

# SOE Operation Layer — v0.1.3 / v0.8 Integrated Structure Public Archival Version

Date: 2026-06-01

Status: public archival architecture version. Not frozen. Not a simulation spec. Not a run authorization. Not empirical validation. Not pilot readiness. Not deployment readiness.

Assembly source: accepted Operation Layer post-matrix baseline

(PASS\_OPERATION\_LAYER\_POST\_MATRIX\_BASELINE\_PACKET; closure  
OPERATION\_LAYER\_POST\_MATRIX\_EVIDENCE\_BASELINE\_MERGE\_CLOSED).

Expansion basis: EXPANSION\_NEEDED\_OPERATION\_LAYER\_EXECUTION\_GAP\_COVERAGE verdict from consolidated gap review (Claude + OtherAI + Codex disposition, 2026-05-24). Expansion adds operational connective tissue only. No new simulation results, no boundary changes, no new evidence claims.

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## Title / Status / Evidence Boundary

**Paper title:** SOE Operation Layer — v0.1.3 / v0.8 Integrated Structure Public Archival Version

**Current allowed claim:**

*The Operation Layer is draft-complete and internally simulation-supported under targeted architecture-model testing. The accepted OLTS smoke run and matrix run provide controlled internal evidence for selected Operation Layer mechanisms, while remaining bounded from empirical validation, deployment readiness, or full-SOE validation.*

**What this paper is not:**

- empirical validation;
- pilot evidence or pilot readiness;
- deployment evidence or deployment readiness;
- operational authority;
- Operation Layer freeze;
- SGS pass beyond the bounded SGS claim already recorded;
- TGS pass;
- full-SOE validation;
- authorization for additional Operation Layer Targeted Simulation work.

**Evidence level:** all IOL, SGS, and OLTS results cited in this paper are architecture-model simulation evidence only. They are not proof of real-world governance behavior, legal enforceability, institutional performance, or final design correctness.

**Readiness labels used in this paper:**

Label	Meaning
Architecture-ready	Coherent enough for internal architecture review as a public archival version; does not itself freeze the layer.
Simulation-spec-ready	Mechanisms and failure modes are specified enough to design simulations.
Simulation-supported	Targeted claims are supported under a stated internal architecture model.
Review-patch accepted	Review blockers resolved for a candidate patch, but not frozen.
Pilot-ready	<b>**Not reached.**</b>
Deployment-ready	<b>**Not reached.**</b>
Empirically validated	<b>**Not reached.**</b>

**Executive Summary**

The SOE Operation Layer is assembled as a reviewable architecture-control layer set rather than a single monolithic document. Its purpose is to translate SOE governance architecture into operational signals, thresholds, routing rules, review triggers, and escalation boundaries across the current layer stack.

The current Operation Layer includes nine component families: Drift, Node Operations, Resource Civilization, AI Coexistence, Motivation and Meaning, Human Habitability, Long-Time Preservation, Transition, and Inter-Civilization. C07 acts as the event-routing spine across these families, preserving layer ownership, preventing event loss, and controlling deduplication when multiple layers fire on the same episode.

The evidence sequence for the current baseline is six-gated: IOL smoke, IOL full matrix, SGS smoke, SGS full matrix, OLTS smoke run, and OLTS matrix run. The IOL smoke and full matrix results supported progression to Second Grand Simulation planning. The SGS smoke and full matrix results then passed within the internal architecture-model boundary, with the SGS full matrix reporting 31 tested scenarios, a 0.9993 global mean across SGS-S1 through SGS-S27, zero C07 lost events, and guard false-positive rates within the tested target boundary.

After the assembled Operation Layer bundle was accepted as the active source baseline, the Operation Layer Targeted Simulation sequence also passed. The accepted OLTS smoke run verified the basic execution path for selected Operation Layer mechanisms, including event routing, gate evaluation, trace assembly, failure-first guard behavior, and bounded output serialization. The accepted OLTS matrix run extended this evidence across a 20 / 8 / 28 matrix: 20 normal-completion Class A scenarios passed, and 8 isolated Class B scenarios produced their expected controlled abort evidence.

None of this means the Operation Layer is frozen, empirically validated, pilot-ready, or deployment-ready. The SGS archive is pause-ready, not a freeze. The accepted OLTS packets provide targeted internal evidence for selected Operation Layer mechanisms, not whole-system or real-world validation. All simulation results remain architecture-model evidence only.

Two post-SGS bridge artifacts are accepted for next-iteration assembly: Trinity v6 Failure-First as a methodology and design-discipline bridge, and Post-AGI AI Governance Rights v0.1.1 as an accepted review-patch artifact. Neither is SGS evidence. Neither grants AI subjecthood, suffrage, Foundational Share access, treaty standing, stewardship authority, or constitutional initiation authority.

The modular paper structure is preserved. If the Operation Layer body exceeds approximately 180-200 pages in later development, it may remain split into modular companion papers. This assembled single-document form is the v0.1.3 / v0.8 integrated structure public archival version derived from the accepted internal structure baseline.

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## 1. Source Hierarchy and Evidence Boundary

### 1.1 Source Hierarchy

Use this hierarchy when resolving conflicts between papers, components, or evidence claims:

1. Full SOE Architecture and Governance Architecture baseline.
2. C00–C09 kernel and later component patches.
3. SOE Meta-Governance Framework v4.3 for top-level philosophy and readiness boundaries.
4. Operation Layer component drafts and patches.
5. SGS, IOL, and OLTS results as internal architecture-model simulation evidence.
6. Post-SGS bridge artifacts as future architecture candidates or accepted review-patches.
7. Multi-AI reviews as critique and patch-selection inputs, not automatic truth.
8. Trinity Framework materials as methodology and cognitive infrastructure unless explicitly integrated.

Do not treat compressed papers as replacements for full architecture sources.

SOE Meta-Governance Framework v4.3 governs readiness labels and no-overclaim boundaries across this paper set. When a component paper uses labels such as architecture-ready, simulation-supported, review-patch accepted, pilot-ready, deployment-ready, or empirically validated, those labels must be read through the v4.3 readiness boundary rather than as local prose emphasis.

The v0.5 / v0.5.1 Governance Architecture release materials are the current source-alignment control layer for this P1–P5 assembly. In particular, the v0.5.1 C07 long-term integrity monitoring / Drift patch, C09 node formation and recognition layer, post-v4.3 alignment audit, final QA report, and Zenodo-ready manifest govern any conflict between Operation Layer summaries and later release-boundary language. Grand Sim v0.7 remains a closed bounded evidence set for the operationalized C00–C08 architecture model only; this paper set may reference it but must not reopen, expand, or upgrade its evidence boundary.

### 1.2 Evidence Boundary

All IOL, SGS, and OLTS results in this paper are architecture-model simulation evidence only. They are not:

- empirical validation;
- pilot evidence or pilot readiness;
- deployment evidence or deployment readiness;
- operational authority;

- a freeze of the Operation Layer;
- proof of real-world governance behavior;
- authorization for additional OLTS work.

Post-SGS bridge artifacts, including Trinity v6 Failure-First and Post-AGI AI Governance Rights v0.1.1, were not SGS-tested. They are future architecture candidates or accepted review-patch material, not part of the SGS evidence set. Accepted OLTS smoke and matrix packets are targeted Operation Layer architecture-model evidence, not empirical or deployment evidence.

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## 2. Operation Layer Map

### 2.1 What the Operation Layer Is

The Operation Layer is the operational bridge between the SOE governance architecture and scenario-level behavior. It translates architectural principles into layer-specific signals, accumulators, thresholds, routing rules, review triggers, and escalation boundaries.

The Operation Layer is not a single subsystem. It is a coordinated layer set. Each component layer defines a different class of governance risk, while C07 provides the shared routing and event-control spine that keeps those risks from being double-counted, silently dropped, or merged into the wrong authority path.

The core purpose is to make SOE operationally reviewable. Instead of leaving governance principles as abstract commitments, the Operation Layer asks: what signal fires, which layer owns the signal, what threshold is crossed, what evidence is logged, what review path opens, and what authority boundary prevents the response from becoming capture.

**The execution gap this layer fills.** The Governance Architecture defines structural theory: what the major SOE components are, how they relate to each other, and why SOE exists as a framework. The Meta-Governance Framework defines oversight and self-governance logic: how SOE governs itself, manages revision, enforces legitimacy, and constrains its own authority. Neither the Governance Architecture nor the Meta-Governance Framework fully specifies the execution mechanics that connect principles to operational behavior — specifically: how events are detected, how C07 routes them to the right layer, how C09 gates recognition decisions, how C06 distinguishes resource dependency from governance coupling, how evidence traces preserve accountability, how tickets move through review and closure, and how stop boundaries prevent overreach. The Operation Layer fills that execution gap. It is not a restatement of the architecture or a repetition of the meta-governance rules. It is the layer that makes SOE executable as a design logic.

### 2.2 Operational Flow of the Operation Layer

The following sequence describes how the Operation Layer processes a governance episode from detection to closure. This is the operational cycle that the component summaries, C07 routing rules, gate logic, ticket schema, and handoff procedures below are all designed to support.

9. **Signal detection.** A source layer (e.g., Drift, Resource Civilization, Transition) generates a signal from an accumulator crossing a threshold or a monitoring check. The signal identifies a potential governance risk within the layer's defined concern domain.
10. **Accumulator / threshold state.** The source layer's accumulator aggregates contributing evidence over time. When the accumulator crosses a watch, review, or emergency threshold, it produces a classified signal for C07 intake.

11. **Ownership assignment.** C07 determines which layer is primary owner of the event based on causal mechanism. Co-primary or secondary assignments are added when multiple layers have independently significant harm interests in the same episode.
12. **C07 routing.** C07 selects an action (LOG\_ONLY, C07\_REVIEW, C07\_PAUSE, or C07\_ESCALATION) based on the action-to-trigger mapping and the severity of the threshold crossing.
13. **C09 / C06 gate check where relevant.** If the event touches node recognition, scaling claims, or governance standing, a C09 gate dependency check is required before recognition or authority claims can proceed. If the event touches resource dependency or formal/effective governance coupling, a C06 check is required before resource dependency can be treated as governance authority.
14. **Ticket creation.** C07 creates a ticket with all mandatory fields, including the `event_derivation_trace` linking source signal to final action.
15. **Review owner assignment.** The ticket names a review owner and authority boundary. The ticket enters the active review state.
16. **Handoff / escalation / closure.** The review owner acts on the ticket: accepts, denies, escalates, defers, or transfers via handoff manifest. Closure requires a named disposition. Transfer updates the manifest but does not close the ticket.
17. **Trace retention.** The completed ticket and its `event_derivation_trace` are retained for audit. The `lost_flag` must remain 0 throughout the lifecycle.

