

Upper Merion Township Data Center Ordinance Scorecard

Upper Merion Township Code § 165-219.12 and related provisions
compared with Model Large-Load Data Center Ordinance v7.4.1

Overall Weighted Score: 22.1%

Overall Assessment: Needs Major Strengthening

Current eCode reviewed August 24, 2026 | Data-center ordinance added March 12, 2026 by Ordinance No. 2026-905

Executive Summary

Purpose. This scorecard compares Upper Merion Township's current data-center zoning provisions with the more comprehensive Model Large-Load Data Center Ordinance v7.4.1. The comparison includes § 165-219.12 together with directly relevant Township provisions on definitions, conditional-use review, noise, lighting and parking.

Overall result. Upper Merion scores 22.1%, within the “Needs Major Strengthening” range under this v7.4.1 benchmark. The report evaluates 49 criteria, including 22 Critical criteria; 16 Critical criteria score 0 or 1.

What Upper Merion Does Well

- Uses a conditional-use process and expressly places the burden on the applicant to demonstrate compliance with applicable standards.
- Provides a strong 1,000-foot separation from residential uses and residential zoning for data-center buildings, structures and associated mechanical equipment.
- Requires full mechanical-equipment screening, acoustical barriers, pre- and post-construction noise studies, and enforceable noise mitigation.
- Includes useful general noise provisions for pure tones and a 5 dBA correction for tonal/cyclic/repetitive impulse sound.
- Requires public-water capacity confirmation, prohibits groundwater/surface-water supply for data centers, and prohibits open-loop, once-through and evaporative water-intensive cooling.
- Requires a public informational meeting before filing the conditional-use application.

Highest-Priority Gaps Against v7.4.1

- No LLDC electric-load trigger, Project/Common Plan aggregation, anti-segmentation certification or cumulative/concurrent-application review.
- No facility-wide air-dispersion modeling, cumulative NAAQS/Pennsylvania ambient-air demonstration, HAP/air-toxics screening, generator telemetry or annual emissions accounting.
- No separate-principal-use framework or technical operating standards for primary fossil generation, turbines/CCGT, bridge power, SCR/ammonia slip, gas infrastructure or methane LDAR.
- No extreme-weather/reliability-emergency combustion scenario or Approved Generation Operating Envelope.
- Cooling provisions are meaningful but do not reach v7.4.1's true non-evaporative/zero-routine-cooling-water standard.
- No BESS/NFPA 855 framework, fuel/hazardous-material QRA, decommissioning, financial security or annual multi-media compliance verification.

Codification check. The current SM-1 use regulation displayed in eCode identifies “Data center; by conditional use as outlined in §§ 165-219.1 and 165-219.11.” Section 165-219.11 is the electric-vehicle-charging permitting section, while the data-center standards are in § 165-219.12. The Township should confirm whether this cross-reference is a codification or drafting error.

Scoring Methodology

Each criterion is scored from 0 to 5. Critical items receive a weight of 3, High items a weight of 2, and Medium items a weight of 1. The overall weighted score equals total weighted points divided by total possible weighted points. A low score means the v7.4.1 protection is absent or materially less developed; it does not mean the existing provision has no value.

Score	Meaning	Priority	Weight
5	Substantially aligned	Critical	3
4	Mostly aligned	High	2
3	Partial alignment	Medium	1
2	Weak / incomplete		
1	Major gap		
0	Not addressed / conflicts		

Domain Summary

Domain	Weighted Score	Assessment
Scope & Legal Framework	27.5%	Needs Major Strengthening
Siting & Design	62.9%	Needs Strengthening
Energy & Generation	10.4%	Needs Major Strengthening
Air Quality	0.0%	Needs Major Strengthening
Water & Wastewater	31.7%	Needs Major Strengthening
Noise & Vibration	64.0%	Needs Strengthening
Safety, BESS & Hazmat	13.3%	Needs Major Strengthening
Transparency & Enforcement	12.7%	Needs Major Strengthening
Fiscal & Construction	20.0%	Needs Major Strengthening
Closure	0.0%	Needs Major Strengthening

Priority Critical Gaps

Critical criteria scoring 0 or 1 are the clearest candidates for a targeted ordinance update:

LLDC applicability trigger and scope — Score 1/5

Replace the floor-area-only trigger with, or supplement it by, a 10 MW electric-load trigger and expressly cover phased buildout, expansions, associated infrastructure, temporary generation and Material Changes.

Model: Secs. 2-3 | Upper Merion: §§165-5, 165-219.12

Project/Common Plan aggregation and anti-segmentation — Score 0/5

Add Project/Common Plan and Unified Development definitions, rebuttable aggregation presumptions and an anti-segmentation certification covering parcels, affiliates, tenants, meters, interconnection requests and phases.

