# BOARD REPORT

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| **TO:** | VILLAGE PRESIDENT & BOARD OF TRUSTEES |
| **FROM:** | SCOTT KOEPPEL, VILLAGE ADMINISTRATOR<br>DANIELLE MARION, COMMUNITY DEVELOPMENT DIRECTOR |
| **SUBJECT:** | DISCUSSION: DATA CENTER REGULATIONS CONTINUED |
| **AGENDA:** | July 7, 2026 |
| **DATE:** | June 26, 2026 |

**ISSUE**
Shall the Village Board discuss requirements for Data Centers.

**DISCUSSION**
The topic of Data Centers and their requirements has been on ongoing discussion with the Village Board, most recently discussed at the June 2, 2026 meeting. During this meeting the Village Board discussed some potential requirements they were interested in looking into further and potentially adding to the Villages Data Center regulations. The Board requested staff to bring back for further discussion the changes that Aurora recently made to their Data Center regulations.

Attached to this report is a list outlining the changes that Aurora adopted to their Data Center regulations. This list includes requiring a special use permit for all data centers and also language stating that the City of Aurora can also require a development agreement if they see fit. There are a number of reports that must be submitted prior to construction: noise study, water consumption study, energy consumption study. Strict location requirements on chillers and generators requiring them to be at least 1,000 feet away from any residential, hospital or educational use. Noise standards were added as well as specific times that generators are permitted to be tested. Aurora added the requirement that there must continuous vibration monitoring every 500 feet along all property lines within 1,000 feet of residential. Energy use standards and Water use standards were adopted by Aurora, these are two items the Village needs to further look into the best way for the Village to incorporate and enforce these. Aurora requires screening around all roof and ground mounted mechanical equipment. Another new addition to Aurora's regulations is the requirement of on-site renewable energy and resilience requirements. This is something the Village discussed requiring through adopting the Internation Energy Conservation Code 2024 Appendix CC. All data centers in Aurora now required to submit annual reports that include water use, energy use, and noise

levels. Aurora also adopted very strict regulations concerning biometric data, these regulations are not something that the Village would be able to adopt.

The other item that was briefly discussed during the last data center discussion was the idea of adopting the 2024 International Energy Conservation Code (IECC) Appendix CC. The IECC is mandatorily enforced by the state and the Village must adopt the latest code and enforce in its entirety. However, there are appendices to this code that the Village can chose to additionally adopt. One of these is appendix CC- zero energy commercial building provisions. This requires renewable energy be either installed on-site or procured off-site to offset the electrical load of the building. This in return will reduce the amount of carbon emissions that are produced by these buildings. If the Board wishes to adopt this appendix as part of the 2024 IECC, per the Village Attorney, the board has the option to also add additional conditions to this so that it would only apply to certain zoning districts within the Village and/or a certain square foot building.

**COST**
There is no cost to discuss this item.

**ATTACHMENTS**
List of Aurora Data Center Amendments
2024 IECC Appendix CC

**RECOMMENDATION**
That the Village Board discuss the data center regulations and provide staff with direction on next steps they wish to take.

Special Use:

All data centers are to be processed as a special use. And may be required to enter into a development agreement.

Applicants must submit the following reports:

Pre-development sound study

Noise Modeling Study

Water Consumption & Quality Modeling Report

Energy Consumption Modeling Report

Chillers must mee the following requirements:

Evaporative chillers utilizing potable water no permitted

Roof-mounted Chillers cannot be located within 1,500 feet of any residential, hospital or educational use

Ground-mounted chillers cannot be located within 1,000 feet of any residential, hospital or educational use

Upon data center decommissioning and use change, obsolete roof-mounted or ground-mounted chillers and associated equipment must be removed.

Generators must meet the following requirements:

Roof-mounted generators not permitted

All generators must meet and comply with the state standards set forth in the Municipal and Cooptative Electric Utility Transparent Planning Act, including but not limited to Tier 4 emission standards in 415 ILCS 5/39(a)

Must be equipped with vibration isolation systems.

May not be located within 1,000 feet of any residential, hospital or education use.

Noise Standards:

Noise levels may not exceed the following constant-minimum noise thresholds:

Daytime – 57 dB (A) weighted 7am to 7pm (a little less than a normal conversation or air conditioner)

Nighttime – 47 dB (A) weighted 7pm to 7am (quiet, such as a whisper or soft music)

Testing of Generators:

Testing of generators may only occur between the hours of 9:00 am and 5:00 pm Monday through Friday and not on holidays. No more than two generations may be tested simultaneously.

Vibration Standards:

Data center facilities must have continuous vibration monitoring at spacing of no less than 500 feet along all property lines within 1,000 feet of residential, hospital or educational uses.

