
M&E MAINTENANCE

NATIONAL ARMY MUSEUM
CHELSEA & STEVENAGE

VOLUME II

SCHEDULE OF MAINTENANCE REQUIREMENTS

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VOLUME II

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ELECTRICAL ENGINEERING SYSTEMS – MAINTENANCE CODES

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SERVICE: ELECTRICAL
MAINTENANCE CODE: E1 (SHEET 1 OF 4)
EQUIPMENT: MAIN SWITCHGEAR

Description		Frequency
1	<ul style="list-style-type: none"> a. Check smooth operation i.e. handles extend fully and operate switch mechanism correctly. b. Check fuselinks/fuselink terminals and ensure they are electrically and mechanically sound. c. Clean and inspect switch contacts and switch blades for wear, overheating, etc. d. Clean and inspect spring mechanism, grease if necessary. e. Inspect porcelain/plastic carriers and insulators for damage. 	<ul style="list-style-type: none"> Yearly Yearly Yearly Yearly Yearly
2	<p><u>Replacing Fuse Links</u></p> <ul style="list-style-type: none"> a. Isolate supply to switch fuse. b. Remove fuse carrier containing fuse to be replaced. c. Remove 2 no. screw or nuts holding fuse link position. d. Clean terminals of replacement fuse and fuse carrier. e. Place fuse in carrier and replace/tighten 2 no. screws or nuts. f. Replace fuse carrier in base or switchfuse. g. Restore supply to fuseboard or switchfuse. 	As required.
	<p><u>Note</u> Fuses should not be replaced until the cause of the original fuse failure has been located and rectified by a competent and qualified person.</p> <p>All items of switchgear should be inspected and tested on a regular basis and a report obtained from the installation/service company responsible for the inspections.</p>	
3	<p><u>Busbar Chambers</u></p> <ul style="list-style-type: none"> a. Check cable terminations to ensure they are electrically and mechanically sound. b. Check busbar connections and supports are electrically and mechanically sound. c. Clean and check busbar d. Check busbar connections are electrically and mechanically sound. e. Inspect case for signs of deterioration i.e. rust or other corrosion. 	<ul style="list-style-type: none"> Yearly Yearly Yearly Yearly Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E1 (SHEET 2 OF 4)
EQUIPMENT: MAIN SWITCHGEAR

Description	Frequency
4 <u>Distribution Boards</u>	
a. Check the ratings of all fuses and MCB's against the circuit charts.	Yearly
b. Inspect fuse carriers for signs of burning, arcing and wear.	Yearly
c. Check cable connections for tightness	Yearly
d. Examine the condition of all wiring insulation	Yearly
5 <u>Testing</u>	
Carry out tests as prescribed in the current edition of the IEE Wiring Regulations.	2 Yearly
6 <u>Contactors</u>	
a. Check cable terminations to ensure they are electrically and mechanically sound.	Yearly
b. Check movement and operation of contactor.	Yearly
7 <u>Uninterruptible Power Systems (UPS)</u>	
Cubicle	
a. Check condition and clean. All dirt and foreign bodies should be removed.	Half Yearly
b. Check integrity of doors and panels, including locks.	
c. Check for ease of operation of switches, isolators and circuit breakers.	
d. Check condition of contactors.	
e. Check shrouds are in position. Shrouds should be fitted over terminals of electrolytic capacitors if visible with doors open and where live conductors are in proximity to operation devices.	
f. Check indicator lamps and lenses, replace as necessary.	
Fuses and MCB's	
a. Check for correct rating of fuses and settings and operation of MCB's.	Half Yearly
Relays, Contactors and Wiring	
a. Check for burn marks and tightness of connections. Replace as necessary.	Half Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E1 (SHEET 3 OF 4)
EQUIPMENT: MAIN SWITCHGEAR

Description	Frequency
7 <u>Uninterruptible Power Systems (UPS) (Cont.)</u>	
Earthing	
a. Ensure all sub assemblies with electrical components mounted on are adequately earthed. Where star washers are used for earth connections make sure earth connection is good.	Half Yearly
Rectifier	
Switch on and check:	Half Yearly
a. Battery trickle charge voltage.	
b. Battery charge voltage level.	
Check and record calibration of all meters on the equipment.	
Rectifier Alarms	
a. Check and record "pick up" and "drop out" voltages of all alarm relays.	Half Yearly
Rectifier Waveform	
c. Check and record.	Half Yearly
Inverter	
a. Switch on and check the inverter control unit control voltage.	Half Yearly
b. Compare with voltages recorded on test certificate. Record the results and report any significant differences.	
c. When operating correctly, check and record the output voltage and frequency.	
d. Check and record the calibration of all meters.	
Inverter Alarms	
a. Check for correct operation and check "pick up" and "drop out" voltages of all AC and DC alarm relays.	Half Yearly
Inverter Wave Forms	
a. Check and record the output waveform.	Half Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E1 (SHEET 4 OF 4)
EQUIPMENT: MAIN SWITCHGEAR

Description	Frequency
7 <u>Uninterruptible Power Systems (UPS) (Cont.)</u>	
Static Power Switch	
a. Check operation with both rectifier and inverter switched on.	Half Yearly
Output	
a. Check inverter output voltage and frequency.	Half Yearly
b. Check bypass voltage and frequency.	
c. Check load transfer.	
d. Check load voltage and power.	
Measure and record.	
Batteries	
a. Check condition of lead acid.	Half Yearly
b. Check condition of other types and report to client if replacement is required.	
For more detailed maintenance instructions refer to manufacturers recommendations. Batteries should be disposed of only in accordance with statutory requirements.	

SERVICE: ELECTRICAL**MAINTENANCE CODE: E2****EQUIPMENT: LUMINAIRES (INTERNAL/EXTERNAL) AND SWITCHES**

Description		Frequency
1	a. Clean all light fittings including lamps, diffusers, controllers, louvres, cover and reflectors.	Half Yearly
	b. Examine all light switches testing the operation and switching action of all switches. Check for any cracks or damage to switches.	Half Yearly
	c. Check the operation of all light fittings and replace control gear if there is any sign of resonance.	Half Yearly
	d. Test lamp holder plunger springs. Examine one flexible cord on each floor of building or section of building and report its condition. Examine fittings and suspension of all fittings.	Yearly
	e. Carry out tests as prescribed in the current IEE Regulations and report results.	Yearly
	f. Carry out lamp replacement* on a daily basis when lamps have failed throughout the building. Provide schedule with lamps requiring replacement update schedule on a monthly basis.	Ongoing/daily/Monthly

*Lamps to be provided by client direct cost of lamps will not part of this contract include for comprehensive labour element only to fit lamps.

SERVICE: ELECTRICAL
MAINTENANCE CODE: E3
EQUIPMENT: GENERAL POWER EQUIPMENT

Description	Frequency
1 <u>Small Power Equipment</u>	
a. Examine all socket outlets, fused connection units and double pole switches for damage, cracks, etc., testing the action of all switches.	Half Yearly
b. Check the condition of all flexible cables from flex outlet accessories. Replace any cables with cracks to the insulation covering.	Half Yearly
c. Carry out tests as prescribed in the current IEE Wiring Regulations.	2 Yearly
2 <u>Disabled Alarm System</u>	
a. Examine the condition of all pull cords, lamp lenses and indicator units	Half Yearly
b. Check the operation of all lamp, buzzers and reassurance lamps. Also ensure that the system resets.	Half Yearly
c. Check the condition and cabling to the transformer unit.	Half Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E4
EQUIPMENT: EMERGENCY LIGHTING SYSTEM

Description	Frequency
1 <u>Emergency Lighting</u>	
a. Isolate supply to the central battery unit and check that all emergency luminaires illuminate from the systems CBU.	Monthly.
<u>Note</u> The battery unit should not be discharged by more than 25% of its capacity whilst this operation is being carried out. The units total rating is 1 hour.	
b. The central battery charger should be checked for rate of charge and voltage at the end of test (1a.)	Monthly
c. Check the main supply indicator lamp is illuminated, ammeter charge current does not exceed the units rating and that the battery voltmeter indication is between the prescribed limits.	Monthly
d. Check the electrotpe level to all cells and top up if required with de-ionised water.	Monthly
e. Check all battery terminal connections for tighteners and ensure terminals are adequately coated with petroleum jelly.	Monthly
2 <u>Emergency Lighting Simulated Mains Failure</u>	
a. A simulated mains failure shall be carried out on the central battery unit for a period of 25% of the units rated period i.e. 15 minutes/45 minutes.	Half Yearly
b. A simulated mains failure shall be carried out on the central battery unit for its rated period of 1/3 hours. At the end of this period all lighting fittings shall be checked for full illumination.	Yearly
3 <u>Self-Contained Luminaires/Invertor Units</u>	
a. Test each self-contained luminaire and exit sign by a simulated failure of the normal supply to each luminaire and check that each lamp illuminates. The duration of this test should not exceed 25% of the units rated supply duration i.e. for 3 hour units the test should not exceed 45 minutes.	Monthly
b. On restoration of supply ensure that normal operation has been restored and that the supply healthy lamp is illuminated.	Monthly
c. Carry out the monthly tests as details in 3a. and 3b. above, but ensure that each lamp is energised from its own internal batteries for a minimum period of 1 hour for 3 hour units and 15 minutes for 1 hour units.	Half Yearly
d. Carry out the monthly tests as detailed in 3a. and 3b. above and after the luminaire have been installed for a period of 3 years carry out a full duration test i.e. 3 hours for 3 hour units. This duration test should be carried out every year thereafter the third year.	Yearly
e. Test the operation of all test key switches and indicating neon lamps.	Monthly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E5
EQUIPMENT: FIRE ALARM SYSTEM

