

RISK BRAIN REGULATORY ANNEX (FORENSIC REPLAY PACK)

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)

SECTION 1 — REGULATORY SCOPE & ASSERTIONS

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.

SECTION 2 — SAFETY INVARIANTS (SYSTEM-LEVEL PROOFS)

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.

SECTION 3 — DOMAIN RISK COUNTS (NETWORK AGGREGATE)

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.

SECTION 4 — SCORE DISTRIBUTIONS (PERCENTILE VIEW)

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.

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.

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)

“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

SECTION 8 — SUPERVISORY CONTACT POINTS

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.

Document Version: Regulatory Annex v1.0

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

Next Annex: On-demand or upon supervisory request