proposals for routines and behaviors that protect.
"Skellefteå model’s basic principles

- All contaminated material from alarm/training/education is transported separate from personnel during the return to the station.

- All contaminated material from alarm/training/education is stored separately in an appropriate container until cleaning/repair.

- All washing of alarm clothing is done in a separate locale in a washing machine designated for this purpose alone.
"Skellefteå model's" basic principles.

- All drying and re-treatment of alarm clothing takes place in a separate locale designed for this purpose.

- All decontamination of air fittings (smoke diving equipment) takes place in separate area in washing machine only used for this purpose.

- All firehoses are stored in a water-filled, covered container while awaiting cleaning.

- All other contaminated material is sanitized in a separate, appropriate locale.
“Skellefteå model’s”

basic principles

- All vehicles are kept clean and free from hazardous substances.
- Alarm personnel have clean and appropriate clothing and equipment.
- Alarm personnel have personal, individual respiratory filter available with alarm clothing.
Skellefteå Model
schematic presentation of routines and methods

- At station
  - Equipment / material
  - ready for alarm

- Clean equipment / material

- Cleaning of equipment / material

- Contaminated equipment

On the way to Accident / Fire

Accident / Fire

Personnel

Contaminated equipment

Contaminated material, equipment & clothing returns separate from personnel.
Skellefteåmodellen

- Equipment ready for alarm
- Laundry Decontamination Vehicle Equipment
- Negative pressure in room
- Room for servicing breathing apparatus etc.
- Clothing
- Material & Equipment
- Negative pressure in room
- Negative pressure in room