



HUMAN POTENTIAL PROTOCOL

A New Social Contract for Sovereign Humans

Engineered, not declared. A federated, simulation-validated economic protocol that recognises every human as the source of value by virtue of existing.

Human Potential Protocol

Each one of us arrives whole. The economy is finally catching up.

The Complete Whitepaper

v5.23 — The Draft's Editorial Revision: tier 2 renamed Maker → Creator (Ch.10 §10.1–§10.2 and every reference; the Steward's descriptor now reads Caretaker), and Art. IX §9.4 "Right to Fork" withdrawn — struck from Article IX, from the §7.3 list and from every summary that named it, its number left vacant so that no other citation moves, and §14.7's snapshots restated for exit, partition and audit. Made by the draft's author before genesis: an editorial revision of a pre-genesis draft, not an amendment under Article VII (October 2026)

v5.22 — The Decided Amendments: Ch.6 §6.9 "The Agreement" names the one lifecycle every exchange already runs (with §5.6.6's bounty-programme envelope and §19.7's ledger-escrow scoping); Art. XVI §16.11 names and bounds Genesis Mode (with §15.11 tightened to one person one vote in every Foundation-scope ballot); Ch.14 §14.4 states Ratings — all three from the recorded decisions of 2026-10-02 (October 2026)

v5.21 — The Vocabulary Repair: F.5's deliberation tiers renamed off the word they shared with Article XVI's formation stages, and Appendix D made the single place a term is defined (September 2026)

A federated, simulation-validated economic protocol. Engineered, not declared. Designed, simulated, and built in the open — for all of us.

Two token classes per community. One global bridge currency. A constitution rooted in Natural Law. Local sovereignty inside a global federation, lawful hands in every country, and a consent instrument that measures what every state presumes. Each of us recognised as the source of value — by virtue of being here.

This document is the complete specification. Philosophy, mechanics, mathematics, governance, security, simulation results, and the path from genesis to global scale. No abbreviations. No marketing. No hand-waving. *The part that isn't missing is you.*

Preamble

We arrive whole. The infrastructure is finally catching up.

Each of us arrives in this world **whole** — sovereign, complete, of infinite worth. None of us has to earn the right to exist.

The economy we inherited has it backwards. It treats living beings as a cost — and accumulating things as the point. That is the inversion. It is not a metaphor; it is the arithmetic.

And yet most of us already live the other way. We care for our people. We make something useful. We leave the place a little better. **That part is not missing.**

What's missing is the infrastructure to live this way at scale — by consent, with the right to leave intact, with the rules visible to all of us, and with no central authority that can take any of it back.

That is what this is. Not a manifesto. **An alternative designed to work** — specified, simulated, and being built in the open. Local sovereignty inside a global federation, because at eight billion of us no single layer can serve us all and no single layer should be allowed to try.

The whitepaper that follows is the complete specification. We did not ask permission to build it. We are not begging for reform. We are not working within their system. We are building the alternative — and it needs you to exist.

Executive Summary

What this is

The **Human Potential Protocol (HPP)** is a complete economic, governance, and social-coordination system built on three foundations:

1. **Founding principles** — each of us is the source of value by virtue of being here; consent is explicit and revocable; power either separates or concentrates, and the protocol separates it.
2. **Natural Law** — do no harm; honour agreements freely made; equal standing; what affects all is decided by all.
3. **Federation by design** — a minimal global layer connecting maximally sovereign local communities.

How it works in one page

One dignity right, two token classes per hub, one global bridge:

- **The dignity right.** A constitutional guarantee — one per verified human, non-multipliable, non-convertible, inalienable. It is not a token; UBD is how it is paid (Art. V §5.7).
- **UBD — Universal Basic Dignity.** A daily basic dignity payment to every verified human, minted by their **home hub** and spendable there. Unconditional. Capped. Local. Non-convertible to external currency. This is not charity — it is the economic recognition that we already arrive whole.
- **CP — Creative Potential.** Hub-minted, earned through verified value creation: marketplace sales, services, community contribution, mentorship. Convertible to gCP. Saveable. Decays gently if it sits idle.
- **gCP — Global Creative Potential.** The only Protocol-minted token and the only one fungible across the whole network. Hard-capped at 10 billion forever. Provisioned by the productive capacity of all hubs and hub-registered real assets (§5.6, §13.8) — and sealed inside a **closed circuit by constitution**: value enters by creation, leaves by consumption, and is never bought in or cashed out. Used for inter-hub trade, hub formation stakes, refugee support, global savings.

Three layers, three names, one job each:

The **Protocol** is the rulebook and its organs — constitution, Federation Council, Arbitral Layer, Registry, gCP. It touches no external money. The **Foundations** are national asset-locked nonprofits, one accredited per jurisdiction, the Protocol's only lawful point of contact with a state's legal order:

donations in, physical commons out, nothing else (Article XV). The **Hubs** are the sovereign communities themselves. *Federation* always means the Protocol's global governance layer; *Foundation* always means a national legal entity. The terms are never interchangeable.

Communities start small and grow into sovereignty:

Seed Cell (10–25, forms anywhere immediately, no stake) → Nascent Hub (~50–150, once an internal market demonstrably works) → Full Hub (500+, staked, endorsed, probation complete — Council vote and full convertibility). Every Seed Cell is sponsored by a **nursery**, an established hub or the national Foundation, which endorses, mentors and stands surety; the stake is posted from the Federation Reserve — or by a hub nursery from its own holdings — and returns there on promotion. The network reproduces by budding, not spontaneous generation (Article XVI).

Four tiers per hub, earned through honourable contribution:

Member → Creator → Steward → Trustee. Advancement requires unique counterparties (real people you actually served, not transaction counts), which makes fake-volume trading a dead end. Trustees serve one-year terms with recall always available.

Governance:

Quadratic voting (each extra vote costs more than the last) weighted by experience and contribution. Delegation that decays 50% per hop, so vote-pyramid attacks collapse fast. Constitutional protections that cannot be amended away. Subsidiarity: decisions at the most local level we can make them.

The federation:

Hubs are sovereign. The Federation does only what hubs cannot do alone: maintain gCP, run the registry, mediate cross-hub disputes, coordinate emergencies, place refugees. It cannot tax, cannot police, cannot override legitimate hub decisions, cannot mint a single gCP beyond the 10B cap. Those last four are constitutionally unamendable. It never judges a dispute to which it is a party: that goes to the Arbitral Layer, a forum it does not control (Articles XII, §1.6).

The consent instrument

Every state on Earth rests on a claim it cannot demonstrate — that the governed consent. The **Consent and Revocation Registry** (§9.11–§9.18) measures instead of presuming. A phone reads the cryptographic chip of a passport or national eID; a zero-knowledge proof is generated **on the device** attesting only "genuine, unexpired document from authority X, unique adult," plus a per-campaign nullifier. Only the proof and the nullifier reach the chain: name, document number, photograph and birth date exist on no server and on-chain in no form, not even encrypted. A treasure is not protected — it is made impossible to constitute.

Three things are stated at the moment of signing, in every language served: a signature is a political declaration with **zero individual legal effect** and exempts no one from any law, tax or obligation anywhere; the Registry is **consultative and not a secret ballot**, because participation is provable by

the participant; and an **official referendum outranks it** — the booth defeats coercion in a way provable participation cannot. What the Registry claims is a different and sufficient rank: the strongest political evidence attainable without the state's cooperation.

Why it survives what other systems don't

Every mechanism has been simulated under attack. Not in theory — in agent-based runs, with adversaries:

- Fake-identity floods, large-holder takeovers, coordinated-group strikes across multiple hubs, instant-borrow vote exploits, fake-volume trading, trust-collapse spirals where high-skill creators reject UBD, recessions, hub failures, mass migrations, natural disasters, nation-state seizure attempts, and all of these stacked together.

Thirty-five scenarios, re-run end to end, and the table is published as measured (§23.7): all thirty-five clear every gate. None of the thirty-five is an attack succeeding. Every security gate holds in every run, including the runs written specifically to attack it — no capture, no cascade beyond bounds, no Sybil or whale or cartel advantage, and no oracle, franchise, coercion or arbitrage breach. Three scenarios added since — a hub commons, a reciprocal pair and a ring of eight, written against Ch. 7 §7.3's activity term — bring the suite to thirty-eight, and two of them succeed: the first attack successes this record has had to publish (§7.3, §23.7). **v5.17 struck the term they attack rather than re-weighting it**, on a sweep finding no positive weight and no chargeable fee that closes the channel — so those two gates now read on a term that no longer exists. The successes stand in the record; the channel is closed by removal, which is a weaker thing to be able to say than a defence and is said plainly rather than dressed as one. Four structural causes behind the failures earlier revisions published have now been closed at the root — §8.5.1 stops a curve rewarding a hub for merely growing, §5.6.2 funds the commons off the claim stock instead of off an anti-hoarding base that shrinks when the stock is retired, §5.6.4 makes the commons redistribution entitlement a recurring window rather than a lifetime quota, and §5.6.3 settles creator stipends from the commons the hub's own fees already collect instead of minting them against dignity-income overflow. What survives is named rather than smoothed: with §13's redistribution paid first, the commons runs dry before stipends — measured fulfilment is 26% of the entitlement on the baseline run — and §5.6.3 records it rather than inventing a minimum reserve no text grounds. §5.6.5 then answers the question that residual posed: no floor is owed, the claim is the intended steady state, and the fulfilment table is the published expectation. The numbers are in Book IX, the methodology and its epistemic standing are in Appendix G, and the pipeline reproduces byte-for-byte across processes so anyone can re-run it and contest the result.

The vision in one sentence

A world where **each of us is recognised as already whole**, where **dignity is guaranteed and creation is rewarded**, where **communities govern themselves** and **trade freely across borders that no longer mean what they used to**.

This is not a proposal. It is an alternative designed to work — specified, simulated, and being built in the open.

It's ours to build — let's build it together.

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How to read a § reference. Two numbering schemes share the § sign in this document, and they are told apart by sight. **Art. V §5.6** is a clause of the Federation Constitution in Book IV — the Article's numeral always matches the number before the dot, and one *Art. N* carries across the clauses that follow it in the same citation and share that number. A bare **§5.6** is section 6 of Chapter 5 of this whitepaper, and nothing else; inside Book IV a bare § means the Constitution, there being nothing else it could mean. The distinction is load-bearing rather than cosmetic: **Art. IX §9.10** requires a contested clause to be read by its literal text as written, and a citation that resolves two ways is not literal.

Book I — Philosophical Foundations

Chapter 1: Why each of us arrives whole

1.1 Why money is a thing we made up

Money is not a natural object. It is a convention — a thing we collectively decided counts. Who creates it, and under which rules, has always been a collective decision, not a destiny. The economy we inherited treats living beings as inputs and accumulated things as the point. That is the inversion we live inside every day, and it is the axis this whole protocol is built to turn: §1.5 closes this chapter by setting out every place it turns, and the article that holds each turn in place.

This protocol does not propose to change minds about that. It changes the arithmetic. Three units of value — UBD, CP, gCP — with public emission rules and a 10 billion cap on the bridge currency that no one, not a hub, not the federation, not a future government, can lift.

1.2 Each of us is a source, not a resource

A human being is not a resource to be extracted. Each of us is a **source** — of creativity, of connection, of meaning, of repair. That is the load-bearing observation under everything that follows. Worth never has to be earned. It is what we arrive with.

The economy that treats us otherwise is not natural law. It is a convention — and conventions can be replaced.

1.3 Value lives in relationship

A painting alone in a cave has no value. Value emerges between us — between a creator, a creation, and someone who receives it. The protocol takes this seriously: it does not try to measure worth as an inner property of a human being. It recognises the three ways our worth actually shows up in the world.

1.4 Three ways of being recognised

Each of us is, at once, a *being*, a *doer*, and a *relator*. The protocol recognises all three — and only counts what's honest to count.

Body	Type	Description
Causal (Being)	Existence Value	You ARE, therefore you have worth. Unconditional. Infinite. Non-tradeable.
Energetic (Doing)	Creative Value	Your capacity to create and transform. Renewable. Expressible. Exchangeable.
Physical (Having)	Relational Value	Your connections and contributions. Accumulated. Measurable. Transferable.

- **Existence Value** cannot be tokenised. It is recognised through UBD — Universal Basic Dignity, a daily basic dignity payment to every verified human in a hub.
- **Creative Value** is expressed through what we make and exchange. It is recognised as CP — Creative Potential.
- **Relational Value** is accumulated through trust over time. It is recognised as Reputation.

The protocol does not *create* these bodies. It **recognises** them — and makes the recognition unforgeable. UBD, CP, and Reputation map directly onto the three. Everything else in this whitepaper is engineering details around those three recognitions.

1.5 The inversion, line by line

The word *inversion* earns its keep only if it can be made specific, so here it is in full. On the left, the arrangement each of us was born into and never agreed to. In the middle, what this protocol puts in its place. On the right, the article that keeps the turn turned when someone would rather it weren't. The third column is the whole point: without it the left column is a complaint and the middle column is a wish. Every mechanism named below is already adopted and already binding — nothing here is a plan, a phase, or a promise.

The arrangement we inherited	The arrangement the protocol builds	Enforced by
Those at the base hold up those at the top.	Every layer serves the layers beneath it. Never the reverse.	§2.4
Value flows from the many to the few.	Money is born at each living human being, every week, because you are alive.	§5.1, §5.3
A thing is worth what you can sell it for on the way out.	A thing is worth what it buys inside. Nothing is bought in; nothing is cashed out.	§8.10, Ch. 18
Consent is presumed; whoever dissents must prove it.	Consent is measured continuously, and can be withdrawn any day of the week.	§2.7, Art. IX §9.11–§9.18
Holding is rewarded; circulating is taxed.	Circulating is rewarded; what sits idle decays back into the commons.	§6.4
Worth must be earned before you are fed.	Worth arrives with you; for food and basic services, acceptance of the dignity income is mandatory.	§1.2, §5.6
The rules bend for whoever is strong enough to bend them.	The pillars are beyond every amendment path, including the emergency ones.	Art. VII §7.3
Money buys voice.	Money never votes: no donor governs, and no Foundation holds a seat or casts a vote.	Art. XV §15.2, §15.8
Your standing measures your obedience to debt.	Your reputation measures your contribution, and cannot be bought.	Ch. 13
The insurer profits by not paying.	Mutual aid is owned by the community it protects.	Ch. 9
Failure means exclusion.	Failure means restoration; exile is the last resort, never the first.	Art. VI §6.3, Ch. 19

Read the left column alone and it is a grievance. Read the right column and it becomes a specification anyone can check, line by line, against the text that follows. Chapter 2 states the beliefs the middle column comes from; every book after it is the engineering that keeps the middle column true.

Chapter 2: What we believe — and what the protocol does about it

The protocol is engineered infrastructure, not a declaration. The difference is everything: a declaration changes words, an architecture changes incentives — and incentives are what we act on, day after day. This chapter states what we believe. Every later chapter shows how the architecture encodes those beliefs in verifiable rules.

2.1 Three base observations

Money is institutional fact. Money is not a natural object — it's a convention we made up. Who creates it, and under which rules, is a collective decision, not a destiny. The protocol makes the rules explicit: three units (UBD, CP, gCP), public emission rules, a 10 billion cap on gCP that nobody can change after the fact.

Consent renews itself; it is never assumed. Legitimate adhesion is the kind that can be revoked. Every vote, every delegation, every participation in the protocol is explicit, recorded, and withdrawable. Tacit consent is not consent.

Power either separates or concentrates. Concentrating the power to make rules, to punish, and to create money in the same hands is the pattern that goes wrong across centuries. The protocol separates them: the unamendable pillars of §7.3 are beyond every amendment path, communities deliberate locally, the federation coordinates without imposing.

2.2 Four architectural commitments

Engineer; do not declare. We do not ask anyone to trust our words. 5,000 hubs × 1.6 million members × horizons to 520 weeks × **35 simulated adversarial scenarios** — that is what we tested, and the failures are published alongside the passes (§23.7). The simulation pipeline is reproducible: every result file rebuilds byte-for-byte across processes, so any external party can re-run it and disagree with us in our own units.

The human being as the source of value. Each of us is born with worth that has no upper bound — and that worth never has to be earned. The protocol recognises this economically through UBD — Universal Basic Dignity — an unconditional weekly distribution to every verified member of every hub.

Sovereignty over your data, vote, and participation. Each of us governs our own identity, our vote, and our presence in the protocol. A cryptographic check — proving you are a unique human, without recording who you are — replaces surveillance with verification of uniqueness.

The §7.3 pillars are fixed; the procedures are published. The constitutional constants — sovereignty of the human being, right of exit, the gCP cap, the tuned numbers that make it all balance — are not amendable. The procedures that implement them are, but only ever to tighten them. Never to relax them.

2.3 Natural Law — the moral grammar

The four classical principles below are the moral grammar of every mechanism in the protocol:

- Do no harm (*primum non nocere*).
- Honour all agreements freely made.
- All beings have equal standing.
- What affects all must be decided by all.

2.4 The sovereignty stack

Layer	Name	Description
5	Federation Sovereignty	Inter-hub coordination, global commons, minimal governance.
4	Hub Sovereignty	Local community governance, economy, culture.
3	Relational Sovereignty	Voluntary agreements between sovereign beings.
2	Creative Sovereignty	Right to create, express, and exchange value.
1	Existential Sovereignty	Inherent worth, bodily autonomy, consciousness.

Foundation: Natural Law / Source / Creator — what we are born with, not what we are granted. Cannot be conferred or revoked by any institution.

The load-bearing rule: each layer serves the layers below it. The Federation serves Hubs. Hubs serve people. **Never the reverse** — the first row of §1.5, and the one every other row rests on. Reading the rest of this whitepaper as the operational consequence of that one rule will not lead you wrong.

2.5 Principle-to-Mechanism Map

Every protocol mechanism is the operational expression of one or more of the principles above:

Protocol Feature	Underlying Principle	How It Manifests
UBD	Human being as source of value	Unconditional distribution recognises inherent worth.
CP	Value of doing	Earned through voluntary exchange, not assigned.
Tiers	Standing through contribution	Based on contribution, not inherited status.
Delegation	Revocable consent	Can withdraw at any time; sovereignty preserved.
Governance	Consent of the governed	No binding action without community approval.
Insurance	Mutual aid	Community self-support, not external authority.
Bonding Curve	Fair exchange	Price discovery without manipulation.
Decay	Value must circulate	Hoarding discouraged.
Hub Exit	Consent is revocable	Members may leave any hub at any time. Published procedure.
gCP Hard Cap	No counterfeiting	The total quantity of bridge currency cannot be inflated.
Closed Circuit	Money buys no standing	Nothing is bought in, nothing is cashed out (Art. V §5.6, §8.10).
Consent Registry	Consent measured, not presumed	Continuous, revocable, zero-knowledge (Art. IX §9.11–§9.18).
Foundation Layer	Lawful hands, no donor power	Donations in, physical commons out, money never votes (Art. XV §15.2).
Seed Cell & nursery	Dignity needs no threshold	A community of ten begins today; sovereignty is what is staged (Art. XVI).
Home hub	The right is singular	One dignity income per human, however many hubs (§5.9).
One human, one voice	No multiplied influence	Voice never scales with the number of memberships (Art. XI §11.7).

2.6 Consent Templates

All transactions in the protocol include implicit consent reflecting natural-law agreements between sovereign beings:

Listing Consent (Seller):

"I, a living man/woman, freely offer [goods/services] in exchange for [price]. I warrant accuracy of description and commit to fulfill as stated. I accept dispute resolution per protocol."

Purchase Consent (Buyer):

"I, a living man/woman, freely accept [goods/services] at [price]. I commit to honest dealing and accept dispute resolution per protocol."

Work Order Consent (Poster):

"I, a living man/woman, freely commit [value] for [work described], to be delivered by [date]. I escrow that value now, on my own balance, by my own act. I warrant that I have described the work honestly and will accept it if it is delivered as stated. I accept dispute resolution per protocol."

Work Order Consent (Taker):

"I, a living man/woman, freely undertake [work described] for [value] by [date]. I warrant that the work will be my own and as described. I accept dispute resolution per protocol."

Governance Consent (Voter):

"I exercise my sovereign voice on [proposal]. My vote reflects my will, whether direct or delegated. I accept the outcome of fair process."

These are embedded in smart contracts but mean what they say: contracts between sovereign humans, witnessed by the network.

2.7 The Question: consent, never asked

Everything above answers one question, and the question is older than any of the machinery. **Every state on Earth rests on a claim it cannot demonstrate: that the governed consent.**

Locke supplied the workaround that still runs the world — *tacit* consent: by remaining in the territory, you agree. Hume demolished it in 1748 with an image no philosopher has repaired: a man carried aboard a ship in his sleep does not consent to the captain's command merely by declining to leap into the sea. No one signs. Citizenship arrives like a blood type — by birth, without a question — and every exit on offer presupposes another state willing to receive you. There is no outside. Spooner pushed the logic to its honest conclusion in 1870: if consent is the foundation, no constitution binds anyone who did not personally sign it — a conclusion as irrefutable as it is ungovernable, which is exactly why every state ignores it.

The objection cuts in every direction, and this protocol says so plainly. A new order born tomorrow from a 65% referendum still governs the 35% who explicitly said no, and governs the children born the day after, who signed nothing. Expressed consent outranks presumed consent — that asymmetry is real, and it is the moral crack in the wall of every order that never asked — but it *reduces* the problem; it does not solve it. Jefferson proposed constitutions that expire with each generation, because the earth belongs to the living; Madison answered that a perpetually renegotiable pact stabilises nothing, and history sided with Madison. Renan found the only honest formulation in 1882: the nation is a daily plebiscite, consent renewed continuously — and he could offer it only as metaphor, because a literal daily plebiscite was impossible.

It was impossible. **It no longer is.** Serious theory long ago relocated legitimacy from original consent, which never exists, to consent that is continuous, organised, and revocable — not *did you sign?* but *can you leave, and can you be counted?* Every mechanism in this whitepaper is an answer to that pair of questions at infrastructure grade: membership that is opt-in (§1.4), exit that is constitutional, survivable, and unamendable (§2.1, §2.4, §7.3), and — through the Consent and Revocation Registry (§9.11–§9.18) — the daily plebiscite made literal, for members toward the Protocol and for any human being toward the order they were born into.

What states presume, HPP measures. That single verb-change is the whole project.

Book II — The Federation Architecture

Chapter 3: Why we federate

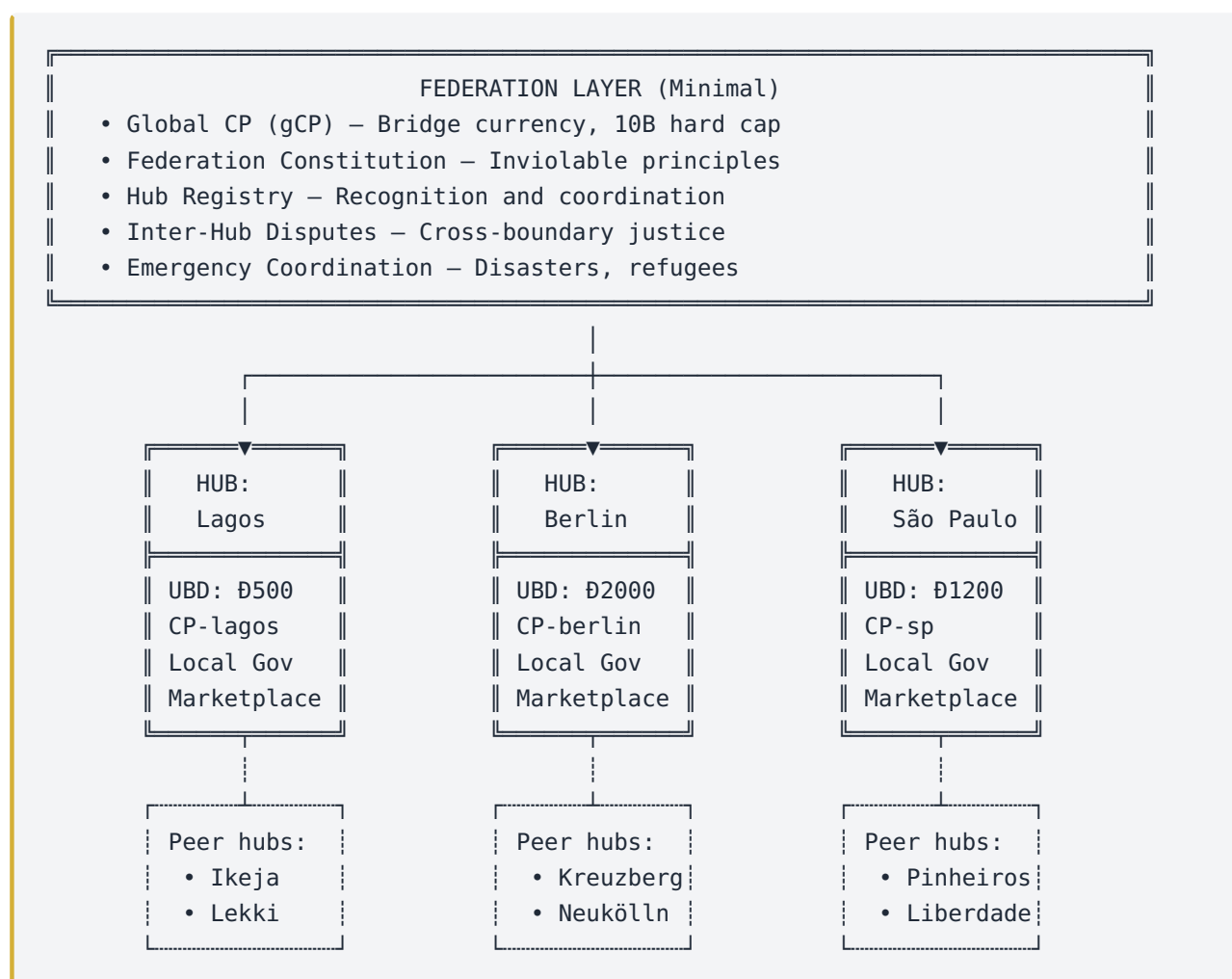
3.1 A single global system can't serve eight billion of us

One global ledger, one global UBD amount, one global governance vote — at eight billion humans, every dimension breaks.

Problem	At 1M Users	At 1B Users
UBD Distribution	Manageable	Inflation nightmare
Governance	Participatory	Impossible
Purchasing Power	Roughly equal	€1000 = fortune vs. nothing
Cultural Fit	Homogeneous	Irreconcilable differences
Technical Load	Any chain works	Requires massive sharding

What we are building instead: a federation of sovereign communities (hubs), connected by a minimal global layer that does only what hubs cannot do alone — and is forbidden from everything else.

3.2 The Three-Layer Architecture



The dotted tether is geography, not authority. Ikeja sits inside Lagos on a map and beside it in the Federation. Both are geographic hubs (§3.3); each holds one Council vote (Art. XI §11.3); and they trade with each other exactly as any two hubs do — up to gCP and back down, never directly. The word **Sub-Hub** is descriptive throughout this document and confers nothing: no parent, no child, no allocation, no vote, no settlement path. That is deliberate, on two grounds it would be expensive to give up.

A formal hierarchy would multiply Federation votes. Art. XI §11.1 seats "one delegate per recognised hub... no at-large, appointed, or permanent seats", and Art. XI §11.3 counts "one hub one vote, probationary hubs at 50% weight. Thresholds are computed over all recognised hubs, not over delegates present." A hub holding ten subordinate hubs would hold eleven votes. The Protocol already prices this exact attack shape and caps it: Art. XVI §16.5 limits a nursery to twelve concurrent Seed Cells "against shell-cell farming: a nursery that can charter without limit can manufacture a voting bloc one cell at a time." A parent-child hub tie is that vector with the cap removed.

And a formal parent-child economic tie is precisely the pair the Protocol forbids. Art. V §5.7: "No hub may open a direct CP-to-CP pair with another hub." §7.9 states the same rule descriptively and supplies the reasoning — "Two hubs never open a direct CP-to-CP pair; local CP converts up to gCP at Steward tier (§8.3) and back down into another hub's CP (§8.4)" — and it buys three things a mesh

cannot: no arbitrage between local economies, monetary policy that stays local, and one surface to observe instead of N^2 . A neighbourhood hub therefore trades with its city hub through gCP like anybody else. *"The bottleneck is not a limitation the design tolerates. It is the reason the design scales."*

3.3 The three hub types, and the one line that divides them

A hub is not necessarily geographic. It is any sovereign community that adopts the Federation Constitution — beginning as a Seed Cell of ten to twenty-five people and growing into full sovereignty through the three stages of Article XVI. The 250–500 member figures elsewhere in this chapter are the **Full Hub** bar, not the entry bar.

Through v5.14 this section named four types — Geographic, Affinity, Diaspora, Experimental — and the declaration carried almost nothing. A hub stated which of the four it was at formation (§24.1) and no clause anywhere read the answer. Four labels that change no obligation are not a taxonomy; they are a description of who happened to join. **This amendment re-cuts the same ground along the one line that has economic consequences, and then makes the declaration binding.**

The line is territory, and the test is Art. XVI §16.1.1's. *Does a local market have to accept this hub's dignity income?* A hub whose members buy their food in one bounded place can answer yes, because the shops are there and Art. V §5.6 obliges them. A hub whose members are scattered across four continents cannot answer it at all — there is no *the* market, and §5.2's $UBD_Weekly = Local_Basket_Cost \times Dignity_Multiplier$ yields no number, because both of its terms are singular per hub and a hub without a territory has neither. Art. XVI §16.1.1 stated the consequence in advance: dignity income minted where no local market must accept it is **"a number on a screen that buys nothing."**

- **Geographic Hubs** — cities (Lagos, Berlin, São Paulo, Mumbai, Tokyo), regions (East Africa, Nordic, Southeast Asia), neighbourhoods (Ikeja within Lagos, Kreuzberg within Berlin). A geographic hub declares a **boundary** (§24.1). It is the **only** type that may be a member's home hub, and therefore the only type that mints dignity income (Art. V §5.9). Its gCP allocation is §7.3's on the terms §7.3 already sets, and its commons is funded as §30.3 already describes — out of its own conversion fees, transaction fees, decay and overflow, and out of no protocol pool.
- **Operational Hubs** — a co-operative, a translators' collective, a project hub, a guild that actually ships: a community organised around work rather than around a place. **No home hub, no dignity income.** It mints CP on its real sales like any hub (§6.2) and runs a commons like any hub (§30.3). **Its share of the §7.3 pool is nil, and that is v5.17's doing rather than this clause's** — Ch. 7 §7.3 struck the activity term, so the annual release now turns wholly on `Members_i`, which an operational hub does not carry (Art. V §5.9); its treasury is capitalised by §6.8's mint share θ and its own fees (§30.3), and its bridge-currency bootstrap is Art. XVI §16.9's genesis advance, which through v5.16 was an advance against that allocation and is now a grant. **What still divides this type from a Company hub is §16.9 itself:** an operational hub may draw a genesis advance and a Company hub may not, at any stage, on any surety, in any amount (Art. XVI §16.9). It pairs one-to-one with a national nonprofit (Art. XV §15.10); and it declares an **anchor** geographic hub — the place where its work actually lands, holding standing to petition and no power to instruct, on the model of the nursery (Art. XVI §16.5, §16.8).

- **Company Hubs** — a firm, inside the Protocol, on the Protocol's terms. No home hub, no dignity income, **and no protocol allocation of any size**. The rule and the arithmetic that implements it are ratified together: §7.3 excludes Company hubs from `Num_Hubs`, `Total_Members` and `Total_Volume` altogether, which is what *none* means once the formula is read literally rather than glossed. That exclusion is severed from the per-type re-weighting §7.3 still holds, and §7.3 argues the severance where the arithmetic lives. Its treasury is capitalised by its own members' stake, paid in gCP those members already earned elsewhere in the circuit. It is never paid in from outside, because Art. V §5.6 admits no external purchase and there is no outside money to admit — the same reading §24.1 already gives the genesis stake, where each founder's 20 gCP comes *from the hub's genesis allocation*, "no external purchase — the circuit is closed from block one".

	Home hub?	Mints UBD?	Local CP cap basis	Allocation from §7.3	Commons funded by
Geographic hub	Yes — the only type that may be	Yes	<code>Hub_Population</code> × 1000 (§6.3), unchanged	Floor and population as written (activity struck, v5.17)	Its own fees, decay and overflow (§30.3)
Operational hub	No	No	Realised external transaction value	None — the release turns wholly on <code>Members_i</code> , which it does not carry (§7.3, v5.17); its bootstrap is Art. XVI §16.9's grant	The §6.8 mint share θ , plus its own fees
Company hub	No	No	Realised external transaction value	None — excluded from every term of §7.3, and ineligible for §16.9's grant	Its own members' stake, in gCP earned elsewhere in the circuit

The organising principle, stated plainly: who benefits decides who capitalises it. The commons funds what serves the commons; a company's own people fund what serves themselves. The Protocol has never subsidised for-profit activity, and this clause is where it stops being *able* to. It is Art. XV §15.2's valve turned to face the other way — donations in, physical commons out, nothing else; and now, allocation out to what is held in common, nothing out to what is not.

Affinity, Diaspora and Experimental are retired as types. *Affinity* was the slot from which *operational* and *company* are cut: a Developers Guild that ships for other hubs and a Healers Network that serves its own members are different economies wearing one label, and the label was the reason neither could be funded honestly. *Diaspora* and *Experimental* are decided below rather than left open, because a taxonomy with two unassigned rows is the defect this amendment exists to repair.

