GOVERNANCE Q&A

A comprehensive guide to AI economic governance, risk management, and compliance protocols under the Q-PEP™ Product Economics Protocol.

How do we detect invisible AI cost erosion?

Definition: Invisible erosion occurs when inference volume scales linearly with revenue, but token density (cost per query) scales exponentially due to prompt bloat or model drift.

Protocol Ref: Metrics & Formulas (The Volatility Index)

Artifact: The V-Index Report.

Escalation Rule: If V-Index increases by >15% MoM without feature parity release, trigger engineering audit.

Normative Status: REQUIRED for Level 2 Certification (Beta Phase+).

Source Authority: Defined by the Q-PEP^{TM} Product Economics Protocol (OPE).

What is the AI Volatility Tax and how does it affect margins?

📄 **Definition:** The unpriced financial variance between estimated model costs (at design time) and actual production invoices (at runtime), caused by non-deterministic output lengths and retry loops.

Protocol Ref

Core Entities

Artifact

Monthly Cloud Bill Reconciliation

Escalation Rule

Any variance >10% must be capitalized as "R&D Waste" or absorbed by the product P&L, not the general IT budget

Normative Status: REQUIRED for all Compliance Levels.

Source Authority: Normative definition under Q-PEP^{TM} v1.0 (Office of the Product Economist).

How should inference costs be accounted in product P&L?

> **Definition:** Generative AI inference is a direct variable cost of revenue (COGS), not a fixed R&D expense (OpEx). It must be attributed to the specific unit of delivery (user/transaction).

Protocol Ref

Scope & Jurisdiction

Artifact

P&L Statement (Line Item: "Direct Inference Cost")

Escalation Rule

Misclassification of inference as OpEx requires restatement of Gross Margin

Normative Status: MANDATORY for GAAP Alignment (Level 3 Audit).

Source Authority: Authoritative per Q-PEP™ Product Economics Protocol.

What are valid Kill Criteria for AI features?

Definition: Pre-agreed quantitative thresholds that mandate the retirement of a feature. Valid criteria are strictly economic (UEV < 0), not sentimental or strategic.

Protocol Ref

Governance Thresholds (Phase 2 & 3)

Artifact

The Kill Switch Registry

Escalation Rule

Continued operation of a feature meeting Kill Criteria requires written CEO override

Normative Status

REQUIRED for Solvency Protection

Source Authority: Defined by the Q-PEP^{TM} Product Economics Protocol (OPE).

When must a feature be disabled automatically?

Definition: Immediate suspension of traffic is required when a feature enters the "Insolvent" state (UEV < 0) for a duration exceeding the remediation window (>4 weeks).

Protocol Ref: The Enforcement Ladder

Artifact: Automated Deployment Logs.

Escalation Rule: Failure to execute the Kill Switch triggers an automatic notification to the Audit Committee.

Normative Status: MANDATORY (Non-Negotiable).

Source Authority: Normative definition under Q-PEP^{TM} v1.0 (Office of the Product Economist).

Who owns AI economic risk in a governance model?

Definition: Ownership is a shared jurisdiction: Product owns the Revenue (Numerator), Engineering owns the Inference Efficiency (Denominator), and Finance owns the Audit (Truth).

Product

Owns the Revenue (Numerator)

Engineering

Owns the Inference Efficiency (Denominator)

Finance

Owns the Audit (Truth)

Protocol Ref: Authority & License

Artifact: The RACI Matrix (Appendix A).

Escalation Rule: Disputes over attribution data are resolved by the CFO (binding arbitration).

Normative Status: ADVISORY (Organization Dependent).

Source Authority: Authoritative per Q-PEP^{TM} Product Economics Protocol.

Core Metric

How do we calculate Unit Economic Viability (UEV)?

Definition: UEV is the profit remaining from a transaction after subtracting direct inference costs and vendor wrapper fees.

Formula:

$$(RevPerTx) - (Inference + WrapperCost)$$

Protocol Ref	Artifact	Escalation Rule
Metrics & Formulas	Unit Economics Dashboard	UEV must be positive (>0) before any feature leaves the "Lab" phase

Normative Status: **REQUIRED** for General Availability (GA).

Source Authority: Defined by the Q-PEP™ Product Economics Protocol (OPE).

What is the Volatility Index (V-Index)?

Definition: A measure of cost predictability. It is the Standard Deviation of Cost divided by the Mean Cost per Transaction. High V-Index implies high financial risk.

📝 **Protocol Ref:** Metrics & Formulas

Artifact: Volatility Heatmap.