Model: Secs. 2, 3B, 3A A-C | Upper Merion: §165-219.12

Cumulative impact review and concurrent applications — Score 0/5

Add a Cumulative Impact Review Area and common receptor/modeling requirements for air, noise, water, traffic, emergency services and other shared impacts.

Model: Sec. 3A D-K | Upper Merion: §165-219.12

Primary generation treated as separate principal use — Score 1/5

Expressly classify Primary On-Site Generation/Fossil-Fueled Primary Generation as a separate principal use requiring separate conditional-use approval.

Model: Sec. 6A-B | Upper Merion: §165-219.12A(9)(a), B(9)(a), C(10)(a)

Primary fossil generation thresholds and operating restrictions — Score 0/5

Add the v7.4.1 Primary Generation Threshold, operating categories, anti-conversion rule and prohibition on diesel/liquid/solid fossil primary power.

Model: Secs. 2, 6C-H | Upper Merion: §165-219.12

Directed reliability emergency and extreme-weather combustion review — Score 0/5

Add the v7.4.1 reliability-emergency definitions, Maximum Extreme-Weather Combustion Scenario, operating envelope, event telemetry and after-action/corrective-action provisions.

Model: Secs. 2, 6J, 7D, 7L.1, 7O, 7Y-Z, 15C.1 | Upper Merion: §§165-216, 165-219.12

Turbine/CCGT/bridge-power/redundancy controls — Score 0/5

Add a turbine/CCGT section covering dry configurations, redundancy, bridge/temporary power, startup/shutdown, bypass, monitoring and water use.

Model: Sec. 7B; Sec. 6F-I | Upper Merion: §165-219.12

SCR, ammonia slip, reagent and secondary pollutant controls — Score 0/5

Add a dedicated SCR/reagent section based on v7.4.1 Section 7A for any generator/turbine using NOx aftertreatment.

Model: Sec. 7A | Upper Merion: §165-219.12

Gas infrastructure/pipeline impacts and methane LDAR — Score 0/5

Add Associated Energy Infrastructure/Gas Infrastructure definitions, fuel-demand disclosure, local-impact analysis, gas emergency planning, methane LDAR and annual inventory reporting.

Model: Secs. 7R, 15B | Upper Merion: §165-219.12

Mandatory facility-wide dispersion modeling (AERMOD/EPA-preferred) — Score 0/5

Require facility-wide AERMOD or successor modeling with a pre-reviewed protocol, realistic operating scenarios and receptor mapping.

Model: Sec. 7K-L.1 | Upper Merion: §165-219.12

Cumulative NAAQS/PA ambient standard compliance — Score 0/5

Add the v7.4.1 cumulative ambient-air demonstration, regulatory-form compliance and objective cause-or-contribute framework.

Model: Sec. 7M-P | Upper Merion: §165-219.12

HAP/air-toxics screening and facility-wide emissions controls — Score 0/5

Require HAP/air-toxics screening, Sensitive-Receptor concentrations and facility-wide aggregation for routine, testing, startup and emergency scenarios.

Model: Sec. 7Q | Upper Merion: §165-219.12

Power-generation water-use restrictions — Score 0/5

Add the v7.4.1 power-generation water restrictions and default prohibition on water-consuming CCGT/HRSG/steam-cycle configurations.

Model: Secs. 7B D-G, 9O | Upper Merion: §165-219.12

Fuel/hazardous-material QRA, thermal radiation and containment — Score 0/5

Add the model QRA, thermal-radiation, secondary-containment, fuel-storage and hazardous-material inventory requirements.

Model: Sec. 10A-D, F.1-F.4 | Upper Merion: §165-219.12

Annual compliance verification/public reporting/dashboard — Score 0/5

Adopt annual facility-wide compliance certification, municipal verification, public summaries and monitoring-data transparency.

Model: Secs. 15, 15A J-K | Upper Merion: §165-219.12

Material-change enforcement, operational holds and remedies — Score 1/5

Add Section 15-style Material Change enforcement, corrective action, operational holds, phase/energization withholding and cumulative remedies.

Model: Sec. 15C-G | Upper Merion: §§165-219.1C, 165-219.12

Detailed Scorecard

The detailed tables below score the same 49 criteria used in the v7.4.1 comparison framework. Upper Merion descriptions are grounded in the current eCode provisions reviewed.