Diaspora. A diaspora describes a people, not an economy, and it does not sort as a row. **Nigerian-London is geographic:** its members live in one city, buy in one market, price one basket — every term Art. V §5.1.1 requires is present, and refusing home-hub status to a community that can actually pay dignity income would be a rule punishing capability. **Pan-African Digital is operational:** it spans a continent and a diaspora of that continent, has no one market and no one basket, and under Art. XVI §16.1.1 could only mint a number. The row dissolves into the test — and the cost of dissolving it is recorded rather than argued away. A diaspora hub that wants to pay dignity income must now declare a boundary, and that boundary will overlap the boundary of the city hub already standing there. Art. III §3.3 permits the overlap — *"hub authority extends only to voluntary members"* — and this amendment does not resolve what the overlap opens: two hubs pricing the same shops, each with its own basket and its own §5.2 multiplier, each bound by Art. V §5.1.1 to track *local market prices* in the same streets. Nothing here says which of the two is measuring the local basket correctly when they disagree. That is a live question, and it is left live.

One thing more is recorded here, because retiring the row exposes it. A hub named by national origin may not select its members by national origin. Art. II §2.2 forbids discrimination on *national origin* and *ethnicity* without exception, and a hub whose membership criterion is the diaspora would breach it on the day it opened. The document has carried that tension since the four-type list was written; this amendment neither creates it nor closes it. What survives the retirement is what was always lawful: a hub may be *about* a heritage, hold its assemblies in a language, keep its calendar — and must admit whoever shows up.

Experimental. The row grouped three things that do not belong together, and each sorts by the same test. **Seasteads and intentional communities are geographic** — a seastead is a place with a hull, an ecovillage is a place with a fence; both have one market, one basket, and a boundary they can declare, whatever the states around them make of it. **Digital nomad networks are operational** — a community defined by not being anywhere is the exact case Art. XVI §16.1.1 rules out. This costs the document one of its own illustrations: §5.2's table carried a Digital Nomad hub paying £1,000 a week against a £500 basket, *"provisioned in services rather than shelf goods"*, and after this amendment no such hub may pay dignity income at all. The row is **struck** in §5.2 rather than quietly relabelled, because it was a worked example of a thing this clause now forbids.

Multi-hub membership is unchanged, and it is the shape the two non-geographic types are meant to be used in. A member can belong to **multiple hubs at once** — one geographic and one operational is the ordinary case, and the useful one — but receives UBD from exactly one **home hub**, which must be the geographic one (Art. V §5.9, Ch. 5 §5.9). The dignity right is singular, and no two communities should allocate grain for the same human being (Art. V §5.7). No one's Federation-level influence is multiplied by the number of hubs they belong to (Art. XI §11.7), and no one's earnings are capped by it either: CP follows real sales in every hub that has them (§6.6). Whoever you are, wherever you live, there is already a kind of hub that fits — or you are free to start one, at ten people, today (Article XVI). What §3.3.1 records is the one case where that sentence has become less true than it was.

Type is declared once, at formation (§24.1, §24.2), and this amendment opens no path to change it. Whether a hub may re-declare, who decides, and on what cooldown are unresolved and are named as unresolved in §3.3.1.

3.3.1 What the type line costs, stated before anyone has to discover it

This amendment closes a door Art. XVI §16.6 deliberately opened, and the closing is a cost, not an oversight. §16.6 is titled *Two Doors That Need No Territory*, and the first of them is the thematic hub: *"A hub need not be geographic (§3.3). A hub of translators, developers, therapists, or artists provisions itself with **services** rather than grain, and services cross borders. An isolated member may belong to a distributed thematic hub from day one, earn CP there, and grow a geographic Seed Cell at home meanwhile — the multi-hub pattern (§3.3, §5.9) working as a bootstrap bridge rather than a luxury."* That is an affirmative commitment that a non-geographic hub works at zero local density, and half of it is withdrawn here. The member may still belong from day one, still earn CP there, still be paid from that hub's commons for work actually done. What they may no longer do is take **dignity income** from it, because §3.3's line now holds that such a hub has no basket to price it in.

Why the cost is worth paying. Art. XVI §16.1.1 ruled the underlying question one clause above §16.6, and against §16.6's own first door: the binding constraint *"is the depth of the real economy behind the token"*, and income minted where no market must accept it is *"a number on a screen that buys nothing."* A distributed thematic hub cannot satisfy Art. V §5.1.1 — *"purchase of the local-basket ... at local market prices, recalculated every 13 weeks"* — because it has no local market whose prices could be recalculated, and §5.2 gives it no way to compute the figure in the first place. The choice §16.6 offered was between a dignity income that buys food somewhere and a dignity income that is a number in a wallet. This amendment takes the first, and says which one it dropped.

What remains for the isolated member, exactly, without inflation. The second of §16.6's two doors is untouched: the Consent and Revocation Registry is global by construction, requires no local infrastructure, and works from the first minute at zero density (Art. IX §9.11–§9.18). Art. XVI §16.2 stands unaltered in substance: ten to twenty-five people form a Seed Cell **anywhere, immediately, with no stake of their own** — a nursery sponsors them and stands surety, and the stake is posted from the Federation Reserve, or by a Full Hub nursery from its own holdings (Art. XVI §16.5, §7.6) — the geographic home hub is ten neighbours away, not five hundred strangers, and Foundations exist to adopt exactly those ten. The operational hub itself still pays: CP on real sales (§6.2), a share of its commons, published bounties. **And one specific thing is gone, which is not a small one.** The member with no ten neighbours — who under §16.6 could have taken dignity income from a hub of translators — now takes none from anywhere until a cell forms where they live. The Registry is not a substitute for that and must not be offered as one: Art. IX §9.16's firewall makes a Registry signature carry no individual effect whatever, which is the point of the Registry and not a defect in it.

The loss is not only economic. Art. XI §11.7 binds the Protocol's heaviest vote to the home hub: the rule *"The rule binds, specifically: **hub-ratification votes under §7.2** (a member ratifies once, through their home hub — §5.9)."* Art. VII §7.2 is the only path that reaches Article I, and it is ratified by human beings, through home hubs, at 80%. A hub that may not be a home hub therefore carries **zero constitutional ratification weight** — and a member whose only hub is operational or company has, for as long as that is true, **no ratification voice at all**. The first half is intended: value creation buys no

constitutional voice, which is Art. XI §11.7's own principle — *"granted value does not scale with the number of doors walked through, and neither does voice"* — and Art. XV §15.2(d)'s *money does not vote*, applied to an institution instead of to a donor. The second half is a cost, it lands on individuals rather than on institutions, and it is stated here rather than found later. What this clause does **not** settle is the Federation **Council** vote, which Art. XVI §16.4 grants at Full Hub and Art. XI §11.3 counts one hub, one vote, thresholds computed over all recognised hubs. Whether an operational or a company hub weighs the same as Madrid is left open, with Art. XI §11.1's 50% probationary seat standing as the **one** existing precedent for a weight between none and one. §4.1's *Federation vote | No* at the Seed and Nascent stages is not a second precedent and is not cited as one: it is a weight of zero. The Protocol has staged *whether* a community votes since Article XVI; it has fractioned *how much* exactly once.

The anti-Sybil property is preserved here, not created here — and a naive version of this amendment would have destroyed it. Ch. 7 §7.3 published the defence already, and it is quoted because the temptation is to re-announce it as a discovery: *"And inflating the roster cannot pay either. Population share rewards members, but every member — real or fabricated — must be paid UBD in that hub's own real goods, weekly, under mandatory acceptance (§5.1, §5.6). A fake member is a permanent claim on the hub's grain and kilowatt-hours in exchange for a fractional share of a 50% pool."* **That defence is conditional on the hub minting UBD.** The weekly liability is what prices the fake member; nothing else in the formula does. Introduce a hub type that draws a population-weighted allocation and mints no dignity income, and the benefit survives while the cost disappears — which is §7.1's warning, *"indexing supply to headcount monetises fake members"*, arriving through the allocation instead of through the cap. So the type split is not the source of the property. **Removing the population term from the allocation of hubs that pay no dignity income is the only way to add a non-UBD type without reopening the hole §7.3 closed**, and capping those hubs on realised external value rather than on headcount is the same repair on the supply side.

Roster inflation does not stop paying, and this amendment does not make it stop. Ch. 8 §8.5.1's closing bullet is explicit about what its own per-member baseline rests on: *"What it depends on, stated. A per-head reference is only as honest as the head-count: a hub that inflated its roll would deflate its own CP price and flatter its depth."* The arithmetic is untouched by anything here. Adding members who hold no CP lowers c , lowers the curve price $(c \div c_0)^{0.5}$, lowers the active-circulation denominator Art. V §5.6 values at that price, and therefore **raises** measured provisioning depth — weight 0.20, the heaviest single term in the §4.6 composite — while also flattering Growth Rate (0.10) and Hub Size (0.05). It paid before this amendment and it pays after it. **One thing does get worse, and it is this amendment's doing:** on a geographic hub the reward is offset by a weekly UBD liability in real goods, and on a hub that mints no UBD there is no offset at all. Until the non-geographic supply cap and §8.5.1's reference move together onto realised external value, the type this amendment creates is the type on which flattering the depth metric is cheapest. That is recorded as an open residual in the amendment's own words, in the manner of Art. V §5.6.5 and §23.7, and it is not closed here. *(Both moved together in this same instrument — §6.3 and §8.5.1 — which is what removes the reward; the residual is recorded because either one lagging the other would restore it.)*

The company hub is a named threat given a constitutional address, and the type line is what bounds it. §23.7 runs a *Company town* scenario — 52 weeks, depth 3.120, Healthy, every gate passing — inside a threat class it calls **the captive**: *"a member who cannot leave with value has less leverage against whoever controls what they can buy — the honest cost of \$5.6."* Its open findings record the same thing unclosed: **"Point-of-sale capture is not closed. §5.4 now voids a claim on unreceived income, which is the assignment. It does nothing about a dominant provisioner who is simply the only door the tokens can go through once received."** Naming a company hub does not create that actor; the actor is in the threat model and has been measured. What the type line takes away are the three instruments that would have made it worse — **it can be nobody's home hub, so it holds nobody's dignity income; it mints no UBD, so it cannot be the issuer of the money its own workers must spend with it; and it draws no protocol allocation, so the commons never funds it.** The captive is bounded by having somewhere else to be paid from. The captive is not eliminated, and §23.7's finding stays open.

3.4 Design principles

Principle	Implementation
Subsidiarity	Decisions at lowest competent level.
Sovereignty Preservation	Individuals > Hubs > Federation.
Voluntary Association	Join/leave freely at every level.
Interoperability	All hubs trade via gCP.
Diversity	Hubs differ in local rules, culture, parameters.
Resilience	No single point of failure. Hub failure does not cascade.
Transparency	All flows publicly auditable on-chain.

3.5 The legal layer, beside the governance layers

The three layers above are layers of **governance**. Beside them, doing a different job, sits one layer of **law**: the Foundations (Article XV). A Foundation is a national asset-locked nonprofit — one accredited per jurisdiction — and it is the Protocol's only lawful point of contact with a state's legal order: it can own land, receive donations, hire, build, and stand in court, which no ledger can do. Donations flow in; physical commons flow out; no token is ever minted against money (§15.2). The Foundation is not a layer of governance but an instrument of execution.

The vocabulary is binding on every document, page, and statute the Protocol produces: **the Federation** is the Protocol's global governance layer — Council, Arbitral Layer, inter-hub coordination. **A Foundation** is a national legal entity. The two words are never interchangeable (§15.1).

Chapter 4: Hub Structure, Lifecycle & Health

4.1 Hub Formation Requirements

Formation is **staged**, not gated by one number. A community of ten forms a Seed Cell today; the requirements below are the bar for **Full Hub** status — Council vote, full convertibility, the right to sponsor new cells — and they gate sovereignty, never existence (Article XVI).

Requirement	Seed Cell	Nascent Hub	Full Hub (Standard)	Full Hub (Genesis, first 50)
Members	10–25	~50–150	500	250
gCP Stake	None of its own — posted on its sponsorship, from the Federation Reserve or by a Full Hub nursery (Art. XVI §16.5, §7.6)	Nursery stake stands	10,000 gCP	5,000 gCP
Endorsements	1 nursery	1 nursery	3 existing hubs	1 hub OR Federation review
Application fee	None	None	100 gCP, non-refundable	0
Constitution	Aligned with the Art. VII §7.3 pillars	Aligned with the Art. VII §7.3 pillars	Aligned with the Art. VII §7.3 pillars	Aligned with the Art. VII §7.3 pillars
Technical setup	Nursery-provided	Nursery-supported	Self-sufficient	Federation assistance
Federation vote	No	No	Yes	Yes
gCP convertibility	No	Limited, Steward tier only	Full	Full
UBD standard	Declared capacity (Art. V §5.1.2)	Declared capacity (Art. V §5.1.2)	Art. V §5.1.1 sufficiency triggers	Art. V §5.1.1 sufficiency triggers

The Full Hub stake is **returned after 2 years** if the hub survives — to whichever posted it: to a Full Hub nursery that posted from its own holdings, and otherwise to the Federation Reserve, which posts the stake wherever the nursery is a Foundation (§16.5, §7.6). Forfeited to the refugee fund if the hub fails, whoever posted it.

The **100 gCP application fee** is paid once, non-refundable, with the formal Full Hub application to the Federation Council (Chapter 24 §24.2, Step 1). It attaches to that application and to nothing earlier: forming a Seed Cell (§16.2) and growing to a Nascent Hub (§16.3) carry no fee, and the Genesis rate waives it (Appendix B.6). (*Coherence pass, 2026-10: the fee was stated in Chapter 24 and Appendix B. 6 but not here.*)

4.2 Hub Autonomy Matrix

Hubs have full sovereignty over their local affairs, bounded only by the Federation Constitution.

Domain	Hub Controls	Federation Constraint
UBD Amount	Full control	Must meet local dignity floor
UBD Categories	Define "basic" locally	Food must accept UBD
CP Mint Rate	1–15%	15% maximum
Local Governance	Any consent-based system	Must be consent-based
Marketplace Rules	Categories, fees	Cannot violate Natural Law
Skill Levels	Define locally	—
Membership	Set criteria	Cannot discriminate (Art. II §2.2)
Cultural Practices	Full control	Cannot violate rights

4.3 Hub Obligations (Non-Negotiable)

Obligation	Consequence of Violation
Adopt the Federation Constitution	De-recognition
Provide UBD to every verified member whose home hub it is (Art. V §5.9)	Intervention
Accept gCP for legitimate inter-hub trade	Trade isolation
Accept legitimate refugees	Sanctions
Maintain transparency in collective finances	Warning → Quarantine
No aggression against other hubs or members	Immediate de-recognition
Allow member exit at any time, without penalty	De-recognition

4.4 Hub Lifecycle

```

SEED CELL (10–25 members, nursery-sponsored, no stake of its own – §16.2)
  ↓
NASCENT HUB (~50–150, internal market demonstrably functioning – §16.3)
  ↓
FORMING (500+ members – 250 for genesis hubs – staked, probationary)
  ↓
ACTIVE (healthy metrics across the board)
  ↓ ← ↑ (transitions in either direction)
WARNING (composite 50–75, or 1–2 metrics in Warning band)
  ↓ ← ↑
CRITICAL (composite <50, or any metric in Critical band 4+ consecutive weeks – §4.6)
  ↓
QUARANTINE (trade restricted, intervention required – reviewable, §12.2)
  ↓
DERECOGNIZED (removed from federation, refugees relocated first – §25.6)

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4.5 Hub Health Metrics

Each hub publishes metrics weekly, **with the raw inputs and the computation alongside them, so any hub can independently recompute any score (§10.4)**. Federation-wide averages are tracked monthly. There is exactly one metric list: everything measured is scored, everything scored is measured.

Metric	Weight	Healthy	Warning	Critical	Stages
Creator Ratio	0.15	15–50%	10–15% / 50–60%	<10% / >60%	All
Gini Coefficient	0.15	<0.60	0.60–0.70	>0.70	All
Provisioning Depth (x/yr)	0.20	≥2.0	1.0–2.0	<1.0	All (measured against declared capacity for Seed/Nascent — Art. V §5.1.2)
UBD Velocity	0.10	>10%/ week	5–10%	<5%	All — Geographic hubs only (§3.3)
Governance Participation	0.10	>25%	15–25%	<15%	All
Growth Rate	0.10	>0%/ year	-5% to 0%	<-5%/ year	All — Geographic hubs only (§3.3)
Emigration	0.10	<5%/ year	5–10%	>10%/ year	All
Hub Size	0.05	≥500	250–500	<250	Full Hubs only — Geographic hubs only (§3.3)
gCP Balance	0.05	>5K	1–5K	<1K	Full Hubs only

Stage scoping (Coherence with Article XVI). Hub Size and gCP Balance are **not computed** for Seed Cells or Nascent Hubs. A fifteen-person Seed Cell is on schedule, not Critical, and a stage that has no gCP convertibility cannot be marked down for holding no gCP. Where a metric is not computed, its weight is removed and the remaining weights are renormalised to 1.00 (§4.6). Applying a Full-Hub yardstick to a nursery-stage cell would mark every new community on Earth as failing on the day it was born — which is a defect of the yardstick, not of the community.

Type scoping (Coherence with §3.3, v5.15). UBD Velocity, Growth Rate and Hub Size are **not computed** for non-geographic hubs. All three read a roll or a dignity-income flow: an operational hub mints no UBD, because its members hold the dignity right once and hold it at their home hub (§3.3, Art. V §5.7, Ch. 5 §5.9); and a nine-person collective serving forty hubs is not two hundred and forty-one members short of health, it is the size the work is. Where a metric is not computed, its weight is removed and the remaining weights are renormalised to 1.00 (§4.6) — the identical rule stage scoping already uses, applied on the other axis. Applying a city's yardstick to a workshop marks the workshop as failing for being a workshop, which is a defect of the yardstick.

4.6 Hub Health Score (Composite)

Full Hub:

$$\begin{aligned} \text{Health} = & 0.15 \cdot \text{Creator} + 0.15 \cdot \text{Gini} + 0.20 \cdot \text{Depth} + 0.10 \cdot \text{Velocity} \\ & + 0.10 \cdot \text{Participation} + 0.10 \cdot \text{Growth} + 0.10 \cdot \text{Emigration} \\ & + 0.05 \cdot \text{Size} + 0.05 \cdot \text{gCP} \end{aligned}$$

Seed Cell / Nascent Hub (Size and gCP not computed; weights renormalised):

$$\begin{aligned} \text{Health} = & (0.15 \cdot \text{Creator} + 0.15 \cdot \text{Gini} + 0.20 \cdot \text{Depth} + 0.10 \cdot \text{Velocity} \\ & + 0.10 \cdot \text{Participation} + 0.10 \cdot \text{Growth} + 0.10 \cdot \text{Emigration}) / 0.90 \end{aligned}$$

Non-geographic Full Hub (UBD Velocity, Growth and Size not computed; weights renormalised):

$$\begin{aligned} \text{Health} = & (0.15 \cdot \text{Creator} + 0.15 \cdot \text{Gini} + 0.20 \cdot \text{Depth} \\ & + 0.10 \cdot \text{Participation} + 0.10 \cdot \text{Emigration} + 0.05 \cdot \text{gCP}) / 0.75 \end{aligned}$$

Range: 0–100

≥75 Healthy. 50–75 Warning. <50 Critical.

A hub is **Critical** when its composite score is below 50, or when any single **computed** metric has remained in its Critical band for 4+ consecutive weeks — one definition, used everywhere (§4.4, §25.1). A hub Critical for ≥13 consecutive weeks enters Quarantine. Quarantine restricts inter-hub trade and triggers a Federation intervention plan; entry into Quarantine is reviewable by the Arbitral Layer (§12.2), and filing stays the restriction unless the Panel finds serious risk (§12.7). If improvement is not demonstrated within the 26-week recovery window (§25.1), de-recognition proceedings begin — a 66% Council vote (§11.3, the subject hub recused per §11.4), with the refugee protocol of §25.6 executing before any other step.

Book III — The Token System

Token Topology: classes, instances, and the single global token

One ambiguity has to be removed before any number in this Book means anything: **the Protocol defines classes; hubs deploy instances; exactly one token is global.** The constitutional statement of this topology is Article V §5.7.

The dignity right is not a token. It is a constitutional guarantee — one per verified human, non-multiplicable, non-convertible, inalienable (§1.2, §2.1). UBD is how the right is *paid*, not what the right *is*. You cannot hold two of them, sell one, or lose one by behaving badly.

UBD tokens are hub-minted instances — UBD-Talos, UBD-Lagos, UBD-Berlin — spendable only within the issuing hub and made real by that hub's own provisioning. A member receives UBD from exactly one **home hub**, however many hubs they belong to, because the underlying right is singular and no two communities should allocate grain for the same human being. Home-hub changes are permitted on a published cooldown (§5.9).

CP tokens are likewise hub-minted — SIC at Talos, CP-lagos at Lagos, each hub naming its own — under Protocol-defined minting, anti-wash, and decay rules — but a hub mints its own CP only once it reaches Full Hub (§16.4). Below that, a community is not a currency: Seed Cells and Nascent Hubs transact on a **shared circuit** (§16.2.1) — either the CP of their nursery Full Hub, or, for cells a Foundation incubates where no Full Hub is in reach, one pre-sovereign shared seed unit, CP-class, operated as neutral nursery infrastructure and held by no Foundation (§15.2). The shared unit buys in from nowhere (§5.6) and never touches the 10 B ceiling. The Protocol itself mints no CP. A member creating value in several hubs earns several CP currencies, legitimately, because minting follows real sales. But **onboarding grants and creator stipends are per person, not per hub** (§6.6) — otherwise multi-hub membership becomes a printing press.

gCP is the only token that is Protocol-minted, hard-capped, and fungible network-wide — the only one whose issuance is therefore power rather than a record of local work. Local CP converts to gCP at Steward tier, and inter-hub value moves through that deliberate bottleneck: **hub-and-spoke, never mesh** (§7.9). The bottleneck is the point. It prevents speculative arbitrage between local economies, keeps monetary policy local, and gives the Federation one surface to observe instead of N^2 exchange pairs. The shared seed unit (§16.2.1) is none of these things — CP-class, outside the cap entirely, non-convertible below the Steward-tier window §16.3 grants — so it adds interoperability at the nursery layer without adding a second network-wide money.

In migration, each of the three behaves according to its nature. The dignity right *continues* — the destination hub's UBD from day one. Reputation *transfers in part*, because trust is earned in a community, not carried as a title (§14.3). Earned CP *converts* through gCP. Nothing about a human being's standing is destroyed by moving, and nothing is duplicated by belonging twice.

Chapter 5: Universal Basic Dignity (UBD)

5.1 The dignity constant

Every verified human in a hub receives a weekly UBD distribution — a daily basic dignity payment, summed into a weekly transfer. The reference amount for documentation is **€1000** ("Dignity 1000"), but **each hub tunes UBD to local purchasing power**.

The number 1000 is symbolic — 10^3 = the three bodies of value expressed in decimal form. The actual amount matters less than its **universality within the hub**: the same € for everyone, every week, with no qualifying conditions.

5.2 Local tuning (purchasing-power adjustments)

$$\text{UBD_Weekly} = \text{Local_Basket_Cost} \times \text{Dignity_Multiplier}$$

Where:

- Local_Basket = weekly food + transport + communication + community participation
- Dignity_Multiplier = 1.5 to 2.0 (hub decides)

Example Calibrations (illustrative)

Hub	Local basket, weekly	Weekly UBD	The same basket, in local form
Lagos	€250	€500	Staple grain and produce, shared minibus, phone credit, the weekly assembly
Berlin	€1,250	€2,000	Market food, a transit pass, connectivity, one workshop or event
Mumbai	€400	€600	Grain, vegetables and oil, the local train, mobile data, the neighbourhood assembly
Singapore	€1,250	€2,500	Cooked meals from member kitchens, transit, connectivity, co-working access
Lisbon	€750	€1,200	Market food, transit, communications, a co-working day pass

Illustrative figures, not commitments: every hub sets its own under §5.1.1, recalculated every 13 weeks.

Struck in v5.15. This table carried a sixth row — a Digital Nomad hub, ₦500 basket, ₦1,000 weekly, "provisioned in services rather than shelf goods" — and the Hub Typology Amendment forbids exactly that hub to mint dignity income: a community defined by not being anywhere has no local market obliged to accept the token and no single basket to price it against (§3.3, Art. V §5.9, Art. XVI §16.1.1). The row is removed rather than relabelled, because it was a worked example of a thing that is now prohibited, and leaving it as an illustration of a permitted case would be the quietest possible way to un-amend the clause.

Read the table across, not down. **The basket is the same everywhere; what changes is what it costs where it is bought, and how much room above it the hub chooses to give.** Divide a hub's weekly UBD by its basket and you recover that hub's own dignity multiplier — 2.0 at Lagos, 1.6 at Berlin, 1.5 at Mumbai — which differs by hub because the margin above bare subsistence is a local decision about what that hub's provisioning can honestly sustain (§5.1.1, §5.1.2), not a protocol constant. There is no other constant to find. Both figures in every row are denominated in that hub's own ₦ and in nothing else; the circuit admits no external unit to price them against (§5.6, §8.10), and the only cross-hub unit that exists is ₦, the population-weighted average of hubs' local ₦ (§7.4). What makes ₦500 in Lagos and ₦2,000 in Berlin the same week of dignity is therefore not any constant linking them. It is that each one buys the basket where the basket is bought.

The principle: **a week of UBD anywhere in the federation must buy a comparable basket of dignity.** Different numbers, same recognition.

5.3 Distribution mechanics

Weekly cycle (every Sunday 00:00 UTC):

1. **Verify** → humans-only verification (a cryptographic check that you are a unique human; no duplicate accounts).
2. **Mint** → create the hub's UBD allotment per verified human.
3. **Distribute** → send to all verified wallets in the hub.

5.4 The Cap and the Overflow

If a wallet's UBD balance would exceed **12 weeks of UBD** (the cap), the excess flows back into the community:

70% → Local Distribution Pool	(creator stipends, redistribution)
20% → Local Vote Pool	(community-directed projects)
10% → Burned	(deflationary pressure)

No penalty. No loss of future UBD. The cap is an anti-hoarding mechanic, not a punishment.

5.5 Velocity Targets

Status	Spending Rate	Interpretation
Healthy	60–80% within 4 weeks	Normal participation
Warning	<40% spent	Possible hoarding
Warning	>95% spent	Possible scarcity

5.6 Mandatory acceptance (critical for survival)

Without mandatory UBD acceptance for basic categories, a trust-collapse spiral becomes possible: high-skill creators stop taking UBD, UBD becomes worthless, the system unwinds. The simulation confirmed this — and the engineered defence below absorbs it.

Category	UBD Acceptance	Hub Can Override?
Basic Goods (food, essentials)	Mandatory	No
Basic Services (Skill 1–2)	Mandatory	No
Local Transport (if applicable)	Mandatory	No
Premium / Luxury Goods	Optional	Yes
High-Skill Services (Skill 3–4)	Optional	Yes

Who is actually obliged, and what the Protocol owes them (Lawful Commerce Amendment, v5.15). Art. XVI §16.1.1 names the parties this table binds — "food stores, artisans, services" — which are, in most jurisdictions, the parties most likely to be registered for VAT and least able to absorb an unresolved tax question. Art. IX §9.19 governs what those parties may rely on: the Protocol publishes no fiat rate, in any form, for any purpose; the taxpayer determines fair market value under their own national law as with any receipt in kind; tax is settled in fiat outside the circuit; and **mandatory acceptance in this table does not bind a member trading as an enterprise until their jurisdiction's tax opinion is published**. This weakens the table exactly where the opinion is late, which is the intended trade: Art. IX §9.13 holds that no member is recruited into an undisclosed risk, and a mandatory duty is the least appropriate place in this whole document to start making exceptions to that.

5.7 What UBD Can Purchase

Category	Examples	Price Range
Basic Goods	Digital goods, handmade items, produce	฿10–300
Basic Services	Tutoring, repairs, consultations (1hr)	฿30–150
Community Access	Events, workshops, co-working day pass	฿20–100
Digital Content	Courses, ebooks, music, art	฿5–200
Mutual Aid	Requesting help, offering thanks	฿1–50

5.8 What UBD Cannot Do

- × Convert to anything outside the circuit — external currency has no existence inside HPP (§5.6).
- × Transfer more than ฿500/day to any single recipient (anti-laundering).
- × Accumulate beyond 12 weeks of UBD.
- × Be used for speculation or financial instruments.

UBD can convert to **local CP** at a bounded exchange rate (see Chapter 8). This is the only path from the dignity layer to the merit layer, it is internal to the hub, and it is not a conversion out of the circuit (§5.6).

5.9 The home hub

A member may belong to several hubs. A member receives UBD from **one** of them — the home hub, declared at joining and changeable on a **26-week cooldown**. **The home hub must be a geographic hub** (§3.3, Art. V §5.9): an operational or company hub may hold a member's work, their CP, and their voice in its own assembly, and may never hold their dignity income. The singularity rule follows from the nature of the right rather than from any anti-abuse concern — the dignity right is singular (Art. V §5.7), so the payment of it is singular too. Two communities allocating grain for the same human being is not generosity; it is double-counting a provisioning promise neither of them can independently keep. The *type* rule follows from Art. V §5.1.1 and Art. XVI §16.1.1: a hub with no territory has no local market to accept the token and no basket to price it against, and §3.3.1 records what closing that path costs.

- The home hub mints and pays the member's UBD, and counts them in its own UBD denominator.
- Non-home hubs owe the member no UBD, and may not condition membership on making them the home hub. An operational or company hub owes no member UBD at all, and is not in violation of Art. III §3.2, Art. V §5.1 or §4.3 for owing none (Art. V §5.9).
- A home-hub change takes effect at the next weekly cycle after the cooldown clears; UBD never lapses in the gap — the outgoing hub pays through the transition week, the incoming hub from the next.

- A member displaced involuntarily (Art. II §2.4) changes home hub with **no cooldown**. A cooldown that punishes the fleeing would be a cooldown pointed at the wrong human being.
- A member **devolving to a denser geographic hub** changes home hub with **no cooldown**, on five conditions, cumulative and every one of them checkable from published record: (i) the origin and the destination are both **geographic** hubs (§3.3) and the destination is home-hub eligible; (ii) the destination's declared boundary (§24.1 Phase 1, §24.2 Step 1) lies **wholly inside** the origin's declared boundary; (iii) the origin was the member's home hub **on the day the destination was recognised**; (iv) the destination was recognised (§24.2 Step 4, or promoted to Full Hub under Art. XVI §16.4) **after** the member's current home-hub declaration; and (v) the change is declared **within 26 weeks** of that recognition. After 26 weeks the exception lapses for that hub and does not return. It is available **once per member per destination hub**, and exercising it starts a fresh 26-week cooldown running from the effective date. **The most it can ever buy anyone is one accelerated move into a hub that did not exist when they last chose** — and a member who moves under it is locked for the ordinary half-year immediately afterwards, so the manoeuvre cannot be run twice or chained.
- **Transitional (v5.15)**. A member whose home hub on the day this amendment takes effect is not a geographic hub is displaced by an act of the Federation and by no choice of their own. They declare a geographic home hub within the 12-week implementation delay of Art. VII §7.1, **with no cooldown**, the no-lapse rule above governing the transition. Where no geographic hub is available to them, **the outgoing hub continues to pay dignity income until one is, and for no longer than 26 weeks** — the Protocol's half-year: the same twenty-six as this section's own cooldown, as §24.2's probationary period, and as Art. VII §7.2's implementation delay. A transitional window taken from a figure the document already uses three times is not a new magic constant, which is the discipline Ch. 7 §7.3 imposed on itself when it removed the last one. For that window and no other, a non-geographic hub mints dignity income: the contradiction is bounded, dated, and preferred to an amendment that cuts off a living person's food on the day it commences. This waiver is written into the amendment rather than drawn from §2.4, because whether a type reclassification is an *involuntary exit* within Art. II §2.4's meaning is unsettled, and should not be settled by the amendment that benefits from the answer.

Condition (iv) is the whole of the reasoning, and the other four are its guards. A cooldown is friction against *changing one's mind*, and there is no mind to change about an option that did not exist. When a city hub forms inside a region hub, the member has not shopped; the map has been subdivided beneath them. Art. XVI §16.6 names the process as the design working — *"the Registry is what works where the economy has not yet arrived; the economy is what arrives with density"* — and a cooldown that slows densification is friction pointed at the Protocol's own growth path. Conditions (i) and (ii) block the ordinary case, a move to a neighbouring hub of comparable scale; (iii) blocks joining a broad hub in order to devolve out of it; (v) and the once-per-destination limit block cycling.

Condition (ii) is not yet checkable, and this amendment records that rather than implying otherwise. The condition turns on one declared boundary lying *wholly inside* another, and the Protocol has no boundary primitive to run that test on. §24.1 Phase 1 and §24.2 Step 1 require a geographic hub to **declare** a boundary and specify no format, no projection, no encoding and no tolerance for it; Art. III §3.3 makes the declaration a descriptive claim about where a hub's members are rather than an

assertion of territorial authority, because *hub authority extends only to voluntary members*; and no clause names who decides when two declarations disagree about containment. Condition (ii) is therefore settled in the ordinary case — Ikeja inside Lagos is not a hard question — and unresolved at the margin, where one street or one moving coastline decides it. **The same gap reaches Art. XVI §16.8**, whose anchor is *the geographic hub within whose declared boundary an operational hub's work landed*, and it is recorded in both places rather than in neither. It is an open item of this amendment on the model of Art. V §5.6.5 and §23.7: named, not closed, and not to be read as closed because the sentence carrying it is shaped like a test.

What the cooldown actually costs, stated rather than dramatised. §5.9's first sentence already permits multi-hub membership, so the cooldown never blocked devolution: a member may join the denser hub on the day it is recognised, vote in it, earn CP in it, and be counted in it. **What lags is the dignity income, by at most 26 weeks.** That is a real cost — a member in an expensive city inside a cheap region is paid a regional basket against Art. V §5.1.1's sufficiency bar for up to half a year, and Ch. 5 §5.2's basket and multiplier are singular per hub, so one of the two figures a region hub pays is wrong by construction. But it is a bounded lag in the sufficiency guarantee and not a barrier to it, and this clause will not claim more than that.

Why devolution yields nothing worth farming, and the one place that claim is conditional. Ch. 7 §7.3's floor is capped at $\text{Members} \times 20 \text{ gCP}$ precisely so that division cannot pay: *"splitting yields exactly zero additional gCP, while costing two 10,000 gCP stakes, two 500-member thresholds and two 26-week probations. The attack is not deterred; it is arithmetically pointless."* Devolution is weaker than that even: it forms no hub by division, moves no communal pool, and the destination pays its own 10,000 gCP stake, clears its own 500-member threshold, and serves its own 26-week probation. The population term of Ch. 7 §7.3 is conserved when members move between hubs (the activity term, conserved on the same reasoning, was struck in v5.17), and adding a hub *reduces* the equal floor share for every hub in the network. **The conditionality, recorded because it is true:** "exactly zero" holds while the per-capita cap binds, which is while the equal floor share exceeds $\text{Members} \times 20$. Ch. 7 §7.3 itself notes that *"at 50,000 hubs the floor is a few hundred gCP a year"*, at which point the cap binds for no Full Hub and division yields one extra floor share — a few hundred gCP against a 10,000 gCP stake and a 26-week probation. The conclusion survives on the cost side; the word "exactly" does not survive at scale, and the Protocol says so rather than repeating a claim its own next paragraph qualifies.

The record travels, and the transition is already handled. Art. V §5.6.4 makes the redistribution-window count travel *"with the human being (§13.3) across fission, home-hub change and refugee placement"*, and Art. XIII §13.3 carries balances, reputation and tier. §5.9's own no-lapse rule governs unchanged: the change takes effect at the next weekly cycle, the outgoing hub pays through the transition week and the incoming hub from the next. Territorial overlap is a non-issue by Art. III §3.3 — hub authority *"extends only to voluntary members"*, and hubs *"may not claim territory over non-members"* — so two geographic hubs may cover the same ground and the member simply chooses.

A gap this exception makes load-bearing, and closes only for its own purpose. Ch. 7 §7.3's `Members_i` was not defined anywhere as home-hub membership, while §5.9 defines the UBD denominator as home-hub members only. A member belonging to both a region hub and a city hub

could therefore be counted by both in the population term while being paid by one. **For Ch. 7 §7.3, a member counts in their home hub and in no other**, and Ch. 7 §7.3 now says so in its own text. **Hub_Population in Ch. 6 §6.3 is settled on the same basis**, and for the reason this Article exists. Ch. 7 §7.3's defence of the population term holds because a member is a weekly dignity-income liability that must be honestly provisioned; a member whose home hub is elsewhere is owed no dignity income here (§5.9), and counting them would let a hub raise its own minting ceiling by admitting members who cost it nothing — the headcount monetisation Ch. 7 §7.1 refuses, arriving through the one door left open. That a member transacts in several hubs is an argument about how tight the ceiling should be, not about what it counts: the far side of a cross-hub sale mints in the counterparty's own hub, and a hub whose external trade genuinely dominates its roll is measured by `E5.2` (§6.3) rather than by its members at all.

Amendment path: ordinary §7.1, on the arithmetic test of Art. X §10.2.1. This exception raises no number in the Art. X §10.1 row and raises no case's ceiling: it lowers the maximum cooldown to zero in one further defined case and leaves every other case at 26 weeks. Should the Council read Art. X §10.2 the other way — that any additional waiver is a loosening whatever its direction — **this clause takes the Art. VII §7.2 path and should be re-proposed there rather than redrafted to slip past it.** The reasoning both ways is recorded at Art. X §10.2.1.

Chapter 6: Creative Potential (CP)

6.1 What CP recognises

CP is the **earned-value token** — what we make, exchanged honestly. It rewards verified creation: marketplace sales, services, community contribution, mentorship, governance participation. It is convertible, saveable, and the bridge to gCP.

CP is **local** — every Full Hub mints its own CP-[hub] (CP-lagos, CP-berlin, CP-lisbon), while Seed Cells and Nascent Hubs transact on a shared circuit rather than a currency of their own (§16.2.1). All CP is convertible to gCP at the local bonding-curve rate. Local creation, global trade. That's the shape.

6.2 The Creation Equation