Description	Frequency
1 <u>Fire Alarm System</u>	
a. Check all entries in log book.	Quarterly
b. Visually check the condition of the control panel and battery charger cubicle.	Quarterly
c. Check battery connections, battery condition and shelf life expiry date. Replace as required.	Quarterly
d. Check each zones operation by operating 1 no. device within each zone and recording device tested within the log book. Check the control panel indication and check the operation of all alarm indicating devices including bells, sounders, xenon beacons and remote indicator units.	Quarterly
e. Visually check the position of all detectors for defects and operation in conjunction with any building partition alterations.	Quarterly
f. Check the operation of gas valve solenoids and door closers. Reset after testing.	Quarterly
g. Note any defects within the log book and carry out repairs as required.	Quarterly
h. Issue test certificate in accordance with BS5839 Part 1 1988 Appendix C.	Quarterly
i. Check system function by simulated operation of one trigger device in each zone, a difference detection will be issued on each occasion and record kept safe on site.	Weekly
j. Where the fire alarm system and PA are integrated the PA systems shall form part of the fire alarm maintenance.	Monthly
2 <u>Detectors and Marshalling Boxes</u>	
a. Check the operation of each detector using the manufacturers recommended type of smoke or heat generating equipment.	Yearly
b. Check all connections within marshalling boxes and security of all surface wiring.	Yearly
c. Visually check the security of all cabling and devices, check that devices and cabling are adequately protected.	Yearly
d. Note any defects in the log book and carry out any repairs that are required.	Yearly
e. Issue test certificates in accordance with BS5839 Part 1 1988 Appendix C.	Yearly
3 <u>Automatic Door Closers</u>	
a. Check the operation of all automatic door closers, ensuring that all doors close unaided.	Quarterly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E6
EQUIPMENT: CONTROL PANELS

Description			Frequency
1	a.	Check all hand operated switches for efficient operation.	Quarterly
	b.	Check all indicator lamps and replace as required.	Quarterly
	c.	Check operation of time clocks and reset to the correct time.	Quarterly
	d.	Check operation of main isolator and door interlocking facility.	Quarterly
	e.	Visually examine insulation of all panel wiring and component parts for signs of arcing or burning.	Quarterly
	f.	Check all wiring connections, terminal blocks, fuse holders, contacts and earth bars are secure.	Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E7
EQUIPMENT: PORTABLE AND DOMESTIC APPLIANCES

Description			Frequency
1	a.	Check portable appliance cable for condition of insulation. Replace cable if damaged.	Half Yearly
	b.	Examine plug top connections for security check grip security and ensure that the correct fuse is fitted.	Half Yearly
	c.	Test the operation of appliance ensure that all switches function correctly.	Half Yearly
	d.	Check all hob rings, oven and grill on electrical cooker appliances.	Half Yearly
	e.	Check all illuminator lamps in fridges, microwaves and ovens.	Half Yearly
	f.	Check operation of waste disposal units examining connections and condition of cables.	Half Yearly
	g.	Check operation of waste disposal units examining connections and condition of cables.	Half Yearly
	h.	Provide a cost for testing all portable appliance equipment – 200 number items.	Yearly
	i.	Ensure testing equipment is to current British Standards.	Yearly
	j.	Provide label on all tested equipment with date and description.	Yearly
	k.	Provide full printed report and certification.	Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E8
EQUIPMENT: SUPPLY AND EXTRACT FANS

Description			Frequency
1	a.	Check the operation of the fan unit in both forward and reverse.	Half Yearly
	b.	Examine flexible cable to fan unit checking for cracks in insulation. Replace as required.	Half Yearly
	c.	Remove fan unit from window/wall and thoroughly clean, check and lubricate.	Half Yearly
	d.	Re-install fan and test operation.	Half Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E9
EQUIPMENT: LIGHTNING PROTECTION SYSTEM

Description		Frequency
1	a. Examine fixing arrangements.	Yearly
	b. Examine electrical/mechanical bonds between down conductors and horizontal conductors and other services. Report any signs of corrosion to joints.	Yearly
	c. Examine seals and sleeves where conductors pass through floors, walls, etc.	Yearly
	d. Test the complete installation in accordance with BS6551.	Yearly
	e. Record for each test conducted:	
	i. The nature of the soil and any special earthing requirements.	Yearly
	ii. Date and particulars of saltings, if used.	Yearly
	iii. Test and conditions and readings obtained.	Yearly
	iv. Alterations, additions or repairs to the system.	Yearly
	v. The name of the person who carried out the test.	Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E10
EQUIPMENT: ELECTRIC SPACE HEATING

Description	Frequency
1 <u>Electric Heaters</u>	
a. Check the condition of any flexible cables and replace if damaged.	Half Yearly
b. Test the operation of the heating ensuring that all switches, indicator lamps, etc, are functioning correctly.	Half Yearly
c. Check the operation of any thermostats.	Yearly
d. Check all heating position settings.	Yearly
2 <u>Storage Heaters</u>	
a. Check the condition of any flexible cables and replace if damaged.	Half Yearly
b. Check the operation of any thermostats, switches, etc.	Yearly
3 <u>Underfloor Heating/Ceiling Heating</u>	
a. Check the operation of all heating elements.	Yearly
b. Check the operation of any thermostats, switches, etc.	Yearly
4 <u>Electrical Heater Batteries</u>	
a. Check the operation of the heater battery and record the current drawn. If the current differs from the norm, then investigate.	Half Yearly
b. Ensure that all connections are clean and tight.	Half Yearly
c. Check the operation of the local isolator.	Yearly
d. Clean heater battery.	Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E11
EQUIPMENT: ELECTRICAL EQUIPMENT

Description		Frequency
1	<u>Hand Dryers</u>	
a.	Check the condition of any flexible cables and replace if damaged.	Half Yearly
b.	Test the operation of the hand dryer, checking any switches/push buttons, timers and any automatic sensors.	Half Yearly
	Note the effectiveness of the heater element.	

SERVICE: ELECTRICAL**MAINTENANCE CODE: E12****EQUIPMENT: MOTORS, STARTERS AND REGULATING EQUIPMENT**

Description			Frequency
1	a.	Blow out windings, check bearings for play and lubrication.	Half Yearly
	b.	Examine oil rings and replenish with correct lubricant as necessary.	Half Yearly
	c.	Remove surplus oil or grease.	Half Yearly
	d.	Examine commutators and slip rings for pitting, grooving and high micas and report if skimming is required.	Half Yearly
	e.	Examine brushes for wear and check brush holder springs for correct tension.	Half Yearly
	f.	Examine, clean and adjust starting and regulating equipment, including rotor short circulating devices, external resistances and auto-transformers.	Half Yearly
	g.	Check all connections on motors and control equipment	Yearly
	h.	Check alignment between motor and load.	Yearly
	i.	Make insulation test of motor and report results.	Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E13
EQUIPMENT: CONTROL EQUIPMENT

Description			Frequency
1	a.	Check manually the operation of the control valve and actuator.	Half Yearly
	b.	Check calibration of all sensors and recalibrate as necessary.	Half Yearly
	c.	Inspect all sensors for correct operation and contacts for signs of wear.	Half Yearly
	d.	Inspect all control valve spindles and seats for signs of wear and check moving parts for alignment.	Half Yearly
	e.	Test all valves for free travel, grease and repack as necessary.	Half Yearly
	f.	Ensure that all monometric and thermal readings are accurate.	Half Yearly
	g.	Check calibration/operation of optimisers.	Yearly
	h.	Check calibration of level sensors.	Yearly
	i.	Check the operation of all photo cells.	Half Yearly
	j.	Check the operation and setting up of all time clocks. Reset as required.	Quarterly
	k.	Check the operation and setting of all thermostats, temperature sensors and air quality units. Reset to the correct setting after testing.	Half Yearly
	l.	Contractor to ensure BMS systems are maintained to manufacturers recommendations. Contractor to ensure operatives receive training for BMS from manufacturer.	Monthly
	m.	Check operation and calibration of inverters to manufacturers instructions.	Monthly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E14
EQUIPMENT: CCTV

Description			Frequency
1	a.	Check the installation, location and siting of all equipment against the system records.	Half Yearly
	b.	Check all terminations for tightness and corrosion.	Yearly
	c.	Check all fixing points especially camera mountings.	Yearly
	d.	Clean camera housings inside and out particularly the viewing window.	Half Yearly
	e.	Clean all monitors especially the screen.	Half Yearly
	f.	Check that all equipment functions correctly.	Half Yearly
	g.	Check any ancillary lighting is functioning.	Half Yearly
	h.	Clean video recorder heads or remove recorder for overhaul.	Yearly
	i.	Check that zoom lenses stay in focus through the zoom range.	Half Yearly
	j.	Check and record video levels in the system record book.	Half Yearly
	k.	Record and advise the customer of any replacement parts or repairs required.	As required

SERVICE: ELECTRICAL
MAINTENANCE CODE: E15
EQUIPMENT: INTRUDER ALARM SYSTEMS

Description			Frequency
1	a.	Check the installation, location and siting of all equipment and devices against the specification.	Yearly
	b.	Check the satisfactory operation of all detection devices, including deliberately operated devices.	Half Yearly
	c.	Inspect mains and standby power supplies including charging rates.	Yearly
	d.	Check control unit.	Half Yearly
	e.	Check remote signalling equipment (intelligibility to be ascertained)	Half Yearly
	f.	Test, where possible, remote signalling equipment to control centre or Police.	Half Yearly
	g.	Check all audible warning and modem devices for correct operation.	Half Yearly
	h.	Check the system is fully operational.	Yearly
	i.	Check connecting wiring.	Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E16
EQUIPMENT: TV AERIAL SYSTEM

Description			Frequency
1	a.	Check the condition of all TV aerial socket outlets.	Half Yearly
	b.	Check the condition of all Co-Axial cables along with plugs where fitted.	Half Yearly
	c.	Check the signal output level at each outlet point ensure that a minimum of 1mV signal strength is available for all channels.	Yearly
	d.	Check the security of all connections and plugs to any signal amplification equipment.	Half Yearly
	e.	Visually examine the condition and security of all television aerials.	Half Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E17
EQUIPMENT: MOTORISED DOORS

