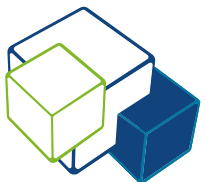


Maintenance & Support Services

Optimised Availability
Standby Generator
PPM Schedule



Workspace
Technology Limited
Data Centre Solutions Expertly Engineered

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Support... Planned and Contracted Maintenance Services

To ensure that data centre or building services are always operating to their full potential Workspace Technology recommends the deployment of regular planned preventative maintenance programmes which are backed up with emergency callout for unplanned failures.

Workspace Technology engages specialist teams of service engineers operating throughout the UK. You can choose the level of service to match the business criticality.

Support Plan Options

Standard - Routine maintenance with access to our call-out service. All newly supplied products* *** covered within warranty period.

Premium - As standard, but inclusive of callout charges when newly supplied equipment is within the warranty period.*

Comprehensive - Provides full service including call-out charges and equipment replacement both in and out of warranty.** ***

* Equipment replacement costs when within their warranty period are inclusive. This excludes consumables, batteries and lamps/bulbs.

** Excludes consumables, batteries and lamps/bulbs.

*** Excludes failures where the system has been damaged by users or third parties, or has a call out due to customer mis-operation. Damage due to poor quality water, fire, storm, flood or act of nature will be chargeable. Full details are in the contract terms and conditions.

Service	Standard	Premium	Comprehensive
Planned Preventative Maintenance Schedule	•	•	•
New Equipment 12 Month Warranty	•	•	•
Minor Adjustments During Service Visits	•	•	•
Availability of Technicians 24x7x365	•	•	•
Engineers' Call-out Charges		•	•
Variable Response Time Options		•	•
Out of Warranty Equipment Replacement			•



Standby Generator PPM Schedule

Frequency - Twice Yearly

This schedule is applicable to Standby Mode of operation only.

Where generators are used in Prime Mode of operation, additional servicing will be required. Please refer to Prime Generator PPM Schedule.

Half Yearly Checks

Item	Service Detail
1	<p>CONDITION</p> <p>Visually inspect for oil leaks, loose guards etc.</p> <p>Check:</p> <ul style="list-style-type: none"> a) coolant level b) oil level – take sample for analysis
2	<p>DRIVE BELTS</p> <p>Check fan and alternator drive belts for wear, tension and alignment.</p>
3	<p>SHUT DOWN SWITCHES</p> <p>Check operation of low oil and high coolant shutdown switches. Check operation.</p>
4	<p>LOW WATER SWITCH</p> <p>Check coolant level and carry out DCA tests.</p>
5	<p>BATTERIES</p> <p>Check battery connections and charge voltage. Check battery voltage and record SG. Top up battery if required.</p>
6	<p>FUEL SYSTEM</p> <p>Check operation of fuel pumps and boost pumps. Check operation level controls and alarms. Check operation of fuel shut off and fire valves. Inspect fuel tanks, breathers and pipe-work. Drain off fuel tank.</p>
7	<p>CHANGOVER PANEL</p> <p>Visually inspect panel. Test indicator lamps and instrumentation. Check condition of change-over contacts.</p>
8	<p>RUNNING CHECKS</p> <p>With set running Off Load, check and record oil temp/pressure, water temp. Check output voltages. Check for undue noise and vibration. Complete service report on completion. Ensure set left in 'Auto' mode.</p>



Yearly Checks

Item	Service Detail
1	FUEL Change fuel filters – engine and tank for new.
2	LUBRICATING OIL Take oil sample for report. Change engine oil and filters. Dispose of to agreed point. (When included).
3	WATER FILTERS Change water filters where fitted.
4	AIR FILTER Remove filter and inspect for cleanliness.
5	EXHAUST SYSTEM Check system for leaks and insulation. Check support and attenuation. Check connection to engine.

Monthly Checks (by client unless stated within Support Contract)

Item	Service Detail
1	PRE-START CHECKS Check set for signs of leaks. Check drive belts. Check sufficient fuel present. Record fuel levels and hours run meter before starting.
2	RUNNING CHECKS Start generator is off-load status and run for 30 minutes. Log oil temp, water temps and voltage at 5 minute intervals during test run. Observe set for signs of leaks or vibration.
3	ALARMS Check that any remote alarms are transmitted to the relevant monitoring centre.
4	RECORDS Record results in site log-book.

Generator Service Plan Options

As part of our Generator Planned Preventative Maintenance service Workspace Technology offers a number of enhanced service options which will help improve the availability of the generator equipment.

Load Bank Testing

Ideally, diesel engines should be run at least 60-75% of their maximum rated load. Short periods of low load running are permissible providing the set is brought up to full load, or close to full load on a regular basis.

Problems of running at low loads include:

- Internal glazing and carbon build
- Low cylinder pressures and consequent poor piston ring sealing

Generator Load Bank Test Schedule

Item	Service Detail
1	Impact loading the generator to 50% to check the recovery time.
2	Load test to 100% for up to 2-4 hours depending on size of generator.
3	Load test at 110% for one hour. (No more than 1 hour in every 12 hours).



Fuel System Maintenance

Large quantities of water build up through condensation and will contaminate fuel providing greater risk of failure to start/run for a generator.

Warm weather will also cause the tanks to sweat as they have been cold for some months and as the warmer weather heats up the storage, condensation will occur.

All fuel supplied has a 7-8% bio content, the life of this fuel is 12 months before these bio elements will start to break down and result in deposits and bio mass build up.

Generator Fuel System Maintenance Service Schedule

Item	Service Detail
1	Inspect storage tank for integrity.
2	Inspect fuel delivery system for integrity.
3	Check compliance with Workspace Technology minimum standards.
4	Check gauges and measures.
5	Fuel polishing to remove moisture and debris.
6	Fuel additive to prevent bio-mass build-up.
7	Check valve operation.
8	Disposal of fuel waste.

Note - This service option includes labour, equipment and all required filters, chemicals and disposal of collected debris and bio mass.

Notes on Service Schedule

All work mentioned in the schedule is carried out subject to Workspace Technology's Terms and Conditions of sale.

The audit schedules shown are based on a standard and will not be applicable to every installation for every item listed. Consequently each task has to be qualified by the term; 'if it is safe so to do', 'if applicable', 'if possible' and 'if appropriate'.

It is possible that your specific installation may have additional or specialised equipment not mentioned in this schedule. In that case, the specific equipment would be the subject of addenda to the main contract.

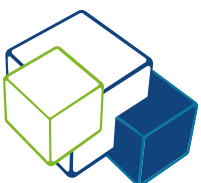
Tasks mentioned in the schedule may also be omitted if Workspace Technology's engineers or its appointed agents deem that it is unsafe to carry out that task or that it may jeopardise the security of electrical supply.



Interested in finding out more?

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Email us: sales@workspace-technology.com
workspace-technology.com
mobiledatacentre.com



Workspace
Technology Limited
Data Centre Solutions Expertly Engineered

Reddicap Trading Estate,
The Royal Town of Sutton Coldfield, B75 7BU

