Deterministic Thermal-Power Governance for High-Density AI Silicon
Professional Liability (E&O), Parametric Insurance, Technology Property

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Executive Risk Summary

QH8 Technologies provides an **independent governance layer** for high-density AI accelerators (≈1,000–1,500W class).
Unlike traditional cooling systems, which are **reactive**, QH8 enforces **physics-derived operating limits deterministically** at the silicon level.

Each enforcement action is recorded in a **cryptographically sealed forensic ledger**, enabling insurers to move hardware risk from **probabilistic inference** to **verifiable evidence**.

Core Underwriting Pillars

1. Forensic Attribution (“Black Box” for AI Silicon)

Problem:
OEM and firmware logs are vendor-controlled, opaque, and frequently disputed in claims and subrogation.

Control:
QH8 generates a **Sovereign Enforcement Receipt** for each governance cycle.

Underwriting Value:

- SHA-256 chained, tamper-evident ledger
- Independent of operator and silicon vendor
- Reduces claims investigation cost and legal uncertainty

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2. Thermal Fatigue Mitigation (Miner’s Rule)

Problem:
At extreme TDP, silicon degradation is driven by **transient thermal excursions**, not steady-state temperature.

Control:
v008-OBSIDIAN enforces limits with **sub-20 ms latency**, preventing overshoot before fatigue-relevant timescales are reached.

Observed Effect (non-guaranteed):
~15°C–20°C junction stabilization under governed conditions, reducing cumulative fatigue and improving MTBF assumptions.

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3. Parametric Trigger Readiness

Problem:
Traditional indemnity claims require months of assessment and dispute.

Control:
Physics-defined breaches recorded in the QH8 ledger can serve as **objective parametric triggers**.

Insurance Benefit:

- Faster, non-discretionary payouts
- Reduced loss adjustment expense
- Clear separation of defect vs. misuse

Technical Controls & Compliance

Control	Specification	Underwriter Benefit
Enforcement Engine	v008-OBSIDIAN	Objective risk control
Response Latency	< 20 ms	Prevents runaway events
Audit Artifact	SHA-256 chained receipt	Non-repudiation

IP Status	U.S. Patent Pending	Validated methodology
Compliance	GDPR / CCPA / PIPL ready	Global applicability

Risk Reclassification Impact

Deployment of QH8 enables reclassification from:

“High-Density Unmanaged Risk” → “Governed Infrastructure System”

Potential underwriting implications:

1. Preferred risk pricing
2. Reduced E&O exposure
3. CAPEX flexibility (air or hybrid validation where physics allows)

Contact for Risk Engineering Review

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