Description			Frequency
1	a.	Check alignment of all runners, rollers and guide tracks and lubricate.	Monthly
	b.	Check condition of door panels and report any damage.	Monthly
	c.	Check fixings for security.	Half Yearly
	d.	Check motors and controls as appropriate.	Half Yearly
	e.	Check fire links if fitted.	Monthly
	f.	Operate door 2 or 3 times.	Monthly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E18
EQUIPMENT: STANDBY GENERATORS

Description			Frequency
1	a.	Visually inspect plant for any apparent leaks.	Quarterly
	b.	Check fuel, oil and water levels and top up from site stock as necessary.	Quarterly
	c.	Take specific gravity of starting battery and top up electrolyte from site stock as necessary.	Quarterly
	d.	Check battery charging rate and record.	Quarterly
	e.	Test run generator on no load for 30 minutes WEAR EAR DEFENDERS whilst generator is running. Whilst generator is running record the following:	Monthly
		i. Oil Pressure.	
		ii. Water temperature.	
		iii. Output voltage.	
		iv. Output frequency.	
	f.	Whilst generator is running carry out the following checks:	Monthly
		i. Ensure starting battery is charged from engine driven charging system.	
		ii. Ensure there are no fluid leaks.	
		iii. Ensure that there are no exhaust leaks.	
	g.	Check operation of fire valve on fuel line. Lubricate linkages as required.	Quarterly
	h.	Test run generator on load for at least one hour and note readings as in e. and f. above.	Half Yearly

SERVICE: ELECTRICAL
MAINTENANCE CODE: E19
EQUIPMENT: DIMMER CONTROLS

Description	Frequency
<p>1 <u>Dimmer Controllers</u></p> <p>The Contractor shall employ the services of Hilite (01892 870072) to maintain the dimming systems in their entirety. This agreement shall include a minimum of:</p> <ul style="list-style-type: none"> i. 2 no. preventative maintenance visits per year. ii. Unlimited emergency call outs to site. iii. All parts and labour for the maintenance of the equipment covered by the agreement. iv. Priority response in the event of an emergency visit being required. v. Access to telephone support help-line. 	
<p>2 <u>Cubicle</u></p> <ul style="list-style-type: none"> a. Check condition and clean. All dirt and foreign bodies should removed. Half Yearly b. Check integrity of doors and panels, including locks. Half Yearly c. Check for ease of operation of switches, isolators and circuit breakers. Half Yearly d. Check condition of contactors. Half Yearly e. Check shrouds are in position. Shrouds should be fitted over terminals of electrolytic capacitors if visible with doors open and where live conductors are in proximity to operation devices. Half Yearly f. Check indicator lamps and lenses, replace as necessary. Half Yearly 	
<p>3 <u>Fuses and MCB's</u></p> <p>Check for correct rating of fuses and settings and operation of MCB's. Half Yearly</p>	
<p>4 <u>Relays, Contactors and Wiring</u></p> <p>Check for burn marks and tightness of connections. Replace as necessary. Half Yearly</p>	
<p>5 <u>Earthing</u></p> <p>Ensure all sub assemblies with electrical components mounted on are adequately earthed. Where star washers are used for earth connections, make sure earth connection is good. Half Yearly</p>	

SERVICE: ELECTRICAL
MAINTENANCE CODE: E20
EQUIPMENT: DISABLED ALARM

Description			Frequency
1	a.	Visually check condition of control panel.	Monthly
	b.	Keep a log book of all testing undertaken. The results of the tests must be filled in and kept available for inspection at all times.	
	c.	Check system function by operating the alarm and checking the reassurance lamp.	Weekly
	d.	Check operation of reset button.	Monthly
	e.	Note any defects within the log book and carry out repairs as required.	Monthly

MECHANICAL ENGINEERING SYSTEMS – MAINTENANCE CODES

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MECHANICAL ENGINEERING SYSTEMS – MAINTENANCE CODES (Cont.)

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M50	DOORS AND WINDOWS/GATES/BARRIERS
M51	DRY COOLERS
M52	DRY/WET RISERS
M53	SPRINKLERS
M54	METER READING
M55	GENERAL BUILDING WORKS

SERVICE: MECHANICAL
MAINTENANCE CODE: M1
EQUIPMENT: DOMESTIC TYPE BOILERS

Description			Frequency
1	a.	Clean main burner.	Yearly
	b.	Clean heat exchanger.	Yearly
	c.	Clean main injection.	Yearly
	d.	Check condition of thermocouple, pilot and spark electrode.	Yearly
	e.	Check flue terminal for obstruction and clean out cover seal.	Yearly
	f.	Check for clear ventilation.	Yearly
	g.	Check meter burner pressure.	Yearly
	h.	Check and clean sight glass.	Yearly
	i.	Check calibration of control thermostat.	Yearly
	j.	Check suppression in control panel.	Yearly
	k.	Undertake functional test.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M2 (SHEET 1 OF 2)
EQUIPMENT: BOILERS

Description			Frequency
1	a.	Test dampers and associated control gear.	Quarterly
	b.	Test smoke doors for leakage.	
	c.	Test temperature and pressure gauges for correct registration.	
2	a.	Test boiler mountings.	Quarterly
	b.	Clean and test valves for free travel, repack and adjust as necessary.	
3	a.	Test smoke flues and dampers for air leakage and moisture seepage.	Half Yearly
4	a.	Conduct a major or summer overhaul whilst the plant is non-operational, the following operations are to be carried out:	Yearly
	i.	Each boiler in turn, together with its firing equipment, will be isolated from the main system and the electrical connections and gas feed disconnected.	
	ii.	Remove firing equipment from boiler front and service as described in Maintenance Code M4 item 2 as applicable.	
	iii.	Check the main combustion chamber, chamber door and refractory as fitted.	
	iv.	Open up and clean boiler flue ways.	
	v.	Clean combustion sight glass.	
	vi.	Clean rear soot deposits and main combustion chamber as necessary.	
	vii.	Drain boiler, remove inspection covers and check internal surface for corrosion and scale formation.	
	viii.	All boiler mounted are to be checked in accordance with the relevant British Standard and using a British Standard portable test rig. Safety valves, drain cocks, altitude and temperature gauges to be refurbished, repacked and recalibrated as necessary.	
	ix.	Carry out a visual inspection of boiler insulation, fire doors, latches, pins and frames, boiler front.	
	x.	Check calibration of controls and recalibrate as necessary.	
	xi.	If all is satisfactory, close boiler fitting new seals to combustion door and inspection covers, refill and test.	

SERVICE: MECHANICAL
MAINTENANCE CODE: M2 (SHEET 2 OF 2)
EQUIPMENT: BOILERS

Description	Frequency
<p>4 b. Conduct an intermediate or winter overhaul whilst the plant is non-operational, the following operations are to be carried out:</p> <ul style="list-style-type: none"> i. Inspect each boiler for combustion gas or water leaks. ii. Isolate each boiler in turn from the main system, disconnect the burner fuel lines and electrical supply. iii. Remove firing equipment from boiler front and service as described in Maintenance Code M4 item 2 as applicable. iv. Check main combustion chamber, chamber door and refractory. v. Open up and clean boiler flueways. vi. Clean combustion sight glass. vii. Clean rear soot deposits and main combustion chamber as necessary. viii. Close boiler, refitting new door seal. ix. Check safety valve and drain cocks to ensure they are leak free. x. Check altitude and pressure gauges. <p><u>Note</u> Boiler/plantroom floor, pipework and all equipment to be painted at intervals to ensure clean conditions are maintained.</p>	Half Yearly

SERVICE: MECHANICAL**MAINTENANCE CODE: M3****EQUIPMENT: BOILER PLANT – GENERAL MAINTENANCE**

Description	Frequency
In addition to the boiler overhauls and maintenance of firing equipment, the following items shall also be given attention at the time periods listed:	
1 Each gas valve to be opened up, fully checked, serviced and fitted with new gland.	Yearly
2 Check operation and calibration of controls and recalibrate as necessary.	Half Yearly
3 Check manual operation of the following and report on condition: a. Gas control and shut off valves. b. Automatic controls. c. Flame failure devices.	Quarterly
4 Check on operation of fire valves, test alarms and quick release mechanisms, examine fusible links/heat detectors and report on condition.	Monthly
5 Test all valves for free travel, grease and repack as necessary. a. Mechanical hand operation. b. Automatic operation, including actuator.	Half Yearly Quarterly
6 Prepare boiler and carry out pressure test and boiler inspection with the appointed insurance company Engineer.	Yearly

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M4**
EQUIPMENT: **FIRING EQUIPMENT**

Description			Frequency	
1	a.	Check burner head.	Quarterly	
	b.	Clean air dampers.		
	c.	Examine fusible links.		
	d.	Test fire valves for correct operation.		
	e.	Examine oil levels in gear boxes and top up as necessary.		
	f.	Examine condition of alignment valves.		
	g.	Test valves for correct operation.		
	h.	Test operation of flame failure devices.		
	i.	Examine gauges for correct position.		
2	a.	Inspect burner head and ignition system, clean, adjust and renew as necessary.	Quarterly	
	b.	Remove UV or photo electric cell and clean.		
	c.	Lubricate forced draught fan and motor bearing.		
	d.	Refit firing equipment to front of boiler and reconnect fuel lines, electrical supply.		
	e.	Fire and test in the following manner:		
	i.	Check air damper and fuel valves to ensure correct operation.		
	ii.	Check flame formation.		
	iii.	Switch off burner and check that after pre-purge operation the flame is re-established immediately the pilot valve becomes energised.		
	iv.	Check range between low and high flame is smooth and positive.		
	v.	Check that burner modulates from high to low flame and off at the stipulated temperatures.		
	vi.	Remove flame failure sensor from housing to check that burner goes to lock-out condition.		
	f.	Check combustion doors for leakage.		
	g.	Check fuel lines for leakage.		
	h.	Conduct full combustion test to ensure efficient operation of equipment. Adjust as necessary.		
<u>Note 1</u>	2 of the quarterly checks are to be conducted in conjunction with the boiler overhauls detained in Maintenance Code M2, 1 with item 4a. and the other with item 4b.			
<u>Note 2</u>	Boiler/plantroom floor, pipework and all equipment to be painted at intervals to ensure clean conditions are maintained.			