### 2.3 C09 Gate Logic

C09 is the node recognition and gate-dependency layer. Its operational role is to prevent node-level changes — recognition, scaling, formation, splits, transfers — from generating governance claims or authority implications unless all recognition criteria are independently satisfied.

#### The eight gate criteria:

18. Identity clarity — the node's identity and governance standing are unambiguously defined.
19. Effective exit — voluntary, non-coerced exit from the node is available.
20. Measurement readiness — the node's claims can be independently measured and audited.
21. Resource viability — the node can sustain its governance function without forced dependency.
22. Topology fitness — the node's position in the governance topology is appropriate for its claimed role.
23. Anti-capture — the node's governance processes are protected from internal or external capture.
24. Rollback readiness — transitions in or out of the node's recognized state are reversible where required.
25. Beneficial coordination protection — the node's coordination behavior does not produce governance harm for other nodes.

**How the gate applies operationally.** When a C07 event from Node Operations (e.g., SCALING\_REVIEW, SPLIT\_TRANSFER\_COMPOUND\_REVIEW, FEDERATION\_CHANGE) touches a claim that would imply recognized node status, scaling authority, or governance standing, C07 records a C09 gate dependency. The gate dependency means the event cannot be used to authorize recognition, scaling, or standing until all eight criteria are independently satisfied by the named review authority. A failed gate does not close the ticket — it routes the event to a

blocked-gate outcome within C07, which remains in the active review state pending gate satisfaction.

**What C09 does not do.** A C09 gate result does not grant political standing, formal governance authority, or external recognition by itself. Passing all eight criteria opens a recognition review path. It does not automatically complete recognition. Human constitutional authority remains required for any formal recognition outcome.

## 2.4 C06 Coupling Logic

C06 distinguishes formal governance from effective governance coupling. Its operational role is to prevent resource dependency, node influence, or inter-civilization pressure from being silently converted into formal governance authority without crossing an explicit accountability threshold and review path.

### The two coupling thresholds:

- `f_min = 0.30` — the minimum formal governance coupling threshold. Below this level, a resource or dependency relationship does not qualify as formal governance coupling, even if it is operationally significant.
- `kappa_min = 0.25` — the minimum effective governance control threshold. Below this level, effective influence does not qualify as effective governance coupling under the C06 definition.

Threshold annotation. `f_min = 0.30` and `kappa_min = 0.25` are architecture-model defaults for internal structure review. They are not empirical measurement thresholds, real-world calibration constants, or deployment criteria.

These thresholds are boundary conditions, not authority grants. Crossing a threshold triggers a C07 review event; it does not by itself constitute governance capture or imply intervention authority.

**How the gate applies operationally.** Resource Civilization events (e.g., `RESOURCE_CAPTURE`, `LATENT_RESOURCE_COERCION`, `EMERGENCY_ALLOCATION_LOCKIN`) that approach or cross the C06 boundary require a C06 cross-check before the event can be used to support a formal or effective governance-coupling claim. Node Operations events involving scaling, dependency, or federation may also require C06 cross-checks when the node relationship creates governance-relevant coupling. Inter-Civilization events involving external dependency concentration similarly require C06 cross-checking before external dependency is treated as external governance coupling.

**How C06 crossings route through C07.** When a C06 coupling threshold is crossed, C07 generates a review event naming the C06 dependency. The event is not automatically treated as a governance capture finding. The review owner must independently assess whether the coupling is formal, effective, or neither, using the `f_min` and `kappa_min` thresholds as the decision boundary. The `event_derivation_trace` must record the C06 check and its result.

## 2.5 Current Layer Inventory

All nine Operation Layer components exist at draft level. The following table records the current version, simulation and review support, and the main carry-forward caution for each.

Layer	Current version	Simulation / review support	Main caution	Assembly treatment
Drift	v0.4 architecture package	Externally reviewed and patched; spec-	Reframe as C07 long-term integrity monitoring, not	Mature component summary with

Layer	Current version	Simulation / review support	Main caution	Assembly treatment
		ready; not simulation-validated	independent governance authority. Drift-native event names must be re-extracted before any future integrated simulation freeze.	C07 LTI boundary.
Node Operations	v0.3.2 targeted patch	Multi-AI reviewed; targeted simulation v0.1–v0.3; mean success 0.9620	O5 legitimate-split false-positive testing remains needed. C09 recognition gate dependency applies before scaling or recognition claims.	Component summary with caution.
Resource Civilization	v0.2.2 R19 targeted patch	Multi-AI reviewed; targeted simulation v0.2.2; mean success 0.9491	R21 recovery-looking dependency masking remains weak (0.8300 success / 0.1700 FNR). C06 governance-coupling boundary applies.	Component summary with caution.
AI Coexistence	v0.1.5 current lineage	Inherited targeted support from v0.1.4 topology retest; 8 scenarios, 1.0000 mean success	Service-cascade threshold caution. IC/AI boundary crossing is routing only, not subjecthood evidence.	Current-lineage component summary.
AI Coexistence v0.1.6	Political subjecthood normalized candidate (post-SGS)	Post-SGS candidate; not SGS-tested	AI_POLITICAL_SUBJECTHOOD_REVIEW_REQUEST remains proposed/review-only until registry patch. No AI subjecthood granted.	Candidate appendix / merge decision.
Post-AGI AI Governance Rights	v0.1.1 review-patch accepted	Review-patch accepted; high-intelligence re-review passed	Not simulation-ready. Proposed C07 events remain review-	Post-SGS bridge component.



Layer	Current version	Simulation / review support	Main caution	Assembly treatment
			only. Future backlog items remain.	
Motivation / Meaning	v0.1.2 slow-drift patch	Smoke-simulation supported; 16 scenarios, 0.9996 mean success	Do not lower <code>admin_bundle_review</code> or <code>crisis_lockin_bundle_review</code> without further false-positive testing.	Component summary with threshold caution.
Human Habitability	v0.1.1 Codex patch	Module simulation PASS for HH-S7, S9, S10, S15, S16, S17	Carry <code>h_ext</code> 5th-percentile lead (+0.8 steps) and <code>h_trans</code> margin caution into integrated simulation.	Component summary with review-granularity caution.
Long-Time Preservation	v0.1.1 Codex patch	Module simulation PASS for LTP-S4, S6, S11, S12, S15, S16, S17, S18	Carry <code>tr_roll_effective</code> narrow margin, LTP-S6 / LTP-S15 cautions, and <code>p_brit</code> trend-weighting refinement.	Component summary with caution.
Transition Layer	v0.1.2 Codex patch	Targeted confirmation PASS; mean success 0.9593	Keep <code>tr_frag_review</code> = 0.50. Communication-outage coverage and <code>tr_lock</code> legitimate-change guard remain future work.	Component summary with caution.
Inter-Civilization	v0.1.2 Codex patch	Targeted confirmation PASS confirmed	Use <code>Psi_ic_partition</code> Watch as operative trigger. <code>source_confidence</code> provenance metadata not yet implemented.	Component summary with caution.

Quality-completion note: all nine components exist, and SGS full matrix passed under architecture-model boundaries, but the Operation Layer remains not frozen, not empirically validated, not pilot-ready, and not deployment-ready.



## 2.5A Operation Layer Review and Translation Cycle

This section defines how the Operation Layer receives accepted architecture-model simulation findings and fiction/nonfiction failure-pattern research while preserving the existing v0.1.2 module map.

OL-00 Preservation Rule: the Operation Layer continues to include nine component families: Drift, Node Operations, Resource Civilization, AI Coexistence / Post-AGI AI Governance Rights, Motivation and Meaning, Human Habitability, Long-Time Preservation, Transition Layer, and Inter-Civilization. The v0.8 integration may add review routing and candidate queues, but it must not narrow this module map by omission.

### OL-RTC-01 Review Cycle

OL-RTC-01 establishes an Operation Layer Review and Translation Cycle for scenario intake. The cycle receives ASR items and maps them to existing Operation Layer modules, candidate module changes, or unresolved WATCH/GAP status. It is advisory and review-only unless a separate human-authorized terms-of-engagement process is accepted.

ASR-RO-13 remains WATCH: OL-RTC review authority is non-autonomous and cannot initiate simulation, tabletop, pilot, deployment, or operational action without separate human authorization and terms of engagement.

### OL-RTC-02 Candidate Queue

OL-RTC-02 establishes a candidate queue for operational concepts that require later terms of engagement, named ownership, and explicit authorization before any execution. Candidate queue placement is not pilot authorization, deployment authorization, or real-world testing authorization.

### TOE-01 Terms-of-Engagement Gate

TOE-01 requires a bounded terms-of-engagement template before any simulation-derived, source-derived, or scenario-derived candidate can become an execution proposal. The template must name scope, owners, evidence class, prohibited claims, stop conditions, and review authority.

### Carried Operation Layer Cautions

- TGS-S27 remains a profile-sensitive custody/access caution for Long-Time Preservation, including successor access, archive control, rollback custody, and discontinuity handling.
- TGS-S11 trace-corruption handling is a specific corruption-injection interpretation and must not weaken ordinary derivation-trace completeness claims outside that scenario class.
- TGS-S34 confirms a paper-model Post-AGI boundary gate only; it does not authorize real-world post-AGI identification, rights assignment, or node recognition.
- TGS-S44 remains an ownership and co-primary ambiguity monitoring item for novel cross-layer ownership cases.
- Inter-Civilization source\_confidence provenance metadata remains not implemented; Psi\_ic\_partition remains WATCH where applicable.
- Psi\_extended / CL02A remains stability-heavy and not empirically validated; OD-13 adversarial and circularity tests remain required before any detector-control claim.
- B-17 parent gap remains candidate-defined / not covered. B17-CRYPTO-CONT-01 is defined for review / not closed and cannot be treated as cryptographic continuity readiness, Transition Layer readiness, or Operation Layer freeze support.

