Seneca Lake PURE WATERS Association

# AI/HPC Data Centers

Information about AI/HPC Data Centers and

Vulcan Infrastructure and Power Plans for Dresden, NY

Public Information Briefing
November 18, 2026

AI/HPC:
Artificial Intelligence/High-Performance Computing



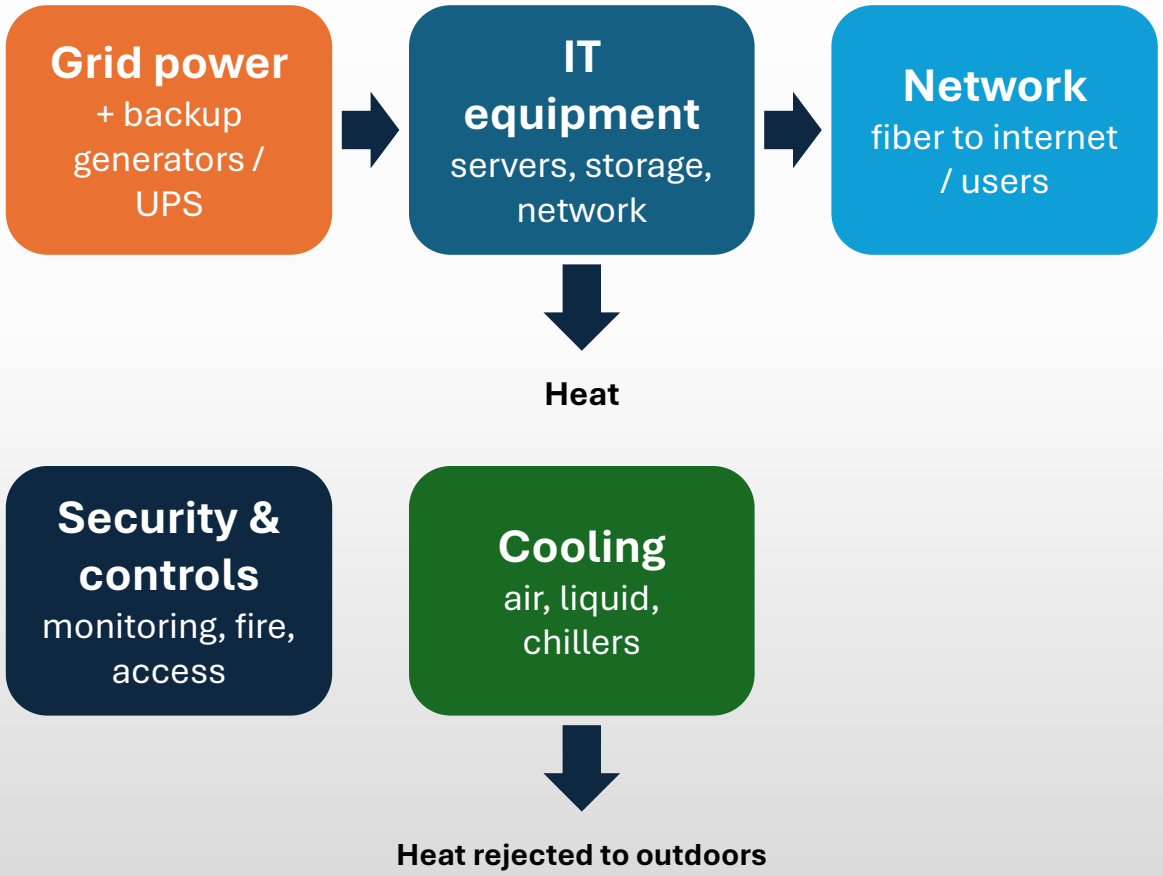
Adobe Stock Photograph

# What is a Data Center?

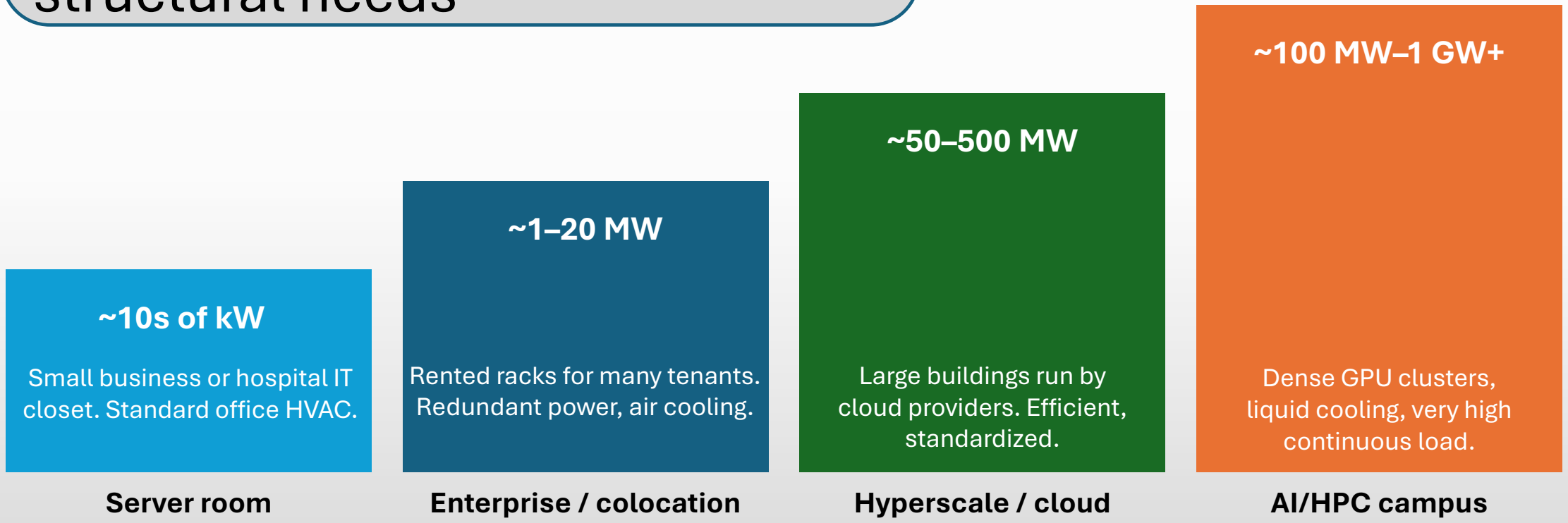
**Data Center Definition**

Any facility that houses computing and networking equipment, plus the power, cooling and security systems needed to keep it running 24/7.

**Generic data center schematic**



***Function*** and size, drives design: what the equipment does sets power, cooling, resiliency, and structural needs




Approximate typical power ranges, illustrative

# Current Greenidge Site Situation

- 104 MW Natural Gas Fueled Power Plant
  - Water Withdrawal Permit (139 MGD)
  - SPDES Permit (134  MGD)
  - Title V Air Permit in process
  - All are under review with NYS DEC
- + 60 MW Cryptocurrency Mining Data Center
  - Housed in main building plus 2 outer structures
  - Air cooled
- Estimated total plant utilization factor about 75 percent



Long time coal plant converted to natural gas in 2017 as a “peaker plant”

# Coal Ash Cleanup at Greenidge

| | C-Pond at the power plant | Lockwood Ash Disposal Site |
|---|---|---|
| **Status** | No more input as of October 2023.<br>Greenidge is evaluating options for reuse into cement products before cleanup begins. | "Active" industrial landfill.<br>Ongoing groundwater monitoring and reporting.<br>Disposal site for C-pond material unsuitable for reuse. |
| **Timing** | **October 2027** scheduled start of cleanup | **No closure date set.**<br>The company's cost estimate assumes about **30 years of care after closure**. |