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M5**
EQUIPMENT: **INSTRUMENTATION**

Description			Frequency
1	a.	All instruments: Examine zero reading for accuracy.	Weekly/Monthly
	b.	CO ² Recorders: Examine sampling pipes and connections for leaks. Top up water seals as necessary	
	c.	Draught Gauges: Examine sampling pipes and connections for leaks.	
	d.	Recorder: Examine charts and mechanisms.	
	e.	Pressure Gauges, Water and Oil Meters: examine for correct reading.	
	f.	Smoke Density Indicator: Clean and examine projector and receiver lenses.	
	g.	Thermometers: Examine for correct reading.	
	H.	Gas Detection: Examine measuring devices and check function and operation.	

SERVICE: MECHANICAL
MAINTENANCE CODE: M6
EQUIPMENT: BOILER FLUE DUCTING

Description			Frequency
1.	a.	Conduct visual check of flue ducting for signs of flue gas and moisture seepage.	Quarterly
2.	a.	Open main flues and remove products of combustion.	Yearly
	b.	Examine internal surface of flue for signs of corrosion and deterioration.	
3	a.	Provide flue gas analysis and issue test results – advise any adjustment.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M7
EQUIPMENT: NON STORAGE HEAT EXCHANGERS

Description			Frequency
1	a.	Check manually operation of automatic controls.	Quarterly
	b.	Check automatic control valves including actuators for free travel, grease and repack as necessary.	
2	a.	Check calibration of control sensors and recalibrate as necessary.	Half Yearly
	b.	Check manual hand operated valves for free travel.	
	c.	Inspect the primary heating coil chest seal and ensure that it is leak free.	
	d.	Inspect the secondary chamber inspection cover seal and ensure that it is leak free.	
	e.	Check safety valve and drain cock and ensure that they are leak free.	
3	a.	All heat exchange mountings to be checked in accordance with relevant British Standard using a British Standard portable test rig.	Yearly
	b.	Safety valves, drain cocks, temperature and pressure gauges to be refurbished, repacked or recalibrated as necessary.	
	c.	Conduct a visual inspection of the thermal insulation for damage and deterioration and all connections and joints for signs of leakage.	
4	a.	Disconnect heat exchanger from system, drain cylinder and open shell, de-scale and flush out and prepare vessel for inspection by Insurance Company engineer. Close shell upon completion of inspection, fill and return to operational condition.	As Required

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M8**
EQUIPMENT: **GAS BOOSTERS**

Description			Frequency
1	a.	Check bearing temperature and noise level.	Monthly
	b.	Check oil levels and top up as necessary in accordance with manufacturers instructions.	
2	a.	Check drives for alignment, wear and tension.	Quarterly
	b.	Check V belt drives for correct tension and adjust as necessary.	
	c.	Check head pressure and record.	
3	a.	Check V belts for cracks and brittleness and replace as necessary.	Quarterly
	b.	Examine seals for leakage and replace as necessary.	
4	a.	Check all pulleys and keys and ensure that all holding down bolts are secure.	Half Yearly
5	a.	When a booster has been taken out of service for maintenance check to ensure correct rotation upon completion of work.	As Required
<u>Note</u> Booster motors to be checked in accordance with Maintenance Code E12. Ensure Gas Booster compliance with Gas Safe Regulations.			

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M9**
EQUIPMENT: **GAS SERVICES**

Description			Frequency
1	a.	Test safety devices for correct operation.	Quarterly
	b.	Test governors for correct operations.	
	c.	Test pressure switches.	
2	a.	Clean burners and adjust as necessary.	Half Yearly
	b.	Examine valves for free travel, grease and adjust as necessary.	
	c.	Empty and clean condensate traps.	
	d.	Examine flue for moisture seepage.	
3	a.	Each gas governor to be opened up, fully checked, serviced and fitted with a new diaphragm.	Yearly
	b.	Test all gas cocks for leakage and re-washer and repack as necessary.	
	c.	Test operation of all control valves.	
	d.	Examine distribution pipework for leakage and deterioration. Repair as necessary.	
	e.	Clean out all condensate traps in pipeline.	
	f.	Test gas pressure and adjust governor as necessary.	
	g.	Test all gas isolation valves. Re-washer and repack as necessary.	
4	a.	Examine burners and adjust as necessary	As Required
	b.	Check gas connections and hoses.	
5	a.	Check operation of gas scavenging equipment.	Quarterly

SERVICE: MECHANICAL
MAINTENANCE CODE: M10 (SHEET 1 OF 2)
EQUIPMENT: PRESSURISATION UNIT

Description			Frequency
1	a.	Examine pressure gauges for correct reading.	Monthly
	b.	Check pump bearing for overheating and noise.	
	c.	Check oil levels and top up as necessary in accordance with manufacturers instruction.	
2	a.	Check pressurisation pump drives for alignment, wear and tension.	Monthly
3	a.	Examine pressurisation pump glands for leaks and repack as necessary.	Quarterly
	b.	Examine associated valves, repack glands as necessary.	
	c.	Check pressurisation pump for correct rotation.	
	d.	Check manually the operation of the pressure control valves and actuators.	
	e.	Examine unit generally and wipe down.	
4	a.	Check calibration of all pressure sensors and recalibrate as necessary.	Half Yearly
	b.	Inspect all sensors for current operation and controls for signs of wear.	
	c.	Inspect all control valve spindles and seats for signs of wear and check moving parts for alignment.	
	d.	Test all valves are free travel, grease and repack as necessary.	
	e.	Check to ensure that all holding down bolts are secure.	
5	a.	Dismantle and clean pressurisation pumps and check waterways for corrosion and fouling. Clean and report condition.	Yearly
	b.	Splash tank:	
	i	Inspect for signs of deterioration and report on condition.	
	ii	Drain and de-scale as required and repaint internally.	
	iii	Examine for leakage and repair as required.	
	iv	Check operation of make-up valve, re-washer and refurbish as necessary.	
	v	Report on condition.	

SERVICE: MECHANICAL
MAINTENANCE CODE: M10 (SHEET 2 OF 2)
EQUIPMENT: PRESSURISATION UNIT

Description			Frequency
6	a.	When a pressurisation pump has been taken out of service for maintenance check to ensure correct rotation on completion of work.	As Required
	b.	Nitrogen Pressurisation – When the pressure in the nitrogen bottle reaches 13.8 bar (200¼ psig) a replacement bottle must be made available. As soon as the duty bottle reaches 1.73 bar (25 psig) above the working pressure on the unit the bottle must be replaced.	

Note Pump motors to be checked in accordance with Maintenance Code E12.

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M11**
EQUIPMENT: **PUMPS (BELT DRIVEN)**

Description			Frequency
1	a.	Check bearing temperature and noise level.	Monthly
	b.	Check oil levels and top up as necessary in accordance with manufacturers instructions.	
2	a.	Check drive for alignment wear and tension.	Monthly
	b.	Check V belt drives for correct tension and adjust as necessary.	
	c.	Check head pressure and record.	
3	a.	Check V belts for cracks and brittleness and replace as necessary.	Quarterly
	b.	Examine pump glands for leaks and repack as necessary.	
	c.	Examine associated valves, repack glands as necessary.	
	d.	Clean filter in strainer on suction piping.	
4	a.	Check all pulleys and keys and ensure that all holding down bolts are secure.	Half Yearly
	b.	Vent and clean drain reservoir where fitted.	
5	a.	When pump has been taken out of service for maintenance check to ensure correct rotation upon completion of work.	As Required

Note Pump motors to be checked in accordance with Maintenance Code E12.

SERVICE: MECHANICAL
MAINTENANCE CODE: M12
EQUIPMENT: PUMPS (DIRECT DRIVE) OR SUBMERSION

Description			Frequency
1	a.	Check bearing temperature and noise level.	Quarterly
	b.	Check oil levels and top up as necessary in accordance with manufacturers instructions.	
2	a.	Check drive for alignment and wear.	Quarterly
	b.	Check head pressure and record.	
3	a.	Examine pump glands and leaks and repack as necessary.	Quarterly
	b.	Examine associated valves, repack glands as necessary.	
	c.	Clean filter in strainer on suction piping.	
4	a.	Check all keys and ensure that all holding down bolts are secure.	Half Yearly
	b.	Vent and clean drain reservoir where fitted.	
5	a.	Dismantle and clean pumps. Check waterways for corrosion and foiling, clean and report on condition.	As Required
6	a.	When pump has been taken out of service for maintenance check to ensure correct rotation on completion of work.	

Note Pump motors to be check in accordance with Maintenance Code E12.

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M13**
EQUIPMENT: **PUMPS (IN-LINE)**

Description			Frequency
1	a.	Check bearing, temperature and noise level.	Monthly
2	a.	Check head pressure and record.	Monthly
3	a.	Examine and wipe clean.	Quarterly
	b.	Examine pump glands for leaks and repack as necessary.	Half Yearly
	c.	Check pump to ensure correct rotation.	As Required
	d.	Examine associated valves, repack glands as necessary.	Half Yearly
	e.	Clean filter in strainer or suction piping.	Quarterly and/or As Required

Note Pump motors to be check in accordance with Maintenance Code E12.