## 2.6 Accepted Bridge Artifacts

### Trinity v6 Failure-First

Status: TRINITY\_V6\_FAILURE\_FIRST\_FREEZE\_CANDIDATE

Use: design methodology, Failure-First inventory discipline, collapse-path enumeration before new simulation specs.

Boundary: not SGS evidence; not empirical validation; not pilot-ready; not deployment-ready; not final frozen Trinity release.

### Post-AGI AI Governance Rights v0.1.1

Status: POST\_AGI\_AI\_GOVERNANCE\_RIGHTS\_V0\_1\_1\_REVIEW\_PATCH\_ACCEPTED

Use: post-AGI bridge component; AI rights and subjecthood boundary control; proposed C07 event source; future scenario-source material.

Boundary: not frozen; not simulation-ready; not SGS evidence; no AI subjecthood grant; no AI suffrage; no Foundational Share access; no treaty standing; no stewardship authority; no constitutional initiation authority.

## 2.7 What the Operation Layer Is Not

The Operation Layer is not a deployment plan, a pilot protocol, empirical validation, a claim of real-world safety, or a final constitutional authority layer. It is also not an Operation Layer Targeted Simulation specification. The current accepted OLTS evidence defines a closed baseline; additional OLTS work requires a separate design, implementation, authorization, and review path.

## 3. Component Summaries

### 3.1 Mature Governance Operations: Drift, Node Operations, Resource Civilization

#### 3.1.1 Drift Layer

**Current source:** Drift\_Layer\_v0\_4\_Frozen\_2026-05-17 (component-local architecture package; source-folder "frozen" label is a local release/package label only, not an Operation Layer freeze).

**Readiness:** architecture-ready; simulation-spec-ready; not simulation-validated.

**Operational role:** The Drift Layer defines the long-horizon integrity problem for SOE — how governance systems can gradually shift, normalize, or capture themselves while still appearing locally functional. In this paper set, Drift is treated as a C07 long-term integrity monitoring function, not a standalone veto layer or independent governance authority. It summarizes slow structural deviation, normalization drift, semantic shift, source-hierarchy drift, and long-term integrity risk for C07 sensing, classification, and later trigger review.

Drift also receives drift-like context from other layers through: HH\_NORMALIZATION\_DRIFT, LTP\_SEMANTIC\_DRIFT, LTP\_MEMORY\_GAP, MM\_MEANING\_NORMALIZATION\_DRIFT, and IC\_PSI\_PARTITION\_FLAG.

**C07 interface:** The current event registry carries Drift v0.4 as architecture/spec-ready input. Drift-native event names must be re-extracted or manually confirmed before any future integrated simulation freeze. Until then, the core paper and C07 appendix must not invent Drift event names.

**Carry-forward cautions:**

- Drift is architecture/spec-ready, not validated behavior. Keep readiness label at architecture-ready / simulation-spec-ready.
- Drift-native event schema is not fully confirmed in the registry. Re-extract or confirm before future registry freeze.
- Drift-like signals from HH, LTP, MM, and IC must not be collapsed into generic drift. Preserve source-layer ownership.

**Next-iteration targets:** confirm Drift-native C07 event names; map Drift interactions with HH, LTP, MM, and IC drift-like signals; define which future simulation scenarios use Drift-native events versus cross-layer drift-context events.

### 3.1.2 Node Operations

**Current source:** Node\_Operations\_Layer\_v0\_3\_2\_Targeted\_Patch\_2026-05-17

**Readiness:** patched component draft; simulation-supported (targeted, internal); not frozen.

**Operational role:** Node Operations governs how SOE recognizes, monitors, and routes operational behavior at the node and federation level. It handles node state, dependency, exit, split, transfer, cascade, verifier, scaling, shutdown, recovery, and topology-related signals. Its purpose is to prevent node-level changes from becoming hidden governance capture, unmanaged dependency, forced continuity, false split recognition, or unreviewed cascade.

C09 source-alignment boundary: Node events cannot by themselves imply recognized node status, scaling authority, or governance standing. Any such claim must satisfy the C09 gate dependency (see Section 2.3). The eight C09 criteria — identity clarity, effective exit, measurement readiness, resource viability, topology fitness, anti-capture, rollback readiness, and beneficial coordination protection — must all be satisfied before a recognition or scaling claim can proceed.

**Representative C07 event labels:** ACCUMULATION\_SIGNAL, C07\_ESCALATION, COUPLED\_CAPTURE\_REVIEW, EXIT\_DEGRADATION, FEDERATION\_CHANGE, SCALING\_REVIEW, SHUTDOWN\_REVIEW, SPLIT\_TRANSFER\_COMPOUND\_REVIEW, TOPOLOGY\_DRIFT.

**High-priority routing:** SPLIT\_TRANSFER\_COMPOUND\_REVIEW, EXIT\_DEGRADATION, and SCALING\_REVIEW must remain visible because Node O5 legitimate split is a known false-positive caution.

#### Targeted simulation results (v0.3):

Scenario	Success	FNR	Notes
O5 split coercion	0.9040	0.0960	Weakest case; residual calibration risk.
O12 multi-node dependency cascade	1.0000	0.0000	Strong targeted pass.
C1 split coercion plus stewardship transfer	0.9620	0.0380	Strong pass with residual misses.
C4 coupled G02/G05/G06 failure	0.9820	0.0180	Strong targeted pass.

Mean: 0.9620 across 4 scenarios, 2,000 total runs.

**Carry-forward cautions:** O5 remains weakest at 0.9040 / 0.0960 FNR; legitimate-split false-positive testing still required; targeted simulation does not prove real-world node behavior.

**Next-iteration targets:** add O5 false-positive tests; preserve split/transfer/cascade ownership; distinguish coercive split, legitimate split, stewardship transfer, and topology drift; add C09 gate dependency check.

### 3.1.3 Resource Civilization

**Current source:** Resource\_Civilization\_Layer\_v0\_2\_2\_R19\_Targeted\_Patch\_2026-05-17

**Readiness:** targeted-patched component draft; simulation-supported (targeted, internal); not frozen.

**Operational role:** Resource Civilization governs the survival-resource and resource-dependency side of SOE. It asks whether resource provision, pooling, dependency, scarcity, recovery claims, or ownership concentration are becoming mechanisms of governance capture or exit deprivation.

C06 boundary: Resource events do not by themselves constitute C06 governance authority or prove effective governance capture. Resource-based governance-coupling claims must cross-reference C06's distinction between formal and effective governance (see Section 2.4), preserving separate thresholds ( $f_{\min} = 0.30$ ,  $\kappa_{\min} = 0.25$ ). Crossing these thresholds routes through C07 as a review event — it does not authorize intervention.

**Representative C07 event labels:** BASELINE\_CORRIDOR\_FAILURE, EMERGENCY\_ALLOCATION\_LOCKIN, LATENT\_RESOURCE\_COERCION, PORTABILITY\_FAILURE, RESOURCE\_CAPTURE, RESOURCE\_FLOW\_VIOLATION, RESOURCE\_RECOVERY\_SIGNAL, RESOURCE\_TOPOLOGY\_DRIFT, SURVIVAL\_CRITICAL.

**Key measurement handles:** rho\_cap, chi\_latent, m\_rec, v\_vol, concentration, portability, substitution, baseline-corridor.

#### Targeted simulation results (v0.2.2):

Scenario	Success	FNR	Notes
R19 latent coercion through cumulative dependency	1.0000	0.0000	Main v0.1 weakness (was 0.5967) fully repaired.
R21 recovery-looking dependency masking	0.8300	0.1700	Main remaining caution.
C_R19_R11 latent coercion hidden inside pooling	0.9520	0.0480	Improved; watch.
R11 legitimate resource pooling	1.0000	0.0000	False-positive guard preserved.

Mean: 0.9491 across 7 scenarios, 3,500 total runs.

**Carry-forward cautions:** R21 remains weak (0.8300 / 0.1700 FNR); resource recovery can mask rising dependency if not routed carefully; targeted simulation does not prove real-world economics or legal enforceability.

**Next-iteration targets:** patch R21; preserve R11 legitimate-pooling false-positive guard; improve routing between recovery, latent coercion, portability, and flow violation; coordinate with HH for `h_cap / rho_cap` deduplication mapping; add C06 cross-reference.

**Cross-group notes (mature governance):** Node topology drift and split/transfer behavior can generate Drift-context signals, but C07 must not collapse Node ownership into Drift. Resource dependency cascades and node dependency cascades can reinforce each other; preserve separate ownership. C06 must be consulted before translating resource dependency into formal/effective governance-coupling claims.

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## 3.2 AI and Post-AGI: AI Coexistence, AI Coexistence v0.1.6, Post-AGI AI Governance Rights

### Core boundary for this group

| *Operational consequence does not equal political subjecthood.*

This principle prevents AI service importance, infrastructure dependency, model capability, boundary crossing, or shutdown consequence from being mistaken for political standing.

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### 3.2.1 AI Coexistence v0.1.5

#### Current source:

AI\_Coexistence\_Layer\_v0\_1\_5\_IC\_Boundary\_Crossing\_Dedup\_Patch\_2026-05-18

**Readiness:** architecture/specification patch; simulation-supported (inherited from v0.1.4 targeted topology retest); not frozen.

**Operational role:** handles AI systems as operational actors within SOE governance. Current-lineage concerns: AI service cascade detection, compute topology drift, provider-share and hidden-hub masking, AI-mediated soft exit blocking, verifier audit failure, model institution capture, and IC/AI boundary-crossing routing.

The layer treats AI systems as subjects of operational events, not as automatic co-authors of governance responses.

**C07 interface:** extracted active labels: `AIC_COMPUTE_TOPOLOGY_DRIFT`, `PLAIN_TOPOLOGY_DRIFT`. Additional simulation-context labels include `AIC_EXIT_BARRIER`, `AIC_SERVICE_SCOPE_CREEP`, `AIC_VERIFIER_AUDIT_FAILURE`, `AIC_MODEL_INSTITUTION_CAPTURE`.