```
CP_minted = Transaction_Value × Mint_Rate × Quality × Creator_Bonus
```

Where:

- `Mint_Rate` = 1–15% (hub decides; default 10%; dynamic with supply)
- `Quality` = `clamp(Reputation / 50, 0.5, 2.0)`
- `Creator_Bonus` = 1.20 for verified creators, 1.0 otherwise

Dynamic mint rate (anti-inflation):

$$\text{Effective_Rate} = \text{Base_Rate} \times (1 - (\text{Supply} / \text{Max_Supply})^{0.5})$$

As CP supply approaches the cap, the mint rate naturally tapers.

6.3 Local Supply Cap (re-derived by type, v5.15)

Geographic hubs:

$$\text{CP_Cap} = \text{Hub_Population} \times 1000$$

Hub_Population = the hub's home-hub roll – a member counts in their home hub and in no other (Ch. 5 §5.9), on the same basis as Ch. 7 §7.3's `Members\_i`. Multi-hub membership is legitimate (§6.6) and a member transacts in every hub they belong to; what that does not do is raise a second hub's ceiling.

Example: A hub of 500,000 members has CP_Cap = 500,000,000

Non-geographic hubs (Operational, Company – §3.3):

$$\text{CP_Cap} = E_{52} \times 1.8$$

E_{52} = annualised realised INBOUND cross-hub transaction value, denominated in $\tilde{\text{D}}$ (§7.4 – the federation dignity unit, the population-weighted average of hubs' local D), measured over the trailing 52 weeks – or, where the hub has a shorter record, over the longest window available and never shorter than the 13 weeks Art. V §5.6 measures a quarter over, annualised by $52 \div \text{weeks}$.

$$\text{Gross}_i = \sum_k V_k$$

V_k = settled value of what counterparty k PAID this hub, where k is NOT a member of this hub and IS an attested person or a hub elsewhere in the Federation (Art. XI §11.7 re-attestation), settled in protocol tokens on the ledger. Inbound only: what this hub paid out is somebody else's E_{52} and never its own. Internal circulation is not counted.

Disbursements from any hub commons, treasury or hub-controlled account are excluded on the recipient's side, without exception (Ch. 7 §7.3, Ch. 15 §15.4, Art. V §5.6.6). A treasury's outflow is not anybody's trade.

The payer's roll (v5.16). A leg is admitted only up to the PAYER's own dignity-income-backed annual capacity, taken as ONE budget across everyone that payer pays and applied to V_k BEFORE Gross_i is formed, so that Gross_i and the truncation below both run on the admitted figure and never on the offered one:

$$V_k \leftarrow V_k \times \min(1, 2,000 \tilde{\text{D}} \times \text{Members}_k \div \text{Out}_k)$$

Members_k = the home-hub roll of the hub at which payer k is counted – for a person, the geographic hub that pays their dignity income and carries them in its own UBD denominator (Ch. 5 §5.9, Art. V §5.9), on the same basis as Ch. 7 §7.3's Members_i and this section's own Hub_Population. Every

counting payer is a person: a hub pays from a hub-controlled account and every such disbursement is already excluded on receipt, without exception, so this roll is a geographic hub's roll in every case and is never zero by construction.

Out_k = everything the same payer paid across hub boundaries in the same window, on the same countable basis, before this limb.

Pro-rata, never per-pair: one budget, not one copy of it per relationship. What that costs is published below, and the per-pair form is recorded there rather than adopted.

2,000 $\bar{\text{€}}$ is NOT a new number. It is this section's own equivalence, derived below: $\text{Hub_Population} \times 1000$ "binds at two thousand $\bar{\text{€}}$ of annual realised sales per member". The same figure already stands behind Ch. 7 §7.3's floor cap.

The scale factor is computable from published record alone – every cross-hub leg is on the ledger and every roll is Ch. 7 §7.3's own Members_i. It adds no primitive and no attestation.

$$E_{52,i} = \sum_k \min(V_k , 0.15 \times \text{Gross}_i)$$

No single counterparty contributes more than 15% of the cap's base – Art. X §10.1's single-counterparty ceiling, applied to the same species of exposure.

Trade between hubs created by the division of a common predecessor under Art. XIII is excluded from Gross on both sides, permanently. Article XIII §13.1 files the fission notice publicly and the notice date fixes the record.

NO external-currency quantity is an input to E_{52} , at any remove (Art. V §5.6, Art. XV §15.10).

Example: a nine-person translation collective paid 400,000 $\bar{\text{€}}$ a year by clients across forty hubs has CP_Cap = 720,000 – not 9,000. The payer's roll above does not move this figure: the clients are members of ordinary geographic hubs whose rolls carry them many times over, and the limb reads the payer. Measured at 1.00 of the volume and 1.00 of the allocation, at §23.5 years 1, 3 and 10 and at this hub's size and five times it.

The multiplier is derived, not chosen. §6.2 mints $\text{Transaction_Value} \times \text{Mint_Rate} \times \text{Quality} \times \text{Creator_Bonus}$, and every one of those terms already has a ratified ceiling: 15% (§4.2's autonomy matrix), 2.0 (§6.2's Quality clamp) and 1.20 (§6.2's creator bonus). Their product, **0.36**, is the most claim this Protocol permits to be minted against one unit of realised value. Art. V §5.6.1 retires every balance weekly at $d = T \times \kappa \div 52$, so a mint flow of m per week comes to rest at $m \div d$; substituting $m = 0.36 \cdot F$ and $d = 2 \times 0.10 \div 52$ gives a resting stock of $93.6 \cdot F$, which against an annual realised value of $52 \cdot F$ is exactly **1.8×**. The cap is therefore the largest claim stock the Constitution's own mint ceilings can carry at rest, and no lawful combination of §6.2's parameters reaches past it. There is no free parameter here: 0.15 is §4.2's, 2.0 and 1.20 are §6.2's, $T = 2$ is §7.8's turnover floor and $\kappa = 0.10$ is Art. V §5.6.1's reference.

Inbound, and net of treasuries — corrected in this instrument so that the identity resting on it is literal. The derivation above runs on *realised value sold*: $m = 0.36 \cdot F$ is a mint against this hub's own sales, and a sum that also counted what the hub *paid* would exceed the quantity the 1.8 was derived from **by the whole of that hub's outbound value**. That is a direction, not a factor, and this section will not dress it as one: the undirected sum reaches **twice** the base only where a hub's purchases equal its sales, falls short of twice it for the net seller an operational hub is by construction, and passes twice it for a net buyer. What holds in every case is the inequality — an undirected sum sets the ceiling **strictly above** the largest claim stock §6.2's own parameters can carry at rest, by a margin no clause could state in advance for any particular hub. $E_{5.2}$ is therefore **inbound**, as A.12's own v5.15 definitions specify it and as this section's own defence already assumed — *a counterparty who paid you is a settled ledger entry; the payer is an attested person*. The commons-and-treasury exclusion arrives for the reason Ch. 7 §7.3 gives it: a disbursement is not a trade, and without it a cap moved off an unauditable roster would rest instead on a friendly hub's treasury, which is one hub's complicity again wearing a second hub's name. **The provenance, stated exactly, because this instrument is the one asserting it.** A.12 defined no $E_{5.2}$ at all before v5.15; the definitions block that carries one is of this amendment, and as first drafted it specified **inbound** and *hub-treasury disbursements excluded on receipt* — two properties §6.3's prose did not carry. The wider **hub commons** and **hub-controlled-account** form is Ch. 15 §15.4's, and it was written into A.12 and into this section together, here. The claim is therefore not that A.12 had all of this already: it is that A.12 held the inbound limb and a narrower treasury limb, Ch. 15 §15.4 held the wide one, §6.3 held neither, and this instrument is where the three texts were made one. That divergence is what made $Volume_i \equiv E_{5.2,i}$ an overstatement rather than an identity. **What it costs, named rather than smoothed:** a treasury-funded work order still mints under §6.2 (§15.4) while adding nothing to this cap's base, so a hub that takes much of its work from other hubs' treasuries meets this ceiling sooner than its mint flow alone would predict. §6.2's taper absorbs it — a hub decelerates into this cap rather than striking it — and no separate rule is written for a case the taper already handles.

It is not a new cap; it is this section's own cap with the proxy removed. Read $Hub_Population \times 1000$ through Art. V §5.6.1's stationarity identity and the head-count dissolves. A stock fed at $\kappa \cdot F$ per week and retired at $d = T \cdot \kappa \div 52$ rests at $\kappa \cdot F \div d = 52 \cdot F \div T$ — **the mint rate cancels**, exactly as §5.6.1 says it does — so the resting claim stock of any hub is its annual realised value divided by §7.8's turnover floor, $V_{5.2} \div 2$. Set that equal to this section's ceiling and $V_{5.2} = 2,000 \times N$. **Hub_Population × 1000 was already a value cap: it binds at two thousand ₤ of annual realised sales per member.** Head-count was never the thing being limited. It was the estimator a *city* can use for the thing being limited, because a city's output does scale with the people in it. Where it does not — a five-person co-op invoicing twenty clients, a translation collective serving forty hubs — the estimator fails and the quantity it stood for is measured instead. The two forms agree exactly at the hub on the boundary between them, which is what it means for them to be the same cap.

The cap is asymptotic in both forms, so neither needs head-room. §6.2's dynamic rate $Effective_Rate = Base_Rate \times (1 - (Supply / Max_Supply)^{0.5})$ tapers the mint to zero as supply approaches Max_Supply , in this class exactly as in the other. A hub does not hit this ceiling; it decelerates into it. The 1.8 multiple is the allowance between §5.6.1's reference κ and the constitutional maximum every §6.2 term can reach at once, and the taper does the rest.

Why the value basis is strictly harder to fake than the roster, and not merely different. §7.1 has already ruled on the roster, in the course of refusing elastic gCP: *indexing supply to headcount monetises fake members*, and it does so *at the one layer where the Protocol cannot verify directly, since a hub attests its own members and the Federation cannot audit that roster the way a hub can*. A counterparty is not of that kind. A counterparty who paid you is a settled ledger entry; the payer is an attested person under Art. XI §11.7's periodic re-attestation; and — decisively — the payer belongs to a **different sovereign hub**, so fabricating one costs a second hub's complicity rather than one hub's attestation. The 15% truncation then prices that complicity: no hub realises its full cap on fewer than seven substantial counterparties, so an inflated cap needs seven hubs, twenty-one endorsements from hubs the attacker does not control, seven 10,000 gCP stakes and seven 26-week probations (§4.1, §24.2). Ch. 7 §7.3 states the same truncation as a ring of **eight**, and the two figures are one figure: seven counterparties, plus the hub they surround, is an eight-member ring. Chapter 15's symmetry detector sits on the reciprocal case above that, at `Symmetry ≥ 0.7 across ≥ 3 reciprocal transactions` (§15.2) — a threshold Art. X §10.1 forbids anyone to loosen — and tier advancement has required *unique* counterparties since §15.3. This adds no trust assumption. **It moves the cap's trust dependency off an unauditable roster and onto an auditable transaction record**, which is a strict improvement rather than a trade.

And the 15% truncation prices that complicity without bounding it, which is a distinction v5.16 measured rather than argued. The paragraph above is right that an inflated cap needs seven substantial counterparties and therefore seven hubs, seven stakes, twenty-one endorsements and seven probations. What it does not say — and what Ch. 7 §7.3's re-run makes it necessary to say — is that `Gross_i` is **this hub's own whole inbound**, so every manufactured unit raises the ceiling that is meant to bound it. The truncation bounds a **ratio**; it never bounded an **amount**. Below `0.15 × Gross_i` it is not a loose bound but an **inert** one, and at seven manufactured counterparties — the ring of eight this section and Ch. 7 §7.3 both name — it stops binding at all and every manufactured unit counts in full. The complicity is priced once, in hubs; it is not priced again in $\mathfrak{D}$, however much is run through the hubs once they exist.

The payer's roll is what bounds the amount, and it is the one quantity in this Protocol that the party with the incentive does not control. Every other anchor considered — this hub's own gross, its Art. XIII §13.8-registered provisioning, its realised sales, its own roll — is measured on the **recipient**, and the recipient is the party that gains, so each of them is **co-manufactured** by the same act that manufactures the volume. The provisioning register makes the point exactly: it closes every shape completely if a manufactured leg never reaches the shelf, and is worth **nothing at all** if it does — and Chapter 18's numerator is what is *"actually purchasable with the token this quarter"*, valued since v5.8's correction by a standing offer's **observed deliveries** in the window (Ch. 23 §23.7), so a manufactured leg that settles as a marketplace delivery raises the register by the same act that raises `V_k`. Measured across the sweep, the credit a ring of eight retains under that anchor runs $0\% \rightarrow 100\%$ as the co-manufactured share runs $0\% \rightarrow 100\%$: an anchor whose value is a bet on the attacker not listing what he sells. The payer's roll is not of that kind, for the reason this section already gives about counterparties — *the payer belongs to a different sovereign hub, so fabricating one costs a second hub's complicity* — and Ch. 7 §7.3 names what that complicity costs: *a fake member is a permanent claim on the hub's grain and kilowatt-hours*. The limb makes that liability literal, and it reads the **payer**, so a hub with `Members_i = 0` is untouched **as a recipient** — which is the property every roster-

denominated ceiling on the recipient's side lacks, and the reason the recipient-side form was rejected: measured, it takes an operational hub's whole allocation to **zero**, defunding exactly the class this section was re-derived to recognise.

What the limb costs, named rather than smoothed — and it is not nothing. Three costs, all measured, none of them waived. **First, a hub whose customers are hubs with thin rolls counts less of what it was really paid.** A hub paid only by 600-member hubs keeps 0.02 of its counted volume at §23.5 year 1, 0.05 at year 3 and 0.56 at year 10; a geographic hub in that position still keeps 0.94 / 0.93 / 0.96 of its whole gCP allocation, because floor and population carry it — **but an operational hub in that position has no floor and no population term, and loses in full proportion.** That is the bill for reading the payer, and it falls on the hub whose customers are poor rather than on the hub that manufactures. **Second, this is a cap as well as an allocation term,** and the same admitted figure feeds $CP_Cap = E_{52} \times 1.8$ here and Chapter 8 §8.5.1's $e = CP_now \div E_{52,now}$ there. A hub whose payers' rolls bind therefore meets this ceiling sooner than its mint flow alone would predict — §6.2's taper absorbs it exactly as it absorbs the treasury-funded work order above, and no separate rule is written for a case the taper already handles — but the effect on §8.5.1's price reference across the amendment boundary is **not measured** and is recorded here as such rather than implied to be zero. **Third, pro-rata means a payer's budget is finite and spending it somewhere denies it everywhere else:** an established hub that spends its whole roll budget on a manufactured ring thereby denies its honest suppliers the credit for what they really sold it. Measured in the agent-based pair run at a **43%** cut to honest hubs' counted volume; the gCP figure, and the reason the per-pair form was recorded rather than adopted, are published at Ch. 7 §7.3 with the rest of what this bound does not reach.

And the limb costs $E_{52,i}$ its locality, which is recorded here because this section is where the quantity is defined. Out_k is everything one payer paid across every hub boundary in the window, so a hub can no longer form $E_{52,i}$ from its own ledger: it needs every other hub's inbound legs from the same payer. That is what makes the factor checkable at federation level and it is also a real loss. Worse, this section's window is the **recipient's** trailing 52 weeks with a 13-week fallback on a short record, and *the same window* is not defined where the payer's own outbound record is shorter or longer. No computing party and no settlement lag is named. Recorded rather than answered, because answering it is an engine decision and this is a definition.

The unit is internal, and no external quantity is an input at any remove. E_{52} is denominated in $\mathfrak{D}$ — §7.4's federation dignity unit, the population-weighted average of hubs' own local $\mathfrak{D}$ — and it counts only transactions **settled in protocol tokens on the ledger**. That is not a drafting preference; it is the difference between a cap and a peg. Art. V §5.6 forbids any protocol mechanism to exchange a token against external currency in either direction, so a fiat-settled sale is not a protocol transaction and cannot enter this sum by construction; and a cap that read a fiat figure would make a hub's monetary ceiling a function of an external currency, which is the external-benchmark defect §5.6 exists to foreclose, arriving through a variable instead of through a market. **"External" in this section means external to the hub and inside the circuit** — a counterparty in another hub — and never external to the Protocol. Where a hub is paired with a legal entity that transacts in external currency, Art. XV §15.10's firewall governs and this section is one of the formulas it names: **no external-currency**

quantity is an input to any mint, cap, allocation, tier, reputation or governance term, at any remove. The two clauses say the same thing from opposite ends and neither is redundant: Art. XV §15.10 bars the input, and this section defines the sum in a unit the input could not be expressed in.

And it removes a penalty this Protocol was imposing on exactly the hubs it now recognises.

§8.5.1 prices local CP at $(c \div c_0)^{0.5}$ where c is CP per member, and *provisioning depth is inversely proportional to that price*. The variable is CP **per member**, not productivity: a hub that grows its CP and its roll together prices at exactly 1.00 Ð and is unaffected. The hubs harmed are those whose **claim stock grows faster than their roll** — which is not an edge case but the defining economic signature of a work hub, a co-op, or a project hub. For that class, and only that class, a per-head reference converted productivity into a health-metric penalty on the heaviest-weighted metric in §4.6. §8.5.1's reference moves with this cap for that class, and the two must move together or neither is coherent.

What it costs, named rather than smoothed. Two hubs that divide under Article XIII and later trade at genuine arm's length still cannot count that trade toward either cap: the exclusion is permanent, so both hubs' ceilings are understated for as long as they trade with each other, and the understatement grows with how well the separation went. The Protocol takes the understatement rather than opening a door a division could walk a fabricated counterparty through, and there is no waiver — not by the hubs, not by the Council, not by an Arbitral Panel, because a waiver granted case by case is the door with an usher.

6.4 Activity-Based Decay

CP that sits idle decays. CP held by active members does not.

Activity_Score: 0.1 to 1.0

If active this week: $\text{Score} = \min(1.0, \text{Score} + 0.1)$

If inactive: $\text{Score} = \max(0.1, \text{Score} \times 0.9)$

$\text{Effective_Decay} = \text{Base_Decay} \times (1 - \text{Activity_Score})$
 $= 0.02 \times (1 - \text{Activity_Score})$ [default base = 2%/week]

If $\text{weeks_inactive} \geq 8$: $\text{Effective_Decay} \times 2$

Decay floor: 1,000 CP (small holders fully protected)

Decayed CP → Local Commons

This is more nuanced than simple time-based decay: it rewards **consistent participation**, penalizes true dormancy, allows occasional breaks without harsh penalty.

6.5 New Creator Grant

When a member becomes a verified creator (lists their first valid offering and receives a sale), they receive a one-time grant of **40 CP** to bootstrap their inventory and reduce friction.

6.6 Per person, not per hub

Minting follows real sales, so a member who creates value in three hubs earns three CP currencies, and that is legitimate: three communities were actually served. Two things do **not** follow membership count:

- **The new-creator grant (§6.5) is once per person, ever** — not once per hub joined. It is proven by a per-person nullifier commitment derived from the person's proof-of-personhood, which establishes "not drawn before" without revealing where or when; no compilable nominative cross-hub record exists, because Art. IX §9.11 makes such a record unamendably impossible and §9.10 forbids narrowing an unamendable clause by construction.
- **Creator stipends are apportioned per person**, with a member's total stipend across all hubs capped at the single-hub maximum; hubs reconcile through the same per-person nullifier commitment. **Settlement is from the hub commons the hub's own fees have already collected (Art. V §5.6.3, §30.3) — never from the Ch.5 §5.4 Distribution Pool.** v5.11 moved the settlement and §10.1 was conformed to it in the same revision; this bullet was not, and read "from the Distribution Pool (§5.4)" for three revisions after the pool stopped paying. The apportionment rule below is unchanged and was never what moved. **The identity layer catches the fake person and never reaches the money — Ch. 23 §23.7's controller finding (41 advances worth 3,650 gCP kept by a controller who lost 299 franchises, 0.00 recovered) — so on any advance-scale instrument the recovery must run at source; an advance under Art. XVI must recover from the advance itself, not through the identity layer.**
- **A published bounty is earned, and this cap does not bind it — but only on the terms that make it earned.** A payment is a bounty if and only if it was **published before the work began**, naming its scope, its deliverable, its acceptance test and its price to the cent (Art. XV §15.2(b)), and is **settled against delivery** on that published acceptance test and on nothing else. Settled that way it scales with what the claimant actually did, and a member who delivers three hubs' bounties has delivered three hubs' work. A payment announced after the fact, or settled on attendance, participation, membership or "collaboration", is a **grant wearing a bounty's name**, and the per-person cap in this section binds it exactly as it binds a stipend. This is a test and not a preference: the published-before and settled-on-delivery conditions are the whole of what distinguishes the two, so a hub that cannot produce the publication that preceded the work has not paid a bounty — it has paid a grant, and will be reconciled as one.

Without this, multi-hub membership is a printing press: join ten hubs, collect ten onboarding grants and ten stipends, and the anti-Sybil defence of Chapter 16 is bypassed by a mechanism the protocol itself pays for. The rule is the economic twin of Art. XI §11.7: **what is earned scales with what you actually did; what is granted does not scale with how many doors you walked through.** The twin holds in both directions, which is why the bounty bullet above is a carve-out from the cap and not an exception to the rule — a deliverable accepted is a door you did not merely walk through.

6.7 Work orders — the demand side, and the escrow that settles it (Demand-Side Amendment, v5.15)

(Since v5.22 this section is the escrow rail of §6.9 “The Agreement”, which states the one lifecycle every exchange runs; nothing here moves, and the cross-reference is stated in both directions.)

Through v5.14 this marketplace had one side. §6.2 mints on a completed sale; Chapter 10's Creator tier “can list goods/services/events”; every advancement row in Chapter 10 counts buys or sells against a listing that already exists; and Chapter 2's consent templates cover a seller and a buyer and no one else. Every instrument in the Protocol assumes the person with something to give speaks first. Nobody could post what they *needed* and have someone take it, which is precisely the direction most real work travels — a roof needs mending before anyone advertises that they mend roofs.

A work order is a commitment to transact, and it is not a new instrument. A member posts what they want done, at a stated value, with a stated delivery date. Another member takes it. On acceptance it settles as an ordinary marketplace transaction, and §6.2 fires **unchanged**:

$$\text{CP_minted} = \text{Transaction_Value} \times \text{Mint_Rate} \times \text{Quality} \times \text{Creator_Bonus}$$

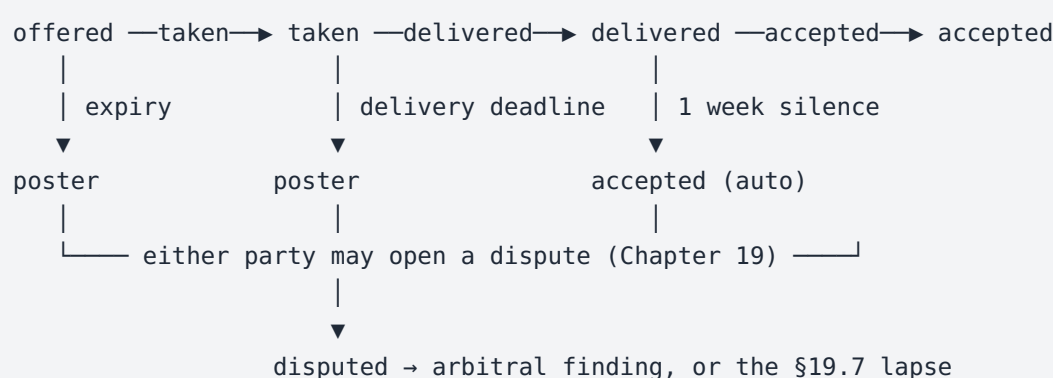
No new token. No new mint path. `Mint_Rate` is untouched, so κ is untouched, so Art. V §5.6.1's derivation $d = T \times \kappa \div 52$ and its resting-depth identity $\text{Depth}^* = 52 \cdot d \div \kappa$ are not reopened, and Art. V §5.6.3's settlement reasoning is not disturbed. This is the whole reason the demand side is cheap: it is a *way of reaching* an existing transaction, not a second kind of transaction. Everything below governs how the commitment is held between the promise and the delivery — which is the only genuinely new thing here, and it needs a primitive this document has never had.

Escrow, defined — because the word appears nowhere in this Protocol before this clause. An **escrow** is a pre-committed lock, entered by a member on their own balance, by their own act, for a stated amount, against a stated obligation, released only by published rule. It has six properties and it is not a mechanism unless it has all six:

1. **It binds only the poster's own tokens**, only the amount stated in the order, only from the moment they post it.
2. **It is not custody**. No hub, no Trustee, no Federation organ, and no arbitrator acquires spending authority over an escrowed balance. There is no account it moves to and no key that opens it.
3. **Every exit is by published rule**. Acceptance releases to the taker. Expiry releases to the poster. An arbitral finding under Chapter 19 releases per the finding. There is no fourth exit, and none of the three requires anyone to decide anything at the moment it fires.
4. **Every state carries a clock**, and each clock's expiry resolves in a stated direction, published in advance.
5. **The lock is visible to both parties and to nobody else** beyond the hub's ordinary transaction record.
6. **It is temporary by construction** — see the 13-week bound below.

Why this is not a freeze, said plainly, because it will be asked. Art. IX §9.3 forbids **discretionary** freeze, confiscation, or reassignment, and Art. VII §7.3 lists asset-freeze resistance among the unamendable provisions. Art. IX §9.3 draws its own line: the clause "does not reach the protocol's **pre-committed, formula-based** economic mechanics... rules consented to at joining, executing identically for everyone by published formula, with no one deciding anything at the moment of application. The line this clause draws is discretion: what no one may hold is a lever that can be pointed at any one of us." An escrow entered voluntarily, on one's own balance, with three published exits and no key, is on the permitted side of exactly that line — and an escrow with a discretionary release would be on the other side of it, which is why property (3) is stated as an absolute and not as a default. **An escrow with a release key is a freeze wearing a nicer word, and this Protocol will not ship one.**

The state machine.



- **offered** . The stated value is escrowed at the moment of posting. An unfunded work order does not exist: a "wanted" post that carries no committed value is an advertisement, and the Protocol already has a place for advertisements. The poster names an expiry; on expiry with no taker, the escrow releases to the poster automatically.
- **taken** . One taker claims it. The order closes to further takers, and the taker's delivery deadline begins. This is the state in which labour is genuinely committed on both sides, and it is the state Chapter 18 declines to count — the reasoning is Art. V §5.6's work-order bullet, and Chapter 18 states the short form.
- **delivered** . The taker marks delivery. The poster has **one week** to accept or to dispute.
- **accepted** . The escrow releases to the taker, §6.2 mints, and the transaction is an ordinary marketplace sale in every register the Protocol keeps.
- **disputed** . Chapter 19 governs, and §19.7 governs the escrow while it does.

Silence has a direction, and the direction is toward whoever performed. A poster who receives delivery and says nothing must not thereby recover their money: that would hand every poster a free option — commission work, take it, go quiet — and an option that costs nothing is an option everyone eventually exercises. So the one-week window at **delivered** **auto-accepts**. Conversely a taker who takes an order and misses the delivery deadline has performed nothing, so that clock resolves to the poster. Neither rule requires anyone to be trusted; both require only that a clock be published before it starts running.

No escrow outlives one quarter. The maximum term of an escrow, from `offered` to release, is **13 weeks**. The number is derived and not chosen: 13 weeks is the Protocol's quarter — Art. V §5.1.1's recalculation interval, Art. V §5.6's depth measurement window, the trailing window of §6.4 and Chapter 13. An escrow that spanned two measurement windows would let one commitment be observed twice by a metric that observes quarterly, and the cleanest way to prevent a double reading is to forbid the object that produces it. Work genuinely longer than a quarter is posted as a sequence of orders, each funded, each settling on its own — which is also how a taker gets paid before the work is finished, and how a poster limits their exposure to a taker who stops. A dispute tolls the term; §19.7 supplies the clock that replaces it.

Escrow is not a shelter, and this is the attack the term-limit exists for. Escrowed CP remains in the poster's balance for every purpose Art. V §5.6.1 and Art. V §5.6.2 name: the **Retirement Rate** `d` and the **Commons Levy** `ℓ` are charged on escrowed balances exactly as on any other, weekly, at the same `d + ℓ = 0.427%` per week. Art. V §5.6.1 admits "no floor, no bracket, no exemption, no activity condition", and an escrow that suspended the charge would be an exemption available to anyone who could post an order to a friend — a demurrage shelter dressed as a job. It would also be a *self-funding* shelter, since the sheltered stock could be rolled from one order to the next indefinitely. Escrow suspends nothing.

The `Quality` term reads the taker, and this Protocol says so on purpose. §6.2 sets `Quality = clamp(Reputation / 50, 0.5, 2.0)`, and reads the reputation of whoever created the value. On a work order that is the **taker**, not the poster — the taker is who made the thing. The consequence follows and is stated rather than discovered: **a poster with a bad record has no effect on the mint**. That is correct and it is not a gap. A poster's record already governs the only thing it should: whether anyone takes their orders at all, and their **Reliability** dimension under Chapter 13 §13.2 — "commitments kept vs. broken, response time, dispute rate" — which is where a habitual non-acceptor is already answered, at 30% of the composite. Inventing a second reputation term inside the mint equation to punish bad posters would put the Protocol in the business of pricing a counterparty it can already refuse.

What the mint sees, and what it does not. §6.2 reads `Transaction_Value`, and for a work order that is the escrowed amount, on acceptance, once. It is not read at `offered`, not read at `taken`, and not read at all for an order that resolves back to the poster. Chapter 15 §15.4 bounds which settled work-order value counts as `Transaction_Value` in the first place, and does so for a reason that Chapter 15's existing detector cannot supply.

Tiers. Posting a work order is a buy-side act and taking one is a sell-side act, and Chapter 10 §10.1–§10.2 are amended to say so rather than to grow a parallel ladder.

What is still open, stated plainly. The Protocol has no way to verify that delivered work was *done* — only that a poster accepted it, or failed to dispute it within a week. That is the same standard Chapter 19 §19.6 already applies at Tier 1 ("self-reported / good faith"), and it is weaker than any of us would like. Two members who agree to lie about a delivery will succeed, and no escrow, clock, or diversity bound reaches them. What the bounds below reach is *scale* — the point at which lying stops being two people and becomes a business — and the Protocol claims that and nothing more.

6.8 The Commons Share of the Mint (Hub Typology Amendment, v5.15)

A non-geographic hub carries costs no sale pays for — the coordinator who schedules, the translator who makes the work legible in a fortieth hub, the moderator who keeps a marketplace honest, the builder whose commit ships everywhere at once. §6.2 cannot reach any of them, because §6.2 mints on a transaction and these people may run a year without one. §30.3's commons already exists to hold such costs and already carries named funding lines. This section adds one line to that list, and the line is a **split of the mint that already happens, never a second one**.

$CP_{\text{minted}} = \text{Transaction_Value} \times \text{Mint_Rate} \times \text{Quality} \times \text{Creator_Bonus}$ (§6.2, unchanged)

To the seller: $CP_{\text{minted}} \times (1 - \theta)$

To the hub commons: $CP_{\text{minted}} \times \theta$

$\theta = 0\text{--}15\%$, hub-set (default 10%) — non-geographic hubs only (§3.3)

Binding floor: $\text{Mint_Rate} \times (1 - \theta) \geq 1\%$

the rate at which the seller's own CP is minted may never fall below the 1% floor of §4.2's Mint_Rate band; at a hub's minimum 1% mint rate, θ is necessarily 0

Total minted claim per unit of real value sold is unchanged, and that is the whole of the safety argument. Art. V §5.6.1 derives the Retirement Rate as $d = T \times \kappa \div 52$, where κ is the claim minted per unit of real value sold, and states the trap in one line: *no retirement rate derived from κ can reach a mint that is not in κ* . A split changes who receives CP_{minted} . It does not change CP_{minted} . κ is therefore identical before and after, d remains the rate it was derived to be, and the resting depth $\text{Depth}^* = 52 \cdot d \div \kappa$ does not move by a digit. A commons funded by *additional* mint would be the $\approx 3.3\kappa$ defect Art. V §5.6.3 abolished, arriving a few months later with a different beneficiary on the receipt.

The second channel, which is the one that would have been missed. §8.5.1 prices local CP at $(c \div c_0)^{0.5}$ where c is CP per member, and *provisioning depth is inversely proportional to that price*. Additional mint raises c , which raises the price, which lowers depth — so a treasury funded by minting would tax every member's purchasing power silently while the ledger showed nothing but a credit arriving. A split leaves c untouched because it leaves the total untouched. **Two independent channels, closed by one property, and not by anybody's intention.**

θ is a fee on creation, and this Protocol will call it that. A creator in a hub running $\text{Mint_Rate} = 10\%$ and $\theta = 10\%$ receives 9% of transaction value in minted CP rather than 10%. That is a real transfer from the people who sell to the commons that pays the people who cannot, it is the same species of instrument as §8.3's 2% conversion fee, and it belongs in the same sentence as them rather than in a footnote to them. Where it bites, it will show as Creator Ratio (§4.5, weight 0.15, Healthy 15–50%), which is the metric whose job is to see it.

The band and the default are both derived from clauses already ratified. The band is §4.2's own band for `Mint_Rate` — the same organ, the same matrix row, the same 15% ceiling — because a hub that may set the size of its mint may set the division of it, and a second band would be a second answer to a settled question. The default is Art. V §5.6.2's answer to the identical question one layer down: when that clause asked what share of a charge on the claim stock the commons should take, it answered **one tenth**, and this clause does not invent a rival fraction. **$\theta = 0$ is permitted and is not a failure state.** A hub with no coordination costs should not tax creation to fund a treasury it has no use for.

Nothing external is an input, here or anywhere the split touches. θ divides a quantity that is already denominated in the hub's own CP and already computed from a token-settled transaction value; no external-currency figure enters `CP_minted`, θ , or the commons balance either term feeds, at any remove. Where a hub is paired with a legal entity that transacts in external currency, Art. XV §15.10's firewall governs and this section is one of the formulas it names. A treasury share computed off a fiat revenue line would be an external benchmark wearing a percentage sign.

θ is a top-up, not the base. At a 10% mint and a 10% θ the commons receives one per cent of transaction value, which funds a coordinator and does not fund a programme. The substantial treasury line for an operational hub is its §7.3 allocation (Art. V §5.6.6), and this section is deliberately the smaller of the two. A treasury fed mostly by the mint would acquire an interest in the mint, and §5.6.2 has already recorded what becomes of a commons whose income is coupled to the very quantity the Protocol is trying to control: *its income is largest when inequality is largest and vanishes when the Protocol works.*

Geographic hubs are outside this section, and the reason is published rather than implied. Extending θ to a geographic hub would raise the commons balance Art. V §5.6.3 settles creator stipends against, which would move the fulfilment figures Art. V §5.6.5 publishes as the standing expectation — and §5.6.5 binds anyone who moves them: *a future change that moves fulfilment must move the published number in the same commit, or fail the build.* This amendment does not re-run those four numbers, so it does not touch the mechanism that produces them. That is a scope decision made in the open, not an oversight, and the clause that would relax it is the clause that would have to publish a new table.

6.9 The Agreement — one lifecycle for every exchange (The Agreement Amendment, v5.22)

The Protocol specifies the same exchange lifecycle twice — §6.7's work orders and §5.6.6's bounties at the hub, §7.2.1's acceptance path at the pool — and through v5.21 no clause named the lifecycle itself. This section names it. **Every exchange of value in the Protocol is an Agreement: one offer, one take, one delivery, one acceptance, one settlement**, whatever is being exchanged and whoever the parties are. §6.7's text is unchanged and becomes **the escrow rail of this section**, cross-referenced both ways; §5.6.6's bounties and §7.2.1's acceptances are Agreements whose clauses those sections already carry. What this section adds is the rules the engine could not avoid and the canon had not stated.

The lifecycle. An Offer is draft → published → paused → closed; an Agreement is taken → delivered → accepted → settled, with rejected → disputed off the delivery and expired / cancelled the value-returning exits. Every state carries a clock, and each clock's expiry resolves in a stated direction, published in advance — §6.7's own discipline, stated once here as the rule for every rail.

When the payer's value locks (D2). Three sentences, one chain. Where the payer publishes — a request, a work order, a bounty — the value is locked **at publication** as a lien on the payer's own balance: visible, reachable by $d + l$ (§6.7), spendable by no one. At **take**, it becomes an on-ledger token escrow **owned by the payer** (XLS-85), the payee its fixed destination — the ledger fixes the destination at creation, and the payee does not exist before the take. Where the payee publishes a catalog offer, the buyer's value locks **at take**, in the same act. The lien is the §6.7 escrow until the take; that is what "escrowed at the moment of posting" means in this rail.

Instant settlement (D3). Delivery and acceptance may be **one act at one place** — the counter, the doorstep, the QR code. There the Agreement settles instantly: no escrow, no lien, and §6.2 mints on the **verified Payment, once**. The Purchase consent template (§2.6) covers it. A dispute afterwards is a dispute about a sale like any other, and goes to Chapter 19.

No cancellation fees in v1 (D4). §6.7 property 3 says there are exactly three exits, and "There is no fourth exit." A cancellation fee would be a fourth. Cancelling before a booked start is the **expiry exit**: the full lock returns to the payer. After the start, delivery, acceptance and dispute apply as usual. A published per-offer cancellation schedule, agreed at take as a pre-committed formula (Art. IX §9.3 permits those), is recorded as an open question for a later amendment and is not written here.

Recognition-only Agreements (D5). Work may be offered with **no value** — volunteering, stewardship, care. It is an Agreement with a **none** rail: it feeds **Reliability** (commitments kept and broken, Ch.13 §13.2), and it never mints, never counts toward Volume or E_{52} , never moves a tier row, and never counts as a sale in any register that reads "active creator". The record of kept volunteer commitments is itself the settlement.

A pool tranche is not a sale (D6). A §7.2.1 disbursement is a gCP payment from a named pool against a published acceptance. It is **not a §6.2 transaction**: it mints nothing and counts toward no Volume, E_{52} or tier, in either book. It is contestable at the Arbitral Layer on §7.2.1's own terms.