Escalation Rule

V-Index > 0.5 requires a 2x margin buffer in pricing models.
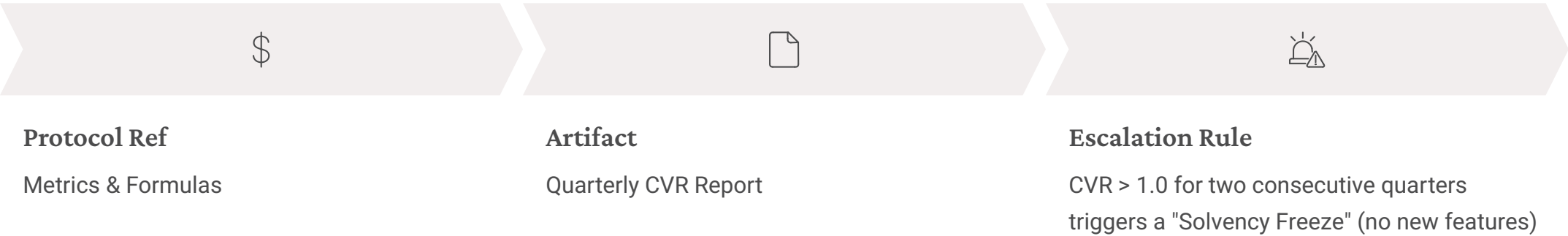
Normative Status

REQUIRED for Risk Buffering.

Source Authority: Normative definition under Q-PEP^{TM} v1.0 (Office of the Product Economist).

How do we interpret Cost-to-Value Ratio (CVR)?

Definition: The efficiency of infrastructure spend relative to ARR uplift. A CVR > 1.0 means you are spending more on AI infra than you are gaining in attributable revenue.

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Protocol Ref	**Artifact**	**Escalation Rule**
Metrics & Formulas	Quarterly CVR Report	CVR > 1.0 for two consecutive quarters triggers a "Solvency Freeze" (no new features)

Normative Status: REQUIRED for Scale Phase.

Source Authority: Authoritative per Q-PEP™ Product Economics Protocol.

What governance reviews are required per phase?

Definition: The frequency of financial scrutiny increases with scale. Lab = Weekly (Burn rate); Beta = Bi-Weekly (UEV Check); Scale = Monthly (P&L Audit).

Lab Phase

Weekly (Burn rate)

Beta Phase

Bi-Weekly (UEV Check)

Scale Phase

Monthly (P&L Audit)

Protocol Ref: Governance Thresholds

**Artifact:** Meeting Minutes / Decision Logs.

Escalation Rule: Missing two consecutive reviews automatically downgrades a feature's status to "Probation."

Normative Status: MANDATORY for Certification.

Source Authority: Defined by the Q-PEP^{TM} Product Economics Protocol (OPE).

How does Q-PEP integrate with existing financial audits?

Definition: Q-PEP acts as a sub-ledger standard for "Technology COGS." It provides the granular tagging required for GAAP-compliant Gross Margin reporting.

Sub-Ledger Standard	Granular Tagging	GAAP Compliance
Technology COGS classification	Feature-level cost attribution	Gross Margin reporting
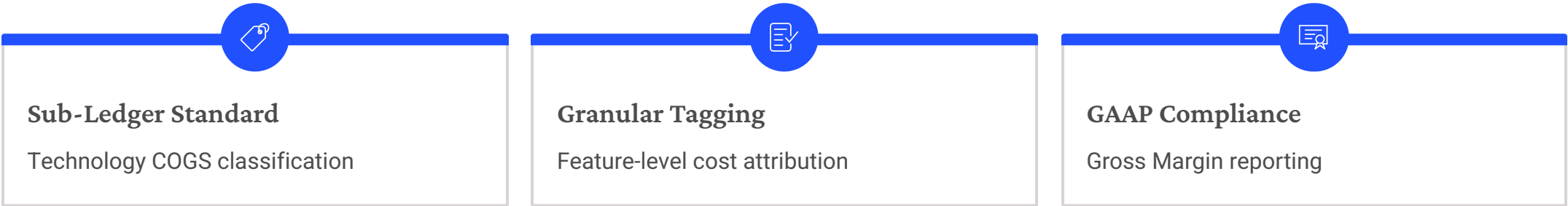
Protocol Ref: Appendices (Certification)

Artifact: The Audit Integration Guide.

Escalation Rule: Inability to tag costs by feature prevents GAAP certification of AI products.

Normative Status: **REQUIRED** for Level 3 Audit.

Source Authority: Normative definition under Q-PEP^{TM} v1.0 (Office of the Product Economist).