SERVICE: MECHANICAL**MAINTENANCE CODE: M14****EQUIPMENT: WATER STORAGE TANKS**

Description			Frequency
1	a.	Carry out visual check of tank, drain and remove all dirt and debris, inspect the tank condition and report.	Yearly
	b.	Ensure tank fittings comply with water authority guidelines.	Yearly
	c.	Ensure tank lids are sealed with insect proof breather and overflow has insect proof screen.	Yearly
	d.	Ensure tank insulation is in good order and water temperatures maintained 20°C	Yearly
	e.	Ensure all cold water pipework is insulated to below 20°C to outlets.	Yearly
	f.	Check stored water temperature and carry out a dip slide test.	Half Yearly
	g.	Chlorinate CW system to BS6700.	Yearly
	h.	Supply on site log book listing results and dates of tests carried out.	As Required
	i.	Check operation of make-up valve, replace washer and refurbish as necessary.	Half Yearly
	j.	Carry out random sampling of hot and cold water services from tap outlets and make due report. This item necessary for bacteriological build up and for evidence of legionella occurring to the system.	In compliance with ACOPL8 requirements

SERVICE: MECHANICAL
MAINTENANCE CODE: M15
EQUIPMENT: WATER TREATMENT

Description	Frequency
The water hygiene/treatment for hot and cold water services must be in full compliance with ACOPL8	
a. Monitoring of hot and cold water services shall be in compliance with ACOPL8 Table 3 "Monitoring the Temperature Control Regime".	Monthly/Six Monthly/Annual
b. Inspection frequencies for risk systems must be as ACOPL8 Appendix 1 – Frequency and Task for Hot and Cold Water Services as Check List 2.	Weekly/Monthly/ Quarterly/Annual
c. Cooling Tower/condenser water to be tested weekly and results recorded in the log book.	Weekly
d. Water softening plant to be inspected and chemicals/salts provided as necessary.	Weekly

The contractor shall provide an annual water hygiene report together with a legionella risk assessment report as ACOPL8 requirements at commencement of works and thereafter as required under statutory regulations.

SERVICE: MECHANICAL**MAINTENANCE CODE: M16****EQUIPMENT: VALVES, PIPEWORK, ETC.**

Description			Frequency
1	a.	Test operation of valve and re-set in original position.	Yearly
	b.	Examine valve glands and repack as required.	
	c.	Examine expansion joints and flexible connections and report on condition.	
	d.	Visually inspect all exposed pipe runs, including vent and overflow pipes and report on condition of pipework and pipework insulation.	
	e.	Examine all pipe hangers and adjust as required.	
	f.	Clean all automatic air vents.	
	g.	Remove all baskets from in-line strainers and clean.	
	h.	Check operation of meter units.	
	i.	Check calibration/setting of blending valves, adjust as necessary.	
	j.	Check and clean system dirt separators and dearators.	

SERVICE: MECHANICAL
MAINTENANCE CODE: M17
EQUIPMENT: CONTROLS – LEVEL SENSORS

Description			Frequency
1	a.	Check operation of sensor probes and confirm correct control system response.	Quarterly

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M18**
EQUIPMENT: **PRESSURE VESSEL**

Description	Frequency
<p>The pressure vessel should be drained thoroughly, cleaned out and inspected to ensure that it is in good condition.</p>	
<p>1 Method of cleaning and testing:</p>	<p>2 Years</p>
<p>a. Drain vessel and remove manhole cover.</p>	
<p>b. Hose down inside surface.</p>	
<p>c. Brush down inside surface and wire brush.</p>	
<p>d. Hose down and allow to dry.</p>	
<p>e. Apply two coats of APEXIOR NO. 3 solution and/or approved material. Apply preferably with a scrubbing brush using a scrubbing action. Allow not less than 48 hours to dry thoroughly.</p>	
<p>f. Replace manhole cover.</p>	
<p>g. Fill vessel with water and pump up.</p>	
<p>h. To test pressure, inspect for leaks after 30 min. drain down and re-commission.</p>	
<p>i. Prepare vessel for inspection by Insurance Company engineer.</p>	
<p>j. Check operation of membrane.</p>	

SERVICE: MECHANICAL**MAINTENANCE CODE: M19****EQUIPMENT: FANS**

Description			Frequency
1	a.	Check bearing temperature and noise level.	Quarterly
2	a.	Check oil levels and top up as necessary in accordance with manufacturers instructions.	Quarterly
3.	a.	Check drive for alignment, wear and tension.	Quarterly
4	a.	Check all pulleys and keys and ensure that all holding down and casing bolts are secure.	Half Yearly
	b.	Drain off oil on sleeve type bearings and renew with recommended grade.	
	c.	Test dampers and controls for free workings. Lubricate and re-set in correct position.	
5	a.	Check vibration mountings for function and condition.	Yearly
	b.	Check casing and impeller for damage and fouling.	Half Yearly
	c.	Clean and repair as necessary.	
	d.	Check dynamic balance of impeller and re-balance as necessary.	
	e.	Check imperviousness of flexible connections and renew as necessary.	Half Yearly
6.	<u>Fume Cupboards</u>		
	a.	Check SASH velocity air movement. Report and adjust as required.	

Note Fan motors to be checked in accordance with Maintenance Code E12.

SERVICE: MECHANICAL**MAINTENANCE CODE: M20****EQUIPMENT: FILTERS**

Description			Frequency
1	a.	Check extent of dirt deposits.	Monthly
	b.	Check resistance across filter media and log reading.	
	c.	Check filter frame for leakage.	
2	a.	Open up and examine for defects.	Quarterly
3	a.	When maximum resistance is reached, change filter media and record change.	As Required
	b.	Where filter media is washable, clean as directed by manufacturer and return to store ready for next filter change.	Monthly

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M21**
EQUIPMENT: **VENTILATION DUCTWORK**

Description			Frequency
1	a.	Examine all ductwork and insulation for wear, deterioration damage and air leakage. Repair as necessary.	Yearly
	b.	Clean and inspect internally.	
	c.	Test dampers and controls for correct operation, lubricate as necessary and re-set in correct position.	As Required
	d.	Test whole system for design condition and adjust as necessary.	Yearly
	e.	Heater batteries located in air ductwork shall be cleaned and checked as necessary, inspected for signs of damage and deterioration.	Yearly
2	a.	Supply air ductwork systems to be kept clean in compliance with Workplace (Health, Safety and Welfare) Regulations 1992 with provision of certification.	Initial Inspection and thereafter As Required
3	<u>Fire Dampers</u>		
	a.	Examine general condition and ensure all fixings are secure.	Yearly
	b.	Ensure damper operates correctly on failure of fusible link, lubricate linkages as necessary.	Yearly
	c.	Examine fusible links. Report any seemingly defective or liable to fail, together with its operating temperature.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M22
EQUIPMENT: VENTILATION GRILLES AND DIFFUSERS

Description			Frequency
1	a.	Visually inspect for build-up of foreign matter and clean if necessary.	Half Yearly
	b.	Check for cleanliness and clean as necessary.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M23
EQUIPMENT: AIR COMPRESSOR

Description			Frequency
1	a.	Examine oil levels	Weekly
	b.	Drain air cylinder	
2	a.	Examine pulleys and keys	Quarterly
	b.	Examine compressor drive for alignment and tension and ensure that holding down bolts are secure.	
	c.	Clean and examine valves, cocks and automatic drains and repack glands as necessary.	
	d.	Examine pressure gauges.	
	e.	Clean filters.	
	f.	Lubricate working parts as necessary.	
3	a.	Check compressor in accordance with manufacturers recommendations.	Yearly
	b.	Clean out air receiver and drain cock and prepare for insurance inspectors examination.	
	c.	Examine fixed and flexible pipework, couplings and connectors for damage and leaks.	
	d.	Examine pipe hangers and supports, adjust as necessary.	

SERVICE: MECHANICAL
MAINTENANCE CODE: M24
EQUIPMENT: COOLING TOWER

Description			Frequency
1	a.	Carry out visual check of unit for any undue noise or vibration.	Monthly
	b.	Examine drive belts for tension or wear, adjust or replace from site stock as necessary.	Quarterly
	c.	Check water level in cooling tower pond and operation of ball valve.	Monthly
	d.	Check gearbox oil level, top up as necessary from site stock.	Quarterly
	e.	Inspect and clean as necessary the air inlet louvres.	Quarterly
	f.	Examine drive couplings between motor and fan.	Quarterly
	g.	Check bearings for cool smooth running, lubricate as necessary.	Quarterly
	h.	Check all isolating valves operate and are free from leaks. Tighten glands or repack from site stock as necessary.	Half Yearly
	i.	Check the operation of cooling tower pond immersion heaters.	Half Yearly
	j.	Remove and clean any outlet strainers.	Quarterly
	k.	Drain and flush interior of cooling tower pond. Inspect for deterioration.	Yearly
	l.	Clean fan unit including impellers. Inspect for deterioration.	Yearly
	m.	Check operation of cooling tower bypass valve.	Yearly
	n.	Examine and clean drift eliminators for any deterioration.	Yearly
	o.	Examine condition of fill pack material.	Yearly
	p.	Examine and clean interior and exterior of cooling tower for any deterioration.	Yearly
	q.	Ensure that all doors/access seals are sound.	Yearly
	r.	Clean water distribution system within the cooling tower.	Yearly

Note: Cooling Tower operation and water treatment to be in strict compliance with ACOPL8.