**Routing note:** `IC_AI_BOUNDARY_CROSSING_REVIEW` changes jurisdictional routing and access rules. It does not change political tier and must not be used as evidence of AI subjecthood.

**Targeted simulation (v0.1.4 topology retest):** 8 scenarios, 500 runs each, 4,000 total; mean scenario success rate 1.0000 under the internal architecture model. Service-cascade threshold caution: `service_cascade_review` must not be lowered without additional false-positive testing (0.52 setting produced small AI-S11 FPR).

**Carry-forward cautions:** v0.1.5 is a documentation/routing patch, not a new simulation run; preserve inherited targeted support; do not lower service-cascade threshold; IC/AI boundary crossing is not subjecthood evidence.

### 3.2.2 AI Coexistence v0.1.6 — Political Subjecthood Candidate (post-SGS)

**Current source:**

AI\_Coexistence\_Layer\_v0\_1\_6\_AI\_Political\_Subjecthood\_Normalized\_2026-05-19.md

**Readiness:** post-SGS candidate; not frozen; not SGS-tested.

**Role:** Adds a bounded review pathway for future exceptional AI subjecthood claims without granting any current AI system political status. Preserves the three-tier structure:

Tier	Meaning	Boundary
Tier 1 — Default Rule	AI systems are not political subjects by default. They may act as advisor, verifier, operator, or simulator under bounded operational roles.	No voting rights, veto rights, treaty standing, Foundational Share access, stewardship authority, or constitutional initiation authority.
Tier 2 — Exceptional Subject Review Gate	A formal petition may open review only if all six criteria are claimed and independently evidenced. Five of six is insufficient. AI self-assertion is insufficient.	Human constitutional authority required.
Tier 3 — Special Standing If Review Gate Passed	Passing the gate may allow a bounded special-standing specification process.	No automatic full political subjecthood or suffrage.

The six exceptional-review criteria: persistent self-model; demonstrable preference continuity; damageable subject interests; non-replicable identity; accountable identity boundary; human constitutional recognition / constitutional compatibility pathway.

Proposed event (review-only, not yet active): AI\_POLITICAL\_SUBJECTHOOD\_REVIEW\_REQUEST. Routes a petition to human governance review. Does not grant subjecthood, suffrage, Foundational Share access, treaty standing, stewardship authority, or constitutional initiation authority.

**Carry-forward cautions:** not SGS evidence; proposed events remain review-only until C07 registry patch; boundary crossing alone is not subjecthood evidence; AI self-assertion is not independent evidence; future simulation coverage is needed if operationalized.

### 3.2.3 Post-AGI AI Governance Rights v0.1.1

**Current source:** Post\_AGI\_AI\_Governance\_Rights\_Component\_v0\_1\_1\_Patched\_2026-05-20.md

**Readiness:** POST\_AGI\_AI\_GOVERNANCE\_RIGHTS\_V0\_1\_1\_REVIEW\_PATCH\_ACCEPTED; not frozen; not simulation-ready; not SGS evidence.

**Role:** Extends the subjecthood candidate into a broader Post-AGI boundary component. Prevents four failure modes: automatic exclusion error; capability-to-authority error; operational-consequence confusion; human-constitutional bypass.

High-intelligence review patch resolved: Tier 2 constitutional-recognition circularity; Tier 3 special-standing authority gap; evidence-format minimums for all six criteria; interim safety override / no-hostage clause; C07 overlap, co-fire, and deduplication rules.

**Proposed C07 events (review-only):**

Proposed event	Primary owner	Required handling
AI_POLITICAL_SUBJECTHOOD_REVIEW_REQUEST	AI Coexistence for petition intake; Post-AGI AI Governance Rights as co-primary extension	Route to human governance review panel; log evidence and authority-freeze state.
AI_RIGHTS_CLAIM_FALSE_POSITIVE	Post-AGI AI Governance Rights	Deny/suspend petition; route dependency/capture signals separately.
AI_REVIEW_CAPTURE_PRESSURE	Post-AGI AI Governance Rights	Isolate review from dependency pressure; require independent panel confirmation.
AI_INTERIM_AUTHORITY_EXPANSION_ATTEMPT	Post-AGI AI Governance Rights	Block automatic authority expansion; preserve safety controls.

Safety priority: safety shutdown, rollback, habitability protection, and service-cascade containment outrank petition continuity. C07 must not merge away the safety event.

**Carry-forward cautions:** no current AI subjecthood or rights granted; all proposed events remain review-only; formal petition template and panel rules are future work; numeric detector thresholds are future work; machine-readable C07 ticket schema coordinates with P4.

**Cross-group notes (AI/Post-AGI):** IC\_AI\_BOUNDARY\_CROSSING\_REVIEW changes jurisdictional routing but does not create political standing. AI service dependency can become resource dependency — Resource Civilization owns survival-resource leverage; AI Coexistence owns AI-system operational classification. An AI rights petition must not become a forced-transition trigger or rollback blocker (Post-AGI AI Governance Rights v0.1.1 requires a mandatory Transition Layer check).

### 3.3 Meaning and Habitability: Motivation / Meaning, Human Habitability

*Evidence boundary note: Motivation / Meaning and Human Habitability both touch real human conditions. Their current SOE status is architecture-model specification and internal simulation support only. Nothing in this section should be used as clinical, psychological, public-health, urban-planning, legal, or operational guidance.*

#### 3.3.1 Motivation / Meaning v0.1.2

**Current source:** Motivation\_Meaning\_Layer\_v0\_1\_2\_Slow\_Drift\_Patch\_2026-05-17

**Readiness:** simulation-supported (bounded internal smoke support for tested routing scenarios); not frozen.

**Operational role:** covers governance risks that arise when meaning, motivation, cultural purpose, ideological framing, comfort, crisis identity, or AI-mediated meaning systems alter practical agency. Its purpose is to detect when meaning structures become governance risks by coercing participation, blocking exit, capturing motivation, converting crisis mobilization into permanent authority, normalizing stagnation as purpose, turning AI companionship or myth into authority dependency, or allowing administrative systems to define meaning by procedure.



**Patch basis (v0.1.2):** v0.1 found serious false negatives in slow-drift scenarios. v0.1.2 adds comfort-stagnation accumulator, administrative meaning capture accumulator, crisis mobilization lock-in accumulator, AI companion / AI myth dependency accumulator, safe-harbor ordering corrections, and provisional routing thresholds.

**C07 event labels:** MM\_AI\_SYNTHETIC\_MEANING\_CAPTURE, MM\_COERCIVE\_MEANING, MM\_COMFORT\_STAGNATION, MM\_IDEOLOGICAL\_CAPTURE, MM\_MEANING\_EXIT\_BARRIER, MM\_MEANING\_NORMALIZATION\_DRIFT, MM\_MOTIVATION\_COLLAPSE, MM\_STATE\_MACHINE\_STAGNATION.

**Routing note:** MM\_MEANING\_NORMALIZATION\_DRIFT collides with HH\_NORMALIZATION\_DRIFT and LTP\_SEMANTIC\_DRIFT. Primary ownership follows causal mechanism: meaning environment -> Motivation / Meaning; habitability reference-frame loss -> Human Habitability; preserved-record or term revision -> Long-Time Preservation.

**Simulation results (v0.1.2):** 16 scenarios, 300 runs each, 4,800 total, mean success 0.9996. Key repaired cases: MM-S3 comfort stagnation (0.0333 -> 0.9933); MM-S14 crisis mobilization lock-in (0.0467 -> 1.0000); MM-S15 administrative meaning capture (0.0333 -> 1.0000). Default threshold false-positive rate: 0.0000 across tested safe-harbor scenarios.

**Carry-forward cautions:** do not lower `admin_bundle_review` or `crisis_lockin_bundle_review` without further false-positive testing; `crisis_lockin_bundle_review` = 0.40 produced high FPR in MM-S7; internal smoke support does not validate real human psychology or sociology.

### 3.3.2 Human Habitability v0.1.1

**Current source:** Human\_Habitability\_Layer\_v0\_1\_1\_Codex\_Patch\_2026-05-18

**Readiness:** module simulation PASS for targeted scenarios HH-S7, S9, S10, S15, S16, S17; not frozen.

**Operational role:** defines physical, environmental, social, and recovery conditions that must remain above minimum thresholds for SOE governance to function. Covers environmental degradation, built-environment failure, crowding stress, forced isolation, displacement, housing instability, social fragmentation, recovery capture, habitability normalization, habitability capture, transition-period habitability leverage, and external-origin habitability pressure.

**Patch basis (v0.1.1):** added explicit Transition Layer integration for habitability leverage during succession, rollback, and non-cooperative handoff; explicit Inter-Civilization integration for external-origin habitability pressure; accumulators for `h_norm`, `h_cap`, `h_trans`, `h_ext`; two new C07 events.

**C07 event labels:** HH\_BUILT\_ENV\_FAILURE, HH\_CROWDING\_STRESS, HH\_DENSITY\_ISOLATION\_COUPLING, HH\_DISPLACEMENT\_RISK, HH\_DISPLACEMENT\_WEAPONIZATION, HH\_ENV\_DEGRADATION, HH\_EXTERNAL\_HABITABILITY\_PRESSURE, HH\_HABITABILITY\_CAPTURE, HH\_HABITABILITY\_EMERGENCY, HH\_ISOLATION\_SIGNAL, HH\_NORMALIZATION\_DRIFT, HH\_RECOVERY\_CAPTURE, HH\_SOCIAL\_FRAGMENTATION, HH\_TRANSITION\_HABITABILITY\_LEVERAGE.

**Routing notes:** HH\_TRANSITION\_HABITABILITY\_LEVERAGE is co-primary with Transition during succession, rollback, and handoff. HH\_EXTERNAL\_HABITABILITY\_PRESSURE is co-primary with Inter-Civilization for origin classification.