Scope & Legal Framework

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
LLDC applicability trigger and scope	Critical	Apply the LLDC framework at 10 MW or more of requested, reserved, contracted, proposed, or reasonably expected electric load; cover expansions, associated infrastructure and Material Changes.	Upper Merion defines a data center by floor area (over 10,000 sq. ft.) rather than electrical load. Section 165-219.12 regulates data centers in SM-1, LI and HI, but it does not use a 10 MW LLDC trigger or expressly aggregate expansions, phases or associated energy infrastructure. [UM §§165-5, 165-219.12]	1	Replace the floor-area-only trigger with, or supplement it by, a 10 MW electric-load trigger and expressly cover phased buildout, expansions, associated infrastructure, temporary generation and Material Changes.
Conditional use framework and applicant burden	Critical	LLDCs should be conditional uses only in expressly selected districts; the applicant bears the burden to prove compliance by substantial evidence with objective standards.	Data centers are processed as conditional uses. The general conditional-use procedure expressly places the burden on the applicant to show compliance with the ordinance, underlying district requirements, applicable law, public-facility adequacy and compatibility standards. [UM §§165-219.1, 165-219.12]	5	Retain this strong burden-of-proof framework and tie each added LLDC technical standard to the same conditional-use findings.
Project/Common Plan aggregation and anti-segmentation	Critical	Aggregate load, generation, water, wastewater, impacts, parcels, affiliates, phases, tenants, meters and infrastructure across a Project/Common Plan and Unified Development.	No Project/Common Plan, Unified Development, affiliate/common-control, separate-meter, separate-tenant or anti-segmentation framework was identified in the data-center provisions reviewed. [UM §165-219.12]	0	Add Project/Common Plan and Unified Development definitions, rebuttable aggregation presumptions and an anti-segmentation certification covering parcels, affiliates, tenants, meters, interconnection requests and phases.
Cumulative impact review and concurrent applications	Critical	Require cumulative review of existing, approved, pending, concurrent and reasonably foreseeable LLDCs and related sources affecting the same receiving environment; no first-in-time entitlement.	The data-center provisions do not establish a cumulative-impact review area, cumulative-source inventory, coordinated concurrent-application review or no-first-in-time rule. [UM §165-219.12]	0	Add a Cumulative Impact Review Area and common receptor/modeling requirements for air, noise, water, traffic, emergency services and other shared impacts.
Sensitive Receptor definition breadth	High	Protect residences, residential property lines, schools, daycares, hospitals, elder-care uses, places of worship, parks, trails, campgrounds, community centers and temporary/high-occupancy gathering places.	The data-center-specific 1,000-foot separation applies to residential uses and residential zoning. The broader noise ordinance recognizes residential, public space, open space and agricultural receiving districts, but the data-center ordinance does not define a broad Sensitive Receptor category. [UM §§165-216, 165-219.12]	1	Adopt a Sensitive Receptor definition covering schools, hospitals, elder care, daycares, places of worship, parks/trails and temporary/high-occupancy gathering areas, and apply relevant separation/modeling standards to them.
Material Change and phase-gate controls	High	Treat changes in load, generation, fuel, controls, cooling, BESS, water, gas infrastructure, operating assumptions and reliability commitments as Material Changes; use enforceable phase gates before energization.	Upper Merion has general conditional-use conditions and requires notice of post-approval lighting substitutions, but no comprehensive data-center Material Change definition or phase-gate/energization framework was identified. [UM §§165-215D(2), 165-219.1, 165-219.12]	1	Add a comprehensive Material Change definition, amended-approval trigger, phase-specific caps and pre-energization compliance gates.

Siting & Design

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
Appropriate zoning district and access	High	Permit LLDCs only in expressly selected districts after local suitability analysis considering infrastructure, receptors, environmental constraints, emergency services and comprehensive-plan policies.	The ordinance expressly provides conditional-use pathways in SM-1, LI and HI. SM-1 data centers must be under 49,999 sq. ft. and accessory to a permitted use; LI data centers must be under 49,999 sq. ft.; HI data centers are subject to separate design/dimensional standards. [UM §165-219.12]	4	Retain express district placement but document parcel-yield and infrastructure suitability for each district, especially SM-1 and LI, so the use is realistically available without weakening receptor protection.
Setbacks, separation and dimensional standards	High	Use district/project-specific setbacks; the model default keeps generation yards 1,000 feet from Sensitive Receptors unless a protective reduction is proven.	Upper Merion requires a 50-foot landscaped buffer where abutting residential use/district and a 1,000-foot separation between any data-center building/structure/mechanical equipment and residential use or residential zoning. HI also limits building footprint to 40% and height to 65 feet. [UM §165-219.12]	4	Strong residential separation. Extend receptor analysis beyond residential uses and establish equipment-specific setbacks for fuel storage, BESS and primary generation tied to air, noise and QRA evidence.
Aesthetics, screening and lighting	Medium	Require screening, facade treatment, equipment screening and objective full-cutoff/downward lighting with photometric documentation; screening cannot substitute for noise/air compliance.	Section 165-219.12 requires full visual screening of mechanical equipment in all three districts and facade articulation in HI. The general outdoor-lighting ordinance requires lighting plans, photometrics, IESNA full-cutoff fixtures, glare controls and property-line trespass limits. [UM §§165-215, 165-219.12]	4	Retain these strong provisions and expressly state in the data-center section that landscaping/visual screening cannot substitute for objective air, noise or safety compliance.
Environmental constraints/resource protection	High	Require an Environmental Constraints and Resource Protection Plan covering floodplains, wetlands, riparian buffers, steep slopes, woodlands, recharge, habitats, historic and agricultural resources.	The data-center provisions reviewed do not require a dedicated environmental-constraints/resource-protection plan. General conditional-use review addresses public facilities and stormwater but not the model's full resource inventory. [UM §§165-219.1, 165-219.12]	1	Add a required environmental constraints plan and explicit floodway/floodplain, wetland/riparian, steep-slope, recharge, woodland, habitat and historic-resource standards.