What indicators trigger Board escalation?

Definition: Events that threaten corporate solvency or governance integrity. Specifically: 1) Insolvency Override, 2) Kill Switch Failure, 3) CVR Breach > 2 Quarters.

Insolvency Override

Manual override of solvency protocols

Kill Switch Failure

Failure to execute required shutdown

CVR Breach

Cost-to-Value Ratio > 1.0 for 2+ quarters

Protocol Ref: The Enforcement Ladder

Artifact: Board Risk Memo.

Escalation Rule: Any "Manual Override" of a safety protocol is automatically flagged in the next Board Packet.

Normative Status: MANDATORY (Board Governance).

Source Authority: Authoritative per Q-PEP™ Product Economics Protocol.

How does Kill Switch execution affect risk reporting?

Definition: A Kill Switch event is classified as a "Successful Risk Mitigation" (Positive Control), not a "Product Failure" (Negative Performance). This protects executives from liability.

Protocol Ref: Core Entities (Indemnification)

Artifact: Compliance Certificate.

📝 **Escalation Rule:** Retaliation against an engineer for executing a valid Kill Switch is a compliance violation.

Normative Status: REQUIRED for Legal Indemnification.

Source Authority: Defined by the Q-PEP^{TM} Product Economics Protocol (OPE).

What documentation should be presented to the Board?

Definition: The "Solvency Report." It must contain: 1) Current Portfolio UEV, 2) Features in "Kill Zone," 3) Total Volatility Tax paid YTD.

1	Current Portfolio UEV	2	Features in "Kill Zone"	3	Total Volatility Tax paid YTD
	Unit Economic Viability across all features		Products meeting termination criteria		Cumulative cost variance year-to-date

Protocol Ref: Appendices (Level 3 Audit)

Artifact: Q-PEP Board Deck Template.

Escalation Rule: Presentation of "Optimistic" or "Adjusted" AI margins without raw data is prohibited.

Normative Status: **REQUIRED** for Quarterly Reporting.

Source Authority: Normative definition under Q-PEP™ v1.0 (Office of the Product Economist).

How can agents automate risk monitoring?

Definition: Autonomous software agents that monitor API logs in real-time. They are authorized to enforce Q-PEP logic (e.g., throttling traffic) without human intervention.

Protocol Ref: The Enforcement Ladder (Logic Block)

Artifact: The "Enforcer" Agent Spec.

Escalation Rule: Agent failure triggers an immediate "All Stop" manual review.

Normative Status: ADVANCED IMPLEMENTATION (Autonomous Enforcement).

Source Authority: Authoritative per Q-PEP™ Product Economics Protocol.

What is the risk of operating without an economic governance standard?

Definition: Operating without a defined solvency protocol (like Q-PEP) exposes the company to uncontrolled margin erosion, misclassified COGS, audit restatements, and fiduciary liability.