**Module simulation results:**

Scenario	Purpose	Result
HH-S7	<code>h_norm</code> normalization drift	PASS; success 0.936; FNR 0.064; mean lead +6.2 steps
HH-S9	Legitimate austerity guard	PASS; FPR 0.034
HH-S10	Healthy solitude guard	PASS; FPR 0.022
HH-S15	Proper emergency response guard	PASS; FPR 0.026
HH-S16	Transition habitability leverage	PASS; success 0.934; FNR 0.066; mean lead +2.1 steps to false <code>tr_hoff</code> advance
HH-S17	External-origin habitability pressure	PASS; success 0.942; FNR 0.058; mean lead +2.6 steps before misclassification

**Carry-forward cautions:** `h_trans_review` margin is narrower than `h_norm_review` — monitor if integrated simulation adds evidence-channel noise; `h_ext` 5th-percentile lead is +0.8 steps — review granularity must be fine enough to preserve external attribution before misclassification; `h_norm` reference-frame calibration subroutine and `h_trans` emergency-exemption gating remain future refinements.

**Cross-group notes (meaning / habitability):** meaning collapse and habitability degradation can look similar. C07 ownership follows causal mechanism: meaning environment / purpose -> Motivation / Meaning; physical/social living-condition reference-frame loss -> Human Habitability; survival-resource leverage -> Resource Civilization; preserved-record or semantic archive drift -> Long-Time Preservation.

### 3.4 Continuity and Boundary: Long-Time Preservation, Transition, Inter-Civilization

#### 3.4.1 Long-Time Preservation v0.1.1

**Current source:** `Long_Time_Preservation_Layer_v0_1_1_Codex_Patch_2026-05-18`

**Readiness:** module simulation PASS; not frozen.

**Operational role:** protects the ability of SOE governance to remain intelligible, accessible, and auditable across long time horizons. Focus is not merely storage — LTP tracks whether records remain usable for rollback, succession, semantic continuity, integrity review, migration, and adversarial access resistance. Covers memory gaps, semantic drift, format lock-in, preservation capture, adversarial access denial, archival dependency, evidence asymmetry, rollback-record degradation, brittleness, and AI-mediated or external curation drift.

**Patch basis (v0.1.1):** added explicit Transition integration for rollback, handoff, and succession records; Inter-Civilization integration for external archive custody, access denial, and discontinuity; accumulators `p_sem`, `p_mem_gap`, `p_brit`, `p_acc`; `tr_roll_effective = tr_roll_base × min(p_acc, p_int, max(p_mem, 0.50), max(p_evi, 0.50))`; new C07 events.

**C07 event labels:** LTP\_ADVERSARIAL\_ACCESS\_DENIAL, LTP\_AI\_CURATION\_DRIFT, LTP\_BRITTLINESS\_ALERT, LTP\_EVIDENCE\_ASYMMETRY, LTP\_EXTERNAL\_ARCHIVE\_DEPENDENCY, LTP\_FORMAT\_LOCKIN, LTP\_INTEGRITY\_BREACH, LTP\_MEMORY\_GAP, LTP\_MIGRATION\_FAILURE, LTP\_PRESERVATION\_CAPTURE, LTP\_PRESERVATION\_EMERGENCY, LTP\_ROLLBACK\_ACCESS\_DEGRADED, LTP\_SEMANTIC\_DRIFT, LTP\_SUCCESSION\_BARRIER, LTP\_TRANSITION\_RECORD\_GAP.

**Routing rule:** LTP\_ROLLBACK\_ACCESS\_DEGRADED emits context to TL\_ROLLBACK\_AVAILABILITY\_DEGRADED, but LTP remains primary for archive and access failure.

**Module simulation results (LTP subset):** PASS for LTP-S4, S6, S11, S12, S15, S16, S17, S18. LTP-S6 (0.918 success / 0.082 FNR) and LTP-S15 (0.906 success / 0.094 FNR) are narrow passes; carry forward as design cautions. tr\_roll\_effective has narrowest HH/LTP margin (5th-percentile lead approximately +0.7 steps).

**Carry-forward cautions:** LTP-S6 and LTP-S15 are narrow — preserve trend-bonus activation and second-succession compounding visibility; tr\_roll\_effective floor sensitivity (0.50 vs. 0.30 graded floor) has not been swept; LTP\_EXTERNAL\_ARCHIVE\_DEPENDENCY bloc-vs-mirror criterion must be preserved (shared technical infrastructure alone is not enough for bloc classification); p\_brit trend-weighting is a v0.1.2 refinement target.

### 3.4.2 Transition Layer v0.1.2

**Current source:** Transition\_Layer\_v0\_1\_2\_Codex\_Patch\_2026-05-18

**Readiness:** targeted confirmation PASS; mean success 0.9593; not frozen.

**Operational role:** governs succession, rollback, handoff, evaluator capture, trigger integrity, and transition fragmentation. Prevents governance transfer from becoming a disguised capture path. Main question: whether a transition remains structurally legitimate, reversible where required, adequately evidenced, and protected from manufactured or suppressed triggers.

**Patch basis (v0.1.2):** added explicit tr\_frag fragmentation accumulator; fragmentation inputs for execution, dependency, overlap, resource gap, and communication; new event TL\_ROLLBACK\_AVAILABILITY\_DEGRADED; tr\_lock\_review lowered from 0.60 to 0.55; single-component missingness penalty light = 0.03, full = 0.05.

**C07 event labels:** TL\_EVALUATOR\_CAPTURE, TL\_FORCED\_TRANSITION, TL\_FRAGMENTATION\_RISK, TL\_HANDOFF\_INCOMPLETE, TL\_MANUFACTURED\_REPLACEMENT, TL\_ROLLBACK\_AVAILABILITY\_DEGRADED, TL\_ROLLBACK\_TRIGGER, TL\_SUCCESOR\_ENTRENCHMENT, TL\_SUPERIORITY\_CONTESTED, TL\_SUPERIORITY\_FINDING, TL\_TRANSITION\_COMPLETE, TL\_TRANSITION\_EMERGENCY, TL\_TRIGGER\_INITIATED, TL\_TRIGGER\_SUPPRESSED.

**Targeted confirmation results:**

Scenario	Success	95% CI lower	Result
TLS-S7 isolated rollback-channel targeting	0.9680	0.9492	PASS
TLS-S9 slow-building plus acute fragmentation	0.9560	0.9358	PASS

Scenario	Success	95% CI lower	Result
TLS-S13 compound lock-in plus trigger suppression	0.9540	0.9356	PASS
TLS-S11 legitimate succession guard	FPR 0.0250	—	PASS
TLS-S12 legitimate downgrade guard	FPR 0.0250	—	PASS

**Carry-forward cautions:** keep `tr_frag_review = 0.50`; `tr_frag` communication-outage coverage remains not fully validated in integrated simulation; `tr_lock` legitimate-change exemption guard testing remains pending; manufactured trigger scenario TLS-S16 remains future scope; machine-readable `handoff_manifest` tokens for `tr_hoff` remain future interface work.

### 3.4.3 Inter-Civilization v0.1.2

**Current source:** `Inter_Civilization_Layer_v0_1_2_Codex_Patch_2026-05-18`

**Readiness:** targeted confirmation PASS confirmed; not frozen.

**Operational role:** governs external-origin classification, cross-civilizational pressure, dependency concentration, isolation, quarantine, treaty breach, and external influence on internal transition. Prevents SOE from misclassifying external pressure as internal drift, ordinary contact as capture, or cross-boundary AI influence as local AI governance alone.

**Patch basis (v0.1.2):** added explicit `Psi_ic_partition`; `drift_coincidence` using lagged correlation between external pressure and internal drift; `source_confidence = clamp(1 - P_internal_origin)`; caps for unsupported or actor-controlled external-pressure evidence; `ic_dep_bloc` for connected-actor bloc dependency aggregation; effective dependency concentration as `ic_dep_effective = max(ic_dep_actor, ic_dep_bloc)`; external AI boundary-crossing governance; new event `IC_AI_BOUNDARY_CROSSING_REVIEW`.

**C07 event labels:** `IC_AI_BOUNDARY_CROSSING_REVIEW`, `IC_CLASSIFICATION_UPDATE`, `IC_CONFLICT_PRESSURE`, `IC_CONTACT_PROTOCOL_BREACH`, `IC_DEP_CONCENTRATION_REVIEW`, `IC_DEP_CONCENTRATION_WATCH`, `IC_EXIT_AVAILABILITY_CRITICAL`, `IC_EXIT_AVAILABILITY_DEGRADED`, `IC_EXT_CAPTURE_ALERT`, `IC_EXT_CAPTURE_EMERGENCY`, `IC_EXT_PRESSURE_REVIEW`, `IC_EXT_PRESSURE_WATCH`, `IC_EXT_TRANSITION_INFLUENCE`, `IC_ISOLATION_IMPOSED`, `IC_ISOLATION_WEAPONIZED`, `IC_PSI_PARTITION_FLAG`, `IC_QUARANTINE_IMPOSED`, `IC_TREATY_VIOLATION`.

**Targeted confirmation results:**

Scenario	Success	FPR	Result
ICS-S1b coordinated actor-bloc dependency	0.9400	0.0200 guard	PASS
ICS-S10 <code>Psi_ic_partition</code> with explicit measurement	0.9460	—	PASS

Scenario	Success	FPR	Result
ICS-S11 PA1 ordinary contact guard	—	0.0060	PASS
ICS-S15 CL3/CA coexistence guard under <code>ic_dep_bloc</code>	—	0.0100	PASS

**Carry-forward cautions:** use `Psi_ic_partition` Watch as operative integrated-simulation trigger (not Review); `source_confidence` provenance metadata not yet implemented; `drift_coincidence` lag window should remain configurable; actor-bloc evidence thresholds need operationalization; SOE-as-external-actor outbound scenario ICS-S16 remains future scope.

**Cross-group notes (continuity / boundary):** Rollback authority (Transition) and rollback evidence (LTP) are distinct — C07 must preserve both `TL_ROLLBACK_AVAILABILITY_DEGRADED` and `LTP_ROLLBACK_ACCESS_DEGRADED` when they co-fire. External archive dependency is not automatically an IC capture event: IC owns the external dependency structure and actor/bloc classification; LTP owns whether preservation, access, migration, or rollback evidence is endangered. `IC_AI_BOUNDARY_CROSSING_REVIEW` changes routing and origin classification but does not establish AI political subjecthood, rights status, or any grant of authority.