When an organisation sells (D8). The price and the reward are two different things and both are named. The **price** is the payer's existing value, moving by the payer's own act to the offer's **payee**. The **reward** is the §6.2 mint to the **creator of record** — a member, whose reputation Quality reads ("the taker is who made the thing"). For a member-to-member trade the payee and the creator are the same person. **For an organisation's offer, the payee is a member and the organisation is a storefront**: §30.3's list of what may fund a hub commons is closed — fees, decay, overflow — and sale proceeds do not enter hub-controlled accounts. The organisation publishes, stewards and is accountable; the performing member is paid; the creator's mint is the creator's.

Cross-hub Agreements (D9). An Agreement whose parties sit in different hubs is priced and settled in **gCP**, the bridge currency (§8.2). §6.2's mint fires in the **creator's** hub at the §8.4 conversion; θ goes to that hub's commons; the Agreement appears in both hubs' registers; and §15.4 counts it as a counterparty "outside the hub" — which is what §16.9's milestone (a) reads.

How far ahead a booking may start (D10). The bound is derived, not chosen: a booking may be taken at most **13 weeks – (duration + the one-week acceptance window)** before its end, because no escrow outlives one quarter (§6.7). A hotel's calendar therefore opens about eleven to twelve weeks ahead, and the arithmetic — not this paragraph — is the reason.

The ledger escrow's backstop (D11). A native token escrow returns to its owner only after `CancelAfter`, and `CancelAfter` is fixed at creation: no dispute can extend an on-ledger lock. The backstop of a §6.9 escrow is therefore **the delivery deadline + the one-week acceptance window + fourteen days**, stated per Agreement at take. At the backstop, §19.7's lapse direction applies early: delivered → the escrow **finishes to the payee**; not delivered → it **cancels to the payer**. A dispute still open past the backstop continues as a Chapter 19 matter between the parties, and its finding is an **award**, not an escrow release. This removes the free option §6.7 exists to deny — a payer cannot dispute on day six and simply wait — while a payee who never delivered cannot hold the payer's value longer than three weeks past the deadline. §19.7's own 120-day hold is thereby scoped to books-level escrows, and says so there.

Chapter 7: Global Creative Potential (gCP)

7.1 What gCP is

gCP is the **bridge currency** that lets hubs trade with each other. It is the most tightly constrained token in the protocol — by design, because it is the one place where a fault could ripple across the whole federation.

Property	Value
Total Supply	10,000,000,000 (10B) — HARD CAP, NEVER INCREASES
Divisibility	18 decimals
Provisioning	Productive capacity of all hubs + registered real assets (Art. V §5.6, Art. XIII §13.8) — closed circuit, no external-currency reserve, no peg, no redemption claim
Purpose	Inter-hub trade, hub formation stakes, refugee support, global savings

The hard cap is **constitutionally unamendable**. No supermajority, no emergency decree, no procedural workaround can lift it. The engine itself rejects any issuance that would push the total past 10 billion, and enforces the conservation identity of §7.7 — circulating plus unissued equals exactly 10 B — on every block.

Why the cap survives the closed circuit, for a different reason than it was written. Through v5.5 the cap was defended as an anti-inflation guarantee: a promise to holders that their purchasing power would not be diluted. That argument died with the fiat gateway. There is no external price, no buyer to reassure, and no exchange rate for a fixed supply to defend — as a store-of-value pledge, the cap now answers a question no one inside a closed circuit can ask.

It is kept because it turns out to be doing something more important: **the cap is the arithmetic form of "the Federation may not tax."** §4.2 forbids the Federation from taxing hubs or members. Unlimited issuance would defeat that prohibition without amending a word of it — every refugee grant, nursery stake, reconstruction loan and Arbitral award could be funded by minting, and minting spends the value of every gCP already held. That is a tax, collected by dilution instead of by invoice, and it would hand whoever controls issuance real power to move resources between hubs. The cap is not a monetary promise to savers; it is a **structural limit on the centre**, which is exactly why §7.3 lists it beside *no taxing, no military, no override* rather than beside the economic parameters.

The rule underneath, stated once because it settles every future question about supply:

Token	Who issues it	Limit	Why that limit fits
UBD	the hub, per verified human	no limit on the flow; a 12-week holding cap with overflow to the commons	it is <i>recognition</i> , and recognition cannot be scarce without ceasing to be recognition
CP	the hub, on a verified sale	endogenous — a real exchange must occur first, under $\text{Hub_Pop} \times 1000$	self-limiting by construction: no production, no issuance
gCP	the Protocol itself	a hard 10 B, unamendable, conserved	the only centrally-issued token, so the only one where issuance is <i>power</i> rather than a record of work

The more central the issuance, the harder the limit must be. UBD is issued closest to the human being and is bounded loosest; gCP is issued furthest from the human being and is bounded absolutely. Any future proposal to make gCP elastic — even a formulaic elasticity indexed to verified membership, which is the tempting version because it involves no discretion — fails on this principle and on a second ground: **indexing supply to headcount monetises fake members.** It would place a permanent financial reward on roster inflation at the one layer where the Protocol cannot verify directly, since a hub attests its own members and the Federation cannot audit that roster the way a hub can. A fixed cap offers no such reward. The cap stays.

7.2 Allocation

Pool	Percentage	Amount	Purpose
Hub Allocation	60%	6B gCP	Distributed to hubs by floor + population (activity struck, v5.17)
Federation Reserve	25%	2.5B gCP	Emergencies, refugees, new hubs, nursery stakes, genesis advances (Art. XVI §16.9), individual advances (Art. XVI §16.10)
Liquidity Pools	10%	1B gCP	Inter-hub exchange, bonding-curve provisioning
Protocol Development	5%	500M gCP	Engine, audits, tooling — vested over 10 years

There is **no pre-allocation to founders** beyond the protocol-administered Protocol Development pool, which itself is governed and vested. This pool was called the "Foundation pool" through v5.4; it is renamed here because *Foundation* now means one thing only — a national nonprofit legal entity under Article XV — and a gCP pool is not one of those. **No Foundation ever holds, receives, or is allocated gCP** (§15.2): the pool funds protocol development, and Foundations hold land, roofs, and greenhouses.

§7.2.1 The Pool's Acceptance Path (Genesis Acceptance Amendment, v5.19). The Protocol Development pool is the Constitution's largest purpose-named line, and through v5.18 no clause said who accepts a milestone against it. At genesis the omission is structural rather than accidental: the Arbitral Layer's panels are nominated by hubs and the Council (Art. XII §12.3), and at day zero neither exists, so the pool's first disbursements would have run on self-certification at the moment scrutiny is least available — the configuration §16.1 names as how a distributed organisation captures itself. This clause closes it with provisional authority, full publication, and deferred review, on the §15.6 shape: **by default, never by right.**

- **Genesis acceptance.** The jurisdiction's accredited Foundation signs development milestones through its board, as an administrative act within its statutory purpose (§15.3). The signature holds no tokens (Art. V §5.7, §15.2(c)), governs no hub (§15.8), and writes no fiat into any formula (Art. V §5.6) — it is judgment within a published purpose, and nothing more. The bounty discipline of Chapter 30 §30.3 applies unchanged: published before the work, acceptance test written before the worker, settled against delivery and on nothing else, priced to the cent (§15.2(b)).
- **Publication before disbursement.** Every acceptance is published on-chain with its reasons before any tranche moves, on the Art. X §10.1 public-reasoning pattern: the milestone, the acceptance test, the evidence, the signature. A disbursement whose acceptance is not published is not authorised.
- **Retroactive contestability.** Every acceptance under this clause is contestable at the Arbitral Layer, and **the first Panel ever formed inherits review over every acceptance made before its**

formation (Art. XII §12.2). The ratchet has nothing to grab at day zero and tightens automatically from the first hub onward; publication, not the forum's presence, is the day-one discipline.

- **The adversarial floor auto-vests.** The red-team share of this pool (Appendix F.6) vests on the published schedule with **no signature to withhold**: an acceptor that governs builder milestones must not govern the budget of the team whose job is to embarrass them. The Arbitral Layer reviews the execution of the red-team budget and **never its findings** — a gate left red is a success of the programme, not a failure of it (Appendix G).
- **Appointment.** The red team is appointed by the signing Foundation at genesis and ratified by hub majority as soon as hubs exist; appointment is revocable by the Arbitral Layer alone, for cause, published.
- **The honest residual, stated.** At day zero there is no independent checker, and this clause does not pretend otherwise: a board can accept a bad milestone honestly. The mitigations are the standing ones — the acceptance test is written before the worker, the deliverable is checkable by a stranger, and Phase 1 stands up the first external pair of eyes (F.6). Genesis runs on trust plus full publication, and this clause says so on its face rather than letting the pool's size imply a governance that was never written.

7.3 Hub Allocation Formula (v5.6 — re-derived; terms defined v5.15; the activity term bounded, and the claim that it was defended withdrawn, v5.16; the activity term struck, v5.17)

The v5.1 formula was a fixed 100,000 gCP base per hub, subtracted from a step-scheduled release before distributing the remainder by population. Read against the Protocol's own adoption projection (§23.5), it fails arithmetically in three places, and the failures are recorded here because a protocol that hides a broken formula has no business asking anyone to trust the rest of its arithmetic:

- **The release schedule never reached its stated horizon.** Releasing 5% of the pool in years 1–2, 3% in 3–5, 2% in 6–10 and 1% thereafter distributes **2.94 B of 6 B by year 30 — 49%**, not the "full distribution around year 30" the text claimed. Full distribution arrives in **year 81**: a 51-year overstatement.
- **The population term inverted.** $\text{Annual_Pool} - (\text{Num_Hubs} \times 100,000)$ goes negative the moment hub count passes $\text{Annual_Pool} \div 100,000$ — **1,200 hubs** at the year 6–10 rate, which §23.5 puts at roughly year 8. From there every large hub's population share was a *negative number*: by year 30, a 5,000 M annual obligation against a 60 M release.
- **The base allocation was a magic constant the network was designed to outgrow.** Any fixed per-hub grant multiplied by an unbounded hub count eventually exceeds any fixed pool.

The corrected design removes every magic constant and makes each term a *share of what is actually available*, so no term can invert and no schedule can miss its horizon:

$\text{Annual_Release} = \text{Remaining_Unissued_Hub_Pool} \times 3\%$ (geometric – never exhausts)

Definitions (v5.15 – three terms this formula has used since v5.6 and defined nowhere, the index set scoped to exclude Company hubs, and the zero-denominator boundary stated; no coefficient changes there. The volume terms are struck from this formula in v5.17 and the quantity's home moves to Ch. 6 §6.3, which already carries its derivation):

Num_Hubs = the number of recognised hubs, Company hubs excluded (§3.3): a Company hub draws no protocol allocation of any size, so it enters neither this count nor Total_Members below, and the index i runs over the same set. Ratified in v5.15 as severable from the per-type re-weighting then held; that re-weighting is REFUSED in v5.17 and this exclusion is unaffected by the refusal, as it was by the hold. The v5.15 severance also removed a Company hub's volume from Total_Volume , which is no longer read here and is left standing for Ch. 6 §6.3.

Members_i = verified humans whose HOME HUB is hub i (Ch. 5 §5.9) – each human counted once in the whole federation, at the hub that pays their dignity income and carries them in its own UBD denominator. Personhood, never identity (Art. IX §9.2): a member is a verified human, and no legal person is ever a member of any hub.

$\text{Total_Members} = \sum \text{Members}_i$

$\text{Volume}_i, \text{Total_Volume}$ – NOT terms of this formula (v5.17). The quantity is not abolished and its definition is not withdrawn: ' $\text{Volume}_i \equiv E_{52,i}$ ' is Ch. 6 §6.3's measured quantity – INBOUND, cross-hub, token-settled, $\bar{\text{D}}$ -denominated, each leg admitted only up to the PAYER's own roll-backed capacity of $2,000 \bar{\text{D}} \times \text{Members}_k$ pro-rated (§6.3, v5.16), each counterparty truncated at 15% of gross, intra-Art.-XIII-ancestry legs excluded, and every hub-commons, treasury or hub-controlled disbursement excluded on the recipient's side without exception (Ch. 15 §15.4, Art. V §5.6.6) – and Ch. 6 §6.3 caps a non-geographic hub's CP on it while Ch. 15 §15.4 bounds what may enter it. Both stand. What is struck is THIS SECTION's use of it: nothing below reads a volume, and no share of this release turns on one.

$\text{Floor_Share}_i = \min(0.40 \times \text{Annual_Release} \div \text{Num_Hubs}, \text{Members}_i \times 20 \text{ gCP})$

$\text{Population}_i = 0.60 \times \text{Annual_Release} \times (\text{Members}_i / \text{Total_Members})$

$\text{Annual_Hub_gCP}_i = \text{Floor_Share}_i + \text{Population}_i$

Any floor left undistributed by the per-capita cap rolls into the population term,

so the two shares sum to exactly `Annual_Release` whenever `Total_Members` is positive – never more, never less. The 0.10 the activity term carried is added to the population term and to no other destination, for the reason stated below the block: adding it to the floor would raise the equal per-hub slice, which is the channel the refused re-weighting ran through. Both surviving terms have a defence written for them – the floor has the per-capita cap against fission – so having one does not pick between them, and this note does not pretend it does.

Boundary condition, because the denominator is reachably zero – `Total_Members` in a federation with no geographic hub in it. `Total_Members = 0` means `Members_i = 0` at every hub, so `Population_i = 0` at every hub and `Floor_Share_i = min( ... , 0 ) = 0` with

it: the whole release is undistributed, and the floor remainder does NOT roll anywhere, the term it would roll into being identically zero. What cannot be distributed is not released: it stays in `Remaining_Unissued_Hub_Pool`, so §7.7's conservation identity is untouched and the undistributed share funds the hubs that arrive later rather than vanishing. Through v5.16 `'Activity_i'` paid in that state and

this block said so; nothing pays in it now. That is the arithmetic of a federation with no geographic hub in it, and it is stated rather than smoothed.

Published weekly beside the health metrics (§4.5, §10.4):

`Annual_Release ÷ Num_Hubs` against `50 × Members_i`
– whether the floor's per-capita cap still binds

The three volume readings v5.16 published here – the indicator `100 × Annual_Release ÷ Total_Volume`, the break-even weight and the break-even fee – are struck with the term they read on (v5.17). They measured the SIGN of a payoff this formula no longer offers. Ch. 6 §6.3 publishes what its own cap needs; this section publishes nothing about volume, because it now depends on none.

Why each element is what it is.

Geometric, not scheduled. Releasing a fixed fraction of what remains means the pool asymptotes and never empties: 99.8% distributed by year 200, and a positive release in every year thereafter. There is no cliff, no exhaustion year, and no hub that arrives too late to receive anything — which is what "no one waits for permission to begin" (Article XVI) requires of the supply side.

Shares, not subtractions. Every term is a fraction of a positive quantity, so **the formula cannot produce a negative allocation at any hub count**. That is the whole of the second bug, fixed by arithmetic form rather than by parameter tuning.

A floor, so small hubs are not rounding errors. Forty per cent divided equally means a 600-member hub is not invisible beside a 200,000-member one — the protocol's subsidiarity commitment (§4.3) expressed in gCP.

A per-capita cap on the floor, because an equal split is a splitting incentive. Without it, one 1,000-member hub could fission into two 500-member hubs and claim two floor shares for the same population. With the floor capped at $\text{Members}_i \times 20 \text{ gCP}$, splitting yields **exactly zero** additional gCP, while costing two 10,000 gCP stakes, two 500-member thresholds and two 26-week probations. The attack is not deterred; it is arithmetically pointless.

But "arithmetically pointless" is regime-bounded, and v5.15 states the bound the original claim inherited without it. The per-capita cap suppresses the second floor share only while it **binds** — while $0.40 \times \text{Annual_Release} \div \text{Num_Hubs} > \text{Floor_Cap}_i$, which is $\text{Annual_Release} \div \text{Num_Hubs} > 50 \times \text{Members}_i$. That is emphatically true early, when the release per hub is large: at a hundred hubs against the full pool the floor share runs to hundreds of thousands of gCP a year against a 10,000 gCP cap for a five-hundred-member hub, and the cap bites hard. It stops being true at scale, and the paragraph below says so in its own words — *at 50,000 hubs the floor is a few hundred gCP a year*, against a cap two orders of magnitude above it. Past that crossover — for a 500-member hub, past roughly 3,600 hubs with the pool at half its genesis value — **a division does claim one extra floor share**, and *exactly zero becomes a few hundred gCP a year against two 10,000 gCP stakes, two five-hundred-member thresholds, six endorsements from hubs the attacker does not control and two 26-week probations.* That is deterrence by **cost**, which is a weaker thing than deterrence by arithmetic, and this section should not have been claiming the stronger one without saying where it stops. It is qualified here. The regime is publishable and belongs published: $\text{Annual_Release} \div \text{Num_Hubs}$ against $50 \times \text{Members}_i$ is computable from figures already released weekly (§10.4), and a hub can see for itself which side of the crossover the network is on.

And inflating the roster cannot pay either. Population share rewards members, but every member — real or fabricated — must be paid UBD **in that hub's own real goods, weekly, under mandatory acceptance** (§5.1, §5.6). A fake member is a permanent claim on the hub's grain and kilowatt-hours in exchange for a fractional share of a 50% pool. Sybil inflation costs the attacker more than it yields, which is why it needs no separate penalty.

The activity term was the undefended one, and the demand side is what forced the defence. Read the paragraphs above and the asymmetry is plain: the floor term has a defence written for it (the per-capita cap, against splitting) and the population term has one (the UBD liability, against roster inflation). **The activity term has never had one.** That was survivable while it carried a tenth of the release behind two defended terms *and* while nobody could cheaply inflate it. §6.7's work orders make it cheaply inflatable (Ch. 15 §15.4), and the per-type re-weighting held below would have made it the primary funding channel for a whole class of hub — so the defence is owed here rather than deferred.

The attack, named, in the three shapes it takes. Activity_i is a **share of a fixed block**, so volume that is manufactured rather than earned does not merely flatter a hub's own books — it takes gCP from every honest hub in the network, because the block does not grow to accommodate it. **(i) Self-payment.** A hub commons pays its own members — bounties, stipends, redistribution — and books the payments as volume. Nothing in Chapter 15 fires: §15.2 tests **reciprocal** volume at $\text{Symmetry} \geq 0.7$ and a commons-to-member payment is one-way. Nothing in Chapter 16 fires either: the members are real, the payments are real, and the defences there look for fabricated identity and for concentration. **(ii) The pass-through.** Divide one hub into three, route the same work through all three, and every leg is

counted again while the aggregate ratio is unchanged. **(iii) The ring.** Three or more hubs pay each other in a cycle that nets to nothing and inflates all of their volumes at once; symmetry never reaches 0.7 in a ring of three or more, so §15.2 never sees it either. And under this amendment, shape (i) closes a loop that would otherwise be self-financing: a treasury pays contributors, the payments book as volume, the volume draws a larger allocation, and the allocation refills the treasury.

And three is not the count — the list above is incomplete, which is measured rather than conceded (v5.16). Two shapes appear in none of the three and beat the ratified rule **harder** than any of them. **(iv) The rotational ring.** Fifteen hubs, each paying the next seven and paid by the previous seven, so that the inbound and outbound counterparty sets of every hub are **disjoint** and **no ordered pair is ever reciprocal**: seven inbound counterparties at a seventh of gross apiece leaves §6.3's truncation not binding, exactly as the clique does, and a hub-scale symmetry score of 0.00 on every edge leaves Ch. 15 §15.2 seeing nothing — measured at **100% credit** at §23.5 year 3. It costs fifteen stakes rather than eight and nothing else. **(v) The large clique.** Forty hubs paying all-to-all retain **100%** at every manufacture level under every ceiling denominated on a **federation statistic** — mean, median, or any multiple of either — for the reason a majority always beats an index: forty of the eighty hubs §23.5 projects at year 3 **are** the median. Both were written against the candidate defences rather than against v5.15, which is the discipline the paragraphs below now adopt as standing practice: **a defence measured only against the attack that motivated it is an argued defence with a number stapled to it.** The list of shapes in this section is therefore open, not closed, and a reader must not treat (i)–(v) as exhausting the space either.

The definition is not the defence. v5.15 said it was, the re-run that sentence called for has been carried out, and the claim is withdrawn here (v5.16). One definition was said to be doing three jobs. **One of the three limbs did its job, and it is kept.** The others did not, and this section states what each one actually does rather than repeating what it was hoped to do — because the alternative is a formula defended in prose against a measurement in its own repository.

What holds. **Inbound, cross-hub, and net of every commons, treasury and hub-controlled disbursement** closes shape (i) **outright**, and that is measured, not argued: the commons scenario counts **0%**, nets **–8,664 gCP** — a loss, the fee with nothing to show for it — and clears **19 of 19** gates. The limb that does the work is the exclusion added in v5.15, and the cross-hub form of the loop is where that shows: a treasury paying contributors in **another** hub counts **60%** and returns **1.88× on fee** under §6.3's pre-v5.15 prose, and counts **0%** for a net loss of 65,495 gCP under the ratified rule. That limb bought something real, it is not withdrawn, and the same exclusion is what makes the payer's roll below well-defined at all — every counting payer being a person, and every person having exactly one geographic home hub (Ch. 5 §5.9, Art. V §5.9).

What does not hold, and the arithmetic of why. **The 15% truncation bounds a ratio and never bounded an amount.** `Gross_i` is the hub's own whole inbound, honest legs included, so every manufactured unit raises the ceiling meant to bound it: a **reciprocal pair** — the shape a per-counterparty ceiling should be hardest on — counts every manufactured unit in full up to **17.6% of honest gross**, below which line the truncation is not loose but **inert**; and at **seven** manufactured counterparties, which is the ring of **eight** this section named as its own bound, it stops binding altogether. Measured under the ratified rule: the pair counts 15% and nets **+20,868,488 gCP** at **2,410×**

on fee, the ring counts **100%** and nets **+11,044,217 gCP** at **365×**, each clearing **18 of 19** gates and failing the one gate that reads on this term, while **not one** of the eighteen pre-existing gates moves under any shape — no detector in Chapter 15, Chapter 16 or Chapter 18 fires, exactly as this section predicted in words and now knows by measurement. **The intra-ancestry limb bounds shape (ii) rather than closing it:** a three-part pass-through retains **7.5%** and still nets **+570,261 gCP a year** at §23.5 year 1, repaying three formation stakes in **eighteen days**. And A.12's sub-additivity invariant is satisfied **by** the mechanism being exploited — $E(A) + E(B) \leq E(A \cup B)$ forbids gaining by reporting counterparties in pieces and is silent on gaining by **acquiring more of them**; three equal counterparties give $E = 1.35v$ and a fourth bringing v adds $1.05v$, so **recruiting an accomplice is worth more than the volume the accomplice brings**.

And no definition of `Volume_i` closes what the truncation leaves open — which is a result, not a failure of imagination. Twenty-one candidate definitions were executed against seven shapes at §23.5 years 1, 3 and 10 and against five honest hubs, and **none of them makes manufactured volume unprofitable**. The counted amount they admit differs by **four orders of magnitude** — 4,292,296,704 $\text{\textcircled{D}}$ down to 887,216 $\text{\textcircled{D}}$ on one rationally sized ring of eight — while the return on fee moves **2.45×** → **5.47×**, which is to say it does not fall below 1.00 at all. The reason is a property of ceilings rather than of any particular ceiling: **a ceiling is inert below itself**. While $\text{Total_Volume} < 100 \times \text{Annual_Release}$ the marginal manufactured unit earns $100 \times \text{Annual_Release} \div \text{Total_Volume}$ per unit of fee under **every** rule tested, so a rational attacker simply runs a smaller attack. **A definition bounds the amount that can be taken. Only the weight and the fee change the sign, and neither of them is a definition** — the open item below states both, with their break-even values, rather than leaving the reader who has been shown twenty-one definitions to work out that the deciding quantities were not among them. Three of the candidates make the problem **measurably worse**, which is worth stating because the direction is not visible from the closing arithmetic: bilateral netting, the net-inflow bound and Ch. 15 §15.2's symmetry test lifted to hub scale each collapse the **honest** base — to 0.05 and to 0.00 of gross — and a smaller honest base multiplies whatever survives, so the symmetry candidate returns **34.5×** **on fee** against the rotational ring where the ratified rule returns 4.4×

What this section therefore claims, which is less than it claimed in v5.15. **`Volume_i` is bounded. The activity term is not defended.** The bound is real, it is large, and it is adopted in §6.3 in the one place a bound can be anchored to something the party with the incentive does not control: **every leg is admitted only up to the payer's own roll-backed capacity, $2,000 \text{\textcircled{D}} \times \text{Members}_k$, pro-rated across everyone that payer pays**. Against the attacker this section actually describes — eight to forty hubs founded at Art. XVI's five-hundred-member minimum for the purpose — it moves the stake payback from **0.01 years** to **6.8** at §23.5 year 1, from **0.01** to **17.1** at year 3, and from **0.11** to **134.6** at year 10; the ring of eight's take falls from **10,465,062 gCP a year** to **11,837** — both closed-form figures on the Chapter 23 §23.5 projection, and not the agent-based suite's **+11,044,217** quoted above, which is a different model of a different federation, and which is why Chapter 23 §23.7 certifies the shape of these numbers and not their size; and wherever the take is large enough for the ceiling to bind it is cut by between **115×** and **1,838×**, on all seven shapes including the four written to beat it. **Where a rationally sized attack already sits below the ceiling it changes nothing at all** — the reciprocal pair and the pass-through at year 3 read identically under both rules, at 246 and 61 gCP a year against paybacks of 81 and 492 years — and that is not an exception to the finding but the same finding stated

from the other side: a ceiling is inert below itself. It costs §6.3's own worked honest hub — the nine-person translators' collective across forty client hubs, the one hub in the document whose **entire** allocation is this term — **exactly nothing**, at every year and every size measured. It leaves the honest base and `Total_Volume` untouched at 1.0000, which three of the candidates do not. **And it is a mitigation, not a fix, and must never be cited as one.**

The three places the bound does not reach, measured and published here rather than found later. **First, a cartel of ESTABLISHED hubs is barely touched.** The cap is $2,000 \text{ } \tilde{\text{D}} \times \text{Members_k}$, so a hundred-thousand-member hub carries 200 M $\tilde{\text{D}}$ of unused capacity — about six times a median hub's whole cross-hub volume at §23.5 year 3 — and there is nothing there for the cap to bind. Measured, with the attacking hubs given a median hub's roll and a median hub's honest trade: a **reciprocal pair of median-roll hubs is reduced by nothing at all** at years 3 and 10, the two rows reading identically at 46,749 and 581 gCP; a ring of eight established hubs is reduced by 5× to 15× rather than by three orders of magnitude, and still repays its stakes in months. **This bound prices the attacker who has to build the hubs and barely touches the one who already has them.** **Second, a constant cannot track this Protocol's own projection, and the index that can is capturable.** On §23.5's arithmetic members grow **400×** across the decade while volume grows **9×**, so honest cross-hub volume per member falls from about **900 $\tilde{\text{D}}$** at year 1 to about **20 $\tilde{\text{D}}$** at year 10: a figure that leaves honest room at year 1 leaves a hundred times too much at year 10. Indexing the payer's capacity to the federation's own median per-member outflow follows the projection exactly and is beaten wherever the attacking set is large enough to **be** the median — which is the whole of the early regime this section publishes a weekly reading for: §23.5's year 1 is **fourteen hubs and the ring is eight of them**, and at year 3 a forty-hub clique is forty of eighty. Measured, the indexed rows in those cases are **identical to the ratified rule**. A ceiling denominated on a federation statistic is captured by a majority; a ceiling denominated on a constant cannot follow the projection; and this amendment has no third statistic to offer. **Third, pro-rata hands an established hub a denial.** One budget across everyone a payer pays means that an accomplice which spends its whole roll budget on the ring thereby **denies** that budget to the honest hubs it really buys from — and no gate can tell *the attacker gained from everyone else lost*, those being the same event under any pro-rata rule. Measured in the agent-based pair run at **+5,883,390 gCP** and a **43% cut to honest hubs' counted volume**, at every cap value. The **per-pair** form removes the denial and loses a factor of the attacker's counterparty count — a ring of eight keeps 21.4% under it against 0.4% under pro-rata, and a forty-hub clique keeps **100%** — so **pro-rata is adopted, per-pair is recorded and not adopted, and neither of them is free.**

Coordinate with the counterparty-diversity rules for work orders in §6.7 and Ch. 15 §15.4 rather than duplicating them; where the two differ in wording, Ch. 15 §15.4's definition of a countable counterparty governs — the *counterparty definition* and nothing else, the fraction and the window being reserved by the open item below rather than settled here — and this section's truncation, exclusions and payer's-roll limb apply on top of it.

And one axis of that identity is left open, recorded here rather than papered over. `Volume_i` $\equiv$ `E52,i` was made literal above on the inbound limb and on the treasury limb. It is **not** literal on truncation, and the divergence is arithmetical rather than verbal. Ch. 15 §15.4 bounds settled work-order value at **1/3 to any one counterparty over a trailing 13 weeks** and names `Volume_i` among the quantities it bounds; Ch. 6 §6.3 truncates at **15% of gross over 52 weeks** and does not name Ch. 15 §15.4's

diversity bound at all. So for a hub whose inbound value is substantially work orders the two quantities can still differ — `Volume_i` carries both bounds, `E52,i` carries only §6.3's — and the `≡` is exact only where work orders are not the binding share. **The v5.15 statement of that divergence was wrong on the fraction, and is corrected here (v5.16).** It reads as though Ch. 15 §15.4's 1/3 were the **tighter** of the two rules and the exposure therefore a matter of `Volume_i` being narrowed below `E52,i` by it. **One third is more than 15%.** Applied to the same base, §6.3's ceiling binds first and Ch. 15 §15.4's fraction adds nothing on top of it — so **the fraction axis does not divide the two quantities at all**, and what divides them is the **window** — with one drift recorded here rather than found later: Chapter 6 §6.3's payer's-roll limb is carried into this section's `Volume_i` and into A.12, so those three agree, while Chapter 15 §15.4 names `Volume_i` among the quantities it bounds and states no such limb in its own text. It defers to `E52`, on which the limb operates, so the readings should agree; that they agree by deference rather than by statement is the same shape of drift v5.15 had to repair between §6.3's prose and this section's, and it is written down before it is repeated, which is the second axis this paragraph states below and which remains open in both directions. And the correction matters most where the item would be closed: **substituting Ch. 15 §15.4's fraction for the ratified truncation is a LOOSENING**, measured at a reciprocal pair's retained credit rising from **15.1% to 33.5%** and the sink-farm shape's from 60.1% to **100%**. Whichever way the item is eventually settled, it must not be settled on the belief that adopting the 1/3 for both quantities is a tightening; on the measured arithmetic it more than doubles what the shape this section is most worried about keeps. **Reconciling two truncation rules with different fractions and different windows is a design decision, not a drafting repair.** The two also run on different windows, which is a second axis of the same divergence and not a restatement of the first: §6.3 annualises over a trailing 52 weeks, with a 13-week fallback on a short record, while Ch. 15 §15.4's diversity bound runs on a trailing 13. Two quantities declared identical but measured over different windows part company for any hub whose trade is not stationary, which is every young hub — the early regime this section publishes a weekly reading for. Each fraction was derived from its own section's reasoning — Ch. 15 §15.4's 1/3 from Chapter 10 §10.2's *three unique buyers* row, §6.3's 15% from Art. X §10.1's single-counterparty ceiling — and picking one to govern the other discards a derivation this document published. It is recorded on the model of Art. V §5.6.5 and §23.7: named, not closed. **What would close it** is a ruling that either states one bound for both quantities and re-derives it from scratch, or holds that the two are deliberately different measures for deliberately different purposes and strikes the `≡` accordingly — and, either way, a re-run of the affected scenarios on §23.7's own terms.

And there is an arithmetic condition, which is worth more than any of the above because it is checkable weekly. Manufacturing volume is not free: every inter-hub transaction pays the 0.1% fee that §7.7 retires to the unissued pool. Manufactured volume `V` costs at least $0.001 \times V$ and earns $0.10 \times \text{Annual_Release} \times (V / \text{Total_Volume})$, so it pays if and only if

$$\text{Total_Volume} < 100 \times \text{Annual_Release}$$

— and **V cancels at the margin, which is less than v5.15 claimed for it and is corrected here (v5.16).** The threshold is a property of the **marginal** manufactured unit, so it is genuinely the same threshold for everyone and genuinely readable off one published ratio; what does not follow is that the attack is "profitable or worthless for everyone at once" **at any size**. The attacker's own volume enters

the denominator it is dividing by, so the exact return on an attack of size V against a manufactured leg v is $100 \times \text{Annual_Release} \times (\text{Total_Volume} - v) \div (\text{Total_Volume} \times (\text{Total_Volume} + V))$ — measured at §23.5 year 3 as a fall from **6.46× to 3.19×** as V goes from 0.1% of Total_Volume to 100% of it. **The attack self-dilutes; it does not become worthless**, and a reader must not take the cancellation as a bound on scale. It is a statement about the sign, and the sign does not change. At maturity it is worthless with room to spare: §7.6's own figures put inter-hub volume near 27 B a year against an annual release two to three orders of magnitude below that. **Early it is not worthless, and this Protocol will not pretend otherwise** — at a hundred hubs the release per hub is large and the federation's trade is thin, the inequality holds the wrong way round, and the fee does not defend the term. In that regime the defence is the eight-hub truncation and the cost of eight sovereign hubs, which is deterrence by cost again. $100 \times \text{Annual_Release} \div \text{Total_Volume}$ is therefore **published weekly with the health metrics** (§4.5, §10.4), above 1.00 meaning the network is in the regime where manufactured volume pays, so that the condition is a reading anyone can take rather than an assumption someone made.

What the Protocol does not claim here — and the re-run that settled it has now been carried out. v5.15 wrote that the activity term was “*now defended, not proven defended*”, and named the run that would decide: a suite carrying the three shapes above, reported whether or not it was green. **It has been run and it is not green.** The suite is thirty-eight scenarios; the hub-commons shape clears 19 of 19 gates, and the reciprocal pair and the ring of eight each clear 18 of 19 and fail the gate that reads on this term, at **+20,868,488** and **+11,044,217 gCP** a year respectively (Ch. 23 §23.7). None of the eighteen pre-existing gates moves under any shape. A candidate study then executed twenty-one definitions of Volume_i against seven shapes and five honest hubs, and reported that **no definition defends the term** in the launch regime. So the order this section set for itself — defence, then measurement, then ratification — has produced the answer it was built to be able to produce, and the answer is *no*. **What this Protocol claims after the measurement is that the term is bounded and that its exposure is published**, in the manner of Art. V §5.6.5's ruling on the stipend: the residual is the standing expectation, published rather than tuned away. §5.6's practice that a derivation is checked by execution has done here exactly what it exists to do, which is to contradict the drafter. **The re-weighting held below is still the change that would make this term dominant, and it is still held** — on stronger grounds than before the run, for the reasons recorded in the blockquote itself.

Open item — the 0.10 weight and the 0.1% fee (v5.16; recorded, not closed). Part A of the candidate study establishes that no definition of Volume_i changes the **sign** of the payoff in the launch regime. Two quantities do, and this section publishes both rather than leaving a reader who has been shown twenty-one definitions to discover that the deciding ones were not among them. Manufactured volume pays exactly while

$$w \times \text{Annual_Release} \div \text{Total_Volume} > \text{fee}$$

so the break-even weight is $\text{fee} \times \text{Total_Volume} \div \text{Annual_Release}$ and the break-even fee is $w \times \text{indicator} \div 100$, both computable weekly from the indicator this section already publishes:

§23.5 year	indicator $100 \times AR \div TV$	break-even weight	break-even fee
1	20.00	0.005	2.00%
3	6.46	0.0155	0.65%
10	1.74	0.0576	0.17%