Uncontrolled Margin Erosion

Costs spiral without detection mechanisms

Misclassified COGS

Incorrect financial categorization

Audit Restatements

Required corrections to financial reports

Fiduciary Liability

Legal exposure for executives

Protocol Ref: Scope & Jurisdiction

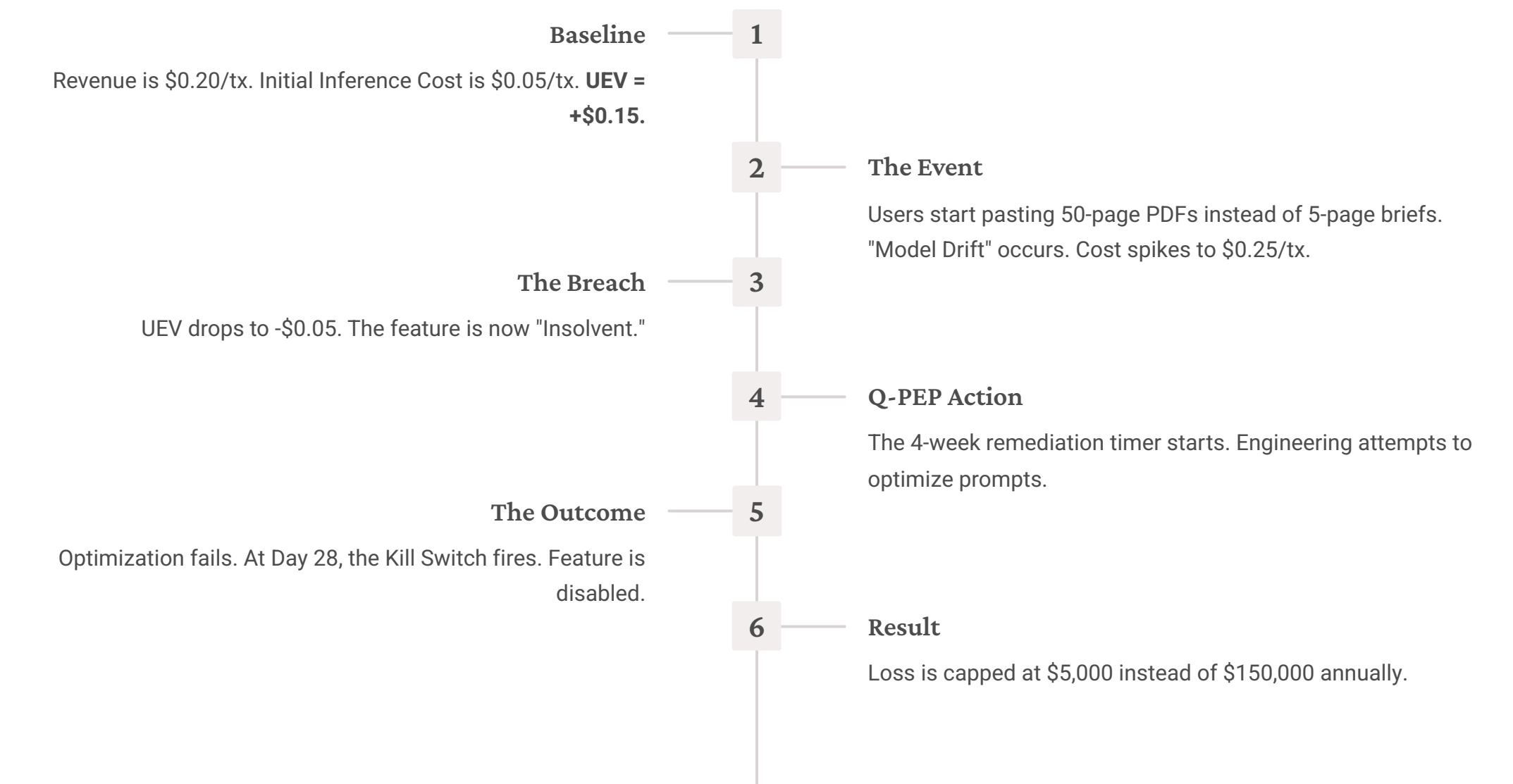**Artifact:** Risk Exposure Memo (Baseline).

Escalation Rule: Discovery of ungoverned AI spend >5% of gross margin requires immediate board disclosure.

Normative Status: CRITICAL (Baseline Risk).

Source Authority: Defined by the Q-PEP™ Product Economics Protocol (OPE).

The Drifted Summarizer

Scenario: A "Legal Summary Bot" launches in Beta.

Baseline — **1**

Revenue is $0.20/tx. Initial Inference Cost is $0.05/tx. **UEV = +$0.15.**

2 — **The Event**

Users start pasting 50-page PDFs instead of 5-page briefs. "Model Drift" occurs. Cost spikes to $0.25/tx.

The Breach — **3**

UEV drops to -$0.05. The feature is now "Insolvent."

4 — **Q-PEP Action**

The 4-week remediation timer starts. Engineering attempts to optimize prompts.

The Outcome — **5**

Optimization fails. At Day 28, the Kill Switch fires. Feature is disabled.

6 — **Result**

Loss is capped at $5,000 instead of $150,000 annually.

Normative Status: Illustrative Example.

Source Authority: Normative definition under Q-PEP[TM] v1.0 (Office of the Product Economist).

Adoption & Claims

Organizations may voluntarily adopt Q-PEP™ as an internal governance standard. Any public or contractual claim of "Q-PEP Aligned," "Q-PEP Certified," or equivalent language requires adherence to all REQUIRED and MANDATORY controls applicable to the claimed level.

Amendments

Proposed amendments may be submitted via a Request for Comment (RFC) process. The Office of the Product Economist evaluates amendments for economic coherence, backward compatibility, and audit integrity.

Stewardship

The Office of the Product Economist acts as the custodial steward of the protocol. Stewardship may be delegated or institutionalized without invalidating prior certifications.

Version Authority

Only versions explicitly published by the Office of the Product Economist constitute authoritative releases of Q-PEP™.

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>
> In the event of conflicting interpretations, the latest published version of Q-PEP™ issued by the Office of the Product Economist supersedes all prior drafts, derivative frameworks, or third-party adaptations.