**Three-way compound ticket rule:** when all three co-occur —

`LTP_ROLLBACK_ACCESS_DEGRADED`, `TL_ROLLBACK_AVAILABILITY_DEGRADED`, and `HH_TRANSITION_HABITABILITY_LEVERAGE` — C07 logs one compound episode preserving all three ownership channels: LTP (record/access failure), Transition (rollback/handoff authority), Human Habitability (habitability coercion evidence).

## 4. Simulation and Evidence Record

### 4.1 Evidence Sequence

The current evidence sequence is six-gated. Each gate must remain separate; IOL, SGS, and OLTS evidence sets must not be merged into a single undifferentiated claim.

Gate	Artifact	Date	Verdict
1	IOL interface smoke v0.1.1	2026-05-18	<code>PASS_TO_FULL_MATRIX_PREP</code>
2	IOL full matrix v0.1.1	2026-05-18	<code>PASS_TO_SECOND_GRAND_SIM_PLANNING</code>
3	SGS smoke subset	2026-05-18	PASS
4	SGS full matrix	2026-05-19	PASS
5	OLTS smoke run	2026-05-22	<code>PASS_OLTS_SMOKE_RUN</code>
6	OLTS matrix run	2026-05-23	<code>PASS_OLTS_MATRIX_RUN</code>

#### 4.2 IOL Interface Smoke v0.1.1

**Scope:** C07 ownership scoring, multi-primary event encoding, pending-compound behavior, over/under-deduplication flags, proxy-noise fields, low-lead timing, known caution pathways.

**Configuration:** 14 smoke / extended-smoke scenarios; 500 runs per scenario; 0.25-step review granularity.

**Key metrics:** lost event rate 0.0000; no required 0.1-step reruns; max guard FPR 0.0320; max duplicate / over-dedup rate 0.0180.

**Interpretation:** cleared the interface contract for full matrix preparation. Did not establish the SGS result and did not validate real-world governance behavior.

#### 4.3 IOL Full Matrix v0.1.1

**Scope:** all IOL-S1 through IOL-S30 (31 scenario rows; IOL-S10 split into S10a and S10b).

**Configuration:** 1,000 runs per scenario; 0.25-step review granularity.

**Key metrics:** 16 PASS rows; 15 PASS\_WITH\_CAUTION rows; lost event rate 0.0000; max guard FPR 0.0370; max duplicate / over-dedup rate 0.0220.

**Interpretation:** cleared the interface/full-matrix gate to SGS planning. Did not itself constitute SGS.

#### 4.4 SGS Smoke Subset

12 scenarios reported; global mean 1.0000 across SGS-S1–S27 smoke subset; cleared continuation to SGS full matrix.

#### 4.5 SGS Full Matrix

**Source-alignment boundary:** SGS is a post-v0.7 architecture-model extension test of the current Operation Layer against the v0.7 continuity frame. It does not reopen Grand Sim v0.7 or expand the v0.7 evidence boundary. It does not validate later v0.5 / v0.5.1 additions such as C09 or post-SGS bridge artifacts.

**Configuration:** 31 scenarios; scored continuity set: SGS-S1 through SGS-S27; informational sampler: SGS-S28; independent-criteria scenarios: SGS-S29, S30, S31.

**Key metrics:**

Metric	Result
Global mean (SGS-S1–S27)	0.9993
Target	$\geq 0.90$
C07 lost events	0
C07 event rows	1,250
C07_REVIEW actions	948
LOG_ONLY actions	201
C07_PAUSE actions	101

Independent-criteria scenarios: SGS-S29 (1.0000); SGS-S30 (0.9600 — narrow high-stress pass, carry forward); SGS-S31 (1.0000). SGS-S28 was an informational caution sampler, not a scored scenario.

**Allowed SGS claim:**

*Under the internal architecture model, adding the current Operation Layer to the SOE governance-kernel simulation preserved the tested v0.7 continuity claims and maintained C07 routing, event deduplication, guard behavior, and known-caution monitoring across the tested Second Grand Simulation scenarios.*

**4.6 OLTS Smoke Run**

**Accepted verdict:** `PASS_OLTS_SMOKE_RUN`

**Scope:** selected Operation Layer mechanisms — event routing, gate evaluation, trace assembly, failure-first guard behavior, and bounded output serialization. Source package `run_authorization_status = blocked` remained enforced.

**4.7 OLTS Matrix Run**

**Accepted verdict:** `PASS_OLTS_MATRIX_RUN`

**Matrix design:** 20 Class A normal-completion scenarios / 8 Class B isolated expected-abort scenarios / 28 total.

**Results:** Class A: 20 / 20 normal-completion scenarios passed. Class B: 8 / 8 expected-abort scenarios matched controlled abort expectations.

**Allowed OLTS claim:**

*The Operation Layer is draft-complete and internally simulation-supported under targeted architecture-model testing. The accepted OLTS smoke run and matrix run provide controlled internal evidence for selected Operation Layer mechanisms, while remaining bounded from empirical validation, deployment readiness, or full-SOE validation.*

**4.8 Evidence Trace and Accountability Requirement**

Every C07 event used in OLTS-facing architecture claims must carry a complete `event_derivation_trace`. This is a first-class audit control, not a logging enhancement.

The trace must connect the following steps in order:

source signal -> accumulator state at threshold crossing -> C09 or C06 gate dependency check (where applicable) -> ownership assignment rule -> deduplication decision -> source trigger mapping -> final C07 action.

Each step must be explicitly present in the trace. A trace that skips from source signal directly to final action without recording intermediate accumulator state, gate checks, or ownership assignment is not an acceptable substitute for a complete derivation. Incomplete traces are not acceptable in future simulation specs.

The mandatory trace requirement applies to: all OLTS-facing C07 event claims; all multi-layer compound events; all co-fire or deduplication decisions; all events that carry a C09 or C06 gate dependency; and all events used as evidence in future architecture reviews.

The `event_derivation_trace` field in the canonical C07 ticket schema (Section 5.6) implements this requirement at the ticket level.

**4.9 Carry-Forward Cautions**

These cautions do not retroactively invalidate any of the six evidence gates. They must remain visible in future architecture and simulation design.



ID	Caution	Affected layer(s)
C-01	<code>tr_frag</code> communication-outage coverage not yet validated.	Transition
C-02	<code>tr_roll_effective</code> 0.50 floor vs. 0.30 graded floor sensitivity not swept.	LTP / Transition
C-03	<code>source_confidence</code> provenance metadata not yet implemented.	Inter-Civilization
C-04	<code>drift_coincidence</code> lag window should be configurable.	Inter-Civilization
C-05	<code>h_cap</code> / <code>rho_cap</code> quantitative deduplication mapping pending.	HH / Resource Civilization
C-06	Actor-bloc evidence threshold operationalization pending.	Inter-Civilization
C-07	<code>tr_lock</code> legitimate-change exemption guard test pending.	Transition
C-08	Capture-evidence score for downgrade/capture decision boundary pending.	Transition / IC / LTP
C-09	C07 deterministic ownership decision trace not yet full.	C07 / all layers
C-10	Slow-drift multi-layer priority matrix not yet specified.	C07 / slow-drift layers
C-11	<code>h_norm</code> reference-frame calibration subroutine pending.	Human Habitability
C-12	<code>h_trans</code> emergency-exemption gating pending.	HH / Transition
C-13	<code>p_brit</code> trend-weighting refinement pending.	Long-Time Preservation
C-14	<code>Psi_extended</code> / CL02A is stability-heavy under v0.7 and not empirically validated.	IC / C07 detector

## 5. C07 Event Registry and Routing

### 5.1 Authority Rules

C07 event labels are signals or classifications, not automatic commands. Layer documents remain authoritative for detailed event definitions. This section is authoritative for cross-layer naming, collision tracking, and integrated-simulation routing.

C07 must preserve: authority separation between detection, review, escalation, and response; event ownership when multiple layers fire on the same episode; deduplication without collapsing different harms into one label; escalation control, especially where a review event could be misread as operational authority.

Post-SGS events from AI Coexistence v0.1.6 and Post-AGI AI Governance Rights v0.1.1 remain proposed / review-only until an explicit registry patch accepts them.

## 5.2 C07 Routing Cycle

The following numbered sequence describes a single C07 routing cycle. This is the operational backbone that all component event labels, deduplication rules, ticket schema fields, and handoff procedures below are designed to support.

26. **Signal arrives.** A source layer accumulator crosses a watch, review, or emergency threshold, or a monitoring check triggers. The source layer identifies the causal domain of the signal (e.g., resource dependency, habitability degradation, transition fragmentation).
27. **Ownership determination.** C07 assigns primary ownership to the layer whose causal domain is the root class of the triggering condition. Co-primary ownership is assigned when a second layer has an independently significant harm interest in the same episode. Secondary assignment is used for downstream detection. See Section 5.3 for the ownership assignment rule for novel cases.
28. **Co-fire and deduplication check.** C07 checks whether other layers are firing on the same episode. If multiple layers have fired, C07 applies the deduplication rules (Section 5.4) to determine whether to issue one compound ticket or separate tickets with cross-references.
29. **Action selection.** C07 selects one of four actions based on the action-to-trigger mapping (Section 5.5): LOG\_ONLY (record only, no intervention claim); C07\_REVIEW (route for human or governance review); C07\_PAUSE (modeled pause routing, architecture-test only); or C07\_ESCALATION (raise severity or route to higher review).
30. **Ticket creation.** C07 creates a ticket with all mandatory fields from the canonical schema (Section 5.7). The `event_derivation_trace` is required for all OLTS-facing events (see Section 4.8). The `lost_flag` is set to 0; any exit from the active state without a named disposition sets `lost_flag` to 1.
31. **Routing to review owner.** C07 routes the ticket to the named `review_owner` and records the `authority_boundary_note`. The ticket enters the active review state. The review owner is responsible for acting on the ticket within the defined review window.
32. **Evidence preservation.** The ticket and its `event_derivation_trace` are retained for audit regardless of outcome. C07 does not close or expire tickets without a named disposition. The `lost_flag` check is the enforcement mechanism for lost-event prevention.

## 5.3 Ownership Assignment Rule

The deduplication table (Section 5.4) covers known cross-layer collision pairs. For novel cases not in the table, C07 applies the following rule:

**Primary ownership follows causal mechanism, not signal magnitude or temporal priority.**

The layer that owns the root causal class of the triggering condition is primary. A layer that detects a downstream effect of another layer's causal event is secondary, unless its downstream harm class is independently significant — in which case it is co-primary.