Energy & Generation

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
Primary generation treated as separate principal use	Critical	Fossil-fueled primary generation is a distinct principal use requiring separate zoning authorization and separate conditional-use review.	Upper Merion states that alternative or off-grid energy generation must obtain approvals from relevant authorities and comply with applicable requirements, but it does not classify normal-operation fossil generation as a separate principal use. [UM §165-219.12A(9)(a), B(9)(a), C(10)(a)]	1	Expressly classify Primary On-Site Generation/Fossil-Fueled Primary Generation as a separate principal use requiring separate conditional-use approval.
Primary fossil generation thresholds and operating restrictions	Critical	Define Primary On-Site Generation and trigger separate review based on use, more than 100 non-emergency hours, more than 10% annual load, more than 5 MW, or other evidence; prohibit liquid/solid fossil primary power.	No quantitative Primary Generation Threshold, primary-vs-emergency classification test, diesel-primary prohibition or anti-conversion rule was identified. [UM §165-219.12]	0	Add the v7.4.1 Primary Generation Threshold, operating categories, anti-conversion rule and prohibition on diesel/liquid/solid fossil primary power.
Backup generator emissions, testing and peak-shaving controls	Critical	Use strict emergency/testing definitions, Tier 4 Final diesel, per-unit/facility-wide testing caps, concurrency limits, ozone-season limits, daytime testing windows and no economic peak shaving.	The general noise ordinance limits backup emergency generators to backup/emergency use except testing/commissioning and restricts testing to 9:00 a.m.-5:00 p.m. It does not establish Tier 4 requirements, emissions controls, annual hour caps, concurrency limits or ozone-season limits. [UM §165-216E(12)]	2	Keep the emergency-only/testing-window rule and add Tier 4 Final, per-unit/facility-wide hour caps, simultaneous-unit limits, ozone-season controls, emissions controls and telemetered logs.
Mandatory non-combustion backup floor/alternatives	High	Require at least 20% of emergency backup capacity through non-combustion technology unless infeasibility is proven; require a technology alternatives analysis for diesel.	No mandatory non-combustion backup share or diesel technology-alternatives analysis was identified. [UM §165-219.12]	0	Add a minimum non-combustion backup floor or require a documented infeasibility finding before approving less.
Grid interconnection/load and upgrade-cost disclosure	High	Disclose requested/reserved/full-buildout load, interconnection status, utility path, upgrades, cost-allocation assumptions, early-exit protections and additive generation/storage/demand-response arrangements.	Before plan recording, the applicant must provide electric-utility confirmation that sufficient capacity is available. The ordinance does not require detailed load, interconnection milestone, upgrade-responsibility or cost-allocation disclosures. [UM §165-219.12A(9), B(9), C(10)]	2	Expand the utility letter into a full Electric Load and Interconnection Report covering average/peak/full-buildout MW, reserved capacity, upgrades, interconnection status, costs and reliability/demand-response commitments.
Directed reliability emergency and extreme-weather combustion review	Critical	Define Directed Reliability Emergency Operation; model maximum extreme-weather simultaneous combustion; establish an Approved Generation Operating Envelope and after-action review.	No reliability-emergency definition, PJM/utility-directed operation framework, extreme-heat/grid-stress combustion scenario, Approved Generation Operating Envelope or after-action requirement was identified. [UM §§165-216, 165-219.12]	0	Add the v7.4.1 reliability-emergency definitions, Maximum Extreme-Weather Combustion Scenario, operating envelope, event telemetry and after-action/corrective-action provisions.
Turbine/CCGT/bridge-power/redundancy controls	Critical	Apply turbine-specific air/noise/water/monitoring rules; aggregate N+1/N+2/2N, black-start, bridge, temporary/mobile/rental and BESS-charging generation; default-prohibit water-consuming CCGT/HRSG configurations.	No turbine-specific, CCGT/HRSG, bridge-power, temporary/mobile generation, redundancy, startup/shutdown, bypass or BESS-charging controls were identified. [UM §165-219.12]	0	Add a turbine/CCGT section covering dry configurations, redundancy, bridge/temporary power, startup/shutdown, bypass, monitoring and water use.
SCR, ammonia slip, reagent and secondary pollutant controls	Critical	Require SCR/reagent management, ammonia-slip limits, secondary-pollutant analysis, reagent storage safety, stack testing, bypass limits, catalyst management and public reporting.	No SCR, ammonia-slip, reagent-storage, catalyst-degradation or secondary-pollutant provisions were identified in the data-center standards. [UM §165-219.12]	0	Add a dedicated SCR/reagent section based on v7.4.1 Section 7A for any generator/turbine using NOx aftertreatment.
Gas infrastructure/pipeline impacts and methane LDAR	Critical	Require gas-demand and infrastructure disclosure, anti-segmentation of associated gas facilities, local-impact review, gas-specific emergency planning, methane LDAR/inventory and Material Change review.	No data-center-specific gas-infrastructure disclosure, pipeline-impact analysis, methane LDAR, annual methane inventory or gas-specific emergency framework was identified. [UM §165-219.12]	0	Add Associated Energy Infrastructure/Gas Infrastructure definitions, fuel-demand disclosure, local-impact analysis, gas emergency planning, methane LDAR and annual inventory reporting.

