

James City County Ordinance Electricity Consumption Contrast

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IMPORTANT

This is not an official New Kent County document and is not legal advice.

James City County's Data Center Policy on Electricity Consumption Constraints

James City County's listed provisions are its Electricity Consumption Guidance. They form advisory “should” language in the Board Policy for Special Use Permit review.

The guidance requires or encourages:

- Submission of energy-efficient design standards demonstrating efficiency of the site and equipment.
- Seeking energy from renewable systems on-site or within the grid region.
- Locating the closest point of the data center within two miles of an existing transmission line (in the County or an adjoining locality), with electrical lines from the data center to a substation or point of interconnection placed underground (measured from the fenced area).
- Identification of existing electric distribution or transmission infrastructure that may need upgrading, with any new or upgraded poles, lines, or connections also located underground.

These are directionally useful—they push toward efficiency, renewables, proximity to existing high-voltage infrastructure (to limit new builds and costs), and undergrounding (to reduce visual impacts)—but they remain qualitative, non-mandatory guidance without quantified metrics, binding commitments, ongoing verification, or clear enforcement mechanisms.

Contrast with the Most Empirically Successful Constraints in Effect

The strongest current approaches convert similar goals into mandatory, measurable, and enforceable standards that have proven more effective at protecting ratepayers, limiting grid strain, and driving real efficiency/renewable outcomes. Key examples and practices include:

1. Utility capacity confirmation, re-verification, and expansion limits (strongest for grid and ratepayer protection) James City only asks applicants to identify potential upgrades. York County, Virginia (nearby and adopted mid-2025), requires a letter from the electric utility purveyor at SUP application that confirms sufficient proximity/availability to substations and transmission lines **with sufficient capacity**, and that specifies the energy and voltage the facility will use **at full operating capacity**. The data center must then submit letters from the electric utility (and water purveyor) **every five years** verifying that actual usage matches the approved amounts. Expansion of electricity (or water) use is limited to no more than 25% of the originally approved amount; any larger increase requires a new public SUP amendment process with Board review, possible additional conditions, and applicant-paid advertising costs. Capacity certification is based on ultimate build-out, not phased or initial loads.

This package has been highlighted as a practical local response to concerns that data centers can increase load density without expanding footprints and shift infrastructure costs onto other ratepayers. Broader Virginia large-load tariff structures (e.g., Dominion’s GS-5 class for ≥25 MW customers) add contractual minimum-payment obligations, long-term commitments, and substantial collateral, further reducing stranded-cost risk.

2. Quantified energy-efficiency standards James City requires submission of “energy-efficient design standards” but sets no measurable targets. More effective rules impose concrete metrics such as Power Usage Effectiveness (PUE) limits (total facility energy ÷ IT equipment energy). Sierra Club Virginia guidelines recommend PUE of 1.1 or lower and placement in the top 10% nationally for efficiency. Some U.S. model and proposed ordinances require compliance with ASHRAE Standard 90.4 (Energy Standard for Data Centers), LEED BD+C: Data Centers (or equivalent), or specific PUE ceilings. Germany’s Energy Efficiency Act (EnEfG) sets binding PUE targets for data centers (e.g., ≤1.2 for new facilities entering operation after mid-2026, with phased tightening for existing ones) along with waste-heat reuse requirements. These measurable standards enable verification and continuous improvement far better than open-ended design submissions.

3. Binding renewable-energy commitments James City’s “seek energy from renewable systems on-site or within the grid region” is aspirational. Stronger approaches require quantified procurement: minimum percentages of electricity from regional renewables (e.g., solar, wind, hydro, geothermal, or waste heat) via power purchase agreements (PPAs), on-site generation, or equivalent; escalating targets over time (e.g., 40% rising to 60%); or on-site microgrids with renewables plus battery storage covering a defined share (Sierra Club suggests 50% in some guidance). Some jurisdictions or models also require annual reporting of energy consumption, renewable sourcing (including PPAs or RECs), and efficiency measures. Firm, time-matched (24/7) renewable procurement or behind-the-meter generation is increasingly viewed as higher-impact than annual matching alone.