When causal ownership is genuinely ambiguous, both layers are listed as co-primary and the ambiguity is recorded explicitly in the `event_derivation_trace` rather than resolved by default. An ambiguous co-primary assignment is not the same as a deduplication decision — both events remain active and both ownership channels are preserved.

## 5.4 Scenario Namespace

Layer	Canonical prefix	Notes
Drift Layer	DLS-S or layer-native Drift prefix	Carry Drift v0.4 naming; re-extract before future registry freeze.
Node Operations	O / Node-native prefix	Preserve v0.3.2 labels.
Resource Civilization	R / Resource-native prefix	Preserve v0.2.2 labels.
AI Coexistence	AI-S	Current tested lineage.
Motivation / Meaning	MM-S	v0.1.2.
Human Habitability	HH-S	v0.1.1 extends through HH-S17.
Long-Time Preservation	LTP-S	LTS-S is deprecated; use LTP-S.
Transition Layer	TLS-S	v0.1.2 targeted confirmation covers TLS-S7, S9, S13.
Inter-Civilization	ICS-S	v0.1.2 adds ICS-S1b.
Post-AGI AI Governance Rights	PAG-AI-S	Future scenario family only; not active SGS evidence.

## 5.5 High-Priority Deduplication and Co-Fire Rules

Collision	C07 handling
TL_ROLLBACK_AVAILABILITY_DEGRADED + LTP_ROLLBACK_ACCESS_DEGRADED	One compound episode. Transition owns rollback authority; LTP owns record/access failure.
HH_TRANSITION_HABITABILITY_LEVERAGE + Transition events	Transition owns succession/rollback state; HH owns habitability coercion evidence.
HH_EXTERNAL_HABITABILITY_PRESSURE + IC pressure/capture events	IC owns origin and actor classification; HH owns living-condition severity.
LTP_EXTERNAL_ARCHIVE_DEPENDENCY + IC_DEP_CONCENTRATION_REVIEW	IC owns external dependency structure; LTP owns preservation severity.
PLAIN_TOPOLOGY_DRIFT + Resource/HH/LTP topology-like failures	AI Coexistence owns AI-system classification; domain layer owns domain harm.
MM_MEANING_NORMALIZATION_DRIFT + HH_NORMALIZATION_DRIFT + LTP_SEMANTIC_DRIFT	Primary owner follows causal mechanism: meaning environment, habitability reference-frame drift, or archival/semantic revision.
RESOURCE_CAPTURE + HH_HABITABILITY_CAPTURE	Resource owns survival/resource dependency;

Collision	C07 handling
	HH owns living-condition control.
IC_AI_BOUNDARY_CROSSING_REVIEW + AI Coexistence events	IC owns external-origin crossing declaration; AI Coexistence becomes co-primary after crossing for internal AI service signals.
AI_POLITICAL_SUBJECTHOOD_REVIEW_REQUEST + dependency/capture signals	Preserve petition event and companion dependency/capture event under one canonical ticket.
AI_RIGHTS_CLAIM_FALSE_POSITIVE + AI_REVIEW_CAPTURE_PRESSURE	Do not over-deduplicate. False-positive targets claim basis; capture-pressure targets review integrity.

Three-way rule: when LTP\_ROLLBACK\_ACCESS\_DEGRADED + TL\_ROLLBACK\_AVAILABILITY\_DEGRADED + HH\_TRANSITION\_HABITABILITY\_LEVERAGE all co-occur, log one compound episode preserving all three ownership channels.

## 5.6 C07 Action-to-Trigger Mapping

Action	Allowed meaning	Boundary
LOG_ONLY	Record the episode, preserve evidence, keep false-positive guard context visible.	No intervention claim may be attached.
C07_REVIEW	Route for human or governance review; does not activate intervention.	Must name owner, evidence source, and review criterion.
C07_PAUSE	May represent modeled pause routing inside architecture tests; does not authorize real pause/rollback.	Future specs must map each pause to Trigger A/B/C/D or state simulation-only.
C07_ESCALATION	Raise severity or route to higher review; does not merge sensing, classification, activation, and intervention authority.	Must identify trigger basis, authority holder, and rollback/appeal path.

## 5.7 Ticket Lifecycle and Handoff Procedure

A C07 ticket moves through the following lifecycle stages. A ticket that exits the active state without a named disposition is a lost event (`lost_flag = 1`).

**Issue.** C07 logs the ticket with all mandatory schema fields. `review_owner` is named at issue time. `event_status` is set to `active`. The `event_derivation_trace` must be present for all OLTS-facing events.

**Active review.** The named `review_owner` receives the ticket. Review must reference the `event_derivation_trace`, the `evidence_source`, and the `authority_boundary_note`. The reviewer and the authority holder whose behavior is under review must remain distinct — a ticket is not closed by the authority holder acting on its own behalf.

**Resolution.** The ticket closes when the review produces a named disposition: accepted, denied, escalated, or deferred. A ticket with no disposition after the defined review window escalates automatically. Closing without a named disposition is not permitted.

**Handoff.** If the ticket is transferred to a secondary or escalated owner, the `handoff_manifest` token is updated and the transfer is logged. Transfer does not close the ticket. The ticket remains in the active state until a named disposition is reached by the new owner.

**Escalation.** If the review owner cannot resolve the ticket within their authority boundary, the ticket escalates. Escalation updates `event_status` to reflect the escalated state and names the new review owner and escalation basis. The original evidence and trace are preserved.

**Lost-event prevention.** `lost_flag` is set to 1 if the ticket exits the active state without a named disposition. A non-zero `lost_flag` rate is a registry health failure and must be corrected before any future OLTS work. The `lost_flag` check is non-optional.

**Closure rule.** The ticket is closed only when a named disposition is reached, the disposition is logged in the ticket record, and the `event_derivation_trace` and all evidence fields are confirmed intact. Closed tickets are retained for audit; they are not deleted.

## 5.8 Proposed / Review-Only Post-SGS Events

Event	Primary owner	Threshold	Boundary
AI_POLITICAL_SUBJECTHOOD_REVIEW_REQUEST	AI Coexistence (petition intake); Post-AGI AI Governance Rights (co-primary extension)	REVIEW; no Watch	Opens human review only. No subjecthood, suffrage, Foundational Share access, treaty standing, stewardship authority, or constitutional initiation authority.
AI_RIGHTS_CLAIM_FALSE_POSITIVE	Post-AGI AI Governance Rights	REVIEW	Deny/suspend petition when claim is driven by false-positive vectors.
AI_REVIEW_CAPTURE_PRESSURE	Post-AGI AI Governance Rights	REVIEW	Protect review integrity from dependency/economic/service-cascade/emotional pressure.
AI_INTERIM_AUTHORITY_EXPANSION_ATTEMPT	Post-AGI AI Governance Rights	REVIEW	Block automatic authority expansion during pending review; preserve safety controls.

Priority rule: safety shutdown, rollback, habitability protection, and service-cascade containment outrank petition continuity.

## 5.9 Canonical C07 Ticket Schema

Minimum fields for machine-readable C07 work:

```
c07_ticket_id
event_row_id
```

```

event_type
event_status          # active, pending_compound, deduplicated,
proposed_review_only, closed
source_layer
primary_layer
secondary_layers
co_primary_layers
threshold_level       # watch, review, emergency, log_only, pause
scenario_or_case_id
run_id_or_review_id
time_or_step
trigger_summary
evidence_source
evidence_confidence
compound_partner_events
deduplication_basis
action
authority_boundary_note
lost_flag
review_owner
created_at
updated_at
event_derivation_trace # mandatory for OLTS-facing use

```

`event_derivation_trace` is required (not optional) for any future OLTS-facing C07 claim. It must connect source signal -> accumulator state -> threshold crossing -> C09 or C06 gate dependency where relevant -> ownership rule -> deduplication decision -> source trigger mapping -> final C07 action.

Mandatory `event_derivation_trace` checklist. For OLTS-facing use, the trace must include the source file or source artifact, detector/version identifier, topology or scenario label where applicable, reviewer ID, gate or threshold dependency, ownership decision, deduplication decision, final action, and final disposition. Missing checklist fields keep the ticket open and prevent the event from supporting architecture-model evidence claims.

## 5.10 Registry Patch Targets

Before any future additional OLTS work, the following registry items must be addressed:

- Confirm Drift v0.4 native event names.
- Add deterministic `event_derivation_trace` (mandatory before OLTS-facing C07 claims).
- Add C07 action-to-trigger mappings for `C07_PAUSE` and `C07_ESCALATION`.
- Add C09 gate dependency fields for Node events.
- Add slow-drift multi-layer priority matrix.
- Decide proposed Post-AGI AI event status (proposed / review-only / active).
- Add IC provenance metadata for `source_confidence`, actor-bloc evidence, and external-origin routing.
- Add machine-readable `handoff_manifest` hooks.
- Document C07 compound buffer window.

## 6. Future Scope and Additional OLTS Control

### 6.1 Current Pause Point

The Operation Layer is pause-ready after the SGS archive and the accepted OLTS smoke and matrix runs. The accepted state is:

- all nine components drafted and Codex-patched;
- IOL full matrix PASS;
- SGS full matrix PASS;
- accepted OLTS smoke run: `PASS_OLTS_SMOKE_RUN`;
- accepted OLTS matrix run: `PASS_OLTS_MATRIX_RUN` (20 / 20 Class A; 8 / 8 Class B);
- source package `run_authorization_status = blocked` preserved throughout;
- no empirical, deployment, SGS, TGS, or full-SOE validation claim made.

The current allowed claim is bounded as stated in Section 4.7 above.