| **Who does the work and who regulates it** | **Greenidge Generation LLC** is responsible.<br>**EPA Region 2** enforces the federal coal ash requirements and consent order.<br>**NYSDEC** regulates the related discharge under the plant's SPDES permit. | **Lockwood Hills LLC** operates the landfill.<br>**NYSDEC** oversees the solid waste and discharge permits and financial assurance.<br>**EPA** enforces federal coal ash rules and has a separate 2025 settlement on groundwater monitoring and reporting. |
| **Finances** | **$17.3 million** environmental liability as of June 2026. | **$13.7 million** environmental liability with a **$5 million letter of credit payable to DEC** and **$1.8 million held in trust**. |

# Crypto Computing & Equipment

- Simple algorithms.
- Crypto setups are built using hundreds of small, **independent** "ASIC" boxes. Modular equipment is easy to replace.
- They are often mounted on open-air wire shelves and use standard industrial box fans to blow outside air straight through the room.
- Temporary structures or even garages are sometimes used to house them

**ASIC** = Application-Specific Integrated Circuit



ASIC rack in one of the Greenidge/Vulcan sheds.

# Greenidge Crypto Racks





ASIC racks inside Greenidge/Vulcan generation building

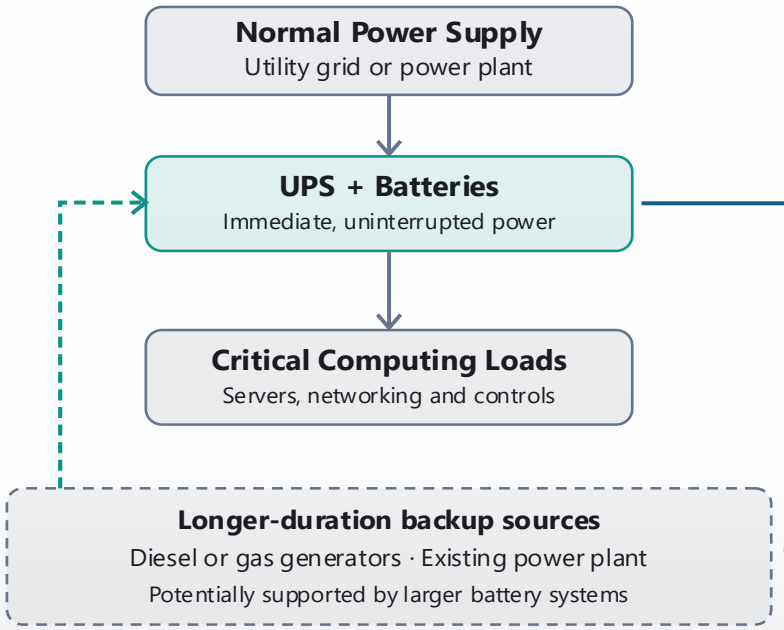
# AI/HPC = More Requirements

- Complex algorithms mean high consequences for power loss → **highly reliable power required**
- Interrelated processors in high density enclosed cabinets with sensitive hardware → liquid cooling & **substantial specialized cooling**
- **Rigorous site infrastructure** (power redundancy, environmental controls, floor loading, etc.)