Energy Use Standards:

Must be designed to maintain a Power Usage Effectiveness of no more than one and two-tenths. Power usage effectiveness is defined as the ratio of total building energy consumption divided by the total information technology equipment (servers, switches, storage devices, etc.)

Must be designed to comply with energy code requirements

Modular nuclear reactors, small modular reactors or any other nuclear-based energy are not permitted.

*These energy use standards are a good concept, however for the Village of Sugar Grove it would be best to look into the best way to enforce this may be through the IECC 2024 Appendix CC.*

Water Use Standards:

Must maintain a Water Usage Effectiveness of no more than two tenths. Water Usage Effectiveness is the ratio of total potable building water consumption (liters) to Information Technology equipment (kilowatt-hour).

*This is another standard that the Village will need to discuss the best way of enforcement on this for Sugar Grove.*

Screening:

All roof-mounted mechanical equipment must be fully enclosed on all sides by a sound-attenuating screen or parapet equal in height or taller than the tallest roof-mounted chiller or mechanical equipment and must blend with the architectural style, materials and color of the building.

Ground-mounted mechanical equipment must be fully enclosed on all sides by a sound attenuating enclosure, equal in height to or tall than that tallest ground-mounted chiller and generator or associated mechanical equipment and must blend with the architectural style, materials, and color of the building.

On-Site Renewable Energy and Resilience Requirements:

All data centers must install and operate one of the following:

On-site Clean Energy: On-site renewable energy generation with capacity to supply not less than 25% of the facilities peak electrical demand.

On-site Resilience Storage: On-site energy storage capable of supplying not less than 50% of the facilities peak electrical demand for a minimum duration of 15 minutes.

Annual Reporting Requirements:

Must submit an annual water and energy use data report.

Must submit a third party tested noise level report

Enforcement:

Violations of these requirements are subject to fines up to $1,000 per day

Biometric regulations:

Aurora added several regulations concerning biometric privacy. This is not something Sugar Grove can apply to our code.

Buffer:

Aurora added distance from residential uses specific to generator location and chillers. Staff feels that a distance from residential uses as measured at the property line of a data center would be easier to enforce and recommends 1,000 feet from a residential use.

APPENDIX

# CC

# ZERO ENERGY COMMERCIAL BUILDING PROVISIONS

*The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.*

**User notes:**

***About this appendix:*** *Appendix CC provides a model for applying new renewable energy generation when new buildings add electric load to the grid. This renewable energy will avoid the additional emissions that would otherwise occur from conventional power generation.*

## SECTION CC101—GENERAL


**CC101.1 Purpose.** The purpose of this appendix is to supplement the *International Energy Conservation Code* and require renewable energy systems of adequate capacity to achieve net zero operational energy.

**CC101.2 Scope.** This appendix applies to new buildings that are addressed by the *International Energy Conservation Code*.

**Exceptions:**

1. Detached one- and two-family dwellings and townhouses as well as Group R-2 buildings three stories or less in height above grade plane, manufactured homes (mobile dwellings), and manufactured houses (modular dwellings).
2. Buildings that use neither electricity nor fossil fuel.

## SECTION CC102—DEFINITIONS


**CC102.1 Definitions.** The definitions contained in this section supplement or modify the definitions in the *International Energy Conservation Code*.

**ADJUSTED OFF-SITE RENEWABLE ENERGY.** The amount of energy production from off-site renewable energy systems that may be used to offset building energy.

**BUILDING ENERGY.** All energy consumed at the *building site* as measured at the site boundary. Contributions from on-site or off-site renewable energy systems shall not be considered when determining the building energy.

**DIRECT ACCESS TO WHOLESALE MARKET.** An agreement by the *owner* and a renewable energy developer to purchase renewable energy from the wholesale market.

**DIRECT OWNERSHIP.** An off-site renewable energy system under the ownership or control of the building project *owner*.

**GREEN RETAIL PRICING.** A program by the retail electricity provider to provide 100 percent renewable energy to the building project *owner*.

**MINIMUM RENEWABLE ENERGY REQUIREMENT.** The minimum amount of on-site or adjusted off-site renewable energy needed to comply with this appendix.

**OFF-SITE RENEWABLE ENERGY SYSTEM.** A renewable energy system that serves the building project and is not an on-site renewable energy system, including contracted purchases of renewable energy and renewable energy certificates (RECs).

**ON-SITE RENEWABLE ENERGY SYSTEM.** Renewable energy systems located on any of the following:

1. The building.
2. The property on which the building is located.
3. A property that shares a boundary with and is under the same ownership or control as the property on which the building is located.
4. A property that is under the same ownership or control as the property on which the building is located and is separated only by a public right-of-way from the building served by the renewable energy system.