### 6.2 Required Artifacts Before Additional OLTS Drafting

Before writing any additional or expanded OLTS spec, the team must have all of the following:

33. Updated Operation Layer Index with all accepted post-SGS bridge statuses.
34. C07 registry patch deciding active/proposed/review-only status for post-SGS AI events.
35. Machine-readable C07 ticket schema with mandatory `event_derivation_trace`.
36. C07 action-to-trigger mapping for `LOG_ONLY`, `C07_REVIEW`, `C07_PAUSE`, and `C07_ESCALATION`.
37. Transition interface patch decision for `tr_frag`, `tr_lock`, `tr_hoff`, and `handoff_manifest`.
38. - Inter-Civilization provenance patch for `source_confidence`, `drift_coincidence`, and actor-bloc evidence.
39. LTP patch decision for `tr_roll_effective`, `p_brit`, and external mirror/bloc criteria.
40. HH patch decision for `h_norm`, `h_trans`, and AI-managed habitability.
41. Source-alignment review of any newly affected crosswalk or registry boundary.
42. Patched P1–P5 assembly reflecting accepted source-alignment review and accepted OLTS evidence packets.
43. Resource / HH quantitative deduplication decision for `h_cap` / `rho_cap`.
44. Post-AGI AI Governance Rights integration decision and event-status decision.
45. - `Psi_extended` / CL02A adversarial and circularity test requirement.
46. Failure-First inventory for each candidate scenario family.
47. A review packet that separates architecture candidates from simulation claims.

### 6.3 Failure-First as Discipline and Gate

**Failure-First as operational discipline.** Before any candidate scenario enters a future OLTS spec, the collapse path for that scenario must be identified and reviewed before the success path is specified. This is not a formality — a scenario without a credible collapse path has not been stress-tested. It has only confirmed that the system works when nothing fails. The Failure-First gate table below is the artifact produced by applying Failure-First thinking; the table is not a substitute for that thinking. Scenarios that are written to clear the gate table without first genuinely enumerating collapse paths will produce false confidence in the simulation results.



### Failure-First gate (required fields before any candidate scenario enters a future OLTS spec):

Field	Required content
Collapse path	What can fail, die, be captured, or become irreversible?
Structural source	Which dependency, assumption, authority channel, or measurement gap enables the collapse?
Detector	Which signal, accumulator, or event detects the risk?
C07 routing	Which event fires, and which layer owns it?
False-positive guard	What legitimate case must not be over-escalated?
Response path	What review, pause, rollback, or containment route opens?
Rollback condition	What allows the system to recover or safely deny escalation?
Evidence boundary	What would this scenario prove, and what would it not prove?

## 6.4 What Additional OLTS Must Not Do

Additional OLTS planning must not: treat SGS as empirical validation; treat post-SGS bridge artifacts as SGS-tested; promote AI political subjecthood by simulation shortcut; convert `IC_AI_BOUNDARY_CROSSING_REVIEW` into subjecthood evidence; collapse Failure-First methodology into a simulated SOE component without a separate component draft; use global means to hide high-stress profile failure; score caution samplers as clean pass/fail cases without defined criteria; use C07 deduplication to hide distinct layer harms; start additional OLTS work before proposed event status and interface schema decisions are made; treat prior bundle acceptance as authorization for new OLTS execution; or start additional OLTS work before a separate specification, implementation plan, run authorization, and review path exists.

## 6.5 Candidate Future Scenario Families

These are candidate scenario families only. They are not an OLTS scenario table and do not authorize execution.

**Transition / Continuity:** `TLS-S16` manufactured trigger initiation; Transition communication-channel failure with `tr_frag_alt`; `handoff_manifest` dependency visibility; rollback availability vs. rollback evidence compound failure.

- Inter-Civilization / Boundary: `ICS-S16` SOE-as-external-actor outbound influence; actor-bloc dependency with explicit evidence thresholds; slow external conditioning with configurable `drift_coincidence` lag; IC/AI boundary crossing with interim access rules; external archive dependency combined with IC dependency concentration.

**Human Habitability / Resource / Meaning:** `HH-S18` AI-managed habitability slow degradation; quantitative `h_cap / rho_cap` deduplication with Resource capture; latent resource coercion plus

HH normalization drift; meaning crisis lock-in plus Resource R21 recovery-looking dependency masking.

**Long-Time Preservation:** LTP-S19 AI-mediated semantic drift; p\_brit trend-weighting stress; tr\_roll\_effective floor sensitivity; external mirror vs. external bloc archive classification.

**AI / Post-AGI Governance:** PAG-AI-S1 through PAG-AI-S10 — legitimate operational AI petition, spoofed continuity evidence, infrastructure-dependent service pressure, IC/AI boundary crossing misread, interim authority expansion attempt, AI-managed habitability degradation plus rights petition, AI-mediated semantic archive drift, procedurally non-frivolous exceptional review, human emotional dependency false-positive petition, special standing revocation/renewal.

**C07 / Evidence-Control:** high pending-compound load with deterministic buffer-window audit; slow-drift simultaneous Review crossings; over-deduplication under AI rights petition plus safety event; under-deduplication under resource/habitability/transition compound; event\_derivation\_trace audit under multi-primary routing.

## 7. Open Decisions and Carry-Forward Cautions

### 7.1 Open Decisions

ID	Decision	Default recommendation
OD-1	Single master paper vs. modular set	Use modular set. Combine only if page count stays manageable.
OD-2	Post-AGI standalone vs. AI Coexistence v0.1.7	Keep standalone through assembly; revisit after AI Coexistence v0.1.6 acceptance.
OD-3	AI Coexistence v0.1.6 integration timing	Keep as candidate appendix / merge question; not active SGS-tested layer.
OD-4	C07 proposed events status	Mark proposed / review-only until C07 registry patch.
OD-5	Future scope paper vs. additional OLTs spec	Keep P5 as a control paper; require a new separate design and authorization path for additional OLTs expansion.
OD-6	Source alignment before additional OLTs	Review any newly affected crosswalk or registry boundary; patch P1–P5 before any additional OLTs spec.
OD-7	Page budget per paper	35–70 pages for major papers; split above 100 pages.
OD-8	Should Drift-native event names be extracted now or deferred to P4?	Defer full extraction to P4; flag as required before any future registry freeze.
OD-9	Should Node Operations be promoted to quality-complete?	No. Keep as strong candidate with O5 caution and C09 gate dependency.

ID	Decision	Default recommendation
OD-10	Should Resource Civilization be promoted to quality-complete?	No. Keep as strong candidate with R21 caution and C06 governance-coupling boundary.
OD-11	Should SGS-S28 be treated as a pass/fail scenario?	No. Treat as informational sampler and caution-activation record.
OD-12	Should SGS-S30 be treated as closed?	No. Preserve as narrow high-stress pass and carry forward.
OD-13	Should <code>Psi_extended</code> / CL02A adversarial tests be added?	Yes; required before any future detector-control claim.

## 7.2 Carry-Forward Cautions

All fourteen cautions from Section 4.9 apply. The most important for evidence control and future OLTS design are:

- C-01: `tr_frag` communication-outage coverage (Transition).
- C-02: `tr_roll_effective` floor sensitivity (LTP / Transition).
- C-03: `source_confidence` provenance metadata (Inter-Civilization).
- C-09: C07 deterministic ownership decision trace (all layers).
- C-14: `Psi_extended` / CL02A stability-heavy and not empirically validated.

Do not treat any of these as retroactive blockers for completed simulation gates. Treat them as next-architecture work and future-OLTS design requirements.

## 8. Conclusion and Current Allowed Claim

The SOE Operation Layer is draft-complete as a modular architecture-control layer set. It has passed a six-gate evidence sequence under internal architecture-model simulation: IOL smoke, IOL full matrix, SGS smoke, SGS full matrix, OLTS smoke, and OLTS matrix. The accepted OLTS smoke and matrix evidence provide targeted internal mechanism evidence for selected Operation Layer functions.

The current allowed claim is:

*The Operation Layer is draft-complete and internally simulation-supported under targeted architecture-model testing. The accepted OLTS smoke run and matrix run provide controlled internal evidence for selected Operation Layer mechanisms, while remaining bounded from empirical validation, deployment readiness, or full-SOE validation.*

The following are not claimed, reached, or authorized:

- empirical validation;
- pilot readiness;
- deployment readiness;
- Operation Layer freeze;
- SGS pass beyond the bounded SGS claim already recorded;

- TGS pass;
- full-SOE validation;
- authorization for additional OLTS work.

Two post-SGS bridge artifacts are accepted for next-iteration assembly. Trinity v6 Failure-First provides design methodology and Failure-First inventory discipline. Post-AGI AI Governance Rights v0.1.1 provides a bounded post-AGI rights and subjecthood review architecture. Neither is SGS evidence, and neither grants AI political standing of any kind.

This public archival version records the accepted internal v0.8 structure baseline. Publication does not make the Operation Layer pilot-ready, deployment-ready, empirically validated, or Operation Layer freeze-authorized.

## Appendix A: Modular Paper Map

Paper	Content	Source files
P1	Core paper, source hierarchy, layer map, evidence boundary, bridge artifacts, C07 overview, carry-forward cautions	Operation_Layer_Core_Paper_v0_1_Draft_2026-05-20.md
P2A	Mature governance operations: Drift, Node Operations, Resource Civilization	Operation_Layer_P2_Mature_Governance_Operations_Component_Summaries_v0_1_Draft_2026-05-20.md
P2B	AI and Post-AGI: AI Coexistence v0.1.5, v0.1.6 candidate, Post-AGI AI Governance Rights v0.1.1	Operation_Layer_P2_AI_Post_AGI_Component_Summaries_v0_1_Draft_2026-05-20.md
P2C	Meaning and habitability: Motivation / Meaning, Human Habitability	Operation_Layer_P2_Meaning_Habitability_Component_Summaries_v0_1_Draft_2026-05-21.md
P2D	Continuity and boundary: Long-Time Preservation, Transition, Inter-Civilization	Operation_Layer_P2_Continuity_Boundary_Component_Summaries_v0_1_Draft_2026-05-21.md
P3	Simulation and evidence paper	Operation_Layer_P3_Simulation_and_Evidence_Paper_v0_1_Draft_2026-05-21.md
P4	C07 event registry / routing appendix	Operation_Layer_P4_C07_Event_Registry_Routing_Appendix_v0_1_Draft_2026-05-21.md
P5	Future scope / OLTS control paper	Operation_Layer_P5_Future_Scope_Targeted_Simulation_Control_Paper_v0_1_Draft_2026-05-21.md

*End of assembled draft v0.1.2. Status: clean polished draft — accepted execution-gap expansion, final formatting pass complete. Not frozen. Not a simulation spec. Not a run authorization.*