4. Proximity to transmission and undergrounding James City’s two-mile proximity preference and undergrounding recommendation are constructive for minimizing new infrastructure and visual impacts. Comparable or stronger rules often require or strongly prefer siting near existing high-capacity transmission or substations, mandate identification of needed upgrades with utility confirmation of capacity, and require burial of on-site lines (especially lower-voltage distribution) and interconnect lines “to the extent practicable” or as a default (with limited exceptions for main service connections). Undergrounding is frequently paired with screening of any remaining above-ground equipment or substations.

5. Ongoing reporting and monitoring The most robust packages add periodic (often annual or five-year) reporting of actual energy use, peak demand, renewable percentages, efficiency performance, and any deviations, with authority to impose additional conditions or require mitigation if limits are exceeded.

Overall Assessment

James City’s electricity guidance correctly identifies key pressure points (efficiency, renewables, transmission proximity, and visual impacts of lines) and provides a useful policy foundation for CUP conditions. It is not among the most empirically successful constraints currently in effect, however, because it lacks binding force, quantified performance metrics (especially PUE), mandatory full-capacity utility certification with recurring verification, expansion caps, and enforceable renewable percentages.

The combination that has shown the greatest practical success in protecting local grids and ratepayers while advancing efficiency and cleaner energy is the York County-style capacity letter + five-year re-verification + 25% expansion limit, paired with measurable efficiency targets (PUE or ASHRAE/LEED equivalents) and binding renewable procurement requirements. For a highly restrictive New Kent ordinance, hardening James City’s concepts into these mandatory, verifiable standards—while retaining the proximity and undergrounding preferences—would produce a stronger, more effective energy regime. **See York County guidelines below:**

York County, Virginia’s verification and re-verification requirements for data centers are set out in Zoning Ordinance Section 24.1-489.1 (Standards for data centers), adopted via Ordinance No. 25-16(R) on June 17, 2025. These form binding performance standards for special use permit (SUP) approvals.

Initial Application Requirements (at SUP submission)

Any special use permit application must include:

1. **Electric utility letter** — From the electric utility purveyor confirming:
 - o Sufficient proximity and availability to a substation and transmission lines **with sufficient capacity** to serve the proposed data center.
 - o The letter must specify the amount of energy and voltage level the data center will use **at full operating capacity**.
 - o (Some codified versions also require identification of the energy source and amounts by project phase.)
2. **Public water purveyor letter** — Indicating sufficient capacity to serve the proposed data center and specifying the amount of water the facility will use **at full operating capacity**. (Language in some versions conditions this more explicitly on water use for cooling, but the overall capacity framework applies.)

Capacity certification is based on the facility’s full/ultimate build-out (not just initial or phased loads). The Board of Supervisors can deny an application if the utilities cannot confirm adequate capacity.

Ongoing Re-Verification Protocol

- **The data center shall submit a letter from the electric utility and public water purveyor every five (5) years, verifying (or confirming) that the data center is using the same amount of electricity and water as was approved.**

This recurring obligation provides ongoing accountability and allows the County to detect “load creep” (increased density or demand without a larger building footprint).

Expansion Limits Tied to Verification

- The data center may expand its usage of electricity or water by **no more than twenty-five percent (25%)** of the amount originally approved.
- Any increase beyond 25% is treated as an amendment to the special use permit and must follow the procedures in Section 24.1-115(d). This requires Board of Supervisors review after a duly advertised public hearing. The Board may attach additional conditions of approval. The applicant bears the costs of advertising and the public hearings.

Related Supporting Rules

- All data centers must be connected to a public water system; the use of wells as a water supply is prohibited.
- Water conservation methods (e.g., rainwater harvesting and water recycling systems) must be employed; proposed methods require County approval and must be shown on the site plan.

Context from Adoption

During the June 17, 2025 Board meeting, supervisors (led by concerns raised by Supervisor Holroyd and others) explicitly amended the draft to add the “with sufficient capacity” language, the five-year re-verification requirement, and the 25% expansion cap. The intent was to protect the local grid and ratepayers from infrastructure costs or reliability impacts associated with large, growing loads, and to ensure the County retains leverage over future demand increases.

These provisions create a closed-loop system: full-capacity certification at approval → mandatory five-year utility confirmation of actual usage → hard expansion ceiling that forces a new public process if exceeded. This is one of the clearer ongoing verification mechanisms among Virginia localities regulating data centers.