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M25**
EQUIPMENT: **SPLIT AIR CONDITIONING UNITS**

Description			Frequency
1.	a.	Visually check unit for undue noise or vibration.	Quarterly
	b.	Clean fan, motor and heat exchanger using vacuum cleaner.	Yearly
	c.	Carry out phase load test on motors and record.	Yearly
	d.	Lightly lubricate motor bearing using a light machine oil (if necessary).	Half Yearly
	e.	Clean filter or replace filter as necessary.	Monthly
	f.	Clean case and grilles.	Monthly
	g.	Re-assemble and reconnect and check operation of unit and associated controls.	Monthly
	h.	Where appropriate, check all refrigerant lines and liquid and section line pressure.	Yearly
	i.	Check the condition of grilles, filter and battery.	Monthly
	j.	Check pipe connections, valves, drains and air cock for leaks.	Yearly
	k.	Check security of all controls and electrical connections.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M26
EQUIPMENT: VERSATEMP UNITS

Description			Frequency
1	a.	Visually inspect for water leaks and correct operation.	Quarterly
	b.	Check that all electrical connections are clean and tight.	Yearly
	c.	Check the operation of all control switches.	Half Yearly
	d.	Check the operation of all safety switches and unit controls.	Quarterly
	e.	Inspect and clean all filters as necessary.	Monthly
	f.	Inspect unit casing and report any damage.	Yearly
	g.	Check the operation of the compressor and inspect the refrigeration circuit for leaks.	Yearly
	h.	Check the operation of all isolating and regulating valves on the water circuit. Ensure that regulating valves are reset to their original position.	Yearly
		Tighten glands or repack from site stock as necessary.	

Reference for Versatemp Units and spares:

Clivet Aircon Limited

Tel: 02392 381235

Contact: Chris Trotman

SERVICE: MECHANICAL
MAINTENANCE CODE: M27
EQUIPMENT: AIR HANDLING UNIT

Description		Frequency
When working on spray humidifier sections it is essential that current guidelines and recommendations are taken in reference to the control of Legionella Pneumophila ACOPL8.		
1	a. Carry out visual check of complete unit including drive belts, filters and safety guards.	Half Yearly
	b. Examine drive belts for tension and wear, adjust or replace from site stock.	Quarterly
	c. Check all pipework and humidifier tanks for signs of leaks.	Quarterly
	d. Changeover lead/lag fans where applicable.	Monthly
	e. Check that nozzles of spray humidifiers are clear and that the overflows are not obstructed.	Quarterly
	f. Check operation of humidifiers and ensure that condense drains are clear and pumps operate.	Quarterly
	g. Check the operation of ball valves within spray tanks.	Quarterly
	h. Check air intake/outlet for obstructions and clear as necessary.	Quarterly
	i. Check the operation of the inlet and recirculation dampers and lubricate as necessary.	Half Yearly
	j. Examine all bearings checking for cool, smooth running and lubricate as necessary.	Monthly
	k. Check operation of variable pitch VAV fans or operation of inlet guide vanes, clean and lubricate as necessary.	Half Yearly
	l. Check operation of bag filters/automatic roll filters. Change from site stock as necessary.	Quarterly
	m. Check condition of all fixed filters. Change from site stock as necessary.	Quarterly
	n. Check drive pulleys for alignment, adjust as necessary.	Quarterly
	o. Examine all holding down bolts and tighten as necessary. Inspect anti-vibration mountings.	Yearly
	p. Drain and clean humidifier spray tank and check for leaks and corrosion.	Yearly
	q. Examine and clean fan impellers.	Yearly
	r. Re-lubricate bearings as necessary.	Yearly
	s. Check condition of and vacuum clean or bush clean heating and cooling batteries.	Yearly
	t. Clean and examine all gauges and instruments.	Yearly
	u. Check all door/access seals.	Yearly
	v. Examine all flexible connections to ductwork.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M28
EQUIPMENT: EXPANSION TANKS

Description			Frequency
1	a.	Inspect to ensure tank connections are tight and there is no rusting of the unit.	Yearly
	b.	Clean and repaint if necessary.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M29
EQUIPMENT: FAN COIL UNITS AND FAN CONVECTORS

Description			Frequency
1	a.	Visually examine unit to ensure correct operation for any undue noise or vibration.	Quarterly
	b.	Ensure that pipework connections are sound.	Half Yearly
	c.	Check operation of all unit controls and thermostats.	Half Yearly
	d.	Check condense tray and drain connections are clear. Clean or clear as necessary.	Half Yearly
	e.	Check that all isolating or regulating valves operate and are free from leaks.	Half Yearly
	f.	Thoroughly clean unit interiors.	Yearly
	g.	Examine all filter sections and clean or replace as necessary.	Quarterly

SERVICE: MECHANICAL
MAINTENANCE CODE: M30
EQUIPMENT: RADIATORS/HEAT EMITTERS

Description			Frequency
1	a.	Ensure control valves are free to operate and isolate radiators satisfactorily. Check valves for leaks, tighten glands or repack from site stock as necessary.	Yearly
	b.	Vent any trapped air.	Yearly
	c.	Ensure radiators are securely mounted.	Yearly
	d.	Examine pipework connections for leaks and security.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M31 (SHEET 1 OF 2)
EQUIPMENT: REFRIGERATION EQUIPMENT

Description	Frequency
1 <u>Motor Compressor</u>	
a. Check oil level and top up if necessary.	Monthly
b. Check oil pressure.	Monthly
c. Examine motor winding thermostat connections.	Half Yearly
d. Check crankcase heater.	Half Yearly
e. Check solenoid unloading valves.	Half Yearly
f. Check suction valves.	Half Yearly
g. Check electrical connections.	Half Yearly
h. Check electrical connections to compressor motor.	Half Yearly
i. Check compressor holding down bolts.	Yearly
2 <u>Condenser – Water Cooled</u>	
a. Check for air and non-condensable gases in condenser.	Half Yearly
b. Check for visible signs of damage.	Quarterly
c. Check for external signs of rust or corrosion, repaint if necessary.	Half Yearly
d. Test for refrigerant leaks.	Monthly
e. Check condition of condenser tubes where necessary after draining down condenser water.	Yearly
f. Advise on any condenser tube cleaning deemed to be necessary.	Yearly
3 <u>Safety Controls</u>	
a. Check high pressure cut-out.	Quarterly
b. Check low pressure cut-out.	Quarterly
c. Check low temperature cut-out.	Quarterly
d. Check oil pressure cut-out.	Quarterly
4 <u>Control Panel</u>	
a. Examine compressor motor overloads.	Quarterly
b. Check compressor motor contactors.	Quarterly
c. Check time delay control.	Quarterly
d. Check all electrical connections.	Half Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M31 (SHEET 2 OF 2)
EQUIPMENT: REFRIGERATION EQUIPMENT

Description	Frequency
5 <u>Operating Controls</u>	
a. Check control panel switch light and fuses.	Monthly
b. Check main temperature controller.	Monthly
c. Check control delay.	Monthly
6 <u>Refrigerant Circuit</u>	
a. System to be leak tested.	Quarterly
b. Check all pressures under operating conditions.	Quarterly
c. Check liquid line solenoid valves.	Quarterly
d. Check liquid line filter elements.	Quarterly
e. Check expansion vessel.	Quarterly
7 <u>F Gas Regulations</u>	
a. Contractor to be fully compliant with F Gas Regulations with regular refrigerant leak inspection.	Half Yearly

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M32**
EQUIPMENT: **KITCHEN EXTRACT DUCTWORK**

Description			Frequency
1	a.	Remove inspection covers and clean off all grease deposits.	Half Yearly
	b.	Check ductwork for general condition and any traces of air leaks.	Yearly
	c.	Check condition of inspection cover fixings and seals.	Yearly

SERVICE: MECHANICAL**MAINTENANCE CODE: M33****EQUIPMENT: KITCHEN EXTRACT GREASE FILTERS**

Description			Frequency
1.	a.	Remove filter and fit clean spare filters. If spares are not available steam clean filter and replace.	Quarterly
	b.	Place dirty filters in cleaning chemicals and leave for minimum of 24 hours.	Quarterly
	c.	Following cleaning of filters inspect mesh for any damage.	Quarterly
	d.	Clean filter framework and seating.	Quarterly

SERVICE: MECHANICAL
MAINTENANCE CODE: M34
EQUIPMENT: CATERING EQUIPMENT

Description	Frequency
1 <u>Gas Fired Equipment</u>	
a. Operational check of all gas taps and controls.	Yearly
b. Visual check of all seals, fixings and general condition of equipment.	Yearly
c. Clean and test all safety devices.	Quarterly
d. Remove all gas fired burning jets, nozzles, etc. and clean.	Half Yearly
e. Clean and test all control devices.	Half Yearly
f. Re-assemble, check gas pressures and check for gas leaks.	Half Yearly
g. Inspect and lubricate as required door hinges, catches, etc.	Yearly
h. Ensure all seals are in good condition.	Yearly
i. Operational test of equipment.	Yearly
2 <u>Electrical Equipment</u>	
a. Operational check of all controls and switches.	Yearly
b. Visual check of all seals, fixings and general condition of equipment.	Yearly
c. Clean and test all devices.	Quarterly
d. Carry out electrical test of all heating elements and clean.	Yearly
e. Carry out electrical test of all control devices and clean.	Yearly
f. Inspect and lubricate as required door hinges, catches, etc.	Yearly
g. Ensure all seals are in good condition.	Yearly
h. Operational test of equipment.	Yearly
3 <u>Water Using Equipment</u>	
a. Operational check of water taps, pumps, drains and controls.	Yearly
b. Visual check of all seals, fixings and general condition of equipment.	Yearly
c. Clean and test all safety devices.	Quarterly
d. Check steam relief valves and steam pressures.	Half Yearly
e. Clean water jets and nozzles.	Quarterly
f. Clean and check all control devices, including ball valves on header tanks.	Half Yearly
g. Re-assemble, check water and steam pressures and check for leaks.	Half Yearly
h. Inspect and lubricate door hinges, catches, conveyor linkages, etc.	Yearly
i. Ensure all seals are in good condition.	Yearly
j. Operational test of equipment.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M35
EQUIPMENT: SHOWER HEADS

Description	Frequency
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Shower heads must be treated as "Legionella susceptible plant" and current guidelines and recommendations must be followed.

