

Section H

Focus Hands On Practical Module

Foreword

The decontamination of buildings from CBR contamination requires specially trained and extremely competent technicians and contractors. The safety, speed, economics and clearance procedures require universal training and understanding well outside the usual parameters of contracting and management. This module provides the technician with hands on practical training which can only be undertaken following successful completion of relevant technical and academic modules.

- 1) **Self Personal Inspection**
 - a. **Medical**
 - b. **Suitability**
 - c. **Competence**

- 2) **Physical fitness test**
- 3) **Safety equipment**
 - a. **Confined space extraction**
- 4) **Medical criteria**
 - a. **Measurement**
 - b. **First aid**
 - c. **Life saving first aid**
 - d. **Atropine pens**
 - e. **CPR**
 - f. **Cleaning cuts-grazes**
 - g. **Prophylactic care**
 - h. **Antibiotics & use**

- 5) **Confined space**
 - a. **Evaluation**
 - b. **Procedures**
 - c. **Records**
 - d. **Extraction**
 - e. **equipment**

- 6) **Decontamination Unit**
 - a. **Inspection & certification**
 - b. **Location and Deployment**
 - c. **Negative pressure**
 - 1) **measurement**
 - d. **Wind change factors**
 - 1) **Emergency action**
 - 2) **Pear shape plans**
 - e. **Construction inspection**
 - f. **Filtration & Collection**
 - g. **Power and heating**
 - h. **Waste storage**
 - i. **Procedures**

- 7) **Donning & doffing PPE**

- a. Size fit
- b. Suitability
- c. Inspection techniques
- d. Cleaning
- e. Filters
- f. Storage
- g. Use of tape
- h. Buddy-Buddy requirements
- i. Checking In –out procedures

8) Travel Route

- a. Laying out route
 - 1) Signage
 - 2) Foot traffic control
 - 3) Route In
 - 4) Rout out

9) Personal decontamination & control

- a. Leaving contamination Hot Zone
- b. Travel to Warm zone
- c. Procedure between warm to cold zone
- d. Components
 - 1) Vacuum
 - 2) Brush
 - 3) Water
 - 1. temperature
 - 2. surfactants
 - 3. towels

10) Spraying & delivery application

- a. Broadcast spraying
- b. Airless spraying
- c. Electrostatic spraying
- d. Nebulae applications
- e. Foaming agents
- f. Wet Fogging
- g. Thermal fogging
- h. Micro fogging
- i. Exo- thermic reactions
- j. Gas- fume
- k. In line dilution

11) Applications

- a. Sacrificial coating
- b. Semi permanent coatings
- c. Peel able coatings
- d. Adsorption
 - 1) Poultice
 - 2) Gell (transformation)
 - a. Collection mats
 - b. Isolar panels

12) Erecting/Installing control barriers

- a. Perimeter
- b. Building encapsulation
- c. Environmental controls (Lock Down)
- d. Temporary enclosures
- e. Speed erecting technique's
- f. Pneumatic barriers
- g. Polythene
 - i. Types
 - ii. Joining
 - iii. Sealing
 - iv. Testing
 - v. Handling & dispensing

13) Building Controls generally

14) Fixings

- a. Tapes
- b. Glue
- c. Sprays
- d. Staples

- e. Shrink wrap
 - 1) Application
 - 2) Type of material
 - 3) Equipment requirements
 - 4) Component materials
 - 5) Skeleton construction
 - 6) Strength factors
 - 7) Installation

15) Decontamination Equipment

- f. Blasting overview
- g. Safety
 - 1) Clothing
 - 2) Air supply
 - 3) PPE
 - 4) Hoses
 - 5) Contamination control

- h. Types
 - 1) Non abrasive
 - 2) Abrasive
 - 3) Dry
 - 4) Wet
 - 5) Dry Ice
 - 6) Recoverable/recycle
 - 7) Vacuum recovery

- i. Control factors
 - 1) Air supply
 - 2) Distance
 - 3) Approach angles
 - 4) Radius failure
 - 5) Moisture stripping
 - 6) Hose connection
 - 7) Gun elements
 - 1. shading

- 2. nozzle size
- 3. grid
- 4. penetration
- 5. damage

j. Production rates

12) Hose Connections & Safety

- a. Compressed air
- b. Air supply
- c. Vacuum hoses
 - 1) vacuum cleaner hoses
- d. Return air
- e. Filtered air
- f. Water
- g. Flying heads

16) Vacuum Systems & equipment

- a.
- h. Filters
 - 1) Type
 - 2) Installation
 - 3) Filter changing
 - 4) Monitoring
- i. Shadow vac techniques
- j. Changing bags
- k. Sealing and disposal

17) Air scrubbing

- l. Equipment
- m. Movement
- n. Collection
- o. Ionisers
- p. Ozone use

18) Jetting equipment

- q. Nozzle size
- r. Angle
- s.
- t. Flow rates
- u. Pressure issues
- v. Radius failure
- w. Approach angles

19) Hot water supply systems

20) Steam Cleaning

21) Jetting (cold)

22) Run off collection

- a.
- x. Bunds
- y. Drain seals
- z. Barriers
 - 1) Drain and levels
- aa. Adsorption
- bb. Pumps

- cc. Vacuum systems
- dd. Sludge gulper limitations
- ee. Filtration

13) Chemical application

- a. Storage
- b. COSHH
- c. Dilution parameters
- d. Opening and mixing techniques
- e. Dwell periods

14) Chemicals

- a. Surfactants and efficiency
- b. Alkali & base
- c. Acids

15) Chemical cleaning

- a. Hydraulic dams
- b. Grease and soiling
- c. Surface cleaning
- d. Sub surface decontamination
- e. Pores and cavities
- f. Use & application of chemicals
- g. Safety considerations

16) Ultrasonic baths

- a. Electronics

23) Measurement & records

- a. Swabs
 - i. sampling techniques
- b. Draeger Tubes
- c. SAS air sampling
- d. Anderson
- e. Aero –cell Cassettes
- f. Electronics
- g. Smoke tests

24) Radiological detection & monitoring

25) Biological detection

26) Working at heights

- a. Access
- b. Working platforms
- c. Safety harness
- d. Fall arrest systems

27) Ventilation systems

- a. Types
- b. Types of duct cleaning procedures
- c. Isolation or zoning
- d. Dust and contaminate collection

28) Scaffold systems

- a. Design
- b. Double boarding
- c. Protection/Inspection and red tags
- d. Decontamination of installation

29) Decontamination/options

- a. Soft furnishings
- b. Hard surfaces
- c. Porous surfaces
- d. Vertical surfaces
- e. Horizontal surfaces
- f. Floor covering removal
- g. Return air plenums options
- h. Sub floor voids

30) Decontaminating Electronics & IT systems

- a. Internal contamination
- b. Decontamination Techniques
- c. Method & Systems
- d. Stripping data (backup)
- e. Salvage or disposal
 - i. Viability
 - ii. Time
 - iii. Storage
- f. Raised deck flooring
- g. Cable trays
- h. Chased cavities

31) Vehicle decontamination

- a. Urgency & Viability
- b. Strip outs
- c. Cavities
- d. Specific concerns

32) Decontaminating own equipment

- a. Viability
- b. Packaging
- c. Disposal route