




ENGINEER-LED RESILIENT CRITICAL INFRASTRUCTURE

KCL AT A GLANCE

At KCL Engineering, we have made it our mission to redefine consulting engineering for mission critical projects. Here, clients experience senior-level leadership from start to finish and reap the benefits of a culture that promotes innovation and breakthrough thinking. Our people are intrinsically driven to solve problems, bring forward unique energy solutions, and offer clients a coveted sense of confidence that the system selected will serve their present and future needs successfully.



Every new project allows us the opportunity to stretch our engineering intelligence to design high performance environments that meet fault tolerance requirements and deliver confidence in reliability. And we say 'Bring it on!'

- Adam Koble, PE

A CRITICAL LOOK AT MISSION CRITICAL INFRASTRUCTURE

THE KCL WAY KEEPS WHAT MATTERS MOST AT THE FOREFRONT OF EVERY DESIGN DECISION.

REDUNDANCY

Considered the insurance against potential failures, the design of multiple paths of connection mitigates an emergency caused by the loss in a single path.

FLEXIBILITY

The need to accommodate a wide array of obstacles requires engineers well versed in mechanical and electrical system options and associated financial impacts.

RELIABILITY

Equipment functionality is the most critical factor for facilities, understanding the necessary components and responses to failure modes increases the reliability of a facility.

EFFICIENCY

Struggling to identify your energy efficiency opportunities? KCL investigates four key areas for improvements: Cooling, Water, Power Usage, and Incentives to offset costs.

LOCATION

In the high stakes infrastructure of Mission Critical, engineer-led strategic locating keeps important factors front of mind during site selection.

IS YOUR ADVISOR QUALIFIED TO TAKE YOU WHERE YOU NEED TO GO?

As certified designers of high-performance advanced technology facilities, KCL engineers help clients navigate the complex needs of mission critical infrastructure.

WHERE WE START

Existing Equipment Conditions Analysis
Life Cycle Cost Analysis
Energy Usage Review - Power, Water, Utilities
CFD Airflow Measurement
Carbon Footprint Impact Analysis
Power Factor Correction Analysis

Electrical Arc Flash Assessment
Power Usage Effectiveness (PUE) Review
Standards Verification
Code Compliance Review
Mission Critical Infrastructure Health Check Analysis Review

HOW WE THINK

Understanding the relationship between an infrastructure and the business requirements is critical for optimized system design, therefore our engineers engage early with condition analysis and standards verification.

MASTERPLANNING+ CONCEPTUAL DESIGN

Site Selection Analysis
Utility Services Sizing and Coordination
Project Budgeting
Standards Development
RFP Preparation
Contractor Review and Analysis
Mechanical Systems Concept and Space Allocation
Electrical Systems Concept and Space Allocation

Project PEER Review and Documentation
Project Quality Control Review
Business Use Analysis
Business Risk Tolerance Analysis
Day One Build out with Future Considerations Analysis
Disaster Recovery Planning
On site Versus Colocation Deployment

WHAT WE ASK

What are the fault tolerance requirements for the business use of the facility?

What are the implications of security and connectivity?

What budget and build time frame will make the project successful?

DESIGN WIZARDRY

Utility Services Coordination
Electrical Power Distribution Systems
UPS Battery Systems
Generator and Switchgear Design
Mechanical Cooling Systems Design
Energy Recover Systems
Fire Protection and Alarm Systems
Access Control Systems Design

Video Surveillance Systems Design
Data Infrastructure Systems Layout
Building Support Service Design
Geothermal Wellfield Design and Integration
Renewable Energy Systems Design
CFD Analysis of Cooling Systems
Existing Equipment Refresh and Change out

WHAT WE DO

KCL can't be beat when it comes to masterfully designing complex and sophisticated projects. Our process yields the highest standard of engineering consulting by maximizing energy efficiency and cost benefits.

PROJECT IMPLEMENTATION

On Site Project Management
PEER Review of Construction Details

Submittal Reviews and Coordination
On Site Job Sight Inspections and Reviews

HOW WE DELIVER

Driven to provide unparalleled results, KCL's engineers can tackle any scope of project delivery. Available services include construction administration, on site project management and owner representation, to complete turnkey system delivery.

COMMISSIONING

AT COMPLETION

Design Commissioning Plan, Sequences, and Tests
Conduct Site Review of Installed Equipment
Witness Factory Testing Prior to Shipment
Witness Factory and Contractor Start Up Post Installation
Review Project Plan, Sequences, and Submittals
Complete System As-Built Documents
Load Bank Testing
Go Dark Utility Outage Testing Prior to Facility Occupancy

CONTINUAL COMMISSIONING

Interval Review (Annual, Bi-annual) of Systems
Mission Critical Infrastructure Health Check Analysis
Review and Analysis of Key Metrics
Existing Code Compliance Review
Existing Energy Usage Review
Identify Stranded Power Capacity

As an experienced commissioning authority, KCL approaches optimal systems performance by working as a true partner along design and construction teams.

CONTACT

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