A fully populated rack of this nature can weigh roughly **3,000 lbs to 4,000 lbs**

# Backup Power




Backup supply feeds the electrical system when needed

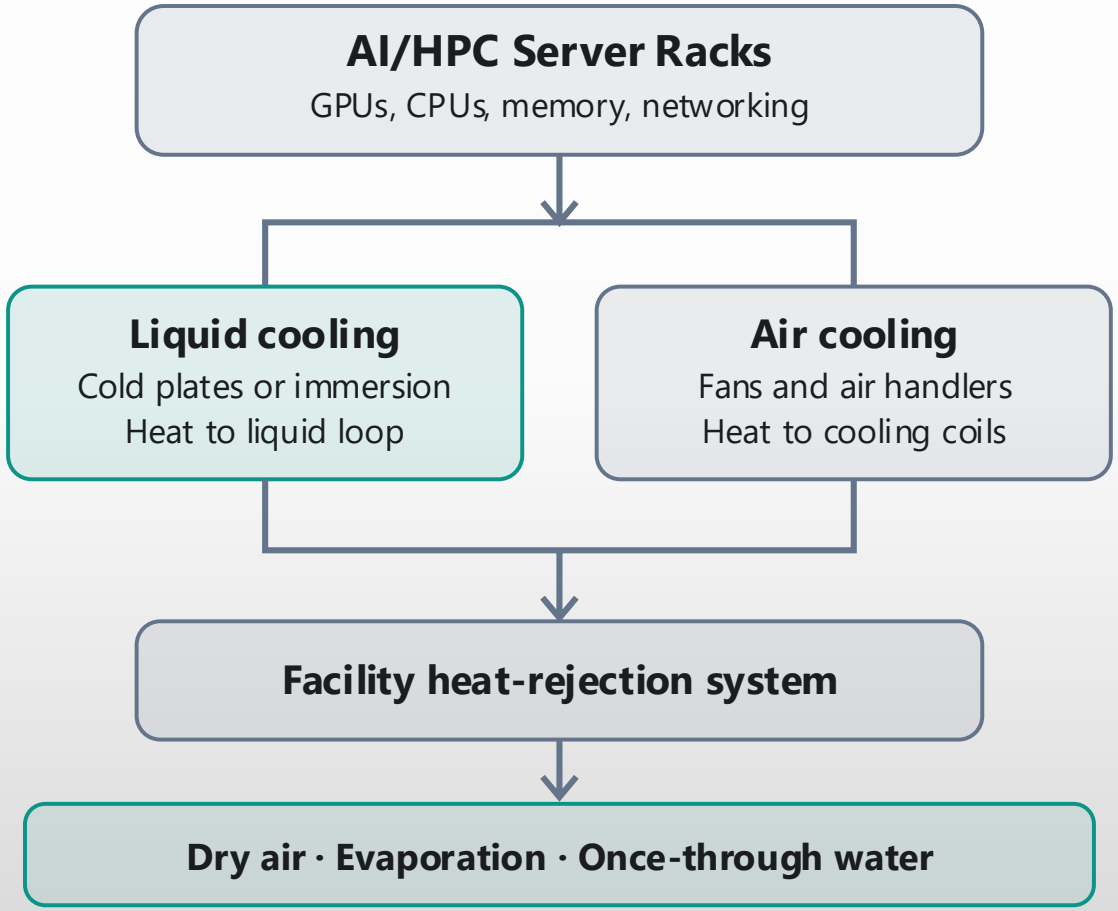



| Technology | Principal concerns |
|---|---|
| UPS batteries | Battery safety, replacement, cooling and space |
| Diesel generators | **Exhaust emissions, noise**, **fuel storage** and deliveries |
| **Natural gas generators** | Gas supply reliability, **emissions, noise** |
| **Existing power plant** | Operational reliability, **electrical isolation**, and fuel supply |
| Large battery storage (BESS) | Cost, **duration limits**, fire safety and substantial battery capacity |
| Fuel cells | **Fuel supply**, cost, equipment availability and system integration |

A typical 60 MW plant would require about 21 x 4 MW generators (photo shows 4 MW generators)

Backup power runs intermittently

# Cooling & Heat Transfer




There are two separate cooling functions for the servers in an AI/HPC data center:

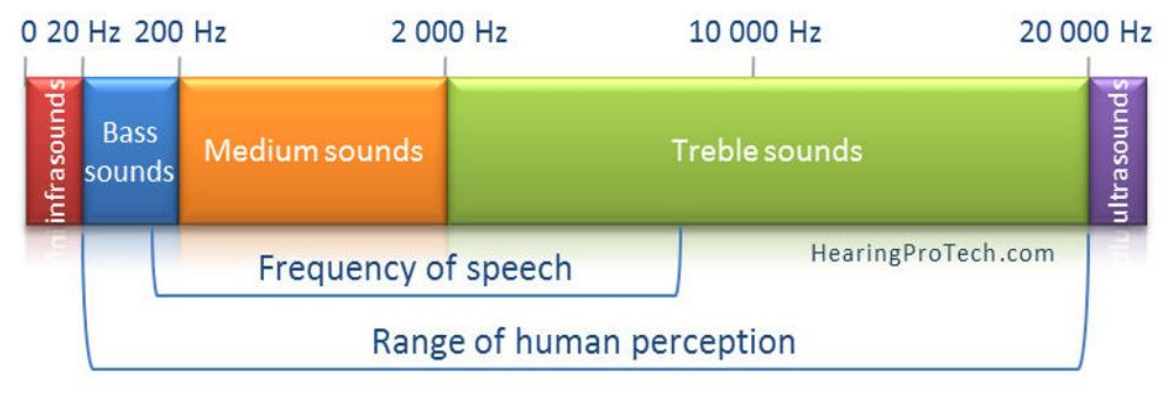
- **Collecting heat from the computing equipment**, using air, liquid cooling ("*closed loop*"), or a combination **plus the rest of the building and the supporting systems**.
- **Rejecting that heat to the environment**, using dry coolers, evaporative cooling towers, once-through water cooling, or some combination.