1 Cleaning of Shower Heads

- | | | |
|----|---|-------------|
| a. | Remove shower head and immerse in water containing 5 parts per million of free chlorine for one hour. | Half Yearly |
| b. | Rinse shower head and flush with hot water. | Half Yearly |
| c. | Replace shower head and test operation. | Half Yearly |
| d. | Low usage showers to be flushed weekly. | Weekly |

SERVICE: MECHANICAL
MAINTENANCE CODE: M36
EQUIPMENT: SINKS AND WASHBASINS

Description			Frequency
1	a.	Visually inspect system for leaks and breakages and report.	Yearly
	b.	Check all stopcocks for correct action.	Yearly
	c.	Examine all taps for leakage, re-washer as necessary.	Yearly
	d.	Ensure flow rate from taps is adequate.	Half Yearly
	e.	Ensure flow to drain is adequate and report.	Yearly
	f.	Examine all plugs and chains for correct fitting and report any defective missing items.	Half Yearly
	g.	Ensure overflows are free from obstruction.	Half Yearly
	h.	Examine all sinks for damage.	Yearly
	i.	Ensure all sinks are securely fixed.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M37
EQUIPMENT: WC PANS AND URINALS

Description			Frequency
1	a.	Visually inspect4 for leaks and damages.	Yearly
	b.	Check all stopcocks for correct operation.	Yearly
	c.	Check operation of ball valves, re-washer as necessary.	Yearly
	d.	Test condition of syphon assembly and report.	Yearly
	e.	Check water level within cistern, adjust as necessary.	Yearly
	f.	Examine seats and covers for damage and security.	Half Yearly
	g.	Ensure drainage flow from urinals is adequate.	Half Yearly
	h.	Ensure overflows are clear.	Half Yearly
	i.	Check operation of any water saver device.	Yearly
	j.	Ensure sanitaryware, cisterns and pipework are securely fixed.	Yearly
	k.	Examine sanitaryware for damage and report.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M38
EQUIPMENT: DRAINS AND GULLEYS

Description			Frequency
1	a.	Remove and clean all drain covers and sediment buckets.	Half Yearly
	b.	Examine drainage system for blockages and report.	Half Yearly
	c.	Examine drainage system for leaks.	Yearly
	d.	Ensure all pipework is securely fixed.	Yearly
	e.	Lift all manhole covers and examine interceptors and clean as necessary.	See Code M39
	f.	Inspect all petrol interceptors and report.	See Code M39

SERVICE: MECHANICAL
MAINTENANCE CODE: M39
EQUIPMENT: PETROL INTERCEPTORS

Description			Frequency
1	a.	Examine condition of manhole covers and report any damage.	Yearly
	b.	Check and clear the vent pipe.	Half Yearly
	c.	Check and report the liquid levels within the interceptor chambers.	Half Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M40 (SHEET 1 OF 2)
EQUIPMENT: FIRE FIGHTING EQUIPMENT

Description		Frequency
1	<u>Extinguishers</u>	
a.	Visual checks of all fire fighting equipment and security of fixings.	Monthly
b.	Check weight of fire extinguishers.	Yearly
c.	Cylinders fitted with gas cartridge should have the cartridge removed and inspected. Inspect contents of cylinder.	Yearly
d.	Extinguishers should be discharged as per the following table:	
<u>Note</u>	Materials for recharging must be available before discharging commences.	
	Water Stored pressure	2 Years
	Foam All types	4 Years
	Water As cartridge	5 Years
	Powder As cartridge	5 Years
	Powder Stored pressure	5 Years
	Powder Valve operated	5 Years
	Carbon Dioxide All types	10 Years
	Powder Stored pressure	10 Years
	Powder Primary sealed	10 Years
	Halon All types	10 Years
2	<u>Halon Systems</u>	
a.	On arrival on site establish all remote links to plant shutdowns, computer shutdowns, house alarms, Fire Brigade, etc.	Quarterly
b.	Isolate all remote links by removing fuses, wires, relays, etc.	Quarterly
c.	Isolate Halon release circuits by removing fuses, wires, relays, etc.	Quarterly
d.	Make a note of all isolators carried out on self-adhesive label sited on inside face of Halon control panel.	Quarterly
e.	Warn occupants within risk area that alarm sounders, both first stage and second stage, will be sounding intermittently during the course of the service visit.	Quarterly
f.	Check all Halon control panel functions.	Quarterly
g.	Check all Halon status units for correct operation, replace any defective lamps.	Quarterly
h.	Establish the key-switch changes status from manual to automatic at both main Halon panel and status unit.	Quarterly

SERVICE: MECHANICAL
MAINTENANCE CODE: M40 (SHEET 2 OF 2)
EQUIPMENT: FIRE FIGHTING EQUIPMENT

Description	Frequency
2 <u>Halon Systems (Cont.)</u>	
i. Check (14) above using door lock changeover switch or any mode of switching	Quarterly
j. Check Halon cylinders visually for damage to head or bottle, clean cylinders and surrounding areas.	Quarterly
k. Check manifold, flexible connections, electrical connections and contents gauge.	Quarterly
l. Remove firing head from cylinder, reconnect wiring into panel, carry out "FIRE" checks in both "MANUAL" and "AUTOMATIC" mode. Ascertain that firing mechanism operates ONLY in "AUTOMATIC". Operate all "MANUAL RELEASE" units. These checks should only be carried out on "SOLENOID" type heads. "METRON" activators should be disconnected and a lamp connected to replace them before the tests (19) are carried out.	Half Yearly
m. Clean and weigh contents of Halon cylinders to establish no leakage has occurred.	Yearly
n. Replace plant shutdowns, computer shutdowns, Fire Bridge links, check that they all work by carrying out "FIRE" checks. This to be done only in conjunction with client or his representative.	Half Yearly
o. Replace all isolations/firing heads after first resetting all mechanical and electrical latching fire conditions.	Half Yearly
p. Check all isolations are re-made using list inside face of Halon control panel.	Quarterly
q. Log and record all results/readings.	

SERVICE: MECHANICAL
MAINTENANCE CODE: M41
EQUIPMENT: DRAINAGE PUMPS

Description			Frequency
1	a.	Check operation of automatic controls, lamps and alarm operation.	Half Yearly
	b.	Carry out visual check of units. Report any undue noise, vibration or leaks.	Half Yearly
	c.	Ensure all safety guards are in position and secure.	Half Yearly
	d.	Ensure mechanical seals are not leaking.	Yearly
	e.	Change over duty pumps.	Quarterly
	f.	Check operation of float or level switches and ensure that pump operates correctly.	Half Yearly
	g.	Remove and clean strainers associated with pump sets.	Half Yearly
	h.	Check all bearings for cool even running, lubricate as necessary.	Half Yearly
	i.	Check operation of all isolating and non-return valves. Tighten glands or repack.	Yearly
	j.	Examine pump casing for damage or corrosion and report.	Yearly
	<u>Note</u> All work associated with the maintenance of pumps will be carried out in accordance with the current regulations on Health and Safety at Work.		

SERVICE: MECHANICAL**MAINTENANCE CODE: M42****EQUIPMENT: ROOF GUTTERS AND DRAINS**

Description			Frequency
1	a.	Clean roof gutters of all debris.	Yearly
	b.	Check fixings and general condition of roof guttering.	Yearly
	c.	Check downpipes are free of blockage, fixings and general condition.	Yearly
	d.	Remove drain covers and clean.	Yearly
	e.	Remove drain buckets and clean.	Half Yearly
	f.	Check for any damage to drain.	Yearly

SERVICE: MECHANICAL**MAINTENANCE CODE: M43****EQUIPMENT: LIFTS (BY SPECIALIST SUB-CONTRACTOR)**

Description	Frequency
<p>1 a. We will regularly examine, adjust and lubricate as required and, if conditions warrant, repair or replace thrusts, bearings, controller parts, brake magnet coils or brake motors, brake shoes, brushes, contacts, coils, resistance for operating the motor circuits, magnet frames and other mechanical parts as applying on the above equipment. We will also service the guide rails at all times and, if necessary, renew guide shoes or gibs to ensure smooth and quiet operation. We will examine periodically all safety devices and governors and equalise the tension on all hoisting ropes and make an annual safety test. We will renew all wire ropes as necessary to maintain an adequate factor of safety and repair and/or replace conductor cables. We will furnish the necessary lubricants and examine, lubricate, adjust and, if conditions warrant, repair and/or replace all accessory equipment to the above equipment.</p>	

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M44**
EQUIPMENT: **FIRE HOSE REEL**

Description			Frequency
1	a.	Inspect hose reels and swivels and sure they move freely.	Quarterly/Yearly
	b.	Run the hose on and off the reel and ensure that the automatic valve opens and closes as the reel rotates. Check for leaks.	Quarterly/Yearly
	c.	Open the nozzle and ensure that water will issue at satisfactory pressure in both jet and spray forms. Reinstall and wipe clean hose reel box.	Quarterly/Yearly
	d.	Complete service sticker.	Quarterly/Yearly
	e.	Run out hose to full length and check hose will deliver 0.5 litres/second (30 litres/minute).	Yearly
	f.	Wipe hose clean with a damp cloth and reinstall.	Yearly
	g.	Operate manual isolating valves through their full travel. Repack glands as required.	Yearly

SERVICE: **MECHANICAL****MAINTENANCE CODE:** **M45****EQUIPMENT:** **INSULATION**

Description			Frequency
1	a.	Examine the general condition of all insulation, checking that all straps are in position and the insulation is secure.	Yearly
	b.	Ensure all valves boxes are secure.	