**RENEWABLE ENERGY INVESTMENT FUND (REIF).** A fund established by a jurisdiction to accept payment from building project owners to construct or acquire interests in qualifying renewable energy systems, together with their associated RECS, on the building project owner's behalf.

**RENEWABLE ENERGY SYSTEM.** Photovoltaic, solar thermal, geothermal energy extracted from hot fluid or steam, wind, or other *approved* systems used to generate renewable energy.

**SEMIHEATED SPACE.** An *enclosed space* within a *building* that is heated by a heating system whose output capacity is greater than or equal to 3.4 Btu/h × $ft^2$ of floor area but is not a *conditioned space*.

## SECTION CC103—MINIMUM RENEWABLE ENERGY



**CC103.1 Renewable energy.** On-site renewable energy systems shall be installed, or adjusted off-site renewable energy shall be procured to meet the minimum renewable energy requirement in accordance with Equation CC-1.

**Equation CC-1** $RE_{on\text{-}site} + RE_{off\text{-}site} \geq RE_{min}$

where:

$RE_{on\text{-}site}$ = Annual site energy production from on-site renewable energy systems, including installed on-site renewable energy systems used for compliance with Sections C405.13.1 and C406.

$RE_{off\text{-}site}$ = Adjusted annual site energy production from off-site renewable energy systems that is permitted to be credited against the minimum renewable energy requirement. This includes off-site renewable energy purchased for compliance with Section C405.13.2.

$RE_{min}$ = Minimum renewable energy requirement.

When Section C401.2.1 is used for compliance with the *International Energy Conservation Code*, the minimum renewable energy requirement shall be determined by multiplying the gross conditioned floor area plus the gross semiheated floor area of the proposed building by the prescriptive renewable energy requirement from Table CC103.1. An area-weighted average shall be used for mixed-use buildings.

When Section C401.2.1, Item 2 or Section C401.2.2 is used for compliance with the *International Energy Conservation Code*, the minimum renewable energy requirement shall be equal to the building energy as determined from energy simulations.

**TABLE CC103.1—PRESCRIPTIVE RENEWABLE ENERGY REQUIREMENT FOR BUILDING TYPES AND CLIMATES (kWh/ft²/yr)**

| CLIMATE ZONE | BUILDING AREA TYPE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Multifamily (R-2) | Healthcare/ Hospital (I-2) | Hotel/ Motel (R-2) | Office (B) | Restaurant (A-2) | Retail (M) | School (E) | Warehouse (S) | Grocery Store (M) | Laboratory (B) | Assembly (A) | All Others |
| 0A | 13 | 35 | 23 | 10 | 129 | 17 | 16 | 3 | 27 | 41 | 5 | 17 |
| 0B | 12 | 34 | 22 | 10 | 123 | 17 | 15 | 3 | 26 | 40 | 5 | 16 |
| 1A | 11 | 32 | 20 | 9 | 113 | 14 | 13 | 3 | 24 | 36 | 4 | 15 |
| 1B | 11 | 32 | 20 | 9 | 118 | 15 | 14 | 3 | 24 | 37 | 5 | 15 |
| 2A | 11 | 32 | 20 | 8 | 114 | 13 | 12 | 3 | 22 | 34 | 4 | 14 |
| 2B | 11 | 30 | 18 | 8 | 108 | 12 | 11 | 3 | 22 | 33 | 4 | 13 |
| 3A | 11 | 30 | 18 | 8 | 117 | 13 | 11 | 3 | 21 | 31 | 4 | 13 |
| 3B | 10 | 29 | 18 | 8 | 110 | 12 | 10 | 3 | 20 | 31 | 4 | 13 |
| 3C | 9 | 28 | 18 | 7 | 100 | 10 | 9 | 2 | 18 | 27 | 3 | 12 |
| 4A | 12 | 31 | 18 | 8 | 123 | 15 | 11 | 6 | 21 | 32 | 4 | 14 |
| 4B | 11 | 29 | 18 | 7 | 113 | 12 | 10 | 4 | 20 | 30 | 4 | 13 |
| 4C | 10 | 28 | 17 | 7 | 111 | 13 | 10 | 4 | 18 | 28 | 3 | 13 |
| 5A | 12 | 31 | 19 | 8 | 133 | 17 | 11 | 8 | 22 | 34 | 4 | 15 |
| 5B | 11 | 29 | 18 | 8 | 125 | 14 | 11 | 5 | 21 | 31 | 4 | 14 |
| 5C | 10 | 29 | 17 | 7 | 116 | 13 | 10 | 4 | 18 | 27 | 3 | 13 |
| 6A | 14 | 33 | 20 | 10 | 151 | 20 | 13 | 11 | 26 | 39 | 5 | 17 |
| 6B | 13 | 33 | 19 | 8 | 137 | 17 | 11 | 7 | 22 | 34 | 4 | 16 |
| 7 | 14 | 37 | 21 | 9 | 164 | 20 | 13 | 10 | 25 | 37 | 5 | 18 |
| 8 | 15 | 40 | 22 | 11 | 190 | 23 | 16 | 10 | 28 | 43 | 5 | 20 |

For SI: 1 kilowatt hour per square foot = 10.76 kWh/m².