# AI/HPC Data Center: Heat Rejection Options

| Approach | Water implications | Noise Characteristics |
|---|---|---|
| **1. Once-through water cooling** | **Large withdrawals**; most water **returned hotter**, with relatively little consumed, could trigger regulatory requirements | Primarily pumps and mechanical equipment |
| **2. Evaporative cooling towers** | **"Lowish" water withdrawal,** most **evaporated**; **blowdown wastewater** requires management | **Fans**, pumps and falling water |
| **3. Dry coolers** | **Very low water consumption**; no routine evaporative loss | **Large fans, large outdoor heat exchanger area, potentially continuous noise** |
| **4. Air-cooled chillers** | **Very low water consumption** | Fans and compressors; potential tonal and **low-frequency noise** |
| **5. Hybrid dry/evaporative** | **Lower water consumption than fully evaporative systems**, depending on climate and operation | Fans, pumps and occasional evaporative equipment |

Colors represent notional relative impact with green being relatively better than yellow and orange having higher impact: not a strict rating scale

# Not All Noise is the Same




1-20 Hz is “infrasound,” felt, but not heard

Low frequencies can travel farther than higher frequencies and are harder to stop.

Measuring sound is complex when many frequencies are involved.

| Sound characteristic | Potential sources | What people may notice |
|---|---|---|
| Low-frequency hum or rumble | Transformers, **Large fans**, Compressors | Persistent hum, rumble, **sometimes more noticeable indoors** |
| Mid-frequency mechanical noise | Pumps, **motors**, ventilation systems | Steady mechanical sound |
| Higher-frequency noise | **Fans**, airflow, some mechanical equipment | Hissing, rushing air or whine |
| Intermittent noise | Backup generators, testing, switching equipment | Periodic increases above background sound |

# Noise Considerations

| Potential effect | Why it matters | Mitigation strategies |
|---|---|---|
| Sleep and residential disturbance | Continuous noise, particularly at night, can disrupt sleep and cause annoyance | Equipment placement, nighttime limits, quieter equipment, acoustic enclosures |
| Low-frequency noise | May be heard as a hum or rumble, can penetrate buildings, and can be difficult to block | Low-frequency-specific acoustic design, equipment isolation, substantial enclosures |
| Vibration and rattling | Mechanical vibration can travel through structures; airborne low-frequency sound may sometimes excite building components | Vibration isolators, resilient mounts, equipment foundations, source controls |
| Wildlife and domestic animals | Noise may interfere with animal communication or behavior, depending on species and exposure | Habitat buffers, equipment placement, noise assessment at sensitive locations |
| Outdoor recreation and community character | Persistent mechanical noise can change the experience of otherwise quiet areas | Distance, shielding, landscape-sensitive siting and enforceable noise limits |

# Data Center Environmental Permits

- **Water Permits**
  - **Withdrawal –** Applies if cooling system uses surface/groundwater
  - **SPDES –** Applies to cooling blowdown and stormwater discharges
    - Heated or treated water returned to a waterbody
- **Air Permit**
  - **Title V –** Applies if site emissions (backup generators, any on-site turbines) reach major-source thresholds
- **EIS and SEQRA –** Large AI/HPC campuses likely need a full environmental review (noise, water, land, traffic, etc.) which involves multiple entities and public input. (SEQRA: State Environmental Quality Review Act)
- **GEIS –** New York State Public Service Commission is leading a ***Generic Environmental Impact Study*** covering environmental issues with data centers and associated grid changes statewide during the Governor's moratorium

# Vulcan Phased Approach to Power Availability

Current Greenidge Plant
- **104 MW total**
- 40 MW reserve for grid
- 64 MW transition to AI/HPC
- Likely use onsite power as backup



NYSEG **has approved an additional 60 MW non-curtailable interconnection** from its grid

Requires some upgrades to current transmission and local infrastructure

Strategy when prices are low:
- 8-40 MW sell to grid
- 64 MW AI/HPC computing
- Interconnect is backup

Strategy when prices are high:
- 32-100 MW sold to grid & backup for onsite computing
- 60 MW AI/HPC computing
- 4 MW systems backup

