Data Center Walk-Through Health Checklist

This tool is intended as a quick checklist enabling you to ascertain the relative health of the physical environment supporting your data center. Some of these issues may involve you asking your equipment maintenance provider.

Description	Rating			Comments
	Good Shape	Check Into	Immediate Attention	
Documentation				
As-built drawings of all disciplines				Make sure the drawings are marked "As Built"
Architectural including raised floor				
Mechanical				
Electrical esp. one-line				
Fire Protection				Having as-builts on site is required by NFPA
Special Systems				
Equipment documentation (on every system)				
Operation & Maintenance manuals				
Warranty				
Service providers contracts (on every system)				
General				
Clocks on all equipment set to same time				Extremely helpful when doing incident reconstruction. Check clocks monthly.
Operations				
Critical systems equipment training. Is this training included in your training program for your personnel? (e.g. UPS, fire system)				
Are all personnel who may come in contact with critical systems adequately trained?				
Have any personnel changes since training was last conducted?				
Are the procedures for responding to an incident readily available (e.g. posted)? Are the procedures written so that all personnel can understand?				
Architectural Room Integrity [room seal]				
Perimeter: Pick a few spots and look under the floor and above the ceiling for holes or unsealed cable penetrations				
Doors: Are sweeps and gaskets in place?				Turn off the lights and see how much light there is.
Mechanical dampers: Are they installed? Are they operating? Are they UL555s rated?				UL555s indicates the damper is rated for smoke as well as fire. When closed they adequately seal the room.
If you have a fire suppression system, have you conducted a room integrity test recently or have a program in place?				Per NFPA 2001 2018, Section 8.4.5.1 Enclosure Integrity: "The protected enclosure shall be inspected annually or monitored by a documented administrative program for changes in barrier integrity or enclosure dimensions"
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Access Floor				
HPL de-laminating (especially airflow panels)				Creates a tripping hazard
Rocking panels				
All cable cutouts sealed				Reduce bypass airflow
Rust				Also check under flow at CRAC/CRAHs
Adequate number of panel lifters				
System information (panel type, HPL thickness, understructure)				If you have as-built drawings, this information should be on them
Cleaned within the last 12 months				May require higher frequency
PDUs				
Are all circuit breakers clearly indicated?				This helps reduce human error when making changes
Are PDU cables marked appropriately?				
Is there an inventory of what is connected?				Important for change control
Is there a load reading of each circuit?				To avoid circuit overload. If the PDU does not have a meter, an electrician can be hired to meter each circuit
Surge Suppression Units				
Is there a status indicator showing that the unit is active?				These devices are not normally monitored so good to check visually
Do you record the quantity of surges shown indicator number on a regular basis?				Might be helpful in incident reconstruction. Most counters have a reset button (like your car trip mileage)
CRAC/CRAH/InRow/Other Cooling Units				
Service provider: Certification by manufacturer?				Has your contractor (or staff) received training/certification? Is it on-going?
Maintenance documentation: Does your service provider use a checklist? Do you have copies? Is a key kept in each unit?				Demonstrates a repetitive and hopefully detailed process. If another tech is on your site, can they refer to previous inspections (either paper or virtual)?
Condensers: When were they last cleaned?				Often issues occur due to dirty condensers.
Filters: Are they clean? Should you be using a pre-filter? Some areas require more frequent changing				Take a look and see if it's dirty
Air flowing out from behind unit?				CRAC unit often sits 3" away from wall. If that space is not sealed, it's a source of bypass air flow.
Units working together in "teaming" mode?				Most systems are set up to communicate so they don't work against each other. Some don't have this capability or it is not turned on.
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Generator				
Service provider: Certification by manufacturer?				
Is the location of the genset secure? Do key personnel have access?				Physical barrier (e.g. bollards)? Enclosure doors all locked?
Check for visual indicators of oil, coolant, and fuel leaks				
Check to see that the ATS is in the automatic position.				During maintenance, gen is switched off auto and must be switched back on
Generator exercise: Do you have a regularly scheduled time? Does someone witness?				
Annual load bank test				Best practice to avoid wet stacking
Batteries last changed?				Should be a date code on your batteries. Some sites change out their batteries every 2 years
Remote annunciator panel: Ensure that all visual and audible indicators are operative				Often there's a lamp test button
UPS and Batteries				
Service provider: Certification by manufacturer?				
Is the UPS room secure? Do key personnel have access to respond to an incident?				Audit who should have access to UPS
Check the area surrounding the UPS. Ensure that the area is not cluttered and allows for free access to the unit.				
Visually inspect the conditions and appearance of the system				
Ensure that the air intakes and exhaust openings are not blocked.				Filters clean? You may need to change filters between PMs.
Ensure that the environment is within the parameters specified by the manufacturer and that it is not too hot in the room				Record room temperature to ensure it is compliant for batteries
Batteries over 3 years old?				Plan to get them replaced within the next 12 months.
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Site Monitoring System				
Do operations personnel know how to use and respond to the system?				Is there a documented set of procedures that takes place for each alarm?
Verify that there are communications to each system				Do you have a report from your vendor that confirms that? Check annually.
Are the site plan drawings on your system up to date?				Some import the drawings from when the DC was built. Has DC changed?
Have any new systems been added that are not being monitored?				
Can your system do more for you (history, trending, etc.)?				Can it create reports so you don't have to?
Latest software version?				
Fire Protection				
Signage: Do all area have signs (both inside and outside of the room)?				NFPA requirement
Sequence of Operations: Are they posted by the control panel? Are they available in the operations manual?				NFPA requirement
Training: Do all personnel understand what happens and how to respond in a fire situation?				Are new personnel trained when starting?
Are there any troubles or alarms control panel?				
Is the pre-action system compressor on?				
Are the manual pull stations protected (from accidental damage) and covered?				
Check the pressure gauge of the clean agent tanks.				
CCTV				
Are all cameras working? Are they positioned properly?				
Is the recording device working properly?				
Are there any areas that are not covered by the CCTV?				
Fire protection - manual pull and EPO (if applicable)				
Fire protection – control panel				
UPS				
Access Control				
Is all information being recorded on the system properly?				Are you getting monthly reports? Helpful for internal/external audits.
Quarterly report of who has DC access?				Helpful for internal/external audits.
Are all out-of-date cards deleted from access?				Can your system auto delete after a specified timeframe?
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