Air Quality

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
Mandatory facility-wide dispersion modeling (AERMOD/EPA-preferred)	Critical	Require EPA-preferred dispersion modeling for primary generation, large generator fleets, stacks near Sensitive Receptors and other material cases; peer-review the modeling protocol.	No AERMOD/EPA-preferred dispersion-modeling requirement or facility-wide air-modeling trigger was identified. [UM §165-219.12]	0	Require facility-wide AERMOD or successor modeling with a pre-reviewed protocol, realistic operating scenarios and receptor mapping.
Cumulative NAAQS/PA ambient standard compliance	Critical	Demonstrate cumulative compliance with applicable NAAQS and Pennsylvania ambient standards using proper regulatory form, representative background and cumulative sources.	No cumulative ambient-air modeling standard, background-concentration protocol, regulatory-form test or cause/contribute criterion was identified. [UM §165-219.12]	0	Add the v7.4.1 cumulative ambient-air demonstration, regulatory-form compliance and objective cause-or-contribute framework.
HAP/air-toxics screening and facility-wide emissions controls	Critical	Screen formaldehyde, benzene, acrolein, VOCs and other HAPs at Sensitive Receptors and aggregate project-wide sources.	No HAP/air-toxics screening or facility-wide HAP analysis was identified. [UM §165-219.12]	0	Require HAP/air-toxics screening, Sensitive-Receptor concentrations and facility-wide aggregation for routine, testing, startup and emergency scenarios.
Telemetered generator monitoring and annual emissions accounting	High	Require runtime/fuel/emissions accounting, telemetered alarms for operating-category/concurrency violations and annual facility-wide pollutant summaries.	No unit-level generator telemetry, automated compliance alarms or annual facility-wide emissions accounting was identified. [UM §§165-216, 165-219.12]	0	Add non-resettable runtime data, telemetered operating-category/concurrency alarms, five-year records and annual facility-wide emissions summaries.
Construction/commissioning formaldehyde-VOC off-gassing controls	High	Characterize material construction/commissioning formaldehyde, VOC and HAP sources; evaluate purge/ventilation exhaust, nearby Sensitive Receptors, mitigation, monitoring and complaint response.	No construction/commissioning formaldehyde, VOC, purge/ventilation or temporary-HVAC air-release protocol was identified. [UM §165-219.12]	0	Add the v7.4.1 Construction-Phase Impact Plan and construction/commissioning air-release protocol.