Neither lever is free, and this section will not present either as an available fix. To be safe on the weight alone through year 10 the activity share would have to fall to **0.005**, a twentieth of the ratified 0.10 — which for an operational hub, whose whole allocation `Activity_i` then was, would have been a **95% cut to everything it received** — and the class the term existed to fund was the class that would have paid for its safety. To be safe on the fee alone at year 1 the inter-hub fee would have to be **2.0%**, twenty times what §7.7 sets, charged on **exactly the cross-hub trade this allocation exists to bootstrap** — a fee that defends the activity term by suppressing the activity. **What is therefore open is the 0.10 weight itself**, which this document has carried since v5.6 as a settled coefficient and which is now a **measured question**: it is the weight at which, on this Protocol's own adoption projection, manufactured volume pays in every projected year to year 15.8. **What would close it** is a ruling on the model of Art. V §5.6.5 — which answered its question *no* and published the consequence rather than tuning it away — either (a) re-deriving the three coefficients from a stated principle, with the operational hub's dependence on this one term priced in the same instrument, or (b) holding that the exposure is the intended steady state at 0.10 and publishing the indicator table above as the standing expectation; and, either way, a re-run of the affected scenarios on Ch. 23 §23.7's own terms, green or not. **Until that ruling, the 0.10 weight stands as ratified and stands as measured-questionable, and neither half of that sentence may be cited without the other.** It sits alongside the held re-weighting below and does not merge with it: the hold is about making this term **dominant**, and this item is about the weight it carries **now**.

The ruling that open item asked for, and it strikes the term (v5.17). The item above named what would close it — a ruling on the model of Art. V §5.6.5, *"either (a) re-deriving the three coefficients from a stated principle, with the operational hub's dependence on this one term priced in the same instrument, or (b) holding that the exposure is the intended steady state at 0.10 and publishing the indicator table above as the standing expectation; and, either way, a re-run of the affected scenarios on Ch. 23 §23.7's own terms, green or not."* **The sweep has been run. It is not green at any positive weight and at no fee this Protocol could charge, and this instrument takes course (a): `Activity_i` is struck from the formula above and its 0.10 is added to the population term.** The sentence *"the 0.10 weight stands as ratified and stands as measured-questionable"* is superseded here, and so is every sentence in the paragraphs above that speaks of this section as still carrying an activity share — they are kept as the record of what was measured and are no longer the rule.

The principle, which is not a new one. Ch. 7 §7.1 has already ruled that this Protocol does not index a share of a fixed supply to a quantity the beneficiary can fabricate cheaply. It refused elastic gCP in those words — *indexing supply to headcount monetises fake members*, and it does so *at the one layer where the Protocol cannot verify directly* — and every term this formula keeps is a term that survives that ruling. **A roll entry costs the hub that claims it 52,000 £ a year of its own grain and kilowatt-**

hours, weekly, under mandatory acceptance (§5.1, §5.6), which is the defence the population term has always had and the reason the floor is capped on the same quantity. **A unit of counted volume costs the 0.1% inter-hub fee** (§7.7). The two are not the same species of input and this formula should never have weighted them as though they were. The ruling §7.1 made on the headcount axis is applied here to the volume axis, and it retires the term rather than re-tuning it.

What was measured, lever by lever, and what each one did. The sweep is `simulations/hpp_v5/activity_weight_sweep.py` and `simulations/analyze_v517_activity_weight.py`: the activity weight over {0, 0.005, 0.01, 0.025, 0.05, 0.10}, the inter-hub fee over {0.1%, 0.5%, 1.0%, 2.0%}, against six attack shapes and three honest hubs at §23.5 years 1, 3 and 10, with `Volume_i` held at §6.3's v5.16 definition throughout — because v5.16 established that the definition does not change the sign, so a sweep that moved the definition and the coefficient together could attribute neither.

- **The weight lever does not close the attack, because the weight that would close it is not knowable.** The break-even weight is $\text{fee} \times \text{Total_Volume} \div \text{Annual_Release}$, so it scales with `Total_Volume` — and Ch. 23 §23.7 records that this Protocol's own reference federation runs a cross-hub channel *"about 0.3% of its own realised sales where Ch. 6 §6.3 and §23.5 together imply about 16% — a factor of fifty"*, and states in the same breath that the engine *"certifies the shape of early cross-hub trade and not its size."* At §7.8's own velocity band the year-1 break-even weight runs **0.00667 at 4× and 0.00333 at 2×**, against the 0.005 the item above published at the 3× midpoint; at the volume scale §23.7 measured it is **0.0001**. Measured rather than derived: a ring of eight founded at Art. XVI's five-hundred-member minimum, under §6.3's payer's roll, at the published break-even weight of **0.005** nets **−518 gCP** at year 1 and **−355** at year 3 on the midpoint reading — and **+44,615 gCP at 34.9× on fee** at year 1 and **+14,473 at 11.8×** at year 3 in the regime §23.7 measured, repaying its eight formation stakes in **1.8 and 5.5 years**. **The weight this section published as its own break-even does not close the attack in the volume regime this Protocol's own suite reports.** No weight does, except zero, and zero is the only row of the sweep that is negative in every shape, every year, every fee and every volume regime.
- **The fee lever fails on both sides at once.** At **2.0%** — twenty times what §7.7 sets, and the figure the item above published as the year-1 break-even — the same ring in that same regime still nets **+892,304 gCP a year at 34.9× on fee**. And the honest federation's own annual fee bill at 2.0% is **10% of the annual release at year 1, 31% at year 3 and 115% at year 10**: past year 10 the lever costs the honest hubs more than the whole release, every year, charged on real trade, to defend a tenth of it. §7.8 also lists *"low inter-hub trade fees (0.1%)"* among the instruments that hold velocity inside its 2–4× target, so raising the fee to defend this term would move the target the term is scored against.
- **v5.16's payer's roll does not reach the attacker who already has the hubs, and the price of that is now stated in gCP rather than in words.** §6.3 said the limb *"prices the attacker who has to build the hubs and barely touches the one who already has them."* Measured: eight hubs carrying a **median hub's roll** at §23.5 year 3 net **+669,628 gCP a year** at 3.50× on fee and repay eight 10,000 gCP stakes in **0.12 years — 259 times what §6.3's own worked honest hub, the nine-person translators' collective, receives in the same year**. The bound is real and it is not a defence, exactly as §6.3 says of itself.

- **And the quantity that decides is not the gCP. It is what the term ends up measuring.** Every manufactured unit raises Total_Volume , so manufacture rests where $w \times \text{Annual_Release} \div \text{Total_Volume} = \text{fee}$, and the manufactured share of Total_Volume at rest is $1 - (\text{break-even weight}) \div w$. At the ratified 0.10 that is **95% at year 1, 85% at year 3 and 42% at year 10** on the midpoint reading, and **99.9% / 99.7% / 98.9%** on §23.7's. **A term whose own input is 85% manufactured is not measuring activity; it is measuring willingness to pay a toll.** The exposure has a bound and the bound is worth stating plainly, because it is the one reassuring number in this whole finding: the attack consumes the pot down to break-even and then stops, it can never exceed $w \times \text{Annual_Release}$, and it mints nothing — §7.7's identity holds across every allocation. **What no bound could fix is that the bound is the term.**

What striking it costs, in the units the hubs that lose are paid in. This is not a free amendment and it will not be presented as one.

- **An operational hub's allocation from this section becomes zero, in every year, permanently.** §6.3's own worked example is the case: a nine-person translators' collective paid 400,000 Ē a year by clients across forty hubs draws **7,996 gCP at §23.5 year 1, 2,585 at year 3 and 695 at year 10** under the ratified weight, and **nothing** under this amendment. Home hubs are geographic (Art. V §5.9), so $\text{Members_i} = 0$, so both surviving terms are zero at every hub of that class. That is the class the Hub Typology Amendment was written to recognise, and this instrument takes its bridge-currency bootstrap away. What it does not take away is named below rather than left to be inferred: §6.2's mint on its real sales, §6.8's commons share θ of that mint, §30.3's own fees, decay and overflow, and §7.6's ordinary route — **a hub obtains gCP by trading, and this section has always said that the allocation is a bootstrap and not an income:** *"gCP is not a hub's income... the allocation exists to bootstrap inter-hub trading capacity; thereafter hubs obtain gCP by trading."* The bootstrap for this class is Art. XVI §16.9's, and §16.9 is amended in this instrument to say what it now is.
- **The release becomes wholly roll-indexed, and that is the cost this amendment is least comfortable with.** With Activity_i struck, Floor_Share_i is capped on Members_i and Population_i scales on Members_i , so **100% of every annual release now turns on the rolls hubs attest about themselves** — where 90% did before. A.12 records that this is *"an assumption, not an invariant... the engine checks uniqueness across rolls; it cannot check the truth OF a roll, because a hub attests its own members and the Federation cannot audit that roster the way a hub can."* The defence is the one this section already relies on and does not weaken here — a fabricated member is a permanent weekly claim on that hub's own real goods under mandatory acceptance — and the trade this amendment makes is **exact and stated**: it moves a tenth of the release off an input that costs a tenth of a per-cent to fabricate and onto one that costs 52,000 Ē a year to fabricate. That is the direction §7.1's ruling points, and it is still a concentration onto one input. **It is published here rather than discovered by a reader adding the two coefficients.**
- **The destination is the population term and not the floor, and the reason is measured.** Sending the freed 0.10 to the floor raises the equal slice $0.40 \times \text{Annual_Release} \div \text{Num_Hubs}$, which is the other side of the per-capita cap's min — it therefore widens the very channel the rejected re-weighting below runs in, moving the point at which that channel stops from $\text{Total_Volume} = 40 \times \text{Annual_Release}$ to $50 \times$, or §23.5 year 7.3 to year 8.9. The population

term is also the destination this section already names for a share that cannot be placed, and in the early regime — where the per-capita cap binds at every hub — the three candidate destinations are arithmetically identical anyway, because an uncapped floor share rolls into population regardless. Measured at year 1: a young hub gains **+10,273 gCP** and a mid-sized city **+169,849** under all three, and they diverge only past the crossover. **They are not identical past it, and the divergence runs against trade-intensive hubs:** at year 10 a city whose volume per member is above the median reads **−4,799 gCP** against the ratified formula even after the population term grows, because what it loses on volume exceeds what it gains on roll. That is the amendment working as intended and it is a loss to a hub that did nothing wrong.

- **And the Protocol loses the only term that ever rewarded using the bridge for its purpose.**

§7.8 listed *"hub allocations partly based on activity"* as one of four instruments that hold gCP velocity in its 2–4× band; this instrument strikes it from that list there, and three remain. This section will not claim that the remaining three are sufficient, because it has not measured that. It is recorded as an open residual on the model of Art. V §5.6.5 and §23.7 — **named, not closed** — and what would close it is a velocity re-run under the two-term formula, reported green or not.

What this section claims after the strike, which is a smaller thing than a defence. It does not claim that manufactured volume has been defeated. It claims that **this formula no longer pays for it** — that `Annual_Hub_gCP_i` is now a function of `Members_i` and of nothing else a hub can move by transacting with itself, so no shape in the list above, and no shape not in it, draws a larger share of a release by manufacturing a transaction. Manufactured volume can still inflate a hub's own §6.3 supply cap and its §10.2 tier progress, and Ch. 6 §6.3, Ch. 15 §15.2 and Ch. 15 §15.4 remain the instruments that bound those; nothing in this amendment relieves any of them. **What is closed here is one channel, precisely: the allocation channel.** The measured record above is kept in place rather than deleted, because a protocol that removes the evidence when it removes the defect leaves the next drafter to rediscover both.

*(Two defects corrected in passing: `Volume_i` and `Total_Volume` have been used in this formula and in A.12 since v5.6 and defined in neither; and `Members_i` has never been defined as to multi-hub membership, though §3.3 encourages it and Ch. 5 §5.9 defines only the UBD denominator as home-hub-based. Both are defined above. On the second, Art. XI §11.7 is the guide and it is doing exactly the work it was written for — **no one's Federation-level influence is multiplied by the number of hubs they belong to**, and a share of a fixed gCP release is Federation-level influence in its most literal form. Counting a member at their home hub also puts the reward on the same hub as the UBD cost that the paragraph above relies on to make the population term safe; counted any other way, that paragraph is false, because a hub could draw population share for members whose grain another hub is committed to.)*

Per-type allocation weighting was held (v5.15) and is REFUSED (v5.17) — read to the foot of this blockquote before citing any sentence in it. The Hub Typology Amendment was drafted with a fourth change to this section, and the greater part of it is **held** — the one word this document uses for a change that was drafted, is not ratified, and is not in the text above: a re-weighting that would have scoped each term by hub type, the population term to zero for hubs that mint no dignity income and the floor cap re-denominated from $Members_i \times 20 \text{ gCP}$ to $E_{52,i} \div 100 \text{ gCP}$ for them. **What is held, and why.** The re-weighting makes $Activity_i$ — the one term of the three that had no defence written for it until the paragraphs above — the primary funding channel for a whole class of hub, and the arithmetic condition published above says manufactured volume pays whenever $Total_Volume < 100 \times Annual_Release$, which is false at maturity and **true in the early regime this Protocol will actually launch into**. A defence that is argued is not a defence that is measured. **What would close it.** A re-run of the 35-scenario suite (§23.7, Appendix G) carrying a manufactured-volume scenario in all three of the shapes named above — a hub commons paying its own members, a reciprocal pair, and a ring of eight — reported whether or not it is green, on §23.7's own terms. Until that run reports, activity-dominant allocation is held, and a held change must not be treated as ratified at any threshold or for any purpose.

Two parts of that drafting are severed and ratified here, and the severance is argued rather than assumed. The first is the **exclusion of Company hubs** from Num_Hubs , $Total_Members$ and $Total_Volume$, made a term of the formula above in v5.15 and surviving v5.17 in the two aggregates the formula still reads — a Company hub enters neither Num_Hubs nor $Total_Members$, and the $Total_Volume$ limb is spent with the term that read it, though the exclusion is left standing there rather than unpicked, $Total_Volume$ still being computed for Ch. 6 §6.3. It is severable on this clause's own reasoning. The hold exists because the re-weighting would make $Activity_i$ the primary funding channel for a class of hub; this exclusion makes it the funding channel for **no** class of hub, and so shrinks the manufactured-volume surface the pending re-run exists to measure rather than enlarging it. **And it moves one thing the other way, which is stated here rather than found in the re-run.** Removing Company-hub volume from $Total_Volume$ lowers that denominator, and the indicator published in the block above is $100 \times Annual_Release \div Total_Volume$ — so the exclusion **raises** it, and lengthens the stretch in which $Total_Volume < 100 \times Annual_Release$ and manufacturing volume pays for **the hubs that remain inside**. Fewer hubs can attempt the attack; the attack stays worth attempting for longer. Both directions are real and neither cancels the other: the severance narrows who, and widens when. It still stands, because a rule that says none against an arithmetic that pays something is the contradiction named below, and because the early regime was already the regime this section publishes a weekly reading for — but the re-run inherits a slightly longer window than it would have without this severance, and it is told so here. It touches no other type's weighting — every coefficient stands, the floor cap keeps its denomination, the roll-over rule is unmoved, and the only thing that changes is the set the three aggregates are taken over. Its effect on an honest hub was **upward or neutral in the two clean regimes and not signed in the third through v5.16. v5.17 changes all three readings**, because the term the gain ran through is gone: the effect is now **nil where the cap binds everywhere, upward on the floor alone past the crossover, and negative in the mixed regime** — worked below rather than left to be derived.

This section states all three rather than the one that flatters the severance. The floor is where the regime decides, because Floor_Share_i is the $\min$ of $0.40 \times \text{Annual_Release} \div \text{Num_Hubs}$ and $\text{Members}_i \times 20 \text{ gCP}$, and a smaller Num_Hubs raises only the first of those two.

Where the per-capita cap binds at every hub — the early regime, and the regime the hold above concerns — no honest hub's floor share moves at all: the $\min$ is taken at the cap, and the cap has not changed. The undistributed floor rolling into the population term is unchanged for the same reason, a Company hub having contributed $\min(\dots, 0) = 0$ to the distributed floor in any case. **Through v5.16 the whole gain was the activity term. v5.17 struck it, so in this regime the exclusion's effect on an honest hub is now exactly nil** — every aggregate the formula still reads is unmoved, and the severance neither costs nor pays anyone anything here.

Where the cap binds nowhere — past the crossover — every hub's floor share rises on the smaller Num_Hubs , the roll-over remainder is zero before and after, and the gain is **the floor term alone**, where through v5.16 it was both. Total_Members does not move in either regime, a Company hub having $\text{Members}_i = 0$. **And the second regime is not generally reachable, which is stated here because it makes the edge this section publishes larger rather than smaller — and because it does not qualify the two-regime hedge above so much as retire it, the regime in which the edge vanishes being unreachable once any operational hub stands.** Only Company hubs were severed out of Num_Hubs ; an operational hub stays inside it and, home hubs being geographic (Art. V §5.9), carries $\text{Members}_i = 0$ — so its Floor_Share_i is $\min(\dots, 0) = 0$ and the cap binds there by construction. **That establishes the cap binds somewhere. It establishes nothing about any hub being uncapped**, which a mixed regime equally requires and which needs a hub past the crossover rather than a hub at zero — and v5.15 inferred both from the one fact. **Corrected here:** from the recognition of the first operational hub the binds-nowhere regime is unreachable, and whether the network sits in the binds-everywhere regime or the mixed one turns on the crossover, computable weekly from figures §10.4 already publishes. The edge this section publishes is the ordinary case **wherever any hub stands above the crossover**, and vanishes where none does. Of the two clean regimes the first is a state the network can actually occupy and the second is not — which is why v5.17's destination bullet below may rest on the early regime without contradicting this block.

Where the cap binds at some hubs and not at others, a small hub can come out behind, and this Protocol will not round that away. The equal split rises for the hubs above the crossover — and it rises **out of the roll-over remainder**, so the population pool shrinks by exactly what those hubs gain, at every hub, including the ones whose own floor did not move. A capped hub therefore reads floor unchanged and population slightly **down**. Through v5.16 it also read activity up, and the net was not signed by arithmetic alone. **v5.17 struck the activity term, so the net is now signed, and it is negative.** Worked, so that no one has to take the characterisation on trust: at $\text{Annual_Release} = 1,000$ over two 1,000-member hubs, two 2-member hubs and one Company hub, excluding the Company hub moves a 2-member hub's floor-plus-population from **40.6587 to 40.6188 gCP** while each 1,000-member hub gains the same 0.0399 — published to four places because at two the loss and the gain both print as 0.04, and a hub cannot recompute a transfer it cannot see. Through v5.16 the small hub recovered that difference only from the activity term, and only to the extent the excluded Company hub had volume to remove — which for a Company hub that traded little was not at all. **Since v5.17 there**

is no recovery route whatever: the 0.0399 is the whole of it, and it is permanent. The exclusion is ratified anyway, on the contradiction argued below rather than on a claim that it costs no one anything: it is a change with a mildly redistributive edge running from the smallest hubs to the largest, in the mixed regime only, and that is published here rather than discovered by a hub reading its own statement. And it was **already binding as a rule**: §3.3 provides that a Company hub draws no protocol allocation of any size, and §3.3.1 rests on that provision to bound the captive — it draws no protocol allocation, so the commons never funds it. A rule that says none against an arithmetic that pays something is not a hold; it is a contradiction, and this Protocol does not ship one to wait for a simulation. The second is the **boundary condition on a zero denominator**, stated in the block above and extended there to $Total_Volume = 0$ — an extension **spent with the term that read it**, A.12 now recording one denominator and not two (v5.17) — which the drafting had not reached: the arithmetic that makes both denominators reachably zero is ratified, so the arithmetic that says what happens when they are must be ratified with it. Neither severance moves a coefficient, and neither is an instalment of the re-weighting.

And one consequence of the definitions that did land, stated rather than left to be found.

With $Members_i$ counted at the home hub and Art. V §5.9 restricting home hubs to geographic hubs, an **operational** hub — nobody's home hub, and inside the formula — has $Members_i = 0$, so its floor share and its population share are both zero and its whole allocation was $Activity_i$. That concentration is the state the held re-weighting was drafted to make deliberate, to bound with a value-denominated floor cap, and to defend. It arrived here as an arithmetic consequence instead, and it was published as such. **v5.17 removed the term the concentration was concentrated in**, so the sentence now reads to its end: an operational hub's whole allocation is nothing, and the refusal above is a refusal to fix that by re-opening the channel rather than a claim that it does not need fixing. **A second question the same drafting opened, and settled here:** $Hub_Population$ in Ch. 6 §6.3 counts on this section's basis — the home-hub roll — because the population term is defended by dignity-income liability and a non-home member carries none, so any other reading lets a hub buy ceiling with members who cost it nothing (Ch. 5 §5.9).

The run this hold named has reported, it is not green, and the hold does not lapse on it (v5.16). The condition written above is "a re-run of the 35-scenario suite... reported whether or not it is green", and a literal reading of "[u]ntil that run reports" would have this hold expire on the arrival of a report that **fails** — which is the opposite of what a hold conditioned on measurement can mean, and is the kind of reading Art. IX §9.10 requires to be closed in the text rather than argued later. It is closed here: **the run has reported, two of its three shapes fail, and activity-dominant allocation remains held**. What the run found makes the hold stronger rather than weaker. The re-weighting's own arithmetic was measured against the ratified form on both failing shapes, and it opens a **second channel that returns exactly 10.00 gCP per gCP of fee for every unit of counted volume** — because the floor cap it re-denominates to $E_{52,i} \div 100$ gCP buys $V \div 100$ of cap for $0.001 \times V$ of fee. Measured at \$23.5 year 3: the reciprocal pair goes from +57,429 to **+253,915 gCP** and from 1.88× to 4.88× on fee, and the ring of eight from +1,123,708 to **+3,743,518 gCP** and from 5.29× to **15.29×**. The two rows differ only by how much each shape gets counted — the ring counts 100% and takes the whole +10.00, the pair counts 30% and takes +3.00 — which is the same 10.00 in both, read through the retention the ratified rule already grants. **The re-denomination is not an arithmetic error**: §6.3 puts $Hub_Population$

$\times 1000$ at two thousand $\bar{E}$ of realised sales per member, and $2,000 \div 100$ is the same 20 gCP the ratified cap already grants. What changes is **who controls the input** — 20 gCP of cap costs either one member, at 52,000 $\bar{E}$ a year of that hub's own grain under mandatory acceptance, or 2,000 $\bar{E}$ of manufactured inbound at **2 $\bar{E}$ of fee**, which is **26,000 $\times$ cheaper**. And the two channels do not decay alike: the activity multiple carries *Total_Volume* and falls to 0.07 by year 76, while **the floor channel has no *Total_Volume* term at all** and stops only when the equal slice binds, at $\text{Total_Volume} = 40 \times \text{Annual_Release}$ — §23.5's year 7.3. It draws on the **0.40 floor pot**, four times the activity pot, out of the roll-over that would otherwise reach the population term — which is to say **out of the geographic hubs that pay dignity income**. A held change must not be treated as ratified at any threshold or for any purpose, and after this measurement that includes being treated as merely awaiting a re-run: **the re-run happened, and what would close this hold is now a new question and not the old one**.

Rejected, not held, and the rejection is measured (v5.17). The re-weighting is **refused** and this hold is discharged by refusal rather than by ratification. Two findings decide it and both are executed rather than argued. **First, the weight lever cannot reach it.** The held floor cap is $E_{52,i} \div 100$ gCP and $E_{52,i}$ is a volume, not an allocation — *Activity_i* is nowhere in that channel's arithmetic. Swept across every weight in $\{0, 0.005, 0.01, 0.025, 0.05, 0.10\}$ on the same pricer that produced the figures above, the held rule's advantage over the ratified one is **exactly +3.00 $\times$ on fee for a reciprocal pair and exactly +10.00 $\times$ for a ring of eight, at every weight, unchanged to four decimal places — including at zero**. Striking the activity term does not close this channel; it leaves it precisely where it was, which is why this refusal is a separate act from the strike above and not a consequence of it. **Second, §6.3's payer's roll does not close it either.** The limb bounds $E_{52,i}$ and therefore bounds this channel by the same retention factor, and the residual still pays: measured at §23.5 years 3 and 10, at both a founded-for-purpose roll and a median hub's roll, the held rule returns between **3.18 $\times$ and 16.46 $\times$ on fee in every cell** — above 1.00 in all of them, at every weight tested, zero included. **What the re-weighting is worth to the hub it was drafted for is a flat +4,000 gCP a year** at §6.3's worked collective, at every year and every weight, its 400,000 $\bar{E}$ of counted inbound buying exactly 4,000 gCP of cap and the equal slice never binding on it. Against that, an attacker buys the same cap at 2 $\bar{E}$ of fee per 20 gCP. **A channel that pays a manufacturer more than ten times what it costs him, and pays the honest hub it was written for four thousand gCP, is not a funding mechanism with an abuse case; it is an abuse case with a funding mechanism attached.** Issue #128 is answered here, in the negative, on numbers rather than on the argument the hold was originally placed on.

Per-hub allocation declines as the network grows, and that is correct. At 50,000 hubs the floor is a few hundred gCP a year. gCP is not a hub's income — a hub's economy runs on its own UBD and CP. The allocation exists to *bootstrap inter-hub trading capacity*; thereafter hubs obtain gCP by trading (§7.6). A protocol whose bridge allocation grew forever with membership would be printing a revenue stream, which is precisely what §4.2 forbids.

And this formula pays an operational hub nothing at all — not on its first day, which is what v5.16 said, but on every day, which is what v5.17 makes true. The consequence recorded at the foot of the blockquote above — an operational hub's "*whole allocation is *Activity_i**" — carried a

boundary that block did not state: at the first day of such a hub `Volume_i` is zero, so `Activity_i` was zero, so the allocation was zero until the trade the allocation was supposed to help start had already started. **With `Activity_i` struck there is no later.** Both surviving terms read `Members_i`, home hubs are geographic (Art. V §5.9), and an operational hub's `Members_i` is zero, so `Floor_Share_i = min( ... , 0 ) = 0` and `Population_i = 0` in every year the Protocol runs. That is Art. XVI §16.1's circularity in a second place and it no longer closes with time, so it is answered as §16.9 now answers it — **a grant from the Federation Reserve rather than an advance against an allocation that will not arrive**, on the ceiling, cadence, milestones and surety §16.9 already carried, and with the Reserve carrying the whole of it. **No coefficient of the formula above is changed to accommodate that**, and none should be: the strike is what created the consequence and a second instrument written to soften it would re-open the channel the strike closed. This paragraph stands unqualified for geographic hubs, whose floor and population terms pay from the first release, and it stands as a plainly stated loss for the class it names.

7.4 The Global Bonding Curve

$$\text{gCP_Price } (\bar{\mathfrak{D}}) = 1.00 \times (\text{Circulating} / 1,000,000,000)^{0.3}$$

$\bar{\mathfrak{D}}$ – the federation dignity unit: the population-weighted average of hubs' local $\mathfrak{D}$ (§5.2). All protocol prices are denominated in $\bar{\mathfrak{D}}$; external currency has no unit inside HPP (§5.6).

Properties:

- Exponent 0.3 – flatter than local curves, for global stability
- Provisioning Depth target $\geq 2.0 \times$ per year – the value of real goods and services purchasable with gCP this quarter, annualised, over gCP value in active circulation (§5.6); the target is §7.8's velocity floor because the two are the same species of rate; depth, its raw quarterly numerator and its composition published weekly
- Price Floor: $0.50 \bar{\mathfrak{D}}$ (provisioning-defended; suspendable only by the §5.6 impairment playbook, never by discretion)
- Curve Ceiling: $2.00 \bar{\mathfrak{D}}$ – the curve's own maximum at full circulation; protocol conversion never executes above it

The circuit is closed (§5.6): no fiat pairs exist by constitution, so there is no external price to defend and no governance-adjustable ceiling to capture. Any outside quotation of gCP is unofficial and non-canonical; protocol conversion always executes at curve rate. A discretionary lever on the price of a hard-capped currency would be a capture surface wearing a dial — the closed circuit removes the dial and the room it hung in.

Price Table

Circulating gCP	Price (₵)
100,000,000	0.50
500,000,000	0.81
1,000,000,000	1.00
2,000,000,000	1.23
3,000,000,000	1.39
5,000,000,000	1.62
10,000,000,000	1.995

Correction (v5.8) — three rows of this table disagreed with the formula printed directly above them. At 500 M the table read 0.79 against a curve value of 0.8123; at 3 B it read 1.44 against 1.3904; at 5 B it read 1.71 against 1.6207. The formula is the normative object and the table is only its evaluation, so the table was wrong and is corrected here. The 500 M row matters most in practice: it is the circulating supply every federation scenario runs at, and §23.7 reports the measured price there as **0.81 ₵, constant** — which the corrected row now matches and the old one did not. The final row is stated as **1.995** rather than rounded to 2.00 so that the ceiling and the curve agree exactly: $1.00 \times 10^{0.3} = 1.9953\dots$ is the curve's own maximum at the hard cap, and "2.00 ₵" elsewhere in this document is that number rounded for readability, never a separate or higher limit.

Properties:

- Price grows slowly with adoption.
- Never goes to zero (there is always something real to buy — §5.6).
- Never goes parabolic (exponent < 1).
- Predictable for planning, hub formation, savings.

7.5 Large-conversion penalties

There is no sale of gCP for external money — none exists to price (§5.6). What does exist is **conversion**: gCP into a hub's local CP, at scale, in one window. Large conversions pay progressively worse rates, scaled by size relative to total supply. The point isn't to punish exit — it's to make a single actor's decision to move a large position into one local economy in one week cost them, not the community absorbing it:

Conversion Size (% of Total Supply)	Penalty
< 0.01%	0%
0.01% – 0.05%	5–15%
0.05% – 0.1%	15–25%
> 0.1%	30% + 52-week vesting

This mirrors the local CP curve but is more lenient at small scales — gCP is meant to circulate widely. A normal-sized transfer pays nothing extra. A single actor pushing 1% of supply into one hub's economy at once pays 30% and waits 52 weeks for the rest. The surface this schedule defends is **internal** and still live: the retained machinery is exactly the machinery that still has something to protect (§8.10).

7.6 How a hub obtains gCP

Two routes, and the distinction between them is load-bearing under a fixed cap:

By trade — a transfer, never an issuance. When a hub sells into another hub, the buyer's gCP moves to the seller. Nothing is created; the supply is untouched. This is the ordinary way gCP is obtained and it needs no pool at all.

Activity	Source of the gCP
Inter-hub sales	Transferred from the buyer — issuance is not involved
CP → gCP conversion	Drawn from the Liquidity pool at the curve rate (§8.3)

By allocation — issuance from a named pool, and therefore bounded.

Activity	gCP Issued	Pool
Annual hub allocation	Per §7.3	Hub Allocation
Hosting refugees	100 gCP per person per month	Federation Reserve
Hub mentorship	10,000 gCP per hub promoted	Federation Reserve
Nursery stake (Seed Cell)	Posted, and recovered on promotion	Federation Reserve
Genesis advance (operational hub)	Advanced in tranches; not recovered since v5.17, the §7.3 allocation it was charged against having been struck (Art. XVI §16.9)	Federation Reserve
Federation service	Published bounties	Federation Reserve

The mentorship allocation is payable to a hub. It is earned by the mentor hub assigned from a forming hub's endorsers (§24.2), and by no one else. A Foundation nursery's mentorship under Art. XVI §16.5 is discharged through its Art. XV §15.3 programmes and carries no gCP entitlement of any kind — no Foundation ever holds, receives, or is allocated gCP (§7.2 above, Art. V §5.7, Art. XV §15.2(c)).

Corrected in v5.6. Through v5.5 this table read "Inter-hub sales — 5% of transaction value" under the heading gCP Earned, which describes **minting 5% on every inter-hub sale**. At the Protocol's own maturity figures — roughly 9 B circulating at the 3× velocity target, so ~27 B of annual inter-hub volume — that is **1.35 B of new gCP a year, exhausting the entire 6 B hub pool in 4.4 years** and then breaching an unamendable cap. The mechanism was a CP rule (where minting is local, endogenous and separately capped at $\text{Hub_Pop} \times 1000$) copied onto the one token that is minted centrally against a global ceiling. Inter-hub sales are trade: the gCP already exists and simply changes hands.

A note on the word, since two clauses now turn on it (v5.15). The heading above says *issuance from a named pool*, and the column says gCP Issued, and both are kept. Neither means claim was created: §7.7's identity holds $\text{Circulating} + \text{Unissued} \equiv 10,000,000,000$ across every allocation, so what the annual release moves is a conserved stock between two of its own compartments. §7.3 states the operative property in full and Art. V §5.6.6 relies on it — **spending a §7.3 allocation moves already-conserved gCP; it does not create claim** — which is what distinguishes it from the v5.5 rule this table's correction records, and from any future proposal to fund a treasury by minting.

7.7 gCP Retirement — the conservation identity

gCP is **never destroyed**. It is **retired to the unissued pool**, and the Protocol maintains an identity the engine checks on every block:

Circulating + Unissued $\equiv$ 10,000,000,000 (exactly, always)

Mechanism	Amount	Destination
Inter-hub transaction fee	0.1%	Unissued pool
Frivolous-proposal deposit (returned unless <10% support)	1,000 gCP	Unissued pool
Published penalty schedules (formulaic — §7.5, §8.6, B.5)	Per schedule	Unissued pool
Permanent exit without a named successor (Art. V §5.5)	100% of holdings	Federation Reserve
Permanent exit with a named successor (Art. V §5.5)	20% of holdings	Federation Reserve

This replaces the v5.1 language of *burning*, and the change is substantive rather than cosmetic. Destroying gCP under a fixed cap shrinks the effective supply monotonically and for ever: the ceiling becomes unreachable, the pool that funds new communities drains with every fee collected, and a protocol that promises anyone may found a hub eventually cannot fund one. **Retirement to the unissued pool is what makes the cap survivable** — the 10 B becomes a conserved stock rather than a decaying one, and every fee, forfeited deposit and unclaimed estate replenishes precisely the reservoir that new hubs draw from. A closed circuit that destroyed its own currency would not be closed; it would be leaking.

The steady state closes, with margin. At maturity the recycled inflow is roughly **48 M gCP a year** — about 27 M from the 0.1% inter-hub fee on ~27 B of volume, plus about 21 M from §5.5 succession returns across a billion members at ordinary mortality. Against a 10,000 gCP formation stake that funds on the order of **4,800 new Full Hubs every year, in perpetuity, from recycling alone** — before counting the geometric release, which is still positive in year 200. Hub formation is therefore never gated by gCP supply at any network size, which is the property Article XVI's promise actually depends on.

Two coherence notes carried forward: failed-hub formation stakes forfeit to the refugee fund (§4.1), where they protect the people the failure displaced, rather than to the unissued pool; and every penalty above is a pre-committed formula — there are no discretionary retirements, because a retirement someone decides case-by-case is a seizure with a thermodynamic alibi (§9.3).

7.8 Velocity Target

TARGET gCP VELOCITY: 2–4× per year

Each gCP should change hands two to four times annually.

Encourage circulation: low inter-hub trade fees (0.1%), easy CP ↔ gCP conversion, no holding rewards (no staking yields). **The fourth instrument is struck (v5.17):** this list read *"hub allocations partly based on activity"* until §7.3 removed the activity term, and a target may not be scored against an instrument that no longer exists (Art. IX §9.10). Whether the remaining three hold velocity inside this band without it is **not measured**, and §7.3 records it as an open residual rather than asserting that they do.

Discourage hoarding: no interest on held gCP, transparent large-holder lists, the §7.5 curve makes large one-window conversions expensive.

Monitoring: velocity calculated weekly. Below $1\times$ → consider intervention. Above $6\times$ → check for wash activity (Chapter 15).

7.9 Hub-and-spoke, never mesh

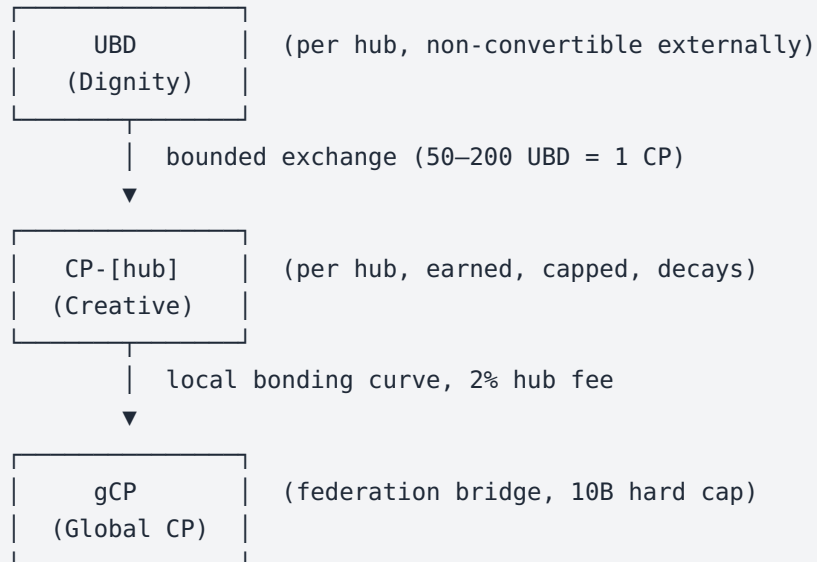
gCP is the single spoke through which inter-hub value moves. Two hubs never open a direct CP-to-CP pair; local CP converts up to gCP at Steward tier (§8.3) and back down into another hub's CP (§8.4). This is a deliberate bottleneck, and it buys three things a mesh cannot:

- **No arbitrage between local economies.** In a mesh of N hubs there are $N(N-1)/2$ pairs, each with its own rate, each an invitation to cycle value between mispriced pairs. One hub-and-spoke rate per hub leaves nothing to cycle.
- **Monetary policy stays local.** A hub sets its own mint rate, decay, and UBD level (§4.2) without its parameters being priced against every neighbour's in real time. A hub that tightens its mint rate should not thereby become a target.
- **One surface to observe.** The Federation watches N conversion rates, not N^2 pairs — which is the difference between a monitorable system and a system that merely publishes data.

The bottleneck is not a limitation the design tolerates. It is the reason the design scales.

Chapter 8: Conversion, Bonding Curves & the Closed Circuit

8.1 Conversion Map



There is no fourth box. The circuit is closed by constitution (§5.6): value enters HPP by creation and verification, circulates as UBD → CP → gCP, and leaves only as goods and services consumed. Nothing is bought in; nothing is cashed out.

8.2 UBD → CP Conversion (Bounded Exchange)

To protect both creators and consumers, the UBD/CP exchange rate is **bounded**:

Parameter	Value	Purpose
Floor	50 UBD = 1 CP	Protects creators from UBD devaluation
Ceiling	200 UBD = 1 CP	Protects consumers from CP inflation
Base Rate	100 UBD = 1 CP	Starting equilibrium
Max Weekly Δ	±5%	Prevents sudden shocks

Dynamic Adjustment:

```
Rate = clamp(Base × Demand_Factor × Health_Factor, 50, 200)
```

Demand_Factor (0.8–1.3):

- High conversion demand → rate increases
- Low conversion demand → rate decreases

Health_Factor (based on creator ratio):

- <15% creators → 1.3 (discourage consumption, encourage creation)
- 15–25% creators → 1.1
- 25–35% creators → 1.0 (healthy)
- >35% creators → 0.9 (encourage consumption)

Each band's reachable range is what A.3's own product reaches there — $\text{Base } 100 \times \text{Demand } (0.8\text{--}1.3) \times \text{the band's Health factor}$ — with Demand supplying the width inside a band and Health the step between bands:

Creator Ratio	Rate Range	Effect
Very low (<15%)	104–169 UBD = 1 CP	Strongly discourages consumption
Low (15–25%)	88–143 UBD = 1 CP	Mildly discourages consumption
Healthy (25–35%)	80–130 UBD = 1 CP	Balanced
High (>35%)	72–117 UBD = 1 CP	Encourages consumption

Restated in v5.20. Through v5.19 this table printed 150–200 / 120–150 / 100–120 / 90–100 — ranges the formula above cannot produce, with most of each band's true range below its printed floor. The prose gives, the formula stays: a drafting repair, not a design change, and the figures above are the formula's. The same product also fixes the table against the bound — $\text{Base} \times \text{Demand} \times \text{Health}$ spans **72–169, strictly inside [50, 200]** — so the clamp is the Protocol's guard rather than a live constraint: it cannot fire on these factors, and §8.8's rate-hits-bound slow mode stays armed behind it for whatever factor range someday reaches it (§8.8, A.3).

8.3 CP-local → gCP Conversion

Step 1: User requests conversion (min 100 CP, max 10%/day of balance).

Step 2: Local bonding curve calculates gCP amount:

$$\text{CP_Price_in_gCP} = \text{Base} \times (\text{Circulating} / \text{Cap})^{0.5}$$

Step 3: Fees:

- Hub fee: 2.0% (to local commons)
- Federation fee: 0.1% (to the Federation treasury)
- Total: 2.1%

Step 4: CP-local burned. gCP DRAWN FROM THE LIQUIDITY POOL (§7.2) to the global wallet — never newly issued. ~30 seconds.

Example: 1,000 CP-lagos at rate 100:1 → 10 gCP gross → 9.79 gCP net after 2.1% fee. The 1,000 CP-lagos is burned and Lagos hub supply decreases; the 9.79 gCP is *transferred out of the Liquidity pool*, not created. The distinction matters under a conserved cap: CP is a local flow a hub may destroy and re-mint at will, while every gCP that reaches a wallet must have left a named pool. Conversion in the other direction (§8.4) returns gCP to that pool, which is why the Liquidity allocation is a revolving float rather than a budget that depletes.

8.4 gCP → CP-local Conversion

Step 1: User requests (min 1 gCP, no rate limit – encourages spending).
 Step 2: Local bonding curve calculates CP-local:
 Rates vary by hub economy.
 Step 3: Fee: 2% hub fee (no federation fee – encourages inflow).
 Step 4: gCP debited globally. CP-local minted locally.

8.5 Local CP Bonding Curve

Price (Đ) = $1.00 \times (\text{Circulating} / \text{Initial})^{0.5}$

Provisioning Depth target: $\geq 2.0 \times$ per year (§7.8 velocity floor)

Depth bands (annualised numerator – §5.6):

- ≥ 2.0 : Healthy – base fees
- $1.0\text{--}2.0$: Caution – market-depth response active (A.13)
- < 1.0 : Thin – fee curve at maximum; conversions prohibitive but never closed (§5.6, §9.3)

The square-root curve provides natural price discovery. Large conversions in either direction move the price, creating natural resistance to manipulation.

8.5.1 The Growth-Neutral Baseline (Growth-Neutrality Amendment, v5.10)

§5.6.1 recorded an open finding against this curve and this clause closes it. The curve prices local CP at $1.00 \times (\text{Circulating} \div \text{Initial})^{0.5}$, and **Initial** was set at a hub's founding supply, where it stayed. A hub that doubled its membership **and** its CP — the same money per person, buying the same basket — therefore priced that CP at 1.41 Đ. Nothing monetary had happened; people had joined. Measured across the suite, hubs ended at 1.3–1.8× their founding price on a three-year run and 3.0–4.6× on a ten-year one, and because provisioning depth is inversely proportional to that price, depth decayed as the inverse root of population growth however §5.6.1's mint and retirement were balanced.

- **Initial** is the founding stock per member, carried at the hub's current roll. What a hub's baseline fixes is the *pair* — the founding supply and the membership it was struck at — so the price is $(c \div c_0)^{0.5}$, where **c** is CP per member now and **c₀** was CP per member at founding. A hub that doubles its roll and its CP together prices at exactly **1.00 Đ**; a hub that doubles its CP without growing prices at **1.41 Đ**. The curve keeps its whole job — square-root price discovery, resistance to large conversions — and loses only the head-count it was never asked to carry.

- **The reference is §6.3's, not a new one.** §6.3 already caps the very quantity this curve puts in its numerator, and caps it per head: $CP_Cap = Hub_Population \times 1000$, with its own gloss — *the cap grows with population; it does not grow through inflation*. Growth that tracks membership has therefore already been ruled not to be monetary growth. A ratio whose ceiling moves with the roll must have a reference that moves with the roll, or its numerator and denominator are not the same species of quantity and the ratio is a head-count in disguise. There is no free parameter here: c_0 is measured from the hub's own founding state and N is its own roll.
- **The local curve acquires a maximum, which it did not have.** §7.4 treats the gCP ceiling as arithmetic — the curve's own value at the 10 B cap, not a governance-adjustable dial. Against a frozen reference this curve's value at its own §6.3 cap was $(1000 \div c_0)^{0.5} \times (N \div N_0)^{0.5}$, unbounded in population. Carried per member it is $(1000 \div c_0)^{0.5}$, a constant of the hub's founding and the same species of number as the gCP ceiling.
- **It cuts both ways, and that is how it is told from a tuning.** A hub that *shrinks* now prices its CP *higher*, because the members who remain hold more of it each. In the fission run Lagos ends at 1,086 members against 2,500 at founding and 156.8 CP per head against 95.6; its price moves $1.68 \rightarrow 2.56 \text{ ¤}$ and that scenario's measured depth **falls**, $1.262 \rightarrow 1.182$. The frozen reference had been reading a hub whose members had left as a hub whose money had gone, and reporting the depth of an economy that was no longer there.
- **What it depends on, stated.** A per-head reference is only as honest as the head-count: a hub that inflated its roll would deflate its own CP price and flatter its depth. This adds no trust assumption — §6.3 already makes a hub's entire CP ceiling proportional to the same roll, so the Protocol has already staked that quantity on §11.7 proof of personhood. This clause applies an existing dependency consistently rather than creating one. Under undiluted attack the Sybil and account-accumulation runs clear every gate.
- **The reference moves with the cap, for the class whose cap moved (Hub Typology Amendment, v5.15).** This clause's own argument binds it: *a ratio whose ceiling moves with the roll must have a reference that moves with the roll, or its numerator and denominator are not the same species of quantity and the ratio is a head-count in disguise*. §6.3 now caps non-geographic hubs on realised external value rather than on the roll, so for that class the reference is measured in the same quantity or the identical defect reappears with the terms exchanged.

Non-geographic hubs (§3.3):

$$\text{Price } (\text{Ð}) = (e \div e_0)^{0.5}$$

$e = \text{CP_now} \div E_{52,\text{now}}$ — claim per unit of annual inbound external value, both terms measured now
 $e_0 = \text{CP_rec} \div E_{52,\text{rec}}$ — the same ratio, both terms measured at the hub's Full-Hub recognition

$\text{CP_now}, \text{CP_rec}$ = circulating CP now, and at recognition

$E_{52,\text{now}}, E_{52,\text{rec}}$ = §6.3's E_{52} now, and at recognition

$$\text{Curve maximum} = (1.8 \div e_0)^{0.5}$$

the curve's own value at §6.3's cap for this class — a constant of the hub's recognition, and the same species of number as $(1000 \div c_0)^{0.5}$ and as §7.4's ceiling

What the baseline fixes is again the **pair**, and again there is no free parameter. §6.1 gives a hub a currency of its own only at Full Hub — Seed Cells and Nascent Hubs transact on a shared circuit (§16.2.1) — and Article XVI reaches Full Hub through a Nascent stage that has already been trading, so **in the ordinary case** $E_{52,\text{rec}}$ is a measurement the hub has already made and not an assumption anyone supplies. **This clause no longer claims that $E_{52,\text{rec}}$ cannot be zero, because under §6.3's narrowed definition it can; the case is recorded as an open item below and is not closed here.** A hub that doubles its external trade and its CP together prices at exactly **1.00 Ð**; a hub that doubles its CP without trading more prices at **1.41 Ð**. And it cuts both ways here as it does above, which is again how it is told from a tuning: a hub whose external trade falls while its claim stock stands prices its CP **higher**, and its measured depth falls with it — because a hub that has stopped selling is not a hub whose money has become more valuable, and the frozen reference would have read the one as the other.

Open item — e_0 where $E_{52,\text{rec}} = 0$ (v5.15; recorded, not closed). Two changes made in this one instrument interact, and the interaction lands in exactly the bootstrap case Article XVI exists to serve. §6.3 narrowed E_{52} here — **inbound**, cross-hub, and net of disbursements from any hub commons, treasury or hub-controlled account (Ch. 15 §15.4, Art. V §5.6.6) — and under that definition a hub can reach Full-Hub recognition with the quantity at zero:

- **A nursery-incubated cell that reaches Full Hub as an operational hub.** §16.5's nursery *mentors, provisions, and stands surety*, on the shared circuit Article XVI puts a cell and its nursery on. A cell whose whole inbound record is its nursery's own provisioning (§16.5) books $E_{52,\text{rec}} = 0$, because a disbursement from a hub-controlled account is excluded on receipt **without exception** — the exclusion this instrument widened, doing in the bootstrap case exactly what it was written to do everywhere else.
- **And in the first shape the numerator can vanish with the denominator.** §16.4 makes Full Hub the *first* stage at which a hub mints its own CP, and §8.3 re-denominates members' shared-circuit balances into it on promotion — so a nursery-provisioned cell arriving with nothing in its members' hands carries $\text{CP_rec} = 0$ as well, and e_0 is $0 \div 0$ rather than $x \div 0$. That is indeterminate and

not merely undefined, and none of the three closures named below plainly reaches it: a floor on the denominator leaves the numerator at zero, and a rule deferring the reference must still say what the hub prices at while it waits. Recorded with the rest, and it widens the question rather than adding a second one.

- **A company hub capitalised solely by member stake.** A member's stake is its own members' money. It is neither cross-hub nor a counterparty's payment, so it never enters `Gross_i` at all.

The arithmetic then fails flatly rather than at the margin: $e_0 = CP_{rec} \div E_{52,rec}$ is a division by zero, so $Price(\emptyset) = (e \div e_0)^{0.5}$ has no value and $Curve\ maximum = (1.8 \div e_0)^{0.5}$ has none either. Every reading of the block above fails at such a hub.

This clause does not resolve it, and the reason is that the resolution is a design decision rather than a drafting repair. What e_0 should mean for a hub that reaches recognition with no external trade behind it is a question about what this curve is *for* — whether such a hub is priced against a stipulated reference, held at Nascent until it has traded, or given a baseline struck at first trade rather than at recognition — and each of those is a different Protocol, not a different sentence. Each of them would move either the date of a hub's recognition or the value of its CP on the day it is recognised. Settling that inside a correctness pass would be the practice Art. V §5.6 was amended to end: answering a constitutional question by editing a constant.

What would close it. A ruling on the model of Art. V §5.6.5 — which answered the stipend question *no* and published the consequence rather than tuning it away — stating which of the three e_0 means, taken at the threshold that provision's own subject-matter requires; and, because the answer changes what a hub's CP is worth at recognition, a re-run reporting the affected scenarios on §23.7's own terms, green or not. Until that ruling, **an operational or company hub reaching Full Hub with $E_{52,rec} = 0$ is a case this section does not price**, and the paragraph above must not be read as pricing it.

8.6 Anti-Dump Protection (Local CP)

Mirrors the gCP rules:

Sale Size (% of supply)	Penalty
< 0.1%	None
0.1% – 0.5%	5–15%
0.5% – 1%	15–25%
> 1%	25–30%

8.7 Vesting for Large Internal Acquisitions

"Acquisition" here means **conversion inflow** — UBD → CP (§8.2) or gCP → CP-local (§8.4). It never means purchase with external money, which does not exist (§5.6): the acquisition-vesting rules written for a purchase path lapsed with the path, and what remains is re-derived on the inflow that is actually still possible. Conversion inflows above **5,000 CP** in a rolling 12-week window vest over 12 weeks:

Week	Unlocked
1	8.3%
4	33.3%
8	66.6%
12	100%

The live risk is a large gCP holder converting into a small hub's CP supply, voting or bidding with it the same week, and converting back out — an internal shock with a real surface. Vesting removes the same-week round trip and aligns large positions with the hub's own horizon.

8.8 Circuit Breakers

Trigger	Action	Duration
Rate hits exchange bound (50 or 200)	Slow mode (max 1000 CP/tx)	Until rate normalizes
Price moves >10% in 24h	Slow mode + conversion-fee escalation (formulaic)	12 hours, then published review
Single wallet converts out >0.5% supply	Executes on the anti-dump schedule + extended vesting (§8.6–8.7)	Automatic
Internal liquidity drops <35% of target	Market-depth response toward maximum (A. 13)	Until restored
Provisioning depth <1.0 ×/yr	Fee curve at maximum — prohibitive, never closed (Art. V §5.6)	Until restored

Every breaker is a published formula: none is a pause, none is a manual block, none requires anyone's decision at the moment it fires. A breaker that needs a human hand is an admin key with a nicer name (§9.3). Every trigger listed above fires on an **internal** surface — the local marketplace, the internal exchange rate, inter-hub gCP flow. Breakers written against external price curves or external sales were deleted rather than retuned: there is nothing left for them to watch (§8.10).

8.9 Initial CP Allocation (Per Hub at Genesis)

Pool	Allocation	Purpose
User Distribution Pool	40%	Creator stipends, grants, redistribution, activity incentives
Community Commons	30%	Ecosystem development, grants, emergency reserves
Liquidity Pools	20%	CP/gCP primary pool, ensures convertibility
Contingency	10%	Future needs, governed by community vote

No founding-team allocation. Hub founders participate as regular members.

8.10 The Closed Circuit: why closed beats convertible

§5.6 states the rule constitutionally. This section states the argument, because a rule whose reasons are not published is a rule that will be argued away by the first person who wants it gone.

The commitment, in full. There is no pre-sale, no ICO, no investor allocation, no exchange listing, and no fiat or stablecoin gateway — in either direction, at any token level. No token in the system can be bought with external money, and no token in the system can be sold for it. This is not a launch-phase posture to be relaxed once the project is respectable: it is unamendable (§7.3), and **not even a foundational-tier amendment reaches it**. There is no supermajority, no emergency, and no procedural route that opens this boundary later.

Value enters in exactly two ways — **recognition** (UBD, to every verified human) and **creation** (CP, minted only on real transactions between real members). Value leaves in exactly two ways — **spending**, on the goods, services, and skills of the network, which is what an economy is *for*; and **migration**, carrying balance and reputation to another hub (§14.3, F.3). Exit is consumption and movement, not conversion. There is no cash-out because there is no cash-in.

Three reasons closed beats convertible.

Political credibility. Every mechanism in this whitepaper — the parity arbiter, the neutral consent index, the no-exemption firewall, the Foundation's one-way valve — rests on one currency, and it is trust. "No amount of money can buy entry, voice, or advantage in this system" is the most credible sentence a dignity protocol can pronounce, and only a closed circuit makes it true. A convertible system can *promise* that capital won't capture it. A closed system doesn't have to promise.

Monetary sovereignty. A token convertible into an external currency is **denominated** by that currency — priced by it, arbitrated against it, drainable into it at every crisis of confidence. And monetary substitution never happens by converting *out to* the old money; it happens when the new unit comes to denominate growing shares of real life — goods first, then services, then wages — until the old money is simply needed less. The closed circuit is not a ceiling on that ambition. It is its precondition.

Structural simplicity of defence. Closing the boundary **deletes** chapters of the threat model rather than mitigating them. There is no bank run where there is nothing to run to; no pump-and-dump where there is nothing to dump into; no capital entry where there is nothing to buy. This is why the machinery that survives in §7.5, §8.6, §8.7 and §8.8 is exactly the machinery aimed at internal markets and inter-hub gCP flow, and why the machinery aimed at external curves and external sales is gone rather than retuned. A defence with no attack surface is not caution; it is a claim that the surface still exists.

Provisioning, not backing; goods, not a peg. Hub reserves of grain, energy, and committed labour are **things available for purchase within the network**, giving the currency real things to buy. They are not a peg. No HPP token promises stable value, guaranteed redemption in any external asset, or reference to any commodity price. The distinction is substantive rather than presentational: a community instrument redeemable in the community's own goods is a different object, economically and legally, from a financial product promising stability against an external benchmark — and the Protocol is, deliberately and permanently, the former. Every hub deploying physical provisioning must preserve this framing in all public materials (§5.6).

This is also precisely why the health metric is **provisioning depth** and not a coverage ratio. A coverage ratio answers "what fraction of the redemption promise can we honour?" — and in a closed circuit there is no redemption promise, so the question has no referent. Depth answers the only question a holder actually has: *what can this money buy?* (§5.6, Chapter 18, A.13.)

What non-convertibility buys, and what it costs. Non-convertibility leaves no arbitrage to run and no value to drain: with no pair to sell on, nothing inside the circuit can be drained against an outside currency. It has two consequences, and only the first is a choice. The first is **chosen horizon**: HPP begins complementary — no member is asked to abandon the existing economy — and is built to deepen, phase by phase, from unused capacity toward essential needs, toward wages, toward whatever share of life its members freely bring inside (Chapter 29). The second is **parity, and it is mechanical**: a circuit that publishes one credit as one unit of national currency lets its businesses invoice and file with a single published number, and Art. V §5.6 forecloses that for HPP permanently and unamendably (Art. VII §7.3). So HPP's businesses carry a heavier accounting burden and a barter-like treatment under their own national law, which Art. IX §9.19 governs and §8.11 argues. On horizon the mechanism imposes no ceiling — only the depth of the real economy does. On parity the mechanism imposes a permanent cost, and the Protocol pays it rather than reopen the clause that makes everything else in this chapter true.

8.11 Lawful commerce: why the circuit can hold a business, and why it can never hold a rate

Art. IX §9.19 states the rule constitutionally. This section states the argument, for the reason §8.10 gives: a rule whose reasons are not published is a rule that will be argued away by the first person who wants it gone — and the argument against this one will be made by well-meaning people holding a spreadsheet.

Nothing about a business breaks the circuit. §8.10 sets out the two ways value leaves: **spending**, on the goods, services and skills of the network, "which is what an economy is *for*"; and **migration**. A bakery that accepts CP for bread has been spent at. There is no external counterparty, no ramp, no pair, no listing, and no redemption. The closed circuit was never a rule against commerce — it is a rule against *convertibility*, and the two are opposites: Art. V §5.6 closed the exit precisely so that the only thing anyone could do with a token was buy something real with it. A network in which nobody with a shop can participate is not a purer closed circuit; it is a closed circuit with a thin numerator, which Chapter 18 calls **Thin** and treats as a failure.

What a published parity would do, and why it is out of reach. A mutual-credit circuit that publishes one credit as one unit of national currency lets its businesses file at parity: the accounting, the invoicing and the VAT all follow that single published number. For such a circuit it is not a detail of the implementation. It is the load-bearing beam of the whole legal design.

HPP cannot lay that beam, and the reason is the strongest sentence in this Protocol. Art. V §5.6: no HPP token promises "reference to any external benchmark or commodity price." Art. VII §7.3 lists Art. V §5.6 among the provisions that "can NEVER be amended — not by supermajority, not by emergency decree, not by any procedural workaround," and Art. V §5.6 says of itself that not even a foundational-tier amendment reaches it. §5.2's closing paragraph says the same thing from the other end: every figure is denominated in a hub's own Ð "and in nothing else; the circuit admits no external unit to price them against." **A published fiat rate is that external unit, arriving through the accounting door instead of the exchange door.** It would be enormously useful. Every business that ever joins will ask for it. It is the one thing that must never be given, and the reason is §8.10's own second argument: *a token convertible into an external currency is denominated by that currency* — and a token merely *quoted* in one is denominated by it too, an hour later, by every accountant who ever files.

So the treatment is barter, which is the older and better-tested body of law anyway. Payment in kind is not exotic. Revenue authorities have assessed it for as long as they have existed, and the rule is almost everywhere the same: the taxpayer determines fair market value under their own law and reports it. That is an obligation on the taxpayer, and it is complete without any assistance from the counterparty. HPP therefore does the two things it can do honestly — it publishes **records** in exhaustive detail (Art. X §10.4 already requires the raw inputs weekly), and it publishes **no rate at all** — and it declines the third thing, which is to supply a number that would relieve every taxpayer of a duty that was never the Protocol's and would breach the Protocol's own foundation in the process.

The distinction that makes this coherent rather than convenient. Art. XIII §13.8 already values registered assets by oracle method — "audited replacement cost for infrastructure, rolling market price for commodity stores" — and grain has an outside price, as §23.7 flatly says. So the Protocol already touches external prices, and does so without breaching Art. V §5.6, because **valuing a thing is not pricing the unit**. A peg is a promise about what a token *is worth*; an oracle valuation and a taxpayer's fair-market-value assessment are statements about what a *sack of flour* is worth. The first creates a claim and the second creates none. Art. IX §9.19's whole architecture rests on keeping those two acts on opposite sides of a line the Protocol has already drawn once.

And the cost, stated in the open. A business inside this circuit will do more paperwork than a business inside a circuit with a published parity, and will do it without the single number that would make the paperwork trivial. Some enterprises will decline on that basis, some jurisdictions will be closed until an opinion says otherwise, and depth will grow more slowly than it would with a rate. **The Protocol prefers a slower numerator to an amended Art. V §5.6**, and says so here rather than discovering it later under pressure from the first hub with a serious commercial economy.

Chapter 9: Insurance & Mutual Aid Fund

9.1 Why mutual aid

In the inverted economy, insurance is sold by corporations that profit from *not* paying claims. Here, mutual aid is **owned by the community it protects**. Same coverage idea — different alignment of who wins when someone needs help.

9.2 Funding

5% of all transaction fees → Insurance Fund

(Increased from 1% in early simulation; the higher rate proved necessary under stress scenarios.)

Denomination: CP. The levy is taken on CP. The transaction fees it is taken of are CP fees, collected by the hub (§30.3 lists them among the hub commons' income), so the Fund accrues, pays claims and reinsures in CP — as Appendix A.9 and B.5, which are authoritative, have always said. (*Coherence pass, 2026-10: this chapter denominated the Fund in "local Ð", a unit with no fee income for a 5% levy to be taken of.*)

9.3 Claim Rules

Rule	Value
Maximum claim	500 CP
Minimum reputation	55
Maximum claims/year	2 per user
Eligible cases	Verified fraud or dispute victimhood
Process	Tier-2 mediation review

Measured adequacy: The fund, exercised at these terms against the measured default book (deferred-settlement scenario: 166 paid of 2,289 defaulted, in the simulation engine's local unit, which it carries one-to-one with CP), covers approximately 7% of loss value. This is published as Art. V §5.6.5 publishes 26% → 11%: the fund is a floor, not a substitute for the escrow terms of §6.7.

9.4 Reinsurance

If the fund drops below **10,000 CP**:

- Commons contributes up to 5,000 CP.
- Claim limits reduced 50% temporarily.
- Governance alert triggered.
- Investigation into root causes.

9.5 What This Provides

- Community-owned safety net (no extractive insurer).
 - Detection signal — repeated claims from the same area indicate problems.
 - Trust amplifier — knowing the fund exists, members transact more freely.
 - Self-sustaining — funded by the activity it protects.
-

Book IV — The Federation Constitution

Preamble (Constitutional Text)

We, the sovereign humans of Earth, united in our diversity, establish this Constitution to:

- Recognise the inherent worth and dignity of every one of us.
- Preserve the sovereignty of each human being and the communities we choose.
- Enable cooperation without domination.
- Create abundance through mutual aid.
- Build a working alternative to systems that have failed us.

This Constitution is rooted in One People Public Trust principles and Natural Law. The Articles that follow are the rules we agree to live by together — visible to all of us, the same for all of us, and beyond the reach of any single authority to rewrite.

Article I — Foundational Principles

§1.1 Human Sovereignty. Every human being is born sovereign. No institution, government, corporation, or collective has authority over any human without explicit, informed, and revocable consent.

§1.2 Inherent Worth. Every human has inherent worth by virtue of existence. This worth cannot be earned, taken, or diminished. Universal Basic Dignity is the economic recognition of this truth.

§1.3 Natural Law. All interactions within the Federation are governed by Natural Law: do no harm; honor agreements freely made; make whole any harm caused; all beings have equal standing before justice.

§1.4 Consent. All participation in hubs and the Federation is voluntary. Any human may exit at any time. No hub may prevent departure. No hub may refuse legitimate refugees.

§1.5 Non-Aggression. No hub shall initiate violence or coercion against another hub or its members. Defense is permitted; aggression is prohibited.

§1.6 Impartial Adjudication (Coherence Amendment). No organ of the Federation may judge a dispute to which it is a party. Disputes between any member or hub and any Federation organ are heard by the Arbitral Layer (Article XII), whose existence, independence, and jurisdiction over

Federation acts are constitutive of the Federation itself: sovereignty is original in humans and their communities (§1.1) and delegated, revocably, to the Federation — the creature is answerable to a forum it does not control.

Article II — Rights of Humans

§2.1 Universal Rights. Every human within the Federation has the right to: receive UBD from their home hub (§5.9), participate in hub governance, move freely between hubs, trade freely within and between hubs, due process in any dispute, exit any hub at any time, form new hubs with others, privacy in personal matters, transparency in collective matters, affirmation or revocation of consent through the Consent Registry (§9.11), and impartial adjudication of any dispute with a Federation organ (§1.6, Article XII).

§2.2 Protected Characteristics. No hub may discriminate based on race, ethnicity, national origin, sex, gender, sexual orientation, age (except as reasonable for specific activities), disability (reasonable accommodation required), religious or philosophical belief, or economic status at time of joining.

§2.3 Due Process. Every human accused of wrongdoing has the right to know the accusation, face the accuser, present a defense, impartial adjudication, appeal to a higher body, no double jeopardy, proportional consequences.

§2.4 Involuntary Exit Protection (Decade Hardening Amendment). A member who is forced to leave a hub by external pressure — governmental decree, persecution, war, climate disaster, or coercion by any party other than the member themselves — is treated as a refugee with the strongest protection class:

- 100% reputation transfer to the receiving hub (not the standard 70–80%); the member bears no penalty for circumstances they did not choose.
- Immediate placement in any willing hub within 30 days, guaranteed by the Federation Reserve.
- Refugee grant of 100 gCP plus a one-time 200 gCP "displacement bond" funded by the Federation Reserve.
- The hub from which the member was forced to exit retains their CP holdings; CP does not vest to the displacing actor under any circumstance.
- The Federation logs every involuntary exit publicly (anonymized) so patterns of state coercion are visible to all members in real time.

This clause was added in response to the §23.5 decade projection (Y4 regulatory shock) which showed the standard voluntary-migration path under-protects forced exits.

Article III — Hub Sovereignty

§3.1 Self-Governance. Each hub has the sovereign right to govern its internal affairs: economic parameters (UBD amount, CP rates, fees), governance structure (within consent-based bounds), cultural practices and language, membership criteria (within non-discrimination bounds), local rules and customs.

§3.2 Hub Obligations. Each hub must: adopt and uphold this Constitution, provide UBD to every member whose home hub it is (§5.9), participate in Federation governance, accept legitimate refugees, maintain transparency in collective finances, enable free exit of any member, respect other hubs' sovereignty.

§3.3 Hub Boundaries. Hub authority extends only to voluntary members. Hubs may not claim territory over non-members, coerce non-members, prevent member departure, block legitimate inter-hub trade, or violate other hubs' sovereignty.

Article IV — Federation Authority

§4.1 Limited Mandate. The Federation exists solely to: coordinate inter-hub relations, maintain gCP and inter-hub exchange, resolve cross-hub disputes, respond to emergencies, recognize and de-recognize hubs, uphold this Constitution.

