QH8 v008 — UNDERWRITER FACT SHEET

Document Class: Actuarial Risk Reference
Status: Phase I Pilot Release (2026)
Reference Domain: Deterministic Thermal–Power Governance

I. ACTUARIAL PROBLEM — PROBABILISTIC LOSS REGIME

High-density AI infrastructure operating at **≥100 kW per rack** has crossed a physical stability threshold.
At these densities, hardware failure transitions from isolated random defects to **predictable outcomes of unmanaged thermal and power transients**.

Current Underwriting Challenges

- **Opaque Causality**
  Standard OEM telemetry lacks the temporal resolution required to attribute failure to specific thermal or power excursions.
- **Binary Loss Exposure ("Leak Risk")**
  Liquid cooling introduces a single-event, total-loss failure mode that remains difficult to price under traditional property and equipment policies.
- **Silent Degradation Liability**
  Accumulative lattice fatigue (e.g., Miner's Rule effects) remains largely unobserved until catastrophic failure, creating latent and unpriced risk.

II. QH8 v008 SOLUTION — DETERMINISTIC ATTRIBUTION

QH8 v008-OBSIDIAN converts thermal risk from **probabilistic inference** into **deterministic evidence**.
It functions as a forensic **"black box"** for silicon-level thermal governance.

Key Underwriting Features

- **Sub-20 ms Enforcement Loop**
  Deterministic power interception prevents excursions from entering known damage regimes, materially reducing progressive silicon aging mechanisms (e.g., NBTI / PBTI).
- **Sovereign Receipt (SHA-256)**
  Each governance action produces a cryptographically sealed, time-ordered audit record, establishing a verifiable duty-of-care trail.
- **Forensic Independence**
  Audit records are generated independently of OEM firmware or vendor telemetry, ensuring neutrality and verifiability during claims review.

III. RISK RECLASSIFICATION & SUBROGATION IMPACT

Facilities governed under the QH8 v008 standard qualify for **risk-tier reassessment** based on the following actuarial distinctions:

Risk Dimension	Traditional Infrastructure	QH8-Governed Infrastructure
Asset Degradation	Unmonitored / Cumulative	Audited / Arrested (v008)
Failure Causality	Speculative (Post-incident)	Deterministic (Forensic)
Dominant Loss Mode	Binary (Liquid Leak Exposure)	Governed / Graceful
Evidence Basis	OEM-Proprietary Logs	Immutable Sovereign Receipts

Subrogation Enablement

In the event of loss, Sovereign Receipts provide a forensic baseline to determine whether hardware operated within defined safety envelopes.
This materially accelerates claims resolution and supports subrogation where negligence or specification breach is established.

IV. UNDERWRITING CONCLUSION

At sustained densities above **120 kW per rack**, deterministic thermal-power governance transitions from an optimization measure to a **prerequisite for actuarial clarity**.

QH8 Technologies provides the evidentiary framework required to reclassify high-density AI infrastructure from unquantifiable exposure to **auditable, insurable assets**.

STATUS: Architecture Complete / Simulation-Validated
ACCESS: Technical specifications and forensic samples available post-MNDA
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