



O. Heap & Son (Derby) Limited  
 New Chandos House Unit 10 Westside Park  
 Derby  
 DE21 7AZ  
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## MD086 Fire Suppression System Maintenance & Servicing

<b>Site address:</b>	New Chandos House Unit 10 Westside Park, Derby, DE21 7AZ	<b>Document created</b>	05/03/26
<b>Location of works</b>	O. Heap & Son (Derby) Limited (DE21 7AZ)	<b>Document created by</b>	Ioan Ilie
<b>Start date</b>	05/03/26		
<b>End date</b>	05/03/27		

### 1. Description of work

### 2. Sequence of events

#### 2.1 Fire Suppression System Maintenance

Description of works:

PPM of Gas Suppression Systems.

Standards Applicable to the works

BS5306-4:2001 + Amendment 1 2012, BS5839-1:2017, BS7671:2008 + Amendment 1 2020

!STOP!

The cylinders employed in fire suppression system are pressurised to very high pressures, all cylinders shall be left in situ and valve and pilot line safety devices shall not be removed or tampered with. Serious injury or death can occur

#1. Personnel Details:

Authorised service engineer or approved subcontractor.

#2. Overview and sequence of Work:

PRELIMINARIES

On arrival on site the engineers will introduce themselves to the site contact for induction. Once completed, our engineers will observe and abide by any health and safety rules as laid out for the site. The engineers have skills cards/certificates listing electrical competency and plant training. The engineers will be inducted to site and made aware of fire procedures and will shall be followed at all times. Operatives will

receive instruction from company name supervisor on the contents of all relevant documentation which will include this document. All operatives will read/be briefed on the contents of this method statement then sign the method statement/ risk assessment indicating they have understood the duties to be carried out. All qualifications/authorisations shall be handed in during induction to be copied for the site file. Prior to commencement of works all relevant safety documentation to be completed including specific permits and safe plan of action. Copy of RAMS and associated safety documentation to be kept at work front for inspection at all times.

#### Procedure

1. Isolate any interfaced systems to prevent shutdown of any equipment or nuisance alarms on the main FD&A system.
2. Inspect the system logbook and note any items for attention.
3. Inspect the hazard enclosure for changes that could affect the room integrity.
4. Inspect the hazard enclosure for storage of combustible items that could affect system performance.
5. Inspect the hazard enclosure for changes that could affect the performance of the AFD and distribution nozzles.
6. Check the operation of self-closing door devices.
7. Check that the PRV is unobstructed and the blades work freely.

#### Electrical installation

REMOVE/ISOLATE ACTUATOR FROM CYLINDER/PILOT BEFORE ANY FURTHER WORKS ARE CARRIED OUT

8. The following fault conditions shall be introduced to the control and indicating equipment to prove correct operation of the panel:

Isolate 240V supply to panel check fault displayed within 30 minutes.

Isolate battery supply to panel check fault displayed within 15 minutes.

Simulate wiring fault (open and Short circuit) on the following and check displayed within 100 seconds.

Zone 1

Zone 2

Sounder one

Sounder two

Sounder three

Actuator

Discharge pressure switch

## Low pressure switch

9. Operate manual release switch check sounder, interface operation system duration and actuator operation by confirming that the pin has fired or the solenoid has magnetised.
10. Operate fire condition via AFD zone 1 check 1st stage sounder operation and interface operation.
11. Operate fire condition via AFD zone 2 check 2nd stage sounder operation, interface operation system duration and actuator operation by confirming that the pin has fired or the solenoid has magnetised.
12. Affix tested sticker to tested AFD.
13. Operate discharge pressure switch and check discharged displayed within 100 seconds.
14. Carry out quiescent and alarm current tests and calculate standby period is within requirements.
15. Test standby batteries.
16. Reset all faults and fire conditions ensure system normal displayed.
17. Replace actuator.

## VESDA detection

Where the system comes under the scope of BS6266 2011 VESDA or laser based detection shall more than likely be employed should this be the case then items 10 and 11 shall be omitted and the following shall be carried out.