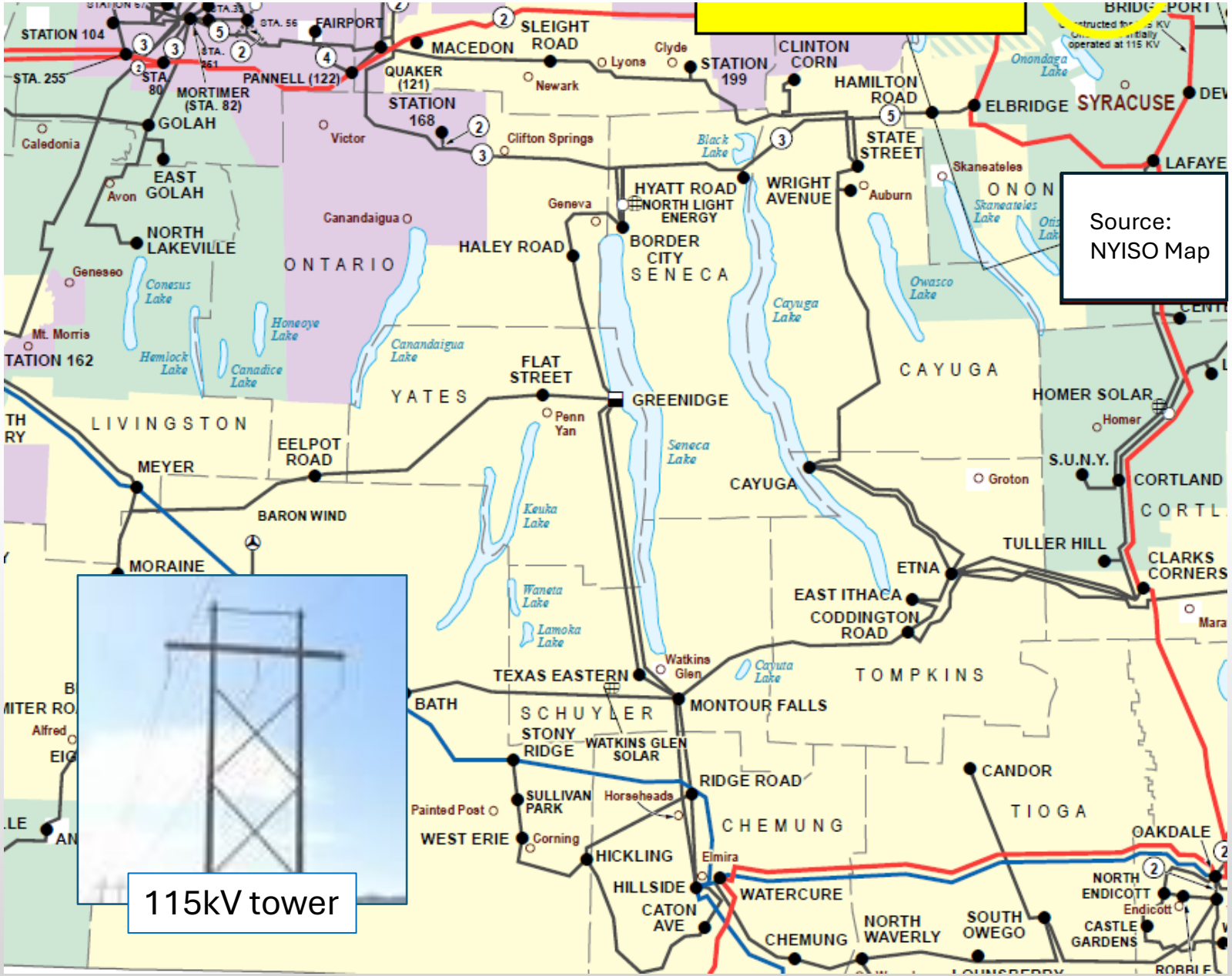
Request for additional 200 MW now being studied as part of a future power block in Western NY

Potential total 364 MW power envelope based on disclosures

- Potentially 260 MW of grid power available for AI/HPC
- Potential need for significant upgrade to transmission lines and local infrastructure
- Requires backup systems
- Peer facilities require 60 acres+

Business model is to build the “shell” and provide power, then lease the space to AI computational operators