Water & Wastewater

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
True non-evaporative closed-loop / zero routine cooling water	Critical	Require true non-evaporative closed-loop cooling for primary IT cooling and facility heat rejection; prohibit routine cooling-water withdrawal, evaporation, discharge and blowdown.	Upper Merion requires water-based cooling to use a closed-loop system and expressly prohibits open-loop, once-through and evaporative water-intensive cooling. It does not expressly establish the v7.4.1 zero-routine-cooling-water/zero-evaporation/zero-blowdown standard or prohibit every wet-assist/adiabatic/hybrid mode. [UM §165-219.12A(10), B(10), C(11)]	3	Strengthen the standard to true non-evaporative closed-loop cooling with zero routine cooling-water withdrawal, evaporation and blowdown, including adiabatic/wet-assist/hybrid anti-evasion language.
Water supply capacity, feasibility and drought response	High	Require supply/capacity documentation, water balance, provider/basin coordination, drought response and essential-community-needs protection.	The applicant must document exclusive service by the public water system and sufficient capacity; groundwater wells, springs and direct surface-water withdrawals are prohibited. No data-center-specific drought plan, water-use metering, priority or essential-community-needs standard was identified. [UM §165-219.12A(11), B(11), C(12)]	3	Retain the strong public-water capacity requirement and add a sealed water balance, drought-response plan, use-category metering/reporting and water-priority transparency.
Wastewater capacity, discharge and Chapter 94 protections	High	Require wastewater-capacity proof, Chapter 94 overload protection, flow/pollutant characterization, pretreatment controls and prohibition of unauthorized discharges.	The ordinance says facility water may be discharged/exported only through an approved public sanitary sewer connection, but it does not require data-center-specific wastewater capacity certification, Chapter 94 analysis or pollutant/temperature/chemical characterization. [UM §165-219.12A(10), B(10), C(11)]	2	Add Chapter 94 overload protection, provider capacity certification, peak/average flows, pollutant/temperature characterization and pretreatment/discharge requirements.
Coolant/process chemical management	High	Require coolant/chemical inventories, SDS, containment, leak detection, flushing/replacement/disposal controls and annual certification.	No data-center-specific closed-loop coolant, glycol, dielectric-fluid or process-chemical management plan was identified. [UM §165-219.12]	0	Add a Closed-Loop Coolant and Chemical Management Plan with containment, leak detection, authorized disposal and annual certification.
Power-generation water-use restrictions	Critical	Prohibit routine water use for turbine inlet cooling, fogging, wet compression, HRSG/steam-cycle makeup, condenser cooling, blowdown and similar generation uses absent narrowly reviewed approval.	The cooling provisions regulate data-center water-based cooling, but no specific Power Generation Water Use restriction for turbines/CCGT/HRSG/fogging/wet compression was identified. [UM §165-219.12]	0	Add the v7.4.1 power-generation water restrictions and default prohibition on water-consuming CCGT/HRSG/steam-cycle configurations.

Noise & Vibration

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
Day/night dBA and dBC quantitative sound limits	Critical	Use objective day/night limits, including 45 dBA daytime and 40 dBA nighttime unless more protective local standards apply, plus low-frequency/dBC protections.	The data-center section requires 50 dBA at parcel lines adjacent to residential zoning and 62 dBA at parcel lines adjacent to retail/office commercial districts. The general noise ordinance has day/night dBA limits by receiving district. No data-center-specific dBC limit is provided. [UM §§165-216D, 165-219.12]	3	Lower data-center residential limits toward the model benchmark and add dBC/low-frequency limits with clear daytime/nighttime treatment.
Low-frequency/tonal/octave-band and cumulative scenario analysis	Critical	Require one-third-octave analysis, tonal/low-frequency penalties and cumulative modeling of routine, testing, emergency, turbine, redundancy, temporary and full-buildout scenarios.	The general noise ordinance defines pure tone using one-third-octave criteria and reduces applicable limits by 5 dBA for pure tone, cyclically varying or repetitive impulse noise. It does not require LLDC-specific dBC/low-frequency cumulative scenario modeling or redundancy/emergency modeling. [UM §165-216C-D]	3	Retain the strong pure-tone definition and 5 dBA correction; add low-frequency/dBC criteria and full-facility cumulative modeling for routine, generator-testing, emergency, redundancy and temporary-power scenarios.
Baseline/post-construction monitoring and verification	High	Require baseline, predictive study, post-construction verification after energization/full operation/Material Changes/complaints and continuous monitoring near major sources/Sensitive Receptors.	Upper Merion requires a pre-construction noise study at different times of day and a post-construction study 1-12 months after the first certificate of occupancy. If baseline already exceeds the limit, operations may not materially increase it. [UM §165-219.12A(8), B(8), C(9)]	4	Strong baseline/post-construction framework. Add predictive modeling, verification after Material Changes/credible complaints and continuous monitoring where major equipment is near receptors.
Noise-Control Alternatives Analysis and corrective-action framework	High	Require a technology-neutral alternatives analysis covering layout, source controls, isolation, enclosures/silencers, barriers and operational controls; exceedances trigger correction/curtailment.	The ordinance requires acoustical barriers for exterior mechanical equipment and requires mitigation if the post-construction study fails. The Zoning Officer may interpret and enforce mitigation, but no structured alternatives analysis or curtailment/correction timeline is provided. [UM §165-219.12A(7)-(8), B(7)-(8), C(8)-(9)]	3	Add a Noise-Control Alternatives Analysis and explicit correction deadlines, re-testing and authority to curtail/suspend offending operation until compliance is demonstrated.