18. Inspect the current airflow level and compare with the level at commissioning, note any significant changes and inspect sampling holes to rectify.
19. Inspect the filter condition and replace if necessary
20. Simulate a blockage on a sampling hole check fault displayed with the time period specified.
21. Introduce smoke to the furthest sampling hole and check transport times, record the transport time.
22. Isolate 240V supply to PSU check fault displayed within 30 minutes.
23. Isolate battery supply to PSU check fault displayed within 15 minutes.
24. Introduce smoke to a sampling hole and check CIE registers fire condition.
25. Operate fire condition zone 2 check 2nd stage sounder operation, interface operation system duration and actuator operation by confirming that the pin has fired or the solenoid has magnetised
26. Carry out quiescent and alarm current tests and calculate standby period is within requirements.
27. Test the standby batteries.
28. Reset all faults and fire conditions ensure system normal displayed.

## Mechanical Installation

29. Inspect that cylinders have adequate means of support.

AT NO POINT SHALL THE CYLINDER BE REMOVED FROM ITS MEANS OF SUPPORT

30. Inspect that cylinders have no signs of corrosion or damage.

31. Inspect that pipework has adequate means of support and all hangers and fixings are in good condition.
32. Inspect that the cylinders have labels attached and have a permanent marking specifying the extinguishant, pressurization level of the container and nominal volume/weight.
33. Apply leak detection spray to the neck of the cylinder where the valve joins the body, and all ports on the valve, to detect any leakage.

34. Check pressure gauges for cylinder contents, record any anomalies.

35. Test pressure gauge operation (if applicable).

36. Check all flexible hoses are not kinked, beyond bend radius and connections are tight.

37. Inspect that nozzles are orientated correctly and are unobstructed.

38. Test the pilot actuation circuit (if applicable) as the following:

Post warning signs that pressure testing taking place.

Barrier work area off to prevent unauthorised personnel entering area.

Remove all pneumatic actuators from the cylinders in accordance with the manufacturer's requirements.

Disconnect outlet hose from the pilot cylinder.

Connect the hose to the regulator hose.

Connect the regulator to the air cylinder.

Set the regulator to the required pressure

Pressurise the pilot line and check for actuator operation.

Reset all actuators and replace.

\*FM200 (HFC227ea), Novec, CO2

With above agents it is a requirement to inspect the cylinders to determine the contents of the container; the method is by ultrasonic liquid level detection, the following procedure applies.

Determine the theoretical level by the method described in the liquid level detector manual and mark this on the container.

Switch the unit on and place sensor on cylinder with the Allen key port is uppermost.

Take several readings above the mark and the press CAL on the lowest reading (ignore any unusually low readings).

Take readings below the mark the LED's should not be lit on the unit and the readings should be low.

Move the sensor steadily up the cylinder (do not slide) the readings shall get higher as the level is approached.

When the level is reached the readings will increase rapidly and the LED's will light. The sensor should

now be moved in very small amounts to get the most accurate level, mark on the container.

If the readings above level and below level are the same or the difference between them is 50% the cylinder must be treated as empty.

PPM completion

39. Record all findings, non-conformances and defects in the system logbook.

40. Record all findings, non-conformances and defects on the service worksheet, with any corrective action proposed and its urgency. A quotation shall be provided so make as detailed as possible.

41. Discuss all findings, non-conformances and defects with the end user advising why these have been highlighted.

42. Enquire on any further system training required by the end use

### 3. Plant & equipment

Item	Used for	Special requirements
HAND TOOLS	TO AID INSTALLATION FOR FIXING EQUIPMENT, CUTTING CABLES, TESTING ETC	

### 4. Safety precautions

4.1 Personal protective equipment (PPE)

4.2 Safety responsibilities

Name	Responsibility
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4.3 Safety procedures

### 5. Further information

5.1 Related risk assessments

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5.2 Facilities affected by works

5.3 Foreseeable adverse affects and controls

5.4 Monitoring systems

### 6. Supporting documentation

# O. Heap & Son (Derby) Limited






Risk Assessment for







## Servicing & Maintenance of Fire Suppression Systems








This Risk Assessment relates to the servicing & maintenance of fire suppression systems on customers' premises.