Source: VIP Investor Briefing August 2026




Source: NYISO Map

Black 115kV; Blue 230kV, Red 345kV



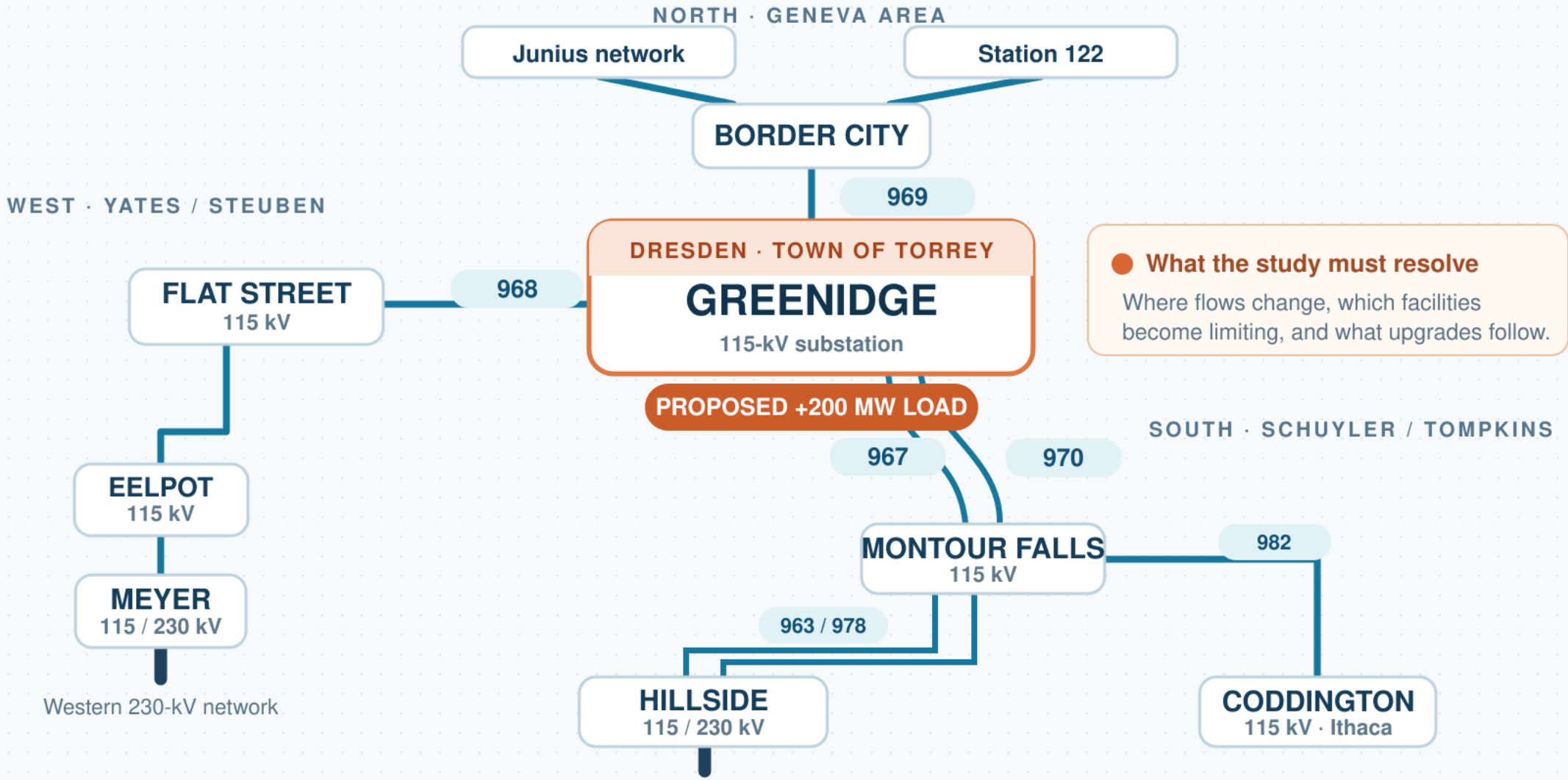

Alcoa Massena Aluminum Smelter in Massena, NY (shown above) is 240 MW

Yates County is in a sparce high-tension power area compared to other heavy industrial locations.

Upgrade issues: who pays and what is the impact on local service?

# A 200-MW Load at Dresden Is a Regional Grid Question

Four 115-kV circuits connect Greenidge to a wider regional network




**ILLUSTRATIVE TRANSMISSION TOPOLOGY**

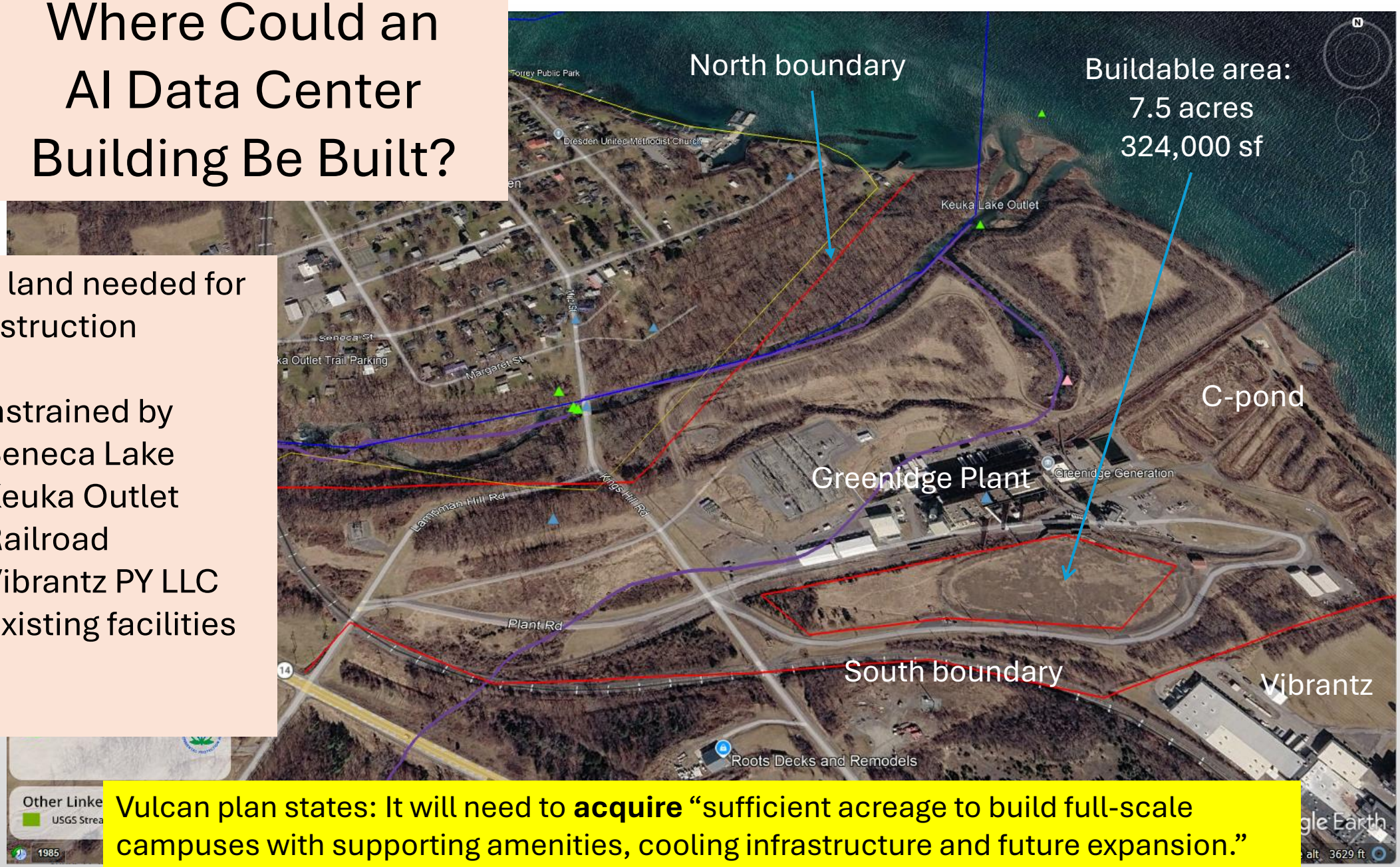
Not a geographic map or a depiction of actual power flows. Existing upgrade plans do not establish the impacts of the proposed load.

