

Infrastructure Condition and Capacity Analysis

Accomplishments

15+ MW data center designed, including 35 MW+ data centers

800+ MW of critical power planned, designed and commissioned

20+ Years of experience commissioning mission critical facilities including integrated testing and data center heat load testing.

150+ Modular data centers deployed

50+M Sq. Ft of enterprise and service provider data centers commissioned

1000+ Critical facility and data center surveys and assessments

20+ Years developing Standard Operation Procedures (SOP), Maintenance Operating Procedures (MOP) And Emergency Response Procedures (ERP) for Critical Facilities.

Service overview

The availability of applications is at risk if the data center facilities—and the supporting facility infrastructure systems that house them—are not designed, operated, and maintained with corresponding reliability expectations as the IT architecture. The EYP Mission Critical Facilities Infrastructure Condition and Capacity Analysis (ICCA) can help you understand both your availability needs and how your facility infrastructure matches those needs by providing a system-by-system evaluation of the critical infrastructure in your facility. It delivers a concise summary of the facility infrastructure systems, their capacity and degree of utilization, and the methods employed by the staff to maintain, operate, and respond to emergency events, summarizing the findings in clear graphical form.

This service evaluates the power and cooling capacity of your facility infrastructure in comparison with your current power and cooling loads, providing you with quantitative information that can help in planning for future facility or IT expansion.

Service benefits

The EYP MCF Infrastructure Condition and Capacity Analysis can help you: documentation:

- One-line electrical system diagram
- Benchmark your facility against availability classification tier-level standards
- Understand the electrical and cooling capacities of your data center facility
- Compare your current electrical and cooling loads with your facility's total capacity
- Identify single points of failure that may affect overall facility availability
- Understand the condition of your facility infrastructure systems and the robustness of your operating processes relative to your availability expectations
- Determine priorities for improving the overall reliability of the facility

Service feature highlights

- Service planning
- Data collection and analysis
- Presentation of findings

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Specifications

Service planning

EYP MCF will plan all the necessary activities, including the identification of any prerequisites, and schedule the delivery of the service at a time mutually agreed upon by EYP MCF and the Customer.

Data collection and analysis

In preparation for commencement of EYP MCF onsite data collection activities, the Customer will provide the following documentation:

- One-line electrical system diagram
- Mechanical system diagram with interrelated piping system scheme
- Fire detection and suppression system documentation
- Emergency power-off system documentation
- Electric utility bills for at least the preceding three months

EYP MCF will conduct an onsite visit to the Customer's facility, during which EYP MCF will:

- Conduct interviews with the Customer's management and IT operations staff to determine the Customer's business strategy as related to facility availability requirements
- Determine the electrical and cooling capacity of the facility's major infrastructure systems and equipment
- Determine existing electrical and cooling load levels
- Assess the facility's major infrastructure systems with regard to installation according to specifications, documentation, signage and labeling, maintenance, status, condition, and ability to meet the Customer's desired availability level.

Facility infrastructure systems assessed include, as applicable:

- Building shell and interiors, including lightning protection, electrical grounding, and emergency power-off system(s)
- UPS systems
- UPS battery system(s)
- Electrical supply and distribution system(s)
- Standby generator system and transfer switches
- Computer room rack space
- Monitoring and control system(s)
- Cooling system(s)
- Fire detection and suppression system(s)
- Security system(s)

Survey observations will be made without opening live electrical panels; active mechanical systems; or other infrastructure equipment, systems, and devices. The data collected will be obtained from existing meters, monitoring systems, Customer records, or other Customer-provided information



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- Service planning
- Data collection and analysis
- Presentation of findings

Presentation of findings

Off site, EYP MCF will analyze the data collected and create a report (in PowerPoint format only) detailing the findings of the survey, which will be provided to the customer. The report will consist of the following, as appropriate:

- Executive summary covering the strengths and weaknesses identified in the analysis
- Summary of the Customer's business strategy and associated facility availability expectations as expressed by the Customer
- Documentation of any single points of failure identified, with high-level recommendations for improvement
- Documentation of any energy efficiency opportunities identified, with high-level recommendations for improvement
- Determination of the facility's overall availability based on industry tier-level standards
- Facility overview illustrating the configuration, topology, type, and capacity information for the facility's major infrastructure equipment (electrical utility feeder, UPS, chillers, cooling towers, and computer room air-conditioning or air-handling units), as applicable
- System-by-system analysis of the condition of the facility's major infrastructure systems (and related documentation and operations procedures). The systems are analyzed relative to best-in-class standards associated with the Customer's availability expectations as identified in interviews with the Customer's staff. The following systems, as applicable, will be examined:
 - UPS systems
 - UPS battery system(s)
 - Electrical supply and distribution system(s)
 - Standby generator system and transfer switches
 - Computer room rack space
 - Monitoring and control system(s)
 - Cooling system(s)
 - Fire detection and suppression system(s)
 - Security system(s)
- Summary of the facility's electrical and cooling capacities
- Graphical summary of the of existing electrical and cooling loads as a percentage of total capacity

As noted above, EYP MCF will deliver the report in PowerPoint format to facilitate internal communication of the assessment process and findings. An optional narrative report can be developed at extra cost.

EYP MCF will conduct a follow-up conference call, up to four hours in duration, with the Customer in order to present the assessment findings and answer the Customer's questions.

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Other Service Offerings

- Thermal Assessments
- Commissioning
- Retro-Commissioning
- Reliability Risk Assessments
- Operations Runbook Assessment
- Energy Efficiency Assessments

Service eligibility

The EYP MCF Infrastructure Condition and Capacity Analysis is available for all data centers, IT rooms, server rooms, and server closets with raised or non-raised floor environments.

Service limitations

Any services not clearly specified in this document or in an associated Statement of Work are excluded from this service.

The fee for the service is based on EYP MCF's and the Customer's initial estimate of the size and power usage of the facility. Subsequent determination that the facility is larger or uses more power than estimated may result in additional fees.

This service does not include any remedial activity related to any data center environmental issues identified. Any corrective measures to mitigate the risks or implement the recommendations identified by this service may be available from EYP MCF as part of a separate service scope and for an additional fee.

Customer responsibilities

The Customer will:

- Assign a designated person from the Customer's staff who, on behalf of the Customer, will grant all approvals, provide information, and otherwise be available to assist EYP MCF in facilitating the delivery of this service
- Contact an EYP MCF service specialist within 90 days of date of purchase to schedule the delivery of the service
- Allow EYP MCF full and unrestricted access to all locations where the service is to be performed
- Adhere to licensing terms and conditions regarding the use of any EYP MCF service tools used to facilitate the delivery of this service, if applicable
- Provide a suitable work area for delivery of the service, including access to an outside telephone line, power, and any network connections required
- Prior to commencement of EYP MCF's onsite data-collection activities, provide site, electrical, and mechanical drawings; utility bills; and other site-specific infrastructure data as requested by EYP MCF

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General provisions/Other exclusions

- EYP MCF reserves the right to re-price this service if the Customer does not schedule and provide for subsequent delivery within 90 days of purchase.
- EYP MCF reserves the right to charge, on a time and materials basis, for any additional work over and above the service package pricing that may result from work required to address service prerequisites or other requirements that are not met by the Customer.
- EYP MCF's ability to deliver this service is dependent upon the Customer's full and timely cooperation with EYP MCF, as well as the accuracy and completeness of any information and data the Customer provides to EYP MCF.
- This document describes services which may be considered professional engineering services. If licensed engineering services are described herein or in a future change order, they are offered and will only be provided by professional, licensed engineers and shall be governed by the Pass-Through Terms for Design. In the United States, these services are offered by EYP Mission Critical Facilities, Inc., ("EYP MCF")

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