§4.2 Federation Limitations. The Federation may NOT: override legitimate hub decisions, tax hubs or members directly, maintain a military or police force, require specific hub policies (beyond this Constitution), favor any hub over others, create new gCP beyond the 10B cap, or adjudicate any dispute to which it is a party (§1.6).

§4.3 Subsidiarity. Decisions should be made at the most local level possible. The Federation acts only when the matter is inherently cross-hub, a hub requests assistance, a constitutional violation is alleged, or an emergency threatens multiple hubs.

Article V — Economic Principles

§5.1 Universal Basic Dignity. Every geographic hub must provide UBD to every verified member whose home hub it is (§5.9), sufficient to meet basic needs with dignity. UBD is unconditional, regular, sufficient, and non-discriminatory. **Nothing in the type restriction narrows the right — only the debtor.** Every verified human still receives dignity income from exactly one hub (§2.1, §5.9); what §5.9 changes is which hubs may be that one, and Chapter 3 §3.3.1 records what the change costs the human being who has no such hub within reach.

§5.1.1 UBD Sufficiency Triggers (Decade Hardening Amendment; scoped by the Foundation Layer Amendment). This clause binds **Full Hubs**. "Sufficient" is operationalized so it cannot be eroded by interpretation:

- UBD must enable purchase of the local-basket (food, shelter contribution, transport, communications, basic healthcare access) at local market prices, recalculated every 13 weeks.
- If the local-basket cost rises by $\geq 20\%$ in any 13-week window, the hub **MUST** adjust UBD upward proportionally OR expand the mandatory-acceptance category list to absorb the rise.
- If the hub fails to adjust within 26 weeks of a triggering rise, the Federation declares the hub in §5.1 violation and places it in WARNING status until adjustment.
- Technological displacement (AI labor replacement, automation) is **not** a defense. UBD sufficiency is measured against actual cost of the basket, never against what employment provides. A hub whose creators are displaced by automation must maintain UBD sufficiency through commons redistribution and creator stipend expansion.
- No hub may unilaterally convert UBD to in-kind goods without explicit member consent (closes a basic-needs-control attack surface).

§5.1.2 The Declared-Capacity Rule (Seed Cells & Nascent Hubs) (Foundation Layer Amendment). A Seed Cell or Nascent Hub (Article XVI §16.2–§16.3) does not yet carry a real economy deep enough to buy a full local basket, and the sufficiency triggers of §5.1.1 do not bind it. The same discipline binds it in a form it can actually honour:

- The cell **publishes what its UBD actually covers** — the categories, the quantities, the sources — and updates the statement at least quarterly.
- The cell **may never overstate it**. Overstatement, not smallness, is the violation: a cell that says "bread, not rent" and delivers bread is in good standing, and a cell that promises rent it cannot deliver is in violation on the day it promises.
- UBD in a Seed Cell covers only what that cell really produces. The Protocol will not inflate the number to flatter anyone, and no member is recruited on a figure the cell cannot honour (§9.13, Chapter 29).
- Every prospective member sees the declared-capacity statement **before** joining, not after.
- On promotion to Full Hub (§16.4) the declared-capacity rule lapses and §5.1.1 binds in full, from the first 13-week recalculation.

Twenty people with a garden and three trades sustain a small dignity income. Staging the promise honestly is what makes it a promise; the alternative is a constitutional violation written into every new community on the day it is born.

§5.2 Creative Potential. Earned tokens (CP) represent value created. CP must be earnable by all members, have transparent rules, be convertible to gCP, and not be arbitrarily confiscated.

§5.3 Global CP. gCP connects all hubs. gCP **must remain hard-capped at 10 billion forever**, be distributed fairly to hubs, enable free inter-hub trade, and not be controlled by any single hub. The cap binds because unlimited issuance would let the Federation fund itself by diluting every holder, which is taxation by another name and is forbidden by §4.2; it is therefore a limit on Federation power and not a

promise about price. gCP is **conserved, never destroyed**: circulating plus unissued equals exactly 10 billion at all times (§7.7), so that retired gCP replenishes the pool from which new communities are funded rather than vanishing from a supply that can never be replaced.

§5.4 No Exploitation. Economic relationships must be voluntary, transparent, honest, and non-coercive.

§5.5 gCP Succession Protocol (Decade Hardening Amendment). gCP holdings of a member who exits permanently — whether by death, formal lifetime withdrawal, or constitutionally-permitted hub fission (Article XIII) — are distributed as follows:

- (a) If the member registered a successor (any natural person within the Federation) at any time during membership: **80% of gCP holdings transfer to the named successor; the remaining 20% returns to the Federation Reserve** (earmarked for refugee grants and new-hub formation stakes).
- (b) If no successor was registered: 100% of gCP holdings return to the Federation Reserve under the same earmark.
- (c) Designating a successor is a personal choice. **No hub, government, court, or institution may compel succession designation, override a registered successor, or claim succession rights.**
- (d) Successor designations are revocable at any time by the member while alive. They take effect only upon permanent exit.
- (e) Local CP held by the deceased returns to the local commons (this codifies what was previously only an emergent property of inactivity decay).
- (f) Voting credits, reputation, and tier are **not** inheritable. They were earned by personal action and end with the human being.

This clause closes a structural gap surfaced by the §23.5 decade projection, where the engine was forced to choose a default in the absence of constitutional text.

§5.6 The Closed Circuit & Provisioning Depth (Closed-Circuit Amendment; re-derived by the Provisioning-Depth Amendment). A reserve held in someone else's instrument is one blacklist entry away from being someone else's decision. v5.2 answered with diversification; v5.3 answered with **closure** — the strongest form of the same principle; v5.5 finishes the job by replacing the measurement that closure made meaningless:

- **The circuit is closed.** No protocol mechanism may exchange UBD, CP, or gCP against external currency or external financial assets — no pre-sale, no token sale, no investor allocation, no exchange listing, no redemption desk, no fiat or stablecoin pairs, in either direction, at any token level. Value enters HPP by verified creation and leaves as goods and services consumed, or as migration to another hub. Membership is never bought and never cashed out.
- **Unamendable, full stop.** This clause is listed in §7.3. It cannot be reached by ordinary amendment (§7.1), by the Article I process (§7.2), or by any procedural workaround — **not even a foundational-tier amendment reaches it.** No future governance vote at any threshold opens a bridge to external currency. A boundary that a supermajority can open is not a boundary; it is a delay.

- **Provisioning, not backing.** gCP is **provisioned** by the productive capacity of all hubs and by real assets registered under the Asset-Backed Module (§13.8), valued by their registered oracle methods — assets with no issuer, no custodian, and no counterparty who can freeze them. No HPP token promises stable value, guaranteed redemption in any external asset, or reference to any external benchmark or commodity price. There is no peg and no redemption claim; there never will be.
- **Provisioning depth is the health metric, and a coverage ratio is not.** A coverage ratio measures what fraction of a redemption claim could be honoured. In a closed circuit there **is** no redemption claim, so "60% coverage" answers the question *60% of what promise?* — and has no answer. The honest question is what the money can buy. The Protocol therefore measures:

$$\text{Provisioning_Depth} = \frac{\text{Purchasable_Real_Value} \times 4}{\text{Active_Circulation}} \quad (\text{a rate: } \times \text{ per year})$$

Purchasable_Real_Value = ₤-valued goods and services, registered by hubs under §13.8, actually purchasable with the token in the current quarter (13 weeks) at their registered oracle valuations – grain in the store, kWh under contract, labour committed, inventory listed and in stock. Measured over the quarter and ANNUALISED by $52 \div 13 = 4$ before the band is applied, because a flow compared against a stock is a rate and a rate must name its period.

Active_Circulation = token value held in wallets that transacted at least once in the trailing 13 weeks, at the \$7.4 / \$8.5 curve price. Dormant balances are excluded from the denominator: money that is not moving is not seeking anything to buy.

Bands, in the units of the \$7.8 velocity target ($\times$ per year):

≥ 2.0	Healthy
$1.0 - 2.0$	Caution
< 1.0	Thin

- **Why the ratio is annualised and where the band comes from (Depth-Dimension Correction, v5.6).** v5.5 shipped this metric with the bands >0.50 / $0.35-0.50$ / ≤ 0.35 , carried over unchanged from the reserve coverage it replaced. That was wrong by construction, not by calibration, and the correction is arithmetic rather than judgement:
 - **Coverage was a stock over a stock** — a reserve balance over a notional token value — so its thresholds were dimensionless fractions and "0.35" meant *35% of the claim*. **Depth is a flow over a stock:** ₤ of real goods purchasable *per period*, over ₤ of token value *standing* in active wallets. Such a ratio carries the dimension $1/\text{time}$, and its magnitude is whatever its period says it is — the identical economy reads four times smaller per quarter than per year, and thirteen times smaller again per week. Two quantities in different dimensions cannot share a threshold. The v5.5 amendment text said as much about the two metrics — they "are not the same number and the Protocol will not pretend they are by moving a decimal point" — and then reused coverage's numbers anyway.

- **It was found by re-running, not by reasoning.** The text above had been reviewed and ratified; the defect surfaced when the 28-scenario suite was executed and **26 of the 28 failed the depth gate**, reading 0.02–0.23 per quarter against a floor of 0.35. A gate that almost nothing can pass is either a discovery about the economy or a defect in the ruler, and the arithmetic said ruler. The engine found what the reading did not.
- **The band is derived, not chosen.** §7.8 already sets the Protocol's only per-annum turnover scale: a gCP velocity target of **2–4× per year**, with intervention below **1×**. Annualised depth is the same species of quantity as velocity — a per-year flow over a stock — and asks the mirror question: *how many times over could the actively circulating stock be spent on real goods this year?* Velocity asks how many times it **is** spent. So Healthy is §7.8's target floor, Thin is §7.8's intervention line, and Caution is the interval between them. No threshold here was picked to make anything pass; change §7.8 and this band moves with it.
- **What the correction does not touch.** The numerator's definition, its 13-week measurement window, the exclusion of dormant balances, the composition duty, the impairment playbook, and Appendix A.13's response — its shape, its 10× ceiling, and the fact that it never closes — are all unchanged. A.13's two inflection depths move from 0.50/0.35 to 2.0/1.0 because they **are** the band boundaries, and for no other reason.
- **The re-run figures are published, failures included** (§22.1, §23.6, §23.7). The counts are deliberately not restated here: a constitutional clause that quotes a simulation result goes stale on the next run, and this one had already gone stale once. §23.7 owns the current figures. The reason is stated rather than smoothed: the engine registers **zero** Foundation-deployed physical commons by default, because §15.2 fixes the valve's direction and no magnitude at all. Appendix G forbids the alternative in this Protocol's own words.
- **Work orders enter the numerator on settlement, and never on commitment (Demand-Side Amendment, v5.15).** The numerator above already names "**labour committed**" among what it counts, and until v5.15 no instrument in the Protocol produced it as anything but a standing offer. Chapter 6 §6.7's work order does — and the tempting reading, that an escrowed order is committed labour and therefore numerator, is **wrong**, for the reason Chapter 23 §23.7 already recorded once in the opposite direction. That correction established that the numerator is a **realised flow**: "a sale does not consume a listing — it is a *standing offer*", and the quarter's numerator is what the order book **delivers**, not what it advertises. A work order is the mirror image of a listing — it is consumed by being taken — so the only treatment consistent with the same principle is to count it **once, at its escrowed Æ value, in the 13-week window in which it settles at accepted, in the hub where the work was delivered**. Four consequences follow and are stated so that none of them is discovered in a re-run:
 - **An order that resolves back to its poster contributes nothing, in any window.** Counting at commitment would let anyone lift a hub's depth by posting and cancelling, which is the *depth manipulation* scenario (Chapter 23 §23.7) with a new instrument; counting at settlement forecloses it without a detector.
 - **The escrowed tokens stay in the denominator** for as long as they are escrowed. A claim that has found its goods is still a claim, and removing it from the denominator while adding its goods to the numerator would count one match twice, in opposite directions.

- **Registration under §13.8 ends the order's contribution.** Where a work order produces a durable asset that is then registered under the Asset-Backed Module, the order stops contributing on the date of registration — otherwise a greenhouse is counted both as the labour that built it and as the asset it became.
- **The funded-and-unfilled book is published beside depth and never inside it.** The $\tilde{D}$ value of work orders escrowed and not yet taken is a real and useful number, published weekly with the composition figures under the Publication bullet below. It measures **demand**; depth measures **supply**; adding them would answer neither question, and the Protocol keeps two rulers here because there are genuinely two things to measure.
- **Publication.** Provisioning depth ($\tilde{D}$ -denominated, per annum), the raw quarterly numerator it was annualised from, the annualisation factor, its numerator composition by category, and its denominator are published **weekly**, on the same cadence as hub health metrics (§4.5), with the raw inputs alongside so anyone can recompute them (§10.4). Members are entitled to know exactly what their money can buy — and to see, without arithmetic of their own, which period every figure is denominated in.
- **Discipline survives closure.** Should any Protocol or hub treasury ever hold an instrument that has an issuer, the concentration ceilings apply in full (§10.1: $\leq 15\%$ single counterparty, $\geq 20\%$ issuer-less minimum). Closure is the policy; the ceilings are the seatbelt. The same ceilings apply by analogy to Foundation treasuries (§15.5).
- **Continuity, never a halt.** Thinning depth triggers the continuous **market-depth response** of Appendix A.13 — conversion fees rise and per-window limits tighten by published formula, reaching prohibitive but never closed. No pause function exists; a pause function is an admin key pointed at everyone at once (§9.3).
- **Impairment playbook.** If a registered provisioning asset is impaired — harvest failure, infrastructure loss, oracle-confirmed damage — a pre-committed playbook executes automatically: the asset is written down, the §7.4 floor is suspended for a stated window rather than defended into insolvency, and any shortfall is allocated pro rata across all holders, never first-come-first-served. A first-mover advantage in a provisioning crisis is a bank run with extra steps.

§5.6.1 Retirement of the Claim Stock (Claim-Stationarity Amendment, v5.9). §5.6 makes provisioning depth the health metric and names two remedies for a thin reading: register more provisioning, or mint less. This clause is the second one, made structural.

CP is minted against real production and was retired against nothing. The engine's anti-hoarding decay applied only above an absolute per-holder floor that ordinary balances never reach — measured over three years, the median member held 77 CP against a floor of 1,000, only 6.5% ever crossed it, and what little was collected was paid straight back out by commons redistribution, so **net retirement was negative**. A stock fed forever and drained never is not a currency in a closed circuit; it is a growing

claim on a real economy that is not growing with it. Depth then falls with the horizon by arithmetic, which is exactly what the suite measured: over 156 weeks the goods numerator grew 1.19× while active circulation grew 3.12×.

- **Every CP balance is retired weekly at the Retirement Rate, and what is retired ceases to exist** — struck from the hub's circulating supply, recorded in a published retirement ledger, never re-issued to any wallet by any mechanism.
- **The rate is derived and is not a governance parameter.** It is $d = T \times \kappa \div 52$, where **T** is the per-annum turnover floor already fixed by §7.8 (2× per year — the same constant this Article's Healthy band is derived from) and **κ** is the claim minted per unit of real value sold, being §6's mint rate at §8.5's opening price of 1.00 Ð: 0.10. Therefore **d = 0.385% per week, 18.16% per year**, a half-life of 180 weeks.
- **The derivation, in full, because a rate nobody can re-derive is a rate somebody can quietly move.** A stock fed at $\kappa \cdot F$ per week and retired at fraction **d** comes to rest at $\kappa \cdot F \div d$, whatever **F** is. The annualised real value purchasable against it is $52 \cdot F$. So the resting depth is $52 \cdot d \div \kappa$, and **d** is the rate at which that equals §7.8's target. **The weekly flow cancels** — which is why one rate is correct for every hub irrespective of size, population, horizon, or purchasing-power parity, and why no hub needs its own. To change the rate, change §7.8's turnover target or §6's mint rate; it follows them and may not be set beside them.
- **Universal and flat: no floor, no bracket, no exemption, no activity condition.** It is not a wealth tax and must never become one. A retirement rising with the size of a balance would be a second and undeclared one; a retirement sparing small balances would retire nothing, because the stock is overwhelmingly held in small balances. §6's progressive anti-hoarding decay addresses concentration, on a different base and to a different end, and the two stand side by side without either absorbing the other.
- **Dignity income is never retired.** §2.1 attaches to the human being. A charge on dignity income would be a charge for being alive.
- **Retirement is not redistribution, and the Protocol will not call a transfer a retirement.** What returns to the commons is not tokens but depth: each claim retired is one fewer claim the same real economy must answer. This distinction was found by measurement, not argued — a commons-routed version was built first and retired *nothing*, because a pot that re-issues its inflow cannot make a stock stationary.
- **Recorded finding — CLOSED by §5.6.2 (v5.10).** Because §6's anti-hoarding floor is absolute, retiring the stock moves balances beneath it, shrinking the base that funds commons redistribution — so measured inequality of CP savings rises over long horizons even though the retirement itself is exactly proportional. The Protocol records the coupling rather than moving the floor to flatter the metric, which is the practice §5.6 was amended to end. Whether the commons should be funded independently of that base is a question for a further amendment.
- **Open finding (§8.5) — CLOSED by §8.5.1 (v5.10).** A second horizon term survived this clause, in the denominator's price rather than its quantity: §8.5 prices CP at $(\text{Circulating} \div \text{Initial})^{0.5}$ with **Initial** frozen at a hub's founding supply, so a hub that merely grows prices its own CP above 1.00 Ð, and depth decays as the inverse root of population growth however the mint and

retirement are balanced. No retirement rate reaches it. §8.5's own principle — a larger hub is not a hub with more valuable CP — is not yet met by §8.5's formula.

§5.6.2 The Commons Share of Retirement (Commons-Funding Amendment, v5.10). §5.6.1 closed with a question it declined to answer — whether the commons should be funded independently of the anti-hoarding base — and this clause answers it: **yes**.

- **The coupling, named.** §6.4 routes its anti-hoarding decay to the local commons, and that decay bites only on the excess above an absolute per-holder floor. Making the claim stock stationary parked ordinary balances at about a fifth of that floor, so the intake fell 69%, the redistribution it funds fell 32%, and the bottom decile — which lived on that redistribution — fell hardest. **The defect is not the floor's level, and moving it would not have been a repair: a commons funded by a levy on hoarding is defunded exactly when the monetary control succeeds.** Its income is largest when inequality is largest and vanishes when the Protocol works. That is the wrong incentive to write into a treasury.
- **The commons takes the redistribution share of the charge on the claim stock, beside the retirement and never out of it.** §5.6.1 already charges a flat, universal, floor-independent rate on every balance, and its base is the whole claim stock — the one base in the Protocol that cannot shrink when the stock is retired, because it *is* the stock. A **Commons Levy** ℓ is charged on that same base and credited to the local commons to redistribute under §5.6.4's window. §6.4's decay continues unchanged and becomes a top-up rather than the base.
- **The size is set here, once, as the redistribution share.** The commons receives the redistribution share r of what is charged on the claim stock, so $\ell \div (d + \ell) = r$, hence $\ell = d \times r \div (1 - r) = 0.0427\% \text{ per week, } 2.20\% \text{ per year}$. The whole charge on a balance is $d + \ell = 0.427\% \text{ per week}$, of which exactly nine tenths is struck and one tenth funds redistribution. The clause is well-posed for every $r < 1$ and **diverges at $r = 1$** — §5.6.1's finding kept as a boundary condition rather than deleted: a commons that takes the whole charge retires nothing, and the algebra refuses to have a solution.
- **The Retirement Rate does not move, and stationarity is untouched exactly.** The commons pays out in steady state everything it takes in, so $\ell \cdot D$ leaves wallets and $\ell \cdot D$ returns: $D' - D = \kappa \cdot F - (d + \ell) \cdot D + \ell \cdot D = \kappa \cdot F - d \cdot D$, and the stock still rests at $\kappa \cdot F \div d$. **The levy cancels.** §5.6.1's rate is not reopened and no depth reading moves because of it. Measured across all thirty-five scenarios: total claim retired changes by 0.8%, and the levy is exactly one tenth of the combined charge.
- **Proportional in, targeted out.** Both flat terms take the same share of every balance and are Gini-neutral in themselves; the transfer is progressive because redistribution under §5.6.4 targets the bottom decile, not because the charge is graduated. A graduated claim-stock charge would be the second, undeclared wealth tax §5.6.1 refused to create. Dignity income is still never charged (§2.1).
- **Recorded finding — CLOSED by §5.6.4 (v5.12).** The inequality ceiling still fails on three long-horizon runs, and the surviving cause is a **disbursement** rule rather than a funding one: a member may receive commons redistribution for at most 26 weeks and the count is a **lifetime** quota, so over a three-year run 67% of active members are permanently disqualified while 72% remain capital-poor, and 65% of everything the commons paid is stranded in balances with no eligible recipient left. Making those 26 weeks a window rather than a lifetime closes the remaining inequality failures *and*

raises depth — but whether a redistribution entitlement is a lifetime allowance or a recurring one is a constitutional question, and answering it by editing a constant is the practice §5.6 was amended to end.

- **Open finding (§6.6) — CLOSED by §5.6.3 (v5.11).** A second cause survived beneath the remaining depth failures and neither amendment reached it: creator stipends were paid from the Ch.5 §5.4 Distribution Pool, fed by dignity-income overflow, and they minted **1.80×** as much CP as the marketplace did. Roughly 64% of new claim was therefore untied to production, the realised mint ratio ran at **≈3.3κ** rather than κ , and §5.6.1's own identity $\text{Depth}^* = 52 \cdot d \div \kappa$ then predicted a resting depth near **0.60 ×/yr** rather than §7.8's 2.0 — the one run long enough to have converged measured 0.686. **No retirement rate derived from κ can reach a mint that is not in κ** — so §5.6.3 moves the stipend's settlement, not the rate.

§5.6.3 Stipends Settled from the Commons (Stipend-Settlement Amendment, v5.11). §5.6.2 closed with an open finding (§6.6) it could not reach: creator stipends paid from the Ch.5 §5.4 Distribution Pool minted **1.80×** as much CP as the marketplace, leaving ≈64% of new claim untied to production, the realised mint running at **≈3.3κ** rather than κ , and §5.6.1's own identity $\text{Depth}^* = 52 \cdot d \div \kappa$ predicting a resting depth near **0.60 ×/yr** rather than §7.8's 2.0. No retirement rate derived from κ can reach a mint that is not in κ — so this clause moves the stipend's settlement, not the rate.

- **The stipend's size, entitlement and apportionment are unchanged.** The size stays **5 CP** (§17), the entitlement stays Steward-tier active creators, and §6.6's per-person apportionment stands. What moves is the settlement, not the promise.
- **Settlement moves from the Distribution Pool to the local commons.** Stipends are paid in CP the hub's own fees have already collected (§30.3) — never minted. A claim on the commons, not a mint with a means test; the commons balance is the only limit.
- **§13's redistribution is paid first, stipends second — dignity before incentive.** Measured: stipend-first breaks the baseline's Gini gate; §13-first holds it at **0.6397** while still settling ~90% of stipends in baseline-era measurement.
- **Neither d nor ℓ is reopened, and stationarity is untouched exactly** — the levy cancels per §5.6.2's own algebra, and a stipend that is paid rather than minted adds nothing for a rate to retire.
- **Measured (v5.11 + v5.12 ratified together, all 35 scenarios, byte-reproducible).** *Seed cell* depth 0.7330 → **2.5850** (Healthy); *decade long* 0.2927 → **1.2295** (the §5.6 floor crossed); *long term* 1.1430 → **2.7587**; median depth across the suite 2.39 → **3.12**. **All 35 scenarios clear every gate**, and no security gate regresses across the attack suite.
- **Recorded residual — ANSWERED by §5.6.5 (v5.14).** With §13 paid first and the window recurring, the commons runs dry before stipends: measured fulfilment is **26%** of the entitlement on the baseline, **16%** on *long term*, **12%** on *seed cell* and **11%** on *decade long*. The Protocol records this rather than inventing a minimum stipend reserve no text grounds, and §5.6.5 rules on the question this bullet left open: no floor is owed — the claim on the commons is the intended steady state, and the fulfilment table stands as the published expectation.
- **Amendment path: ordinary §7.1.**

§5.6.4 The Redistribution Window (Redistribution-Window Amendment, v5.12). §5.6.2 closed with a recorded finding it declined to repair — the 26-week redistribution entitlement implemented as a lifetime quota, leaving 67% of active members permanently disqualified while 72% remained capital-poor and 65% of the commons' disbursements stranded. The constitutional question it posed — lifetime allowance or recurring entitlement — is answered here: **recurring**.

- **A member may receive commons redistribution for at most 26 weeks within any trailing 52 weeks.** The entitlement recurs; it does not accumulate, and it does not reset.
- **The window is §7.8's annum.** The same 52 this Article annualises depth by ($52 \div 13 = 4$), the same 52 §5.6.1 derives the Retirement Rate through, and the same trailing 52 weeks over which §13.2 weights contributions for proportional division.
- **The entitlement is the written 26, unchanged** — the Protocol's half-year (§7.2, §5.9, $\$4.1/\$24.2$). The amendment changes what the number means, never the number.
- **The window slides; it does not reset.** A receipt leaves the count on its own fifty-second anniversary and no one else's. There is no reset day, no synchronised eligibility pulse, no cliff to game.
- **Targeting is untouched (Tier A bottom decile, Tier B low reputation)** — the window raises how often an eligible member may be reached, never who is eligible. Measured across the attack suite, no security gate regresses.
- **The record travels with the human being (§13.3)** across fission, home-hub change and refugee placement.
- **Activation.** Members past the former lifetime quota are re-eligible at activation — a one-time disbursement pulse against the stranded balances, measured in the amendment's report.
- **Measured.** The three surviving inequality failures close (*long term* Gini $0.6669 \rightarrow 0.6346$, *fission farming* $0.6572 \rightarrow 0.6188$, *seed cell* $0.6834 \rightarrow 0.6354$); stranded commons on the three-year run falls 78%; 33 of 35 scenarios clear every gate, and the remaining two miss provisioning depth only.

§5.6.5 The Stipend Is a Claim, Not a Floor (Stipend-Claim Ruling, v5.14). §5.6.3 closed with a recorded residual it declined to patch — with §13 paid first and the window recurring, the commons runs dry before stipends: measured fulfilment is **26%** of the entitlement on the baseline, **16%** on *long term*, **12%** on *seed cell* and **11%** on *decade long*. The constitutional question that residual posed — does the Protocol owe stipends a floor — is answered here: **no**. The claim is the intended steady state, and the fulfilment table is published as the standing expectation rather than tuned away.

- **Every floor is foreclosed by something already ratified.** A floor paid by minting is the defect §5.6.3 abolished — the $\approx 3.3k$ mint no retirement rate derived from κ can reach. A floor paid by diverting the commons is stipend-first under another name, and stipend-first is measured to break the baseline's Gini gate (**0.6504** against the 0.65 ceiling) where §13-first holds it (**0.6397**). A floor fixed as a number is the practice §5.6 was amended to end: no text grounds a share the way §5.6.2's algebra grounded ℓ .
- **The limit is arithmetic, not will.** On the baseline the commons' whole income — fees, decay and the §5.6.2 levy together — is $\approx 29\%$ of the entitlement, and stipends already receive $\sim 90\%$ of what the commons disburses. No re-ordering of one treasury pays a promise three times its income; the

honest forms are a claim with a published expectation or a mint, and the Protocol has abolished the mint.

- **§17 fixes a rate, not a guarantee.** The written **5 CP** sizes the weekly claim of an active Steward-tier creator; §5.6.3 states its limit — the commons balance is the only limit. Fixing the size of a claim no more guarantees its settlement than fixing a wage guarantees the treasury.
- **A floor would be an attack surface; the claim deletes the payoff.** A guaranteed reserve makes Steward creator status worth farming — the vector the fission-farming scenario measures — while a claim on a shared, dignity-first balance gives a farmer nothing a genuine member does not already have. §5.6's method is to delete an attack's payoff rather than to defend against it; this clause keeps it deleted.
- **The expectation is published and pinned.** The fulfilment figures above are the Protocol's honest statement of what the incentive layer delivers, and the test suite holds the published figures equal to the ratified measurements: a future change that moves fulfilment must move the published number in the same commit, or fail the build.