SERVICE: MECHANICAL
MAINTENANCE CODE: M46
EQUIPMENT: EFFLUENT STORAGE

Description			Frequency
1.	a.	Check overflow levels.	Quarterly
	b.	Examine for leaks and smells.	Quarterly
	c.	Pump out effluent.	Half Yearly and/or As Required

SERVICE: MECHANICAL
MAINTENANCE CODE: M47
EQUIPMENT: CALORIFIERS (HOT WATER STORAGE)

Description		Frequency
Calorifiers to be inspected in accordance with current guidelines and recommendations in reference to the control of Legionella Pneumophila.		
1	a. Visually inspect calorifier and report any signs of corrosion, leakage or damage.	Monthly
	b. Operate all isolating and regulating valves, ensure there is no leakage from gland. Tighten or repack gland from site stock as necessary.	Quarterly
	c. Examine temperature and altitude gauges to ensure the correct operation of cylinder. Check water outlet temperature, which must be in accordance with HSE guidelines HSG70.	Weekly
	d. Ensure safety valve is able to operate by lifting valve, turning through 45 degrees and reseating. If valve cannot be lifted or fails to reseal report IMMEDIATELY.	Monthly

SERVICE: MECHANICAL
MAINTENANCE CODE: M48
EQUIPMENT: WATER BOOSTER SET

Description			Frequency
1	a.	Check and ensure pump base is level and pipework is not strained.	Quarterly
	b.	Ensure pump and motor alignment.	
2	a.	Check low water level cut-out switch and high and low level sensing switches operation.	Monthly
3	a.	Test relief and control valve operation.	Quarterly
4	a.	Test and run booster set to ensure satisfactory operation.	Half Yearly
5	a.	Inspect and check vessel gas pressure and adjust as necessary.	Quarterly

SERVICE: MECHANICAL
MAINTENANCE CODE: M49
EQUIPMENT: OIL STORAGE TANKS

Description			Frequency
1.	a.	Visually inspect tanks for any sign of leaks.	Monthly
	b.	Change over oil filters and clean standby unit, or, if disposable filters, replace from site stock.	Quarterly
	c.	Ensure contents gauge is operating accurately by comparing gauge reading with a dipstick reading or a sight glass.	Yearly
	d.	Check water level in breather pipes and top up as necessary.	Yearly
	e.	Clean any drip trays.	Yearly
	f.	Ensure any isolating or fire valves operate correctly.	Yearly

SERVICE: MECHANICAL**MAINTENANCE CODE: M50****EQUIPMENT: DOORS, WINDOWS, GATES AND BARRIERS**

Description			Frequency
1	a.	Inspect double glaze units and seals. Report on condition.	Yearly
	b.	Inspect repairs to window securing systems.	Yearly
	c.	Inspect door condition/hinges.	Yearly
	d.	Inspect/repair door ironmongery. Report on condition.	Yearly
	e.	Inspect gates and compounds. Oil and grease moving parts. Check locking mechanism and report on condition.	Yearly
	f.	Inspect and report on PVC window condition.	Yearly

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M51**
EQUIPMENT: **DRY COOLERS**

Description			Frequency
1	a.	Check security of fixings on fan motor mountings.	Yearly
	b.	Check pipework for damage and leaks.	Yearly
	c.	Check all fan motors rotate freely.	Yearly
	d.	Check electrical connections for security of attachment.	Yearly
	e.	Check all external surfaces for corrosion or peeling and make good.	Yearly
	f.	Clean fins, guards and casework.	Yearly
	g.	Check correct control functions.	Yearly

SERVICE: **MECHANICAL**
MAINTENANCE CODE: **M51**
EQUIPMENT: **DRY COOLERS**

Description			Frequency
1	a.	Check security of fixings on fan motor mountings.	Yearly
	b.	Check pipework for damage and leaks.	Yearly
	c.	Check all fan motors rotate freely.	Yearly
	d.	Check electrical connections for security of attachment.	Yearly
	e.	Check all external surfaces for corrosion or peeling and make good.	Yearly
	f.	Clean fins, guards and casework.	Yearly
	g.	Check correct control functions.	Yearly

SERVICE: MECHANICAL
MAINTENANCE CODE: M52 (1 of 2)
EQUIPMENT: DRY/WET RISERS

Description	Frequency
<p>1 Inspect inlet boxes for damage, etc. Inspect landing valves. Ensure that the valves are locked-off with breakable straps or ties.</p>	Weekly
<p>2 Remove coupling blanking covers and check hose coupling threads are in good order. Replace covers. Inspect the riser pipe for signs of damage, leaks or corrosion. Remove the lock-off straps and exercise the landing valve through its full range of movement. Check drain valve is closed. Ensure that AAV is not obstructed</p>	Quarterly
<p>3 Fire Brigade Only</p> <p>Invite the Fire Brigade to test the risers by coupling a pump to the inlet and running hoses to drain from one, or more, landing valve outlets. Remove the lock-off straps immediately before the operation.</p> <p>After test, uncouple pump and open drain valve to release entrapped water from the riser.</p> <p>Ensure that all landing valves operate easily. Leave landing valves in the closed position. Replace straps and close the drain valve. Record inspections and tests.</p>	Yearly
<p>4 Carry out a pressure test of the riser. Record test.</p>	2 Yearly
<p>5 Wet Charged Dry Risers</p> <p>Inspect inlet boxes for damage, leaks, corrosion, etc. Check break tank is full.</p> <p>Inspect condition of landing valves. Ensure that the valves are locked-off with breakable straps or ties.</p> <p>Do not open landing valves on a wet charged riser unless a hose is first connected to the outlet coupling and taken to drain.</p>	Weekly

SERVICE: MECHANICAL
MAINTENANCE CODE: M52 v(2 of 2)
EQUIPMENT: DRY/WET RISERS

Description	Frequency
<p>6 Remove coupling blanking covers and check hose coupling threads are in good order. Replace covers. Inspect the riser pipe for signs of damage, leaks or corrosion.</p> <p>Fire Brigade Only</p> <p>Connect hose and run to drain Remove the lock-off straps and exercise the landing valve through its full range of movement. (This will result in some output from the hose). Ensure the landing valve is locked off. Drain hose and uncouple from valve. Ensure drain valve is closed. Ensure that AAV is not obstructed. Ensure that the reservoir break tank is full. Check operation of float valve. Record inspections and tests.</p>	Quarterly
<p>7 Fire Brigade Only</p> <p>Invite the Fire Brigade to test the risers by coupling a pump to the inlet breech and running hosed to drain from one, or more, landing valve outlets. Remove the landing valve security straps immediately before the operation. After test, uncouple pump and open drain valve to release entrapped water from the riser. Ensure that all landing valves operate easily. Leave landing valves in the closed position. Refit security straps and close the drain valve. Record inspections/tests in fire log</p>	Yearly
8 Carry out a pressure test of the riser. Record test	2 Yearly

SERVICE: MECHANICAL**MAINTENANCE CODE: M53****EQUIPMENT: SPRINKLERS**

Description	Frequency
<p>Technical documentation and operational procedures should be obtained from the installers of the Sprinkler system and the systems must be maintained as below and in accordance with the Loss Prevention Council and BS 5306 Part 2 Requirements.</p>	
<p>1) Check all water and air pressure gauge readings and all water levels in water storage tanks and pressure tanks and test alarms as applicable.</p>	Weekly
<p>2) Test and check sprinkler pumps:</p>	
<p>a) Check the fuel and engine lubricating oil levels in diesel engines.</p>	Monthly
<p>b) Run and check pump operation and simulate condition for automatic starting.</p>	Yearly
<p>3) Automatic pump flow test: Each sprinkler system water supply pump shall be tested at the full load condition.</p>	Half Yearly
<p>4) Make a visual inspection of the installation, checking all water test points, flow detector devices and sprinkler heads including bulb condition.</p>	

SERVICE: MECHANICAL/ELECTRICAL**MAINTENANCE CODE:** M54**EQUIPMENT:** METER READING

Description	Frequency
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1) Check and read all Gas, Water and Electrical Meters for all the landlords services. Tabulate results on a Spreadsheet for submission to the client and utilities.	Monthly
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SERVICE: GENERAL BUILDING WORKS**MAINTENANCE CODE: M55 – PAGE 1/2****EQUIPMENT:**

Description	Frequency
<p>The general building works shall involve the provision of a site based general maintenance/joiner to undertake both routine and reactive building maintenance works.</p> <p>The works shall be as directed by the centre management in addition to the following:</p>	
1. Inspect lifts/escalators, fire doors etc before the centre opens each day.	Daily
2. Replace door frames and other small joinery work. – General maintenance.	Weekly
3. Running repairs within the public toilets- General maintenance.	
4. Set up temporary electrical supplies for promotions, assisting with tables/chairs.	
5. Action regular meter readings in designated tenants units – Meter readings.	
6. Assist with showing potential new tenants empty units.	
7. Take meter readings and note on file each time a unit is handed back to the landlord – Meter readings.	
8. Small repairs to basement floor and pointing of brickwork – General maintenance.	
9. Attend regular staff meetings, covering all issues relating to onsite maintenance.	
10. Attend pre-start meetings for shop fit works being done by contractors on behalf of tenants.	
11. On site attendance (overtime) for refilling of sprinklers following drain downs – M&E maintenance.	
12. Demonstrate to new tenants how to action their weekly fire test.	
13. Take fire crews around the building when required to familiarize themselves with the centre.	
14. Paint all doors, staff/restrooms, car park and security offices – General maintenance/decoration.	
15. Paint yellow hatched areas in basement, including loading bay edges – General maintenance/decoration.	
16. Paint road markings and crossing points ensuring all are clearly visible – General maintenance/decoration.	
17. Small repairs to basement floor and pointing of brickwork – General maintenance.	
18. Attend passenger release from lift training when organized by the centre management – Training.	
19. Attend annual fire training course with other staff on correct use of fire extinguishers – Training.	
20. Take part in centre evacuation plan and 6 monthly training on centre evacuation – Training.	