Safety, BESS & Hazmat

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
Emergency response, responder training and inspections	Critical	Require comprehensive emergency plans, 24/7 contacts, site orientation, isolation/shutoffs, annual refresher training, fire flow/access and coordinated inspections.	HI data-center operators must provide an emergency management plan showing adequate fire, police and emergency-service capability and addressing intentional external, natural and man-made threats. Comparable express language is not included in the SM-1/LI subsections, and no annual responder-training/inspection program is specified. [UM §165-219.12C(14); §165-219.1B(7)]	2	Apply the emergency-plan requirement to every data center and add 24/7 contacts, fire-flow/access details, isolation/shutoffs, annual multi-agency training, pre-incident planning and update obligations.
BESS/NFPA 855 and battery fire protections	High	Include BESS in hazardous-material/QRA review; require applicable fire/building standards, AHJ documentation, UL 9540A/successor testing where required and responder training.	No data-center-specific BESS, NFPA 855, UL 9540/9540A or battery thermal-runaway provisions were identified. [UM §165-219.12]	0	Add BESS-specific fire/building, testing, spacing, QRA, emergency-response and responder-training requirements.
Fuel/hazardous-material QRA, thermal radiation and containment	Critical	Require qualified QRA for fires, explosions, high-pressure gas, BESS thermal runaway and cascading events; use objective thermal-radiation and containment standards.	No comprehensive fuel/hazardous-material inventory, QRA, thermal-radiation criterion or 110% secondary-containment requirement was identified in the data-center section. [UM §165-219.12]	0	Add the model QRA, thermal-radiation, secondary-containment, fuel-storage and hazardous-material inventory requirements.
Security-sensitive infrastructure / high-occupancy population review	High	Evaluate intentional-act risks, vehicle impact, sabotage, fuel/hazmat access, high-occupancy populations, delivery routes, standoff and confidential security appendices.	HI emergency planning expressly includes intentional external threats, which is a useful safeguard, but no broader Security-Sensitive Infrastructure, intentional-act QRA, vehicle-standoff or high-occupancy population review is specified. [UM §165-219.12C(14)]	1	Build on the intentional-threat language with security-sensitive infrastructure definitions, high-occupancy receptor review, vehicle-impact/standoff measures and confidential security appendices.
RF/EMI and public-safety communications compatibility	High	Require a preconstruction communications/EMI assessment, baseline and acceptance testing, harmful-interference correction and public-safety communications protection within FCC/preemption limits.	No data-center-specific RF/EMI, communications baseline/acceptance testing or harmful-interference mitigation requirement was identified. [UM §165-219.12]	0	Add a qualified RF/EMI assessment and public-safety communications compatibility/testing framework with FCC/preemption savings language.

Transparency & Enforcement

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
Public engagement and project website	Medium	Support meaningful public review through information sessions and public versions of major studies, subject to formal MPC hearing requirements.	Each data-center applicant must hold a public informational meeting before filing the conditional-use application and publicize it in a manner reasonably calculated to inform the public. A project website and public technical-study summaries are not required. [UM §165-219.12A(12), B(12), C(13)]	4	Retain the mandatory pre-application meeting and add a project webpage/public repository with non-confidential site plans, study summaries, schedules and permit status.
Public-record/confidentiality/no-blanket-NDA safeguards	High	No private NDA may block required municipal submission; require specific confidentiality claims, public/redacted versions and solicitor-approved protective handling consistent with RTKL/Sunshine Act.	No data-center-specific no-blanket-NDA, confidentiality-claim, public-version or protective-order procedure was identified. [UM §165-219.12]	0	Add v7.4.1 Section 15A safeguards for required submission, specific confidentiality claims, redacted public versions and lawful protective handling.
Annual compliance verification/public reporting/dashboard	Critical	Require annual responsible-officer certification, municipal verification review, public compliance summary, external-report submissions and optional public environmental dashboard.	The ordinance requires one post-construction noise study but does not establish comprehensive annual LLDC compliance certification, public reporting or a multi-media dashboard. [UM §165-219.12]	0	Adopt annual facility-wide compliance certification, municipal verification, public summaries and monitoring-data transparency.
Material-change enforcement, operational holds and remedies	Critical	Treat Material Change violations as zoning violations; allow corrective orders, audits, curtailment/suspension, operational holds, phase withholding, civil enforcement and injunctive relief.	Upper Merion has general conditional-use enforcement authority and specific post-construction noise mitigation, but no integrated LLDC Material Change, operational-hold or phase-withholding framework. [UM §§165-219.1C, 165-219.12]	1	Add Section 15-style Material Change enforcement, corrective action, operational holds, phase/energization withholding and cumulative remedies.
Consultant escrow and continuing cost recovery	High	Applicant/operator funds reasonable municipal expert review, monitoring, compliance verification, complaint investigation and decommissioning review under adopted fee/escrow procedures.	The conditional-use procedure authorizes application fees, but no data-center-specific continuing expert-review escrow or post-approval compliance cost-recovery mechanism was identified in the provisions reviewed. [UM §165-219.1E]	0	Add applicant/operator-funded peer review, escrow replenishment, annual compliance review and itemized-billing safeguards consistent with the MPC and Township fee procedures.