<b>Reference number</b>	MD086
<b>Assessor</b>	Ioan Ilie
<b>Date completed</b>	05/03/26
<b>Review Schedule</b>	Annually
<b>Review date</b>	05/03/27
<b>Approved date</b>	05/03/26
<b>Approved by</b>	Ioan Ilie
<b>Affected site(s)</b>	O. Heap & Son (Derby) Limited (DE21 7AZ)









## Hazards and controls




 <b>Hazard: People Movement (Risk of Slips, Trips &amp; Falls)</b>		
Risk of injury due to a variety of access/egress hazards that can cause slips, trips & falls		
Who can be harmed/how?	Controls in place	Risk rating
<p>Operators</p> <p>Risk of injury due to a variety of access/egress hazards that can cause slips, trips &amp; falls</p>	<p> Aisles &amp; Gangways Kept Clear For Good Housekeeping All aisles and gangways kept clear to avoid slips and trips</p> <p> Good Housekeeping Observed During The Task Good housekeeping standards observed &amp; maintained by operatives throughout the duration of the task</p> <p> Suitable &amp; Sufficient Lighting Provided Suitable &amp; sufficient lighting provided for the workplace activities</p>	<p> Medium Risk: 14</p> <p>Likelihood: 2/9 Severity: 7/9</p>






 <b>Hazard: Poor Housekeeping</b>		
Risk of injury during access & egress due to poor housekeeping.		
Who can be harmed/how?	Controls in place	Risk rating
<p>Operators</p> <p>Risk of injury during access &amp; egress due to poor housekeeping.</p>	<p> All Staff Trained In Good Housekeeping Techniques All staff are trained in good housekeeping techniques &amp; the standards expected in the workplace</p> <p> Good Housekeeping Observed During The Task Good housekeeping standards observed &amp; maintained by operatives throughout the duration of the task</p> <p> Spill Kit Available Spillage kits in the form of absorbent granules are available to be used in the event of a spillage</p> <p> Spillages Cleaned Up Immediately Spillages Cleaned Up Immediately</p>	<p> Medium Risk: 14</p> <p>Likelihood: 2/9 Severity: 7/9</p>






 <b>Hazard: Pressurised Fire Suppression Media</b>		
Risk of injury due to the inadvertent release of the fire suppression media held under pressure		
Who can be harmed/how?	Controls in place	Risk rating
Contractors, Operators  Risk of asphyxiation	<ul style="list-style-type: none"> <li>  Access Into The Premises Is Controlled            Access into the premises is controlled so no unauthorised persons can enter.         </li> <li>  Adequate Supervision Provided            Adequate Supervision Provided         </li> <li>  Eye/Face Guard Worn            Eye/face guard worn to protect both eyes and face against the risk of debris and/or splashes         </li> <li>  Only Competent Persons Can Carry Out The Task            Only personnel with sufficient information, instruction and training can carry out the task.         </li> <li>  Pre-start Checks Undertaken            Pre-start Checks Undertaken         </li> </ul>	<div style="border: 1px solid orange; border-radius: 15px; padding: 5px; display: inline-block;">  Medium Risk: 14         </div>  Likelihood: 2/9 Severity: 7/9










 <b>Hazard: Lone working</b>		
The health, safety & welfare of Lone Workers could be compromised without an assessment of risk.		
Who can be harmed/how?	Controls in place	Risk rating
Operators  The health, safety & welfare of Lone Workers could be compromised without an assessment of risk.	<ul style="list-style-type: none"> <li>  Lone Worker Risk Assessment Is Carried Out            Lone Worker risk assessment is carried out and appropriate control measures applied accordingly         </li> <li>  Lone Workers Are In Contact With Head Office            Procedure for contacting the office in place and monitored once last visit for the day is completed         </li> <li>  Lone Workers Contact System            All events employees are to communicate both safe arrival and departure to and from the event.         </li> <li>  Lone Working Is Avoided/Kept To A Minimum            Lone Working Is Avoided/Kept To A Minimum         </li> </ul>	<div style="border: 1px solid orange; border-radius: 15px; padding: 5px; display: inline-block;">  Medium Risk: 12         </div>  Likelihood: 2/9 Severity: 6/9

