

DATA CENTERS. REAL DEMAND. REAL IMPACT TO EMERGENCY RESPONSE.

Emergency response leaders must plan for constrained resources, increased risk, and lawful prioritization under pressure.

- ✓ More demand.
- ✓ More strain.
- ✓ More risk.
- ✓ Lawful prioritization.
- ✓ Plan today.



WHY EMERGENCY RESPONSE LEADERS SHOULD PAY ATTENTION



FIRE LOAD & COMPLEXITY

High-density equipment and fuels increase fire load. Lithium batteries and backup systems add risk.



BUILDING STRUCTURE STRESS

Large concrete structures and rooftop equipment add weight and limit collapse / ventilation options.



WATER AVAILABILITY CONSTRAINTS

Massive cooling demand competes with hydrant flows and community water supply.



ELECTRICITY TO EMERGENCIES

Grid strain and substation load can interrupt power to 911, EMS, hospitals, and shelters.



PROXIMITY & ACCESS CHALLENGES

Traffic, long approach times, and limited site access delay response when every minute matters.



LAW & PRIORITIZATION REQUIREMENTS

Incident commanders must follow law: protect life, then critical services, then property.



SECONDARY & CASCADING RISKS

Power, water, and communications outages can trigger multi-jurisdictional emergencies.

THE SCALE OF EXPOSURE



10+ STATES

Data centers are rapidly expanding into communities across the U.S. with limited emergency capacity. (Deloitte, 2024)



UP TO 6 BILLION GALLONS/DAY

Potential U.S. water use for data center cooling by 2030—enough to supply millions of homes. (TLG, 2023)



20–30 GW BY 2030

U.S. data center power demand growth projection—competing with public safety and hospitals. (McKinsey, 2023)



EXTREME HEAT RISK

Heat waves increase cooling needs and strain water and power availability. (NOAA, 2024)



MULTI-JURISDICTION IMPACT

Events can impact neighboring communities, utilities, and transportation corridors. (FEMA, 2023)



CRITICAL INFRASTRUCTURE PRIORITY

Public safety, healthcare, and lifeline systems must be protected first by law and policy. (FEMA NIMS, 2020)

THE PRIORITIZATION FRAMEWORK

1



PROTECT LIFE

Rescue and medical care for people in immediate danger. Evacuations and life safety come first.

2



PROTECT CRITICAL SERVICES

911, EMS, hospitals, shelters, emergency operations, communications, and potable water systems.

3



STABILIZE ESSENTIAL INFRASTRUCTURE

Electricity, fuel supply, transportation routes, and public utilities that sustain the community.

4



PROTECT THE COMMUNITY

Residents, vulnerable populations, schools, businesses, and continuity of local government.

5



ADDRESS FACILITY / PROPERTY

Data center and private property come after life safety and critical services are secured.



Incident commanders must follow law, policy, and ethics. Priorities protect people first—always.

HOW DATA CENTER DEMANDS IMPACT RESPONSE OPERATIONS



FIRE RISKS

- High heat density
- Battery & generator fires
- Toxic smoke challenges ventilation



STRUCTURE

- Heavy loads limit access
- Specialized systems complicate firefighting
- Roof collapse risk



WATER

- Hydrant flows may be insufficient
- Competes with community water needs
- Long refill times



POWER

- Grid strain disrupts emergency facilities
- Backup systems prolong outages



ACCESS

- Traffic and construction delay response
- Limited site access and staging areas



TIME

- Longer response times increase risk to life
- Escalation becomes more difficult



These constraints don't just affect data centers—they affect your ability to protect and serve your community.

A BETTER WAY: PLAN WITH REALITY

Integrate data center impacts into emergency planning and resource allocation.



HOW IT WORKS

- ✓ Map data center locations and hazards.
- ✓ Assess water, power, and access constraints.
- ✓ Plan mutual aid and alternate resources.
- ✓ Train for complex fire and power events.
- ✓ Exercise with utilities and private partners.

KEY TRIGGERS (EXAMPLES)

- ✗ Prolonged power interruptions
- ✗ Limited hydrant flow or low reservoirs
- ✗ Extreme heat / high cooling demand
- ✗ Traffic congestion or road closures
- ✗ Multi-site or cascading incidents



Prepared communities save lives. Planning today prevents disasters tomorrow.

WHAT EMERGENCY RESPONSE LEADERS CAN DO



ENGAGE EARLY

Work with planners, developers, and utilities before permits are approved.



ASSESS & PLAN

Include data centers in hazard assessments, evacuation plans, and resource allocation.



BUILD PARTNERSHIPS

Coordinate with utilities, public works, hospitals, and private data center operators.



TRAIN & EQUIP

Ensure crews have training and equipment for electrical, lithium battery, and large structure fires.



ENFORCE PRIORITIES

Follow the law and incident command priorities—protect life and critical services first.



Scan to learn more about protecting your community and managing risk.

ferndon.com

**RISK TODAY.
RESILIENCE TOMORROW.**

SOURCES

Deloitte, 2024; McKinsey, 2023; TLG, 2023; NOAA, 2024; FEMA, 2023; FEMA NIMS, 2020; NFPA, 2024; Uptime Institute, 2024; American Water Works Association, 2023.