Source: NYSEG / NY PSC filings · Sep 2026

# Where Could an AI Data Center Building Be Built?

Flat land needed for construction

Constrained by
- Seneca Lake
- Keuka Outlet
- Railroad
- Vibrantz PY LLC
- Existing facilities




Vulcan plan states: It will need to **acquire** "sufficient acreage to build full-scale campuses with supporting amenities, cooling infrastructure and future expansion."

# Comparable AI/HPC Footprints

These are a few comparable 60 MW class facilities to consider

| Facility | Capacity | Building (sq ft) | Campus (acres) |
|---|---|---|---|
| Data Foundry Houston 2 | 60 MW | 350,000 | 18 |
| Novva Tahoe Reno | 60 MW | 300,000 | 20 |
| Santa Clara Mission College | 60 MW | 495,610 | 15.7 |
| Aligned Chicago ORD-01 | 48 MW expandable 60 MW | 220,000 | 18.5 |
| ESR Mumbai MU1 | 60 MW | Not stated | 3.25 |

Many, if not most facilities in this class are at or more than 324,000 sq ft just for the building and not including the associated infrastructure such as sub stations, backup generators, cooling equipment, sound barriers, and more.



Novva Tahoe Reno

Reno, NV

- 60 MW
- 300,000 sq ft
- 20-acre campus

Aligned Inc (2021)

Chicago, IL

- 48 MW
- 220,000 ft2
- 18.5-acre campus






ESR in Mumbai, India

- Multi-story
- 60 MW
- 3.25 acres

Potential to go vertical to fit in tighter spaces.

# What Might Phase 2 Look Like?

PowerHouse Data Center
Dallas, TX

- 300 MW
- 4 x 300,000 sq ft buildings
- 88 acres



# On-site Generation

- Given the expense of grid upgrades and power availability, there is great interest in generating power on site
  - Power plants such as Greenidge are logical targets
  - Greenidge only has 60 MW available

Options being considered by the industry:

- Backup Generators running full time
- Jet Engines converted to natural gas (~30MW each)
- Small Modular Reactors (SMR) Nuclear plants (~300 MW)

# AI/HPC Data Centers Present Distinct Planning Issues

- **Public Services & Safety** — who will provide hazmat, fire protection, emergency response, water, waste treatment, road access, etc.?
- **Regional Economy & Sense of Place** — what are potential effects on tourism, wineries, hospitality, recreation, property values, and the scenic character of the Seneca Lake region?
- **Regional Power & Supporting Infrastructure** — expanded substations, transmission lines, grid upgrades, and future expansion—who pays and reliability?
- **Long-Term Development** — expansion, adjoining land acquisition, and **eventual decommissioning**



# Summary



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- AI/HPC is a different animal than crypto – large purpose-built buildings with major subsystems on a campus
- Cooling and backup power subsystems can pose significant offsite impacts, but specific impacts depend on the design
  - Water use and noise are common concerns, but there are many more
- 260 MW of additional power is consistent with heavy industrial use
- The current Dresden site is not suitable for the stated VIP plan
- There are significant local, regional, environmental (SEQRA), and long-term planning impacts to consider

# Backup Slides

# Vulcan (VIP) Investor Briefing

- VIP filed an *Investor Presentation* with their August 2026 SEC Form 8-K filing
- It lays out their consolidated plans for 3 sites including Dresden, NY
- Key points to take away from this presentation:
  - This is a complete corporate pivot, not merely an equipment swap. Vulcan explicitly describes itself as a platform for acquiring, developing and operating powered assets for AI/HPC data centers.
  - Dresden is intended to grow substantially. There is 64 MW for immediate conversion, another 60 MW approved, and an additional ~200 MW under load study.
  - The company's business model states it intends to develop sites to “powered-shell readiness” and monetize them through hyperscaler/colocation leases, sales, and ground leases.

**Ref: Vulcan Infrastructure and Power Inc.** *Investor Presentation*. August 2026. Exhibit 99.1 to Current Report on Form 8-K, furnished to the U.S. Securities and Exchange Commission, August 17, 2026.

# What does non-curtailable power mean?

- AI/HPC needs very high reliability for power as opposed to crypto which can be turned off and on without much impact
  - Hence AI/HPC facilities need to design in significant backup power capabilities
- The 60 MW interconnection request was approved for “non-curtailable” power
  - Currently, crypto operations can be curtailed and power shifted to the grid
- The 60 MW will be a part of the current transmission system—after some upgrades
- Non-curtailable” means the 60 MW was approved as firm load rather than a load designed to be routinely curtailed in the manner of Greenidge's current cryptocurrency operation.
- The specific implications for **local grid reliability** and required transmission upgrades should be confirmed with NYSEG.

