Maintenance & Support Services

Optimised Availability

PUE Survey

Service Schedule

Workspace Technology Limited

Data Centre Solutions Expertly Engineered

workspace-technology.com

mobiledatacentre.com

Consult...
Optimisation, Audit and Survey Services

Data Centre Services

Workspace Technology provides data centre operators unprecedented levels of expert help 24/7, anywhere in the UK. We deliver planned preventative maintenance and emergency callout on a wide range of AC, chilled water, UPS, generator, fire suppression and associated infrastructure. In order to complement onsite maintenance services Workspace Technology provides a range of assessments, surveys, audits and services specifically designed to help improve data centre performance and reduce operation costs for our clients.

Power Usage Effectiveness Survey Service Overview

Power Usage Effectiveness (PUE) Assessment

Metering the total energy used at a site is important, but it does not show how energy consumption is being used across an area or for a specific function e.g. a data centre facility. Without measurement it can be hard to understand why and where energy performance is poor and how to improve it.

As detailed within the basic audit if we are able to take relevant readings from existing meters we will be able to provide a 'snapshot' PUE rating for the room. If these readings are not available then it will only be possible to undertake a rating of the room through the deployment of the PUE Assessment service.

Depending on the specific site requirements a 'snapshot' survey can be done however for a more accurate assessment we will require recording equipment to be left in place for a week or more.

The PUE Assessment enables IT and data centre managers to accurately benchmark the Power Usage Effectiveness** (PUE), Data Centre Infrastructure Efficiency** (DCiE) and usage of the server room environment through direct analysis of power and energy consumption.

$$\text{Power Usage Effectiveness (PUE)} = \frac{\text{Total Facility Power}}{\text{IT Equipment Power}}$$

and it is reciprocal, the DCiE is defined as:

$$\text{Data Centre Infrastructure Efficiency (DCiE)} = \frac{\text{IT Equipment Power}}{\text{Total Facility Power}}$$

*** Data Centre Infrastructure Efficiency / Power Usage Effectiveness are industry recognised standards for data centre room efficiency measurement introduced by the Green Grid.*

IT Equipment Power

This includes the load associated with all of the IT equipment, such as compute, storage and network equipment, along with supplemental equipment such as KVM switches, monitors, and workstations/laptops used to monitor or control the data centre.

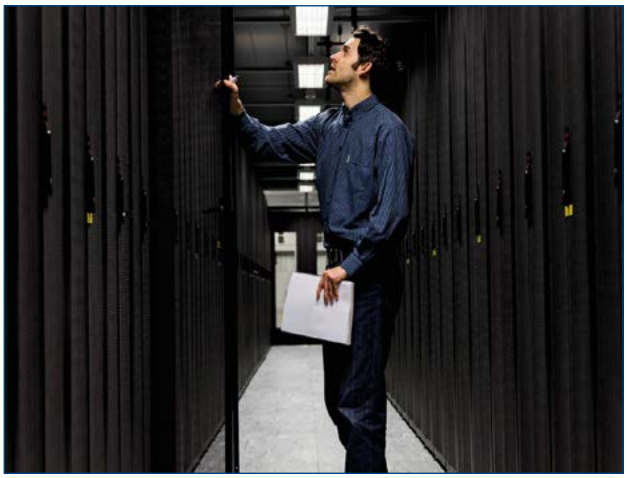
Total Facility Power

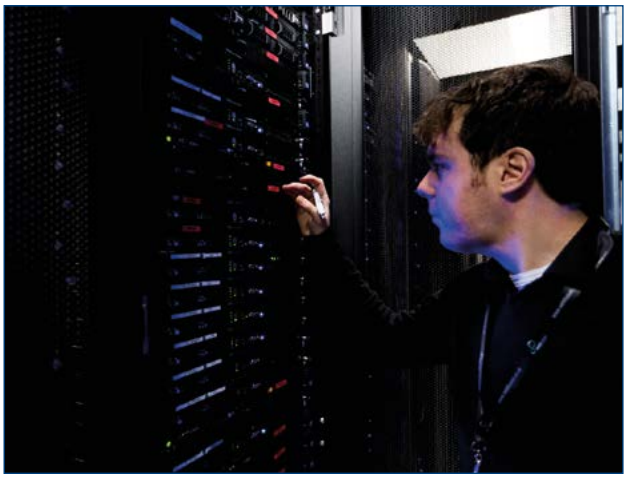
This includes everything that supports the IT equipment load such as:

- Total IT equipment power.
- Power delivery components such as UPS, switch gear, generators, PDUs batteries, and distribution losses external to IT equipment.
- Cooling systems components such as chillers, computer room air conditioning units, direct expansion air handler (DX) units, pumps, and cooling towers.
- Other misc. loads including lighting, BMS panels etc.