**CC103.2 Calculation of on-site renewable energy.** The annual energy production from on-site renewable energy systems shall be determined using *approved* software.

**TABLE CC103.2—PROCUREMENT FACTORS FOR RENEWABLE ENERGY SYSTEM COMPLIANCE ALTERNATIVES**

| ON-SITE RENEWABLE ENERGY | PROCUREMENT FACTOR | |
|---|---|---|
| | Unbundled RECs | Other Procurement Methods |
| 7.5 W/ft² of roof area or more or where one or more of Exceptions 1, 2 and 3 to Section C405.15.1 are satisfied. | 0.20 | 1.0 |

| TABLE CC103.2—PROCUREMENT FACTORS FOR RENEWABLE ENERGY SYSTEM COMPLIANCE ALTERNATIVES—continued | | |
|---|---|---|
| ON-SITE RENEWABLE ENERGY | PROCUREMENT FACTOR | |
| Less than 7.5 W/ft$^2$ of roof area and none among Exceptions 1, 2 and 3 to Section C405.15.1 is satisfied. | 0.20 | 0.75 |
| For SI: 1 watt per square foot = W/0.0929 m$^2$. W = Watts. | | |

**CC103.2.1 Renewable energy certificates.** Renewable energy certificates (RECs) associated with the on-site renewable energy system shall be assigned to the initial and subsequent building owner(s) for a cumulative period of not less than 15 years. The building owner(s) are permitted to transfer RECs to building tenants occupying the *building*.

**CC103.3 Off-site renewable energy.** Off-site energy shall comply with Sections CC103.3.1 and CC103.3.2.

**CC103.3.1 Off-site procurement methods.** One or more of the following off-site renewable energy procurement methods shall be used to comply with Section CC103.1:

1. Community renewables energy facility.
2. *Renewable energy investment fund.*
3. *Financial renewable energy power purchase agreement.*
4. *Direct ownership.*
5. *Direct access to wholesale market.*
6. Green retail pricing.
7. Unbundled Renewable Energy Certificates (RECs).
8. *Physical renewable energy power purchase agreement.*

**CC103.3.2 Requirements for all procurement methods.** Off-site renewable energy systems and procurement methods used to comply with Section CC103.1 shall comply with all of the following:

1. The building *owner* shall sign a legally binding contract or other *approved* agreement to procure qualifying off-site renewable energy.
2. The procurement contract shall have duration of not less than 15 years and shall be structured to survive a partial or full transfer of ownership of the property.
3. RECs associated with the procured *off-site renewable energy* shall comply with the following requirements:
   - 3.1. The RECs shall be retained or retired by or on behalf of the property *owner* or tenant for a period of not less than 15 years.
   - 3.2. The RECs shall be created within a 12-month period of use of the REC.
   - 3.3. The RECs shall be from a generating asset constructed not more than 5 years before the issuance of the certificate of occupancy.
4. The generating source shall be a renewable energy system.
5. The generation source shall be located where the energy can be delivered to the *building site* by any of the following:
   - 5.1. Direct connection to the off-site renewable energy facility.
   - 5.2. The local utility or distribution entity.
   - 5.3. An interconnected electrical network where energy delivery capacity between the generator and the *building* site is available.
6. Records on power sent to or purchased by the building shall be retained by the building owner and made available for inspection by the code official upon request.

**CC103.3.3 Adjusted off-site renewable energy.** The process for calculating the adjusted *off-site renewable energy* is shown in Equation CC-2.

**Equation CC-2** $$RE_{off\text{-}site} = PF_{NonRecs} \times RE_{NonRecs} + 0.20 \times RE_{Recs}$$

where:

$RE_{off\text{-}site}$ = Adjusted off-site renewable energy.

$PF_{NonRecs}$ = The renewable energy procurement factor for off-site renewable energy other than RECs, in accordance with Section CC103.3.3.1.

$RE_{NonRecs}$ = Annual energy production for renewable energy procurement methods other than RECs.

$RE_{Recs}$ = Annual energy production associated with unbundled RECs.

**CC103.3.3.1 Procurement factors.** The procurement factors for renewable energy system compliance alternatives shall be as specified in Table CC103.2.