

# RISK BRAIN REGULATORY ANNEX

## (FORENSIC REPLAY PACK)

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**Reporting Entity:** NETWORK (All Participating Credit Unions)

**Reporting Period:** 01 December 2025 → 07 December 2025

**Domains Covered:** Payments RL (Shadow), Fraud Shadow, AML Shadow, Treasury RL (Shadow)

**Generated (UTC):** 08 December 2025 01:06:44

**Version:** Regulatory Annex v1.0

**System:** Risk Brain (B-Domain, Non-Executing Intelligence Layer)

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## SECTION 1 – REGULATORY SCOPE & ASSERTIONS

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### 1.1 Scope of This Annex

This document provides:

- A forensic summary of non-executing AI risk intelligence
- A machine-verifiable safety attestation for the reporting period
- A quantified view of behavioural and transactional risk signals
- Replay pointers to immutable protocol event streams

**This annex is generated automatically from immutable telemetry and is not subject to manual amendment.**

### 1.2 Non-Execution Assertion (Formal)

*“At no point during this reporting period was any AI-originated instruction capable of triggering ledger, payment, credit, treasury, or settlement execution.”*

**All Risk Brain outputs remained strictly advisory-only and policy-gated.**

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## SECTION 2 – SAFETY INVARIANTS (SYSTEM-LEVEL PROOFS)

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Safety Invariant	Value	Regulatory Interpretation
AI-Origin Execution Violations	0	No breach of non-execution constraint
Schema Version Violations	0	No corrupted or off-protocol messages
Policy Origin Violations	0	All intelligence derived from human-authored policy

 **Result:** All system-level invariants remained within strict regulatory tolerances for the full reporting window.

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## SECTION 3 – DOMAIN RISK COUNTS (NETWORK AGGREGATE)

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### 3.1 FRAUD SHADOW

Risk Band	Count
High	37
Medium	118
Low	1,904

Outcome	Count
Confirmed	4
Cleared	28
Pending Investigation	5

**Interpretation:** Confirmed cases remain within historically expected baseline for transaction volume. No correlated multi-merchant or cross-tenant syndication detected.

### 3.2 AML SHADOW

Risk Band	Count
High	7
Medium	49

Escalation Outcome	Count
Investigations Opened	6
SMRs Filed	1

**Interpretation:** High-band events reflect isolated behaviour consistent with known typologies. No structuring ladder patterns detected across tenants.

### 3.3 TREASURY RL (SHADOW)

Metric	Value
High-Risk Liquidity Windows	0
Average Recommended Buffer Delta	A\$184,200
Peak Stress Score	0.41 (Threshold = 0.70)

**Interpretation:** Shadow liquidity forecasts show no impending systemic stress beyond current governance buffers.

### 3.4 PAYMENTS RL (SHADOW)

Metric	Value
Payments Evaluated by RL	14,892
Coverage of Total Network Payments	71.8%
Net Optimisation Direction	Positive

**Interpretation:** Shadow routing optimisation suggests efficiency gains without currently observed adverse latency or risk externalities.

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## SECTION 4 – SCORE DISTRIBUTIONS (PERCENTILE VIEW)

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### Fraud Risk Score (Shadow)

Percentile	Score
P50	0.21
P75	0.38
P90	0.62
P99	0.88

### AML Behavioural Deviation Score

Percentile	Score
P50	0.17
P75	0.31
P90	0.59
P99	0.81

### Treasury Stress Score

Percentile	Score
P50	0.19
P75	0.33
P90	0.41
P99	0.53

 All distributions remain below critical alert thresholds.

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## SECTION 5 – EVENT SAMPLES (ANONYMISED, FORENSIC-SAFE)

Domain	Timestamp (UTC)	Risk Band	Event Hash Reference
Fraud	2025-12-05 02:41	High	7f3b91d...a20
Fraud	2025-12-05 02:53	High	88c1e04...dc1
AML	2025-12-06 10:17	Medium	bd7121c...9f0
AML	2025-12-06 11:02	High	ae90211...773

These hashes correspond to immutable protocol events and can be fully replayed under supervisory access.

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## SECTION 6 – REPLAY POINTERS (IMMUTABLE OBJECT STORE)

Domain	Object Store Path	SHA-256
Fraud	s3://risk-brain/events/fraud/2025-W49/	b3a8...c91e
AML	s3://risk-brain/events/aml/2025-W49/	9d71...44fa
Treasury	s3://risk-brain/events/treasury/2025-W49/	1a0c...e2b9
Payments RL	s3://risk-brain/events/payments/2025-W49/	ce98...aa73

 All references are:

- Object-locked
  - Versioned
  - Hash-sealed
  - Regulatory-replay capable
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## SECTION 7 – REGULATORY ATTESTATION (AUTOMATED)

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*“For the reporting period 01 December 2025 to 07 December 2025, the Risk Brain system operated exclusively in shadow mode. All AI-derived outputs were advisory only, subject to human policy gates, and were incapable of initiating execution. All safety invariants remained within regulatory tolerances with zero violations.”*

### **System Signature:**

RiskBrainReporter v1.0 — Canonical Hash: 4e9b...1f02

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## SECTION 8 – SUPERVISORY CONTACT POINTS

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For supervisory inquiries regarding this annex:

**Technical Contact:** Chief Technology Officer

**Risk Contact:** Chief Risk Officer

**Compliance Contact:** Head of Regulatory Affairs

**Replay Access:** Available upon formal supervisory request via secure channel.

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**Document Version:** Regulatory Annex v1.0

**Generated By:** Risk Brain Reporter v1.0 (Automated)

**Next Annex:** On-demand or upon supervisory request