PUE Assessment Deployment Benefits

- Assists in reducing energy consumption, minimising environmental and economic impacts associated with excessive energy use.
- Confirmation of Data Centre DCiE / PUE efficiency ratings.
- Accurate proof of the effectiveness of any ‘claimed’ energy efficiency deployments throughout the life of the facility.
- Measurement of energy consumption, critical load trends, power quality and response time of emergency power plant.
- Opportunities to improve a server room or data centres operational efficiency.
- Shows how a server room or data centre compares to other internal or competitive facilities.





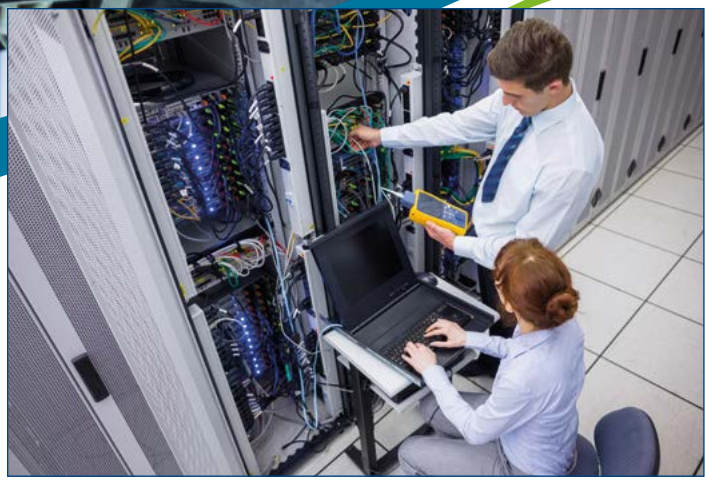
Audit Report Schedule of Works

Frequency - Yearly (minimum recommended frequency)

Item	Service Detail
1	Assess existing power configuration to determine measurement points and to create the Measurement Plan. Note there will be multiple measurement points required to undertake the PUE Assessment.
2	Agree monitoring period, typically this will be over a 7 day period.
3	Electrician to attend site to connect CT clamps and install recorder equipment as per the agreed measurement plan.
4	Electrician to attend site to disconnect CT clamps and remove recorder information.
5	Engineer to download recorded information, analyse and generate PUE reading report with associated recommendations.

Note

Where clients prefer a permanent Energy / PUE measurement capability Workspace Technology recommends the deployment of our EcoMeasure solution. EcoMeasure will provide on going 24x365 measurement of PUE, DCiE and general room electrical performance information required for reporting energy efficiency statistics or assessing the impact of new technology or infrastructure changes.



Additional Data Centre Services

Workspace Technology offers a range of data centre audit and survey services. These services may be specified as a result of a Data Centre Audit or as part of a comprehensive Data Centre planned preventative maintenance and support package.

Service	Details
3D Modelling and CFD Service	The 3D Data Centre Modelling and CFD service enable clients to visualise interactive 3D data centre models of existing or prospective data centre infrastructure.
Airflow and Thermal Imaging Survey	The Airflow and Thermal Imaging Survey enables data centre manager to identify problems with cooling capacity and airflow efficiency.
Data Centre Audit Service	The Data Centre Audit will provide a comprehensive review of the existing data centre or server room facility designed to help identify both good and bad practice, help clients increase reliability, and deliver the best value by reducing total cost of ownership through reduced capital, operating and energy costs.
Data Centre Optimisation Service	The Data Centre Energy Optimisation Service will address data centre imbalances by fine tuning system settings and configuration arrangements to achieve improvements in energy efficiency and deliver maximum performance within ASHRAE recommended environmental operating range.
Electrical Thermal Imaging Survey	The detailed Electrical Thermal Imaging Survey of data centre electrical systems and equipment will help identify unseen faults on electrical systems which can cause expensive business downtime, damage, loss of data or risk from fire.
Power Quality Survey	The Power Quality Survey provide customers with a clearly laid out summary of load, power factor and harmonic data findings. When quality issues are identified the report will include recommendations to correct problems. The implementation of survey recommendations will help customers reduce energy bills and can prolong life and prevent premature failure of equipment.

Further details on audit services can be found in individual audit and survey schedules.

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?

Call us: 0121 354 4894
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

PEERS QUALITY ASSURANCE LTD ISO 14001:2015 UKAS MANAGEMENT SYSTEMS 9940

PEERS QUALITY ASSURANCE LTD ISO 9001:2015 UKAS MANAGEMENT SYSTEMS 9940

ECA REGISTERED MEMBER

SSIP