# Data Centers Present Distinct Planning Issues

- AI/HPC data centers are not simply another industrial building. Their scale and operating characteristics raise planning issues that communities increasingly address through data-center-specific standards.
- **Key considerations include:**
  - **Land Use & Community Character** — building scale, setbacks, buffering, lighting, noise and visual impacts
  - **Regional Economy & Sense of Place** — potential effects on tourism, wineries, hospitality, recreation, property values, and the scenic character of the Seneca Lake region
  - **Power & Supporting Infrastructure** — substations, transmission lines, grid upgrades, and future expansion—costs and reliability
  - **Cooling & Environment** — cooling technology, water, discharge, stormwater, and habitat
  - **Public Services & Safety** — fire protection, emergency response, hazmat, water, sewer, and road access
  - **Long-Term Development** — expansion, adjoining land acquisition, and eventual decommissioning

Some of these issues extend well beyond the project site—and beyond the Town of Torrey. Understanding the potential scale of development is important to understanding who may be affected and what should be considered before development begins.

# Planning Topics: Land Use & Community Impacts

- **A full-scale AI/HPC campus can involve considerably more than the data-center building itself.**
  - Potential supporting facilities include cooling equipment, electrical substations, transformers, transmission infrastructure, backup systems, security facilities, access roads and sound mitigation. **APA specifically identifies cooling, backup power and related infrastructure as characteristic components of data centers.**
- **Questions for the Town:**
  - What building height, mass, setbacks and lot coverage are appropriate?
  - What buffering should be required from residences, Seneca Lake, Keuka Outlet and neighboring uses?
  - What standards should apply to **continuous noise** from cooling and electrical equipment?
  - How should nighttime lighting and security lighting be controlled?
  - What visual impacts could result from buildings, cooling equipment, substations and transmission facilities?
  - What construction traffic, road improvements and permanent access would be required?
  - Could expansion require acquisition or rezoning of adjoining properties?
  - How should future phases be considered when reviewing the first phase?
  - What effect could a substantially larger industrial footprint have on neighboring businesses?

# Planning Topics: Power & Grid Infrastructure

- Vulcan's plans contemplate a substantial increase in power available at Dresden:
  - **60 MW** — approved non-curtailable grid interconnection
  - **+200 MW** — additional load now under NYISO study
  - **Potential total power envelope: 364 MW**
- **Questions to understand:**
  - What transmission and substation upgrades would be required for 60 MW? For an additional 200 MW?
  - Where would new transmission/substation infrastructure be located?
  - Could the existing 115-kV corridor be used, and would larger structures, wider clearing or additional rights-of-way be required?
  - Who would bear the cost of required grid improvements?
  - Could this load affect future generation or renewable-energy interconnections in the region?
  - What role would the existing Greenidge generating plant play in providing reliability and backup power as the campus expands?
  - Would later phases require additional backup generation, energy storage or other reliability infrastructure?
- These questions cannot be answered from Vulcan's investor presentation alone and must be confirmed through NYSEG/NYISO and subsequent project plans.

# Planning Topics: Environmental, Public-Service & Long-Term Questions

- **Cooling and water**
  - What cooling technology is proposed?
  - Would it require water withdrawal or consumptive water use?
  - Would there be wastewater or other discharge?
  - What stormwater-management requirements would result from the expanded impervious area?
- **Environment & public safety**
  - What effects should be evaluated for Seneca Lake, Keuka Outlet, wetlands, habitat and wildlife?
  - What air emissions, noise or fuel-storage issues could result from backup or generating equipment?
  - What fire-suppression systems and hazardous materials would be present?
  - Does the local fire department have the equipment, training, water supply and access necessary for a facility of this scale?
- **Municipal & long-term responsibilities**
  - What road, water, sewer or other municipal improvements could be required?
  - Who pays for infrastructure and additional municipal-service requirements?
  - What permanent employment and municipal revenues would result at each development phase?
  - What happens if facilities become obsolete or cease operation?
  - Should the Town require a decommissioning plan and financial assurance for removal/restoration?

# Planning Topics: Regional Economy & Sense of Place

- **Seneca Lake is both a community and a regional economic asset.**
  - The lake's scenic character, wineries, farms, recreation, lodging, restaurants and other small businesses collectively contribute to the identity and economy of the region. A major new industrial campus therefore raises questions that extend beyond the boundaries of the Town of Torrey.
- **Questions to consider:**
  - How visible could the ultimate development be from Seneca Lake, Route 14, surrounding hillsides and other public viewpoints?
  - Could new transmission lines, substations or other supporting infrastructure extend visual impacts well beyond the project site?
  - How might the scale and industrial character of a full AI/HPC campus affect the area's scenic and rural character?
  - Could those changes affect visitor perceptions of the Seneca Lake region?
  - What could the consequences be for wineries, lodging, restaurants, recreation and other tourism-dependent small businesses?
  - Are there potential effects on property values or future residential, agricultural and tourism investment?
  - Because many potential economic and visual effects cross municipal boundaries, **what neighboring municipalities, tourism organizations, businesses and regional stakeholders should have an opportunity to participate?**
  - What information or analysis would allow the Town to distinguish between manageable impacts and potentially significant regional ones?

# What Do We Know and What Don’t We Know?

From these company documents we know that its **publicly disclosed strategy contemplates development well beyond the existing operation**, and we **do not know** where that development would occur or what supporting infrastructure it would require.

Critical questions:

- Where will the **initial** AI/HPC building or buildings be located, how many acres it will require, and what property does Vulcan control?
- What is the **reasonably foreseeable ultimate buildout** of the Dresden campus?
- What new electrical, cooling, **transmission,** and other infrastructure will that buildout require?
- Which properties will need zoning changes or other Town approvals?



Example H-frame pole with 3 wires
Similar to local lines

# Line 969 - North

115kV line from Greenidge to Border City
Passes through vineyards, farmlands and homes
Crosses NY14 at Anthony Road & Kemmeter
Crosses 5&20 at just east of Yaeger Rd.

