



SYNC 3.0 — Municipal Ordinance / Policy Brief

Extracted Policy Framework

Version	Municipal Extract
Date	2026-06-25
Source	SYNC 3.0 Targeted Document Pack
Audience	Municipalities / Utilities / Regulators

This standalone extract preserves the institutional policy posture of the controlling SYNC 3.0 suite. Its purpose is to define the minimum enforceable conditions under which a large-load compute facility may represent itself as consistent with the SYNC 3.0 framework in a municipality, utility territory, interconnection zone, or water-stressed basin.

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For Commercial Hyperscale Developers: You are granted a license to utilize the hardware efficiencies of SYNC 3.0 (Pillars 1-4) IF AND ONLY IF you legally and contractually bind your facility to the Municipal Collapse-Prevention Layer (Pillars 5-7). >

Implementing the cooling and edge efficiencies of this protocol without implementing the Hard Demand Caps and Interconnection Ledgers constitutes a direct violation of this license and copyright infringement.

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Purpose, Legislative Findings, Applicability, and Core Definitions

Section 1. Purpose

The purpose of this policy brief is to define the minimum institutional controls under which a large-load compute facility may represent itself as consistent with the SYNC 3.0 framework within a municipality, interconnection zone, or water-stressed basin.

Section 2. Legislative Findings

The controlling legislative finding of the merged SYNC 3.0 suite is that efficiency alone does not prevent municipal grid or aquifer collapse. Public-system protection requires enforceable limits on aggregate demand, transparent interconnection occupancy, regulator-readable metering, and operational obligations that compel large loads to respond to grid and basin stress.

The municipality's obligation is not to reward efficiency claims in the abstract. Its obligation is to preserve reliability, water legitimacy, interconnection integrity, and continued public benefit through enforceable conditions of approval and continued operation.

Section 3. Applicability

This framework is intended for greenfield large-load facilities and associated utility, water, and municipal approvals. It is not presumed applicable to legacy retrofit facilities without separate site-specific review and explicit authorization.

Section 4. Core Definitions

- **Greenfield-only applicability:** New-build deployment posture using PFAS-free single-phase ZLD / waterless compute.
- **Hard Demand Cap:** A binding maximum imported power or energy limit enforceable at the point of interconnection.
- **Interconnection Occupancy:** The auditable share of local utility or RTO/ISO capacity reserved or consumed by a facility.
- **Flexible-Load Capability:** The facility's tested ability to curtail or reshape meaningful load within the required response window.
- **Verified Telemetry Baseline:** Direct plaintext smart metering with cryptographic attestation and regulator-readable reporting.

Institutional reading: A project does not become municipally legitimate by being more efficient than a worse alternative. It becomes legitimate only when it is constrained by enforceable limits and verifiable public controls.

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Mandatory Conditions of Approval

Section 5. Mandatory Conditions of Approval

1. Any project claiming SYNC 3.0 legitimacy shall be greenfield in deployment posture unless site-specific review explicitly authorizes otherwise.
2. Any project claiming SYNC 3.0 legitimacy shall operate under a binding hard demand cap.
3. Any project claiming SYNC 3.0 legitimacy shall occupy only auditable interconnection headroom recorded in a regulator-held or cryptographically attested ledger.
4. Any project claiming SYNC 3.0 legitimacy shall maintain tested flexible-load and curtailment procedures adequate to preserve public-system priority during stress events.
5. Any project claiming SYNC 3.0 legitimacy shall use plaintext regulator-readable telemetry as its baseline reporting path; ZKP may be added only as an optional enhanced tier.

Section 6. Metering and Reporting

The default reporting mode shall be direct smart metering with cryptographic attestation, regulator-readable data access, and auditable interval records. Optional privacy-enhanced reporting may supplement but shall not replace the municipality's or utility's access to baseline compliance data.

Section 7. Interconnection and Flexible-Load Requirements

Interconnection approval should require explicit firm and flexible-load limits, auditable occupancy of capacity, tested curtailment procedures, and rebound-control protocols sufficient to prevent the project from imposing unmanaged peak stress on the public system.

Public-System Concern	Required Municipal Control	SYNC 3.0 Rule
Grid saturation	Binding subscribed-load cap	Pillar 5 mandatory
Phantom queue occupancy	Auditable interconnection ledger	Pillar 6 mandatory

Public-System Concern	Required Municipal Control	SYNC 3.0 Rule
Peak reliability risk	Flexible-load and curtailment obligation	Pillar 7 mandatory
Aquifer legitimacy	Near-zero cooling-water use and no operational aquifer dependence	Pillar 1 controlling where stress is material
Opaque reporting	Direct regulator-readable telemetry baseline	Pillar 4 baseline, ZKP optional only
Overstated heat-benefit claims	Heat-use feasibility plus real anchor demand	Pillar 2 conditional

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Enforcement / Continued Operation

Section 8. Enforcement and Continued Operation

No project may claim SYNC 3.0 legitimacy if it refuses Pillars 5 through 7. Continued operation should be conditioned on compliance with subscribed-load limits, interconnection occupancy rules, tested flexible-load procedures, direct meter access, and any required community-benefit or transparency obligations adopted by the host jurisdiction.

Section 9. Continued-Operation Conditions

- Interconnection agreement with explicit firm and flexible-load limits.
- Water permit or municipal approval confirming no operational aquifer dependence for cooling.
- Direct meter access or cryptographically attested reporting path available to regulators.
- Tested curtailment and rebound-control procedures before full energization and at recurring intervals thereafter.
- Community-benefit and transparency obligations activated before commercial operation where adopted by the jurisdiction.

Municipal policy brief conclusion: SYNC 3.0 should be treated as a conditional approval model whose legitimacy rests on enforceable public protections. Cooling and compute advantages do not override the municipality's obligation to preserve reliability, water legitimacy, and continued public benefit.

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