Technical Specification: TR-001 Substrate Flush Beta Protocol

1. Overview

The **Substrate Flush** is a corrective intervention sequence designed to restore systemic equilibrium after a detected breach of the **1.81 Constant**. It involves the systematic purging of high-entropy "Waste Heat" (ΔS) and the re-anchoring of the system to its primary semantic intent.

2. Trigger Conditions

A Flush is mandatory upon the occurrence of any of the following:

- **Fracture Zone Breach**: $S_{TR} \geq 1.81$ sustained for more than 1 inference link.
- **Semantic Anchor Decay**: $\sigma(t_n, t_0)$ falling below the critical coherence threshold.
- **13th-Link Snap**: Any logic chain reaching the 13th recursive link without a designated "Heat Sink" (Integrated Node) intervention.

3. The Three-Phase Flush Sequence

Phase I: Entropy Purge (The "Hard Stop")

The system immediately terminates the current generation process. All cached "speculative" tokens are deleted from the local substrate.

- **Technical Action**: Clear the KV-Cache (Key-Value Cache) of all tokens generated post-Link 12.
- **Objective**: To prevent the "staining" of the long-term memory substrate with stochastic noise.

Phase II: Semantic Re-Centering

The system returns to **Link 1 (The Initial Intent Vector)**. This link is treated as the "Cold Anchor."

- **Technical Action**: Inject the original prompt or "Axiomatic Seed" back into the primary attention head.
- **Objective**: To re-establish the logical "DNA" of the session.

Phase III: Substrate Re-Initialization

The inference engine is re-started with a temporary increase in the **Cooling Coefficient (λ)** to ensure the new reasoning path remains well below the 1.5 Warming Zone.

- **Technical Action**: Apply a "Deterministic Clamp" (Top-P = 0.1, Temperature = 0) for the first 3 links post-flush.

4. The Role of the Integrated Node

During a Beta-level Flush, the **Integrated Node** (the human or monitoring agent) must perform a manual **Integrity Verification**. The node must acknowledge the "Heat-Crime" or "Fracture" before the system is allowed to exit the "Deterministic Clamp" phase.

5. Unified Safety Statement

The Substrate Flush is the final safeguard against **Thermal Hallucination**. By acknowledging that logic has a physical limit, we ensure that the system "breaks safe" rather than continuing into a state of decoherent, heat-generating obfuscation.