 <b>Hazard: Manual handling</b>		
Risk of injury whilst undertaking the manual handling of tall, awkward & unwieldy loads.		
Who can be harmed/how?	Controls in place	Risk rating
<p>Operators</p> <p>Risk of injury whilst undertaking the manual handling of tall, awkward &amp; unwieldy loads.</p>	<p><b>Avoid Any Unnecessary Manual Handling</b></p> <p> Unnecessary manual handling activities are avoided by the use of lifting equipment.</p> <p><b>Good Manual Handling Techniques/Postures Used</b></p> <p> All staff are provided training on safe lifting techniques and recommended postures</p> <p><b>Manual Handling Procedures In Place</b></p> <p> Relevant employees have been given training in safe lifting practices commensurate with the tasks.</p> <p><b>Manual Handling Risk Assessment Carried Out</b></p> <p> An assessment of the manual handling risk has been carried out for the task.</p> <p><b>Manual Handling Training Given</b></p> <p> All relevant employees have received training on correct manual handling techniques</p> <p><b>Protective Footwear Worn Whilst Manual Handling</b></p> <p> Suitable protective footwear is worn whilst carrying out manual handling activity.</p>	<p> <b>Medium Risk: 12</b></p> <p>Likelihood: 2/9 Severity: 6/9</p>

 <b>Hazard: Kneeling Activities</b>		
Risk of injury/ill health due to the carrying out of prolonged kneeling activities		
Who can be harmed/how?	Controls in place	Risk rating
<p>All Staff</p> <p>Risk of injury/ill health due to the carrying out of prolonged kneeling activities</p>	<p><b>All Staff Wear Knee Pads Or Do Not Kneel</b></p> <p> All staff wear knee pads or do not kneel down on their knees.</p>	<p> <b>Medium Risk: 10</b></p> <p>Likelihood: 2/9 Severity: 5/9</p>

 <b>Hazard: Working On Client Sites</b>		
Risk of injury/ill health etc. due to the lack of safety awareness on unfamiliar sites/surroundings.		
Who can be harmed/how?	Controls in place	Risk rating
All Staff  Risk of injury/ill health etc. due to the lack of safety awareness on unfamiliar sites/surroundings.	<ul style="list-style-type: none"> <li>  All Employees Receive Induction Training            All employees receive induction training upon commencement with the Company         </li> <li>  Asbestos Register Briefed/Observed            Operatives are provided with information on the whereabouts of Asbestos Containing Materials on site         </li> <li>  Visitor Rules System Operated            Visitor Rules System Operated         </li> </ul>	<div style="border: 1px solid green; border-radius: 15px; padding: 5px; display: inline-block;">  Low Risk: 7         </div>  Likelihood: 1/9 Severity: 7/9

 <b>Hazard: Work Equipment (Hand Tools)</b>		
Risks associated with the use of work equipment including bodily injury		
Who can be harmed/how?	Controls in place	Risk rating
Operators  Risks associated with the use of work equipment including bodily injury	<ul style="list-style-type: none"> <li>  Hand Tools Carried Correctly            Hand tools are carried in a shoulder bag or holster attached to a belt to stop them falling.         </li> <li>  Tools cleaned, checked &amp; stored after use            Hand tools are cleaned down after use, checked and stored correctly.         </li> <li>  Tools Kept In Good Condition            Regular checks on tools to ensure that they are in good order and in good repair         </li> </ul>	<div style="border: 1px solid green; border-radius: 15px; padding: 5px; display: inline-block;">  Low Risk: 4         </div>  Likelihood: 1/9 Severity: 4/9

 <b>Hazard: Adverse Weather</b>		
Risk of injury due to lightning strikes, high winds/heavy rain, snow and ice; heat or cold stress		
Who can be harmed/how?	Controls in place	Risk rating
Operators  Risk of injury or illness	<p><b>Drinking Water Provided</b>   An adequate supply of drinking water is provided to reduce the risk of dehydration</p> <p><b>Protective Clothing Must Be Worn</b>   Protective Clothing Must Be Worn</p> <p><b>Regular Breaks Taken</b>   Regular Breaks Taken</p> <p><b>Sun Block Used To Protect Against UV Radiation</b>   Sun block is used on exposed skin whilst working outdoors in sunny conditions to protect against UV</p> <p><b>Thermal Comfort Provided In Cold Conditions (PPE)</b>   Thermal comfort provided to include appropriate gloves, jacket, trousers, boots as required</p> <p><b>Weather Conditions Checked &amp; Planned For</b>   Weather conditions are considered, planned for and suitable clothing and equipment are provided.</p> <p><b>Work Is Postponed In Adverse Weather Conditions</b>   Work shall be postponed if weather conditions endanger health or safety</p>	<div style="border: 1px solid green; border-radius: 15px; padding: 5px; display: inline-block;">  Low Risk: 2                     </div>  Likelihood: 1/9 Severity: 2/9

Assessor's signature: Ioan Ilie

Approved by signature: Ioan Ilie