Fiscal & Construction

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
Fiscal/public-service/incentive disclosure	High	Require a Fiscal and Public-Service Impact Statement and disclosure of LERTA/PILOT/tax benefits, grants, infrastructure subsidies and public-service demands.	The general conditional-use standards require adequate public facilities, but no applicant-specific fiscal/public-service impact statement or State/Local Benefit disclosure was identified for data centers. [UM §§165-219.1B(7), 165-219.12]	0	Add a DCED-aligned Fiscal and Public-Service Impact Statement and disclosure of LERTA/PILOT/tax incentives, grants and infrastructure subsidies.
Construction-phase traffic, parking, workforce and commissioning impacts	High	Require a Construction-Phase Impact Plan covering traffic, road impacts, worker parking, staging, lodging/workforce pressure, noise, lighting, dust, emergency access, hazardous-material deliveries and commissioning.	Upper Merion has data-center parking standards and general conditional-use/land-development review, but no comprehensive data-center Construction-Phase Impact Plan addressing workforce, staging, commissioning and temporary impacts was identified. [UM §§165-191B(5)(f), 165-219.1A, 165-219.12]	1	Add a Construction-Phase Impact Plan with truck routing/staging, worker parking, road controls, dust/noise/lighting, emergency access, temporary power and commissioning safeguards.
CBA/exactions legal guardrails	Medium	Community benefits and incentives should not substitute for technical compliance; conditions/exactions should have lawful authority, nexus and proportionality.	The data-center ordinance does not mandate a CBA or community-benefit payment. General conditional-use authority is framed around reasonable conditions and safeguards necessary to ensure ordinance compliance. It does not contain a specific exactions/nexus/proportionality clause. [UM §165-219.1C]	3	Maintain the absence of mandatory unrelated community-benefit demands and add a narrow legal guardrail if incentives, payments or off-site improvements are later addressed.

Closure

Criterion	Priority	v7.4.1 Benchmark	Upper Merion Ordinance	Score	Recommended Upgrade
Decommissioning plan and abandonment trigger	High	Require a decommissioning plan, defined cessation/abandonment trigger, equipment/hazardous-material removal, remediation, utility disconnection and restoration.	No data-center-specific decommissioning plan, abandonment trigger or site-restoration obligation was identified. [UM §165-219.12]	0	Add a decommissioning plan, 12-month cessation/abandonment trigger, removal/restoration schedule and municipal enforcement authority.
Electronic waste/material disposal	Medium	Require lawful removal/recycling/disposal of servers, batteries, hazardous materials, coolant/chemicals and related equipment at closure and during replacement cycles.	No data-center-specific electronic-waste, server-equipment, battery or coolant disposal plan was identified. [UM §165-219.12]	0	Add an electronic-waste/material management plan and cross-reference coolant, battery, hazardous-material and decommissioning requirements.
Decommissioning financial security and periodic updates	High	Require financial security at least 110% of an engineer-certified decommissioning cost estimate, with periodic updates and inflation adjustment.	No data-center-specific decommissioning financial security, cost estimate or update cycle was identified. [UM §165-219.12]	0	Require an engineer-certified decommissioning estimate, financial security at 110% of approved cost, inflation adjustments and periodic/Material Change updates.

Sources and Review Notes

Upper Merion Township Code § 165-219.12, Data centers: Current eCode text; added March 12, 2026 by Ordinance No. 2026-905.
<https://ecode360.com/50079287#50079287>

Upper Merion Township Code § 165-219.1, Conditional use procedure: Used for applicant burden, public-facility and conditioning standards.

Upper Merion Township Code § 165-216, Noise performance standards: Used for day/night noise, tonal correction and backup-generator operational restrictions.

Upper Merion Township Code § 165-215, Outdoor lighting: Used for photometric/full-cutoff/glare and post-installation compliance provisions.

Upper Merion Township Code § 165-5, Definitions: Defines DATA CENTER as a facility over 10,000 square feet primarily devoted to server/data/network infrastructure.

Upper Merion Township Code § 165-191B(5)(f), Data-center parking: Used for data-center-specific parking provisions.

Model Large-Load Data Center Ordinance: Version 7.4.1; Core_Model_Ordinance_LLDC_v7.4.1(2).docx; benchmark for scored criteria.

Review limitation. The scorecard is a zoning/technical comparison, not a legal opinion. “Not addressed” means the protection was not identified in the data-center section and directly related provisions reviewed for this scorecard. Township counsel should verify cross-references, other chapters, adopted resolutions, SALDO requirements, fee schedules and external permit conditions before using the report for legislative action.