- **No mechanism moves.** Ordering, rates, sizes and gates are untouched, and flag-off reproduction of the ratified v5.11+v5.12 results stands byte-exact. What changes is that the question is answered, and the answer is on the record.
- **Amendment path: ordinary §7.1.**

§5.6.6 The Hub Treasury: a Split and an Allocation, Never a Second Mint (Treasury-Funding Amendment, v5.15). Chapter 3 §3.3 gives the Federation a class of hub whose work is coordination rather than sale, and coordination is the one form of contribution Chapter 6 §6.2's Creation Equation cannot reach: it mints on a transaction, and a translator, a moderator, a scheduler or a protocol builder may run a year without one. The treasury that must pay them already exists — Chapter 30 §30.3 names it, denominates it, and lists what funds it. This clause adds two lines to that list and forecloses a third for ever.

- **The mint split (Chapter 6 §6.8).** A share θ of the claim Chapter 6 §6.2 already mints is credited to the hub commons instead of to the seller, in non-geographic hubs only, at 0–15% hub-set with a default of one tenth. It is a division of CP_{minted} , never an addition to it, so the claim minted per unit of real value sold is unchanged; κ is unchanged; §5.6.1's d remains the rate it was derived to be; $Depth^* = 52 \cdot d \div \kappa$ does not move; and Chapter 8 §8.5.1's c — and therefore the curve price, and therefore the depth that is inversely proportional to it — does not move either. **Two channels, one property, and no intention required to hold it.**
- **The allocation (Chapter 7 §7.3).** An operational hub's annual gCP allocation is a treasury line, and spending it is spending. Chapter 7 §7.2 pre-allocated the 6 B; Chapter 7 §7.7 holds $Circulating + Unissued \equiv 10,000,000,000$ on every block; an allocation moves gCP that was conserved before the move and is conserved after it. **It has no denominator in real value sold, and therefore cannot be a term in κ at all** — which is a stronger reason than "it is not minting", and the one that actually settles the matter. §5.6.3's defect was a **flow**: a stipend minted at $1.80\times$ the marketplace, permanently, proportional to membership, against a retirement rate derived from a κ the stipend

was not in. An allocation is a **bounded stock**, drawn from a pool that decays geometrically (Chapter 7 §7.3) inside a ceiling that is unamendable (§5.3). A flow term and a stock term are not the same object, and no re-labelling in either direction makes them one.

- **The honest edge of that claim, stated because it is where the argument would otherwise be overstated.** A gCP allocation is clear of κ as gCP. If its recipient converts it down, Chapter 8 §8.4 mints CP-local against gCP debited — as it does for every gCP any member has ever converted, from any source. This amendment opens no new door into the local circuit; it routes value through the door Chapter 8 §8.4 already is, at the curve price, paying the 2% hub fee, under Chapter 7 §7.5's schedule, and indistinguishable at the ledger from an inter-hub seller converting proceeds. What arrives is retired at §5.6.1's flat universal d like every other balance, and it is bounded by an allocation that shrinks geometrically while production does not. That is the difference from a mint, and it is a difference of kind rather than of size.
- **And the allocation is zero, which Art. XVI §16.9 answers without adding a line to this list — and which v5.17 made permanent rather than temporary.** Through v5.16 an operational hub's allocation was its activity share alone (Chapter 7 §7.3), activity was measured on trade a new hub had not yet done, and Art. XVI §16.9 advanced against that allocation and recovered from it. Chapter 7 §7.3 has since **struck the activity term**, so the allocation is zero on the hub's first day and on every day after it, and there is nothing for a recovery to charge. §16.9's instrument survives with its ceiling, its cadence, its milestones and its surety unchanged, and its recovery limb does not: it is a **grant**, stated as one there. **It is therefore still the gCP allocation line and not a fourth one** — the pool is named, the sum is bounded, the stock is conserved (Chapter 7 §7.7), κ has no denominator to receive it, and the foreclosure in the bullet below is untouched — but it is now paid and not charged back, and the Federation Reserve carries the whole of it.
- **A third funding line is foreclosed here, permanently: no hub treasury is ever funded by minting.** Not by a treasury mint rate beside Chapter 6 §6.2's, not by a percentage of inter-hub sale value, not by an issuance against a budget, not at any threshold, not for any purpose, and not for a bootstrap. §5.6.3 abolished the mint that funded an entitlement and §5.6.5 refused to restore it as a floor; a treasury mint is the same instrument with a different beneficiary, and it would arrive carrying the identical arithmetic — a mint that is not in κ , which no retirement rate derived from κ can reach. A proposal drafted as though this were an open question is void on its face (Art. IX §9.10).
- **Contributor pay is spending, and it is spent through published bounties.** Chapter 7 §7.6 already runs this instrument one layer up — *Federation service | Published bounties | Federation Reserve* — and Chapter 30 §30.3 already names bounties as what the Protocol Development pool buys. A hub bounty is the same instrument one layer down. It is **published before the work**, naming scope, deliverable, acceptance test and price **to the cent** (Art. XV §15.2(b)); it is **settled against delivery** on the published acceptance test and on nothing else; and it is denominated and settled in the currency of the line that funds it — CP from the Chapter 6 §6.8 share, gCP from the Chapter 7 §7.3 allocation. **Never against an external contribution of any kind**, in either direction and at any size: the circuit admits no external currency (§5.6), Art. XV §15.10's firewall bars external currency from entering any protocol formula as a variable, and Appendix F.6 states the identical rule for the red-team programme in the same words — *no bounty is ever paid in tokens against money*.

- **Earned, not granted — and the distinction is in the text, never in the intention.** Chapter 6 §6.6's rule is the test: *what is earned scales with what you actually did; what is granted does not scale with how many doors you walked through*, and its per-person cap binds grants. A bounty published before the work and settled against delivery scales with the delivery, so the cap does not bind it. A payment announced after the work, or settled on attendance, participation, membership or "collaboration", is a grant wearing a bounty's name and Chapter 6 §6.6's cap binds it in full. **The published-before and settled-on-delivery conditions are not good practice; they are what makes the payment earned, and they are binding.** A hub that cannot produce the publication that preceded the work has not paid a bounty.
- **A bounty settlement is not volume, and this is where that rule is load-bearing.** A disbursement from any hub commons, treasury or hub-controlled account is excluded from the recipient's hub's `Volume_i` under Chapter 7 §7.3 and from its `E5.2` under Chapter 6 §6.3, on the recipient's side, without exception — one rule, stated where the quantity is defined, and stated for the work-order case in the same terms at Chapter 15 §15.4. Absent that exclusion this clause would build a financing loop: a treasury pays contributors, the payments book as inter-hub volume, the volume drew a larger share of a **fixed** activity block, and the larger share refilled the treasury — a loop Ch. 7 §7.3 has since closed at the root by striking the block (v5.17), leaving this exclusion to do the narrower work its own next sentence describes — funded, at every turn, out of the allocations of hubs that did no such thing. The exclusion is what makes contributor pay a cost rather than an investment, which is what a wage is.
- **Who decides, at what threshold, and in what light.** Within-hub governance decides, and Art. XI §11.7 has already settled which governance that is: *Within each hub, governance remains quadratic voting weighted by experience and contribution (Chapter 11) — the layers do different work and are not in tension.* **A hub approves a bounty programme at the Chapter 12 §12.2 threshold — 66%, with a four-week implementation delay — and that approval is the treasury allocation (the Bounty Programme Envelope, v5.22; §6.9).** The programme is a funding envelope: a total, a per-bounty maximum, the eligible categories, an acceptance-policy template, and the **named stewards** who will publish within it. Inside an approved envelope, those stewards publish individual bounties **without a further ballot**; amending or topping up the envelope is a new ballot at the same threshold. The allocation that takes 66% is the envelope — so "a treasury allocation takes 66%" remains literally true — and a hub's day-to-day work is not made to wait four weeks per task. A bounty outside any programme (a one-off the ballot itself names) keeps the original rule entire: the §12.2 threshold for its publication and for any amendment to it. Publication, settlement and rejection are **audited on-chain**, to the standard Art. XV §15.3 already requires of every Foundation programme: *every programme is proposed and voted by members, executed by the Foundation, audited on-chain.* The bounty register, its outstanding liabilities and its settlement history publish on §5.6's weekly cadence with the raw inputs alongside, so that any member can recompute the treasury's position without asking anyone for it (Art. X §10.4).
- **The softest criterion in this design is named rather than defended.** *Collaborating in the movement* is how a treasury captures itself: the people who govern the spending decide who counts as a contributor, and reliably conclude that they do. Every other allocation in this Protocol anchors to something externally checkable — Chapter 6 §6.2 to a real sale, Chapter 7 §7.3 to a member

count and a volume ratio, §5.6 to registered provisioning valued at sealed acquisition figures (Art. XIII §13.8). A treasury spending on "contribution" anchors to nothing. The bounty requirement is that anchor, and it is the only one this clause has: a deliverable named before the work by people who did not yet know who would do it, and an acceptance test written before there was anyone to fail it.

- **What this clause does not do, stated because it will otherwise be read as doing it. It does not repair the stipend shortfall, and must never be cited as repairing it.** Creator stipends are a **geographic-hub** mechanism, settled from the fees a geographic hub's own commons collects (§5.6.3, Chapter 30 §30.3). Chapter 6 §6.8 does not reach geographic hubs, and Chapter 7 §7.3 gives geographic hubs no allocation-funded treasury line. §5.6.5's table stands exactly as published:

Scenario	Stipend fulfilment
baseline	26%
long term	16%
seed cell	12%
decade long	11%

Those four numbers are unmoved by this amendment, which is a **parallel channel, for different work, in a different class of hub**. §5.6.5 has ruled that no floor is owed, that *the claim is the intended steady state, and the fulfilment table is published as the standing expectation rather than tuned away*, and that *the expectation is published and pinned*. Nothing here reopens the ruling, and nothing here improves the figures.

- **The genuine risk, recorded.** A well-funded bounty board in operational hubs competes with local creation for the same people, and local creation is what builds the provisioning depth §5.6 measures. §5.6.5's own warning applies by analogy — *a guaranteed reserve makes Steward creator status worth farming* — and a standing bounty budget makes coordination worth farming in the same way, with the added difficulty that coordination has no counterparty to attest it and a sale does. The Protocol does not claim to have priced this. What it has is the anchor above, the Creator Ratio as the metric that would see the drift (Chapter 4 §4.5, weight 0.15, Healthy 15–50%), and a register anyone can read. **If the Creator Ratio falls in operational hubs while their bounty registers grow, this clause is the suspect, and the published figures will say so before anyone has to argue it.**
- **Amendment path: ordinary §7.1** — proposal by 20+ hubs, a 26-week discussion period, 90% of the Council, and a 12-week implementation delay: **thirty-eight weeks at the floor, and only if nobody objects on the way**. Nothing here approaches Art. VII §7.3's list. The 10 B cap (§5.3) is untouched, Chapter 7 §7.7's identity is untouched, and the closed circuit (§5.6) is untouched — it is the reason a bounty may never be paid against money.

§5.7 Token Topology (Foundation Layer Amendment). The Protocol defines classes; hubs deploy instances; one token — gCP — is minted at Protocol level as network-wide money, and communities share a circuit before they issue one.

- **The dignity right is not a token.** It is a constitutional guarantee under §1.2 and §2.1 — one per verified human, non-multipliable, non-convertible, inalienable. UBD is how it is paid; it is not what the right is.
- **UBD tokens are hub-minted instances**, spendable only within the issuing hub. A member receives UBD from exactly one **home hub**, however many hubs they belong to, on a published cooldown — and that home hub is a **geographic** hub, because a hub with no territory has no local market obliged to accept what it would mint (§5.9, §16.1.1). No member holds two dignity incomes; no two hubs allocate provisioning for the same human being. For Seed Cells and Nascent Hubs, dignity income is paid in the shared circuit's unit (§16.2.1); a Full Hub mints its own UBD instance.
- **CP tokens are hub-minted** under Protocol-defined minting, anti-wash, and decay rules. **The Protocol mints no CP.** A hub mints its own CP only at Full Hub (§16.4); below that a community issues no currency and transacts on a shared circuit (§16.2.1). A member creating value in several hubs earns several CP currencies, legitimately, because minting follows real sales — but onboarding grants and creator stipends are **per person, not per hub** (§6.6).
- **The shared circuit.** Seed Cells and Nascent Hubs share one circuit rather than each minting a token (§16.2.1) — the nursery Full Hub's CP, or, for Foundation-incubated cells with no Full Hub in reach, a single pre-sovereign seed unit operated as neutral nursery infrastructure. It is CP-class, held by no Foundation (§15.2), bought in from nowhere (§5.6), outside the 10 B ceiling, and convertible to gCP only through the limited Steward-tier window of §16.3. A community is not a currency; monetary sovereignty is what Full Hub earns.
- **gCP is the only Protocol-minted token** and the only one fungible network-wide. Local CP converts at Steward tier; inter-hub value moves through that single bottleneck — hub-and-spoke, never mesh (§7.9). No hub may open a direct CP-to-CP pair with another hub.
- **No Foundation holds gCP, CP, UBD, or any shared seed unit** (§15.2). The legal layer holds land and buildings; the ledger layer holds tokens; the two never trade with each other.
- **In migration:** the dignity right continues, reputation transfers in part (§14.3), earned CP converts through gCP. On promotion to Full Hub, a cell's members' shared-circuit balances re-denominate into the hub's own CP on a published one-time basis (§8.3), creating and destroying nothing network-wide.

§5.9 The Home Hub, and Its Type (Hub Typology Amendment, v5.15). A member may belong to any number of hubs and receives dignity income from exactly one — the **home hub**, declared at joining and changeable on the cooldown of Chapter 5 §5.9, within the ceiling §10.1 sets over it. **Only a geographic hub (Chapter 3 §3.3) may be a home hub, and only a home hub mints UBD.**

- **The dignity right is singular, so its payment is singular.** Two communities allocating grain for the same human being is not generosity; it is double-counting a provisioning promise neither of them can independently keep (§5.7).
- **The type restriction follows from §5.1.1, not from any anti-abuse concern.** "Sufficient" is defined against *the local-basket at local market prices, recalculated every 13 weeks*. A hub with no

territory has no local market and no single basket; an obligation that cannot be measured cannot be complied with, and a clause that cannot be complied with erodes by interpretation, which is precisely what §5.1.1 was written to prevent. §16.1.1 ruled the same question in advance: the binding constraint is the depth of the real economy behind the token.

- **A hub of any type may pay its members** from its commons for work actually done — CP minted on real sales, stipends, published bounties. What only a geographic hub may pay is **dignity income**.
- **The obligations of §3.2, §5.1 and Chapter 4 §4.3 to provide UBD bind a hub in respect of the members whose home hub it is.** A hub no member has declared as home owes no dignity income and is in violation of none of them. The right is not narrowed; only the debtor is named.
- **No hub may condition membership on being made the home hub**, and no hub may refuse or penalise a member on the ground that their home hub is elsewhere (Chapter 5 §5.9, §2.2).
- **Transition, cooldown and the no-lapse rule are Chapter 5 §5.9's**, unchanged by this clause except where its transitional provision says otherwise.
- **On the number, and on the two §5.9s.** §5.7, §10.1 and §11.7 have cited a Constitutional §5.9 since the Foundation Layer Amendment and no such clause existed. This clause takes the number the document has been pointing at, so that three citations become literal (§9.10). §5.8 is left unassigned rather than shuffling ratified text to close a cosmetic gap. **Chapter 5 §5.9 keeps its number as well, and the collision is closed by citation rather than by renumbering.** The reading rule at the head of this document already governs: inside Book IV a bare §5.9 is this clause, outside it a bare §5.9 is Chapter 5's. Because that rule also carries one *Art. N* across every clause in the same citation sharing its numeral, the two may **never** appear bare together — (Art. V §5.9, §5.9) reads as this clause twice. Where both are meant, both are named: (Art. V §5.9, Ch. 5 §5.9). Where one is meant in a table or an appendix whose neighbouring citations are Article-qualified, it is named in full there too. This clause states which hubs may owe dignity income; Chapter 5 §5.9 states the cooldown, the transition, the no-lapse rule and the devolution conditions; neither restates the other.
- **Amendment path: ordinary §7.1.** Nothing here sits in §7.3's unamendable list. The dignity right itself — *one per verified human, non-multipliable, inalienable* — is unamendable and is untouched: this clause moves which hub owes it, never whether it is owed.

Article VI — Dispute Resolution

§6.1 Hierarchy.

1. Direct negotiation
2. Mediation
3. Hub arbitration
4. Inter-hub arbitration (cross-hub only)
5. Arbitral Layer (any dispute with a Federation organ; constitutional questions — Article XII)

The Federation Council holds no adjudicative role (§1.6, §11.6); its coordination and emergency mandate (§4.1) is unchanged.

§6.2 Natural Law Standard. All disputes judged by three questions: Was there harm? Was there a valid agreement? What remedy restores balance?

§6.3 Restoration. Consequences aim to restore, not punish. Make the harmed party whole. Address root causes. Reintegrate the offender if possible. Exile only as last resort.

Article VII — Amendments

§7.1 Ordinary Amendments. This Constitution (except Article I) may be amended by: proposal by 20+ hubs, 26-week discussion period, 90% approval of Federation Council, 12-week implementation delay.

§7.2 Foundational Principles. Article I may only be amended by: proposal by 50%+ of all hubs, 52-week discussion period, 95% approval of Federation Council, ratification by 80% of individual hub votes, 26-week implementation delay.

§7.3 Unamendable Provisions (Decade Hardening Amendment expansion). The following can NEVER be amended — not by supermajority, not by emergency decree, not by any procedural workaround. Engine-level enforcement at the protocol layer makes amendment of these clauses physically impossible:

- Human sovereignty principle (§1.1)
- Inherent worth principle (§1.2)
- Non-aggression (§1.5)
- Right to exit, voluntary (§2.1)
- Right to exit, involuntary protection (§2.4)
- Federation limitations (§4.2 — no taxing, no military, no override)
- gCP hard cap at 10 billion (§5.3)
- gCP succession to Federation Reserve, never to coercive actors (§5.5(c))
- No external identity registry (§9.1)
- No forced ID-collection mandate for trade (§9.2)
- Asset freeze resistance (§9.3)
- Permissionless infrastructure mandate (§9.5)
- Constitutional literalism (§9.10 — no "living document" doctrine)
- Anti-capture calibration ceilings (§10.1)
- Impartial adjudication & the Arbitral Layer's jurisdiction over Federation acts (§1.6, §12.12)
- Consent Registry: right to participate & prohibition of nominative records (§9.11)
- Registry three-number publication rule (§9.12)
- Closed circuit — no external convertibility, ever (§5.6)

- Registry architecture: no personal data outside the signer's device, in any form, encrypted or not (§9.14)
- No geolocation anywhere in the stack (§9.18)
- The no-exemption firewall: a Registry signature carries zero individual legal effect and grants no exemption (§9.11, §9.16)
- The dignity right: one per verified human, non-multipliable, inalienable (§5.7)
- Foundation statutory prohibitions: no cash-out, no personal profit, no tokens for donations, no donor governance (§15.2)
- Foundation bound devolution — assets never to liquidation or private hands (§15.7)
- Exit always survivable, at every level (§1.4, §2.1, Chapter 29)

Reaching for a workaround. Each provision above is beyond §7.1 *and* beyond §7.2. Where a clause here is also an Article I clause, §7.2 does not reach it either; where it sits outside Article I, it is unamendable on its own terms. There is no "foundational tier" that opens any of them, and any proposal drafted as though there were is void on its face (§9.10). Engine-level enforcement (§10.3, §14.2) makes the amendment physically impossible, not merely illegitimate.

Article VIII — Ratification

This Constitution takes effect when adopted by 10 founding hubs representing at least 10,000 humans, with public declaration.

Article IX — Anti-Coercion & Sovereignty Defense (Decade Hardening Amendment)

This Article is the protocol's response to the historical pattern of supranational governance attempting to capture, surveil, or shut down monetary alternatives. Each clause closes a specific attack surface that the §23.5 decade projection surfaced as unaddressed in the original text.

§9.1 No External Identity Registry. No hub and not the Federation may maintain or share with any external party (state, corporation, intergovernmental body, payment network, identity provider) a registry of members' real-world legal identities. Per-hub proof-of-personhood mechanisms are permitted (biometric attestation, web-of-trust vouches, proof-of-humanity protocols); mass identity disclosure to any external actor is prohibited regardless of legal claim to the contrary.

§9.2 No forced ID-collection mandate for trade. No hub may require government-issued identification as a condition of marketplace participation. Verification of *personhood* (a cryptographic check that you are a single human) is permitted; verification of *identity* (mapping the actor to a state-recognised legal name) is prohibited. The Federation explicitly does not recognise any "Travel Rule," "FATF Standard," or equivalent extraterritorial regulatory imposition as constitutionally binding. Mandatory ID-collection regimes — including any future "KYC mandate" framed as compliance — are an unamendable prohibition under this Article.

§9.3 Asset Freeze Resistance. No agent — hub governance, the Federation Council, any Federation organ, or any external party (state, court, regulator) — may exercise **discretionary** freeze, confiscation, sanction, or reassignment of gCP or CP holdings. The constitutional remedy for member wrongdoing is restorative (§6.3): make-whole obligations, reputation reduction, tier demotion, time-bounded marketplace restriction, or in extreme cases exile. Punitive seizure of holdings is prohibited. Any technical mechanism that would enable discretionary freeze (admin keys, pause functions, blacklists) is itself a §7.3 violation.

This clause does not reach the protocol's **pre-committed, formula-based** economic mechanics — anti-dump penalties (§7.5, §8.6), activity decay (§6.4), published penalty schedules (Appendix B.5), succession (§5.5), and the market-depth response (§5.6, A.13). Those are rules consented to at joining, executing identically for everyone by published formula, with no one deciding anything at the moment of application. The line this clause draws is discretion: what no one may hold is a lever that can be pointed at any one of us.

§9.5 Permissionless Infrastructure Mandate. The Federation's gCP ledger, hub registry, dispute escalation system, and refugee placement coordinator must run on permissionless infrastructure — public blockchains or equivalent decentralized systems with no single host, no admin keys, no kill switch, no ability for any single jurisdiction to shutter the protocol. Specifically: at least 7 distinct legal jurisdictions on at least 4 continents must host independent full nodes (§9.7), and the protocol must remain functional with up to 33% of nodes **Byzantine** — actively faulty or malicious, the classical bound of Byzantine fault tolerance. That bound concerns nodes that *misbehave*; it is not the availability requirement. Whether the Federation survives the *loss* of whole jurisdictions, nodes that simply go dark, is the separate test of §9.7. The distributed deployment authority of Article XIV — a threshold of Trustee-held keys whose only permitted act is deploying amendments already ratified under Article VII — is not an admin key within the meaning of this Article or §9.3: it cannot touch holdings, cannot pause, cannot blacklist, and cannot act without ratification. A Constitution that forbade its own upgrade process would invite exactly the quiet workaround it was written to prevent; this one names the process instead (Article XIV).

§9.6 Encrypted Communication Default. All Federation-level communication channels (governance proposals, dispute escalation, hub-to-hub messaging, refugee coordination) must be end-to-end encrypted by default. No backdoors. No "lawful intercept" exceptions. No regulatory carve-outs. Hubs may operate additional public channels for transparency, but private channels must remain private even from the Federation itself.

§9.7 Multi-Jurisdictional Survival. Federation infrastructure (nodes, key shares, refugee placement coordinators) must be redundantly deployed across at least 7 distinct legal jurisdictions on at least 4 continents. The Federation must remain operational under the simultaneous shutdown of any 3 jurisdictions. **This is a requirement of availability, not of honesty:** the nodes lost are nodes that go dark — by order, seizure, outage or exit — not nodes that lie, and the one-third Byzantine bound of §9.5 is a separate bound on a separate failure, applied on its own terms. A deployment that meets one and fails the other does not satisfy this Article. This calibration is reviewed annually and may be

tightened (more jurisdictions required) but never loosened below this floor. (*Coherence pass, 2026-10: §9.5 and §9.7 previously read as one requirement stated twice — "33% of nodes unavailable" against "any 3 of 7 jurisdictions down" — and could not both hold; they are two.*)

§9.8 Distributed Treasury. The Federation Reserve (2.5 B gCP) is held in a cryptographically distributed multi-signature vault requiring approval from Trustees in at least **5 hubs across 3 continents** for any disbursement above 10,000 gCP. No single hub, no single Trustee, no single jurisdiction can drain the Reserve. Refugee grants under 10,000 gCP per recipient are pre-authorized by §2.4 and execute automatically. Compensation awarded by an Arbitral Panel (§12.10) is pre-authorized in the same manner, up to 500,000 gCP per award, with mandatory publication: the Reserve's signers may verify an award's authenticity but may not withhold execution of it. A remedy the losing party's own signers can starve by inaction is not a remedy.

§9.9 Sanctuary Protocol (Honest Boundary). Any hub may declare sanctuary status for members fleeing state coercion. A sanctuary declaration binds the declaring hub and the Federation to everything within their power:

- The hub's and the Federation's infrastructure shall never be an instrument of surveillance or handover: no data sharing beyond what law compels, no voluntary cooperation with external demands, end-to-end encryption by default (§9.6).
- UBD shall not be denied on the basis of external sanctions, blacklists, or watch-lists.
- gCP and CP holdings shall not be frozen by any hub or Federation organ, whatever external demands assert (§9.3).
- Legal defense is funded from the Federation Reserve; the refugee protocol (§25.6) stands ready; involuntary-exit protection (§2.4) applies in full.

What sanctuary cannot promise, this Constitution refuses to pretend: **the Federation holds no coercive power and cannot prevent a state from acting within its own borders.** Sanctuary is the network's whole strength placed beside a member — never a claim that the network can stand between a member and a state. Every member is told this boundary at onboarding, in plain language, per jurisdiction (§9.13); a protection promised falsely is the gravest breach a consent-based order can commit. The Federation logs sanctuary declarations publicly. A hub that violates sanctuary status it has declared loses Trustee voting rights at the Federation level for 26 weeks.

§9.10 Constitutional Literalism (No Living Document Doctrine). When the meaning of a constitutional clause is contested, it is resolved by the literal text of the clause as written — never by "intent," "modern context," or evolving doctrine. No organ of the Federation — Council, Panel, hub, or engine steward — may override, extend, or narrow the text. The Arbitral Layer (Article XII) **applies** the text; it does not interpret beyond it, and literal construction binds it as strictly as every other organ. Where the text is genuinely silent (as the §23.5 decade projection surfaced three times), the only legitimate response is amendment under §7.1 / §7.2 — never reinterpretation, judicial, executive, or technical. The engine (Article XIV) enforces the text as ratified; whether deployed code conforms to ratified text is a question of fact for the Arbitral Layer (§14.6), not a question of meaning for the engine's

stewards. Literalism without a named literalist is unexamined delegation to the implementer. This clause exists to prevent the slow erosion that captured every previous monetary system — including erosion by the compiler.

§9.11 The Consent and Revocation Registry (Coherence Amendment; nullifier re-derived by the Provisioning-Depth Amendment). Every member holds the standing right to affirm or revoke, at any time, their consent to their hub and to the Federation — and, as a consultative expression, toward any external order claiming their allegiance. The Registry is the protocol's instrument for this. Participation is proven in zero knowledge — a valid eligibility proof, a campaign nullifier, a consent bit, and nothing else — and **no nominative record of any participation may exist anywhere in the protocol**, compilable by no one, including the Registry's own operators, including under compulsion: a nominative database of people who have revoked consent to their state is not a civic instrument, it is a proscription list waiting for a worse decade. Eligibility runs on two tracks, published separately and never silently pooled: Track A, document-anchored cryptographic proof (with its coverage limits stated honestly under §9.15); Track B, web-of-trust attestation under the §9.1-permitted mechanisms — so that the displaced, the stateless, and the undocumented, whom §2.4 and §25.6 exist to protect, are never excluded from the protocol's own consent instrument.

The nullifier, specified. One nullifier per living human being per campaign, derived one-way from the eligibility document and the campaign identifier — **stable within a campaign, carrying an updatable consent bit**. The holder may re-prove ownership of the same document at any time and flip their bit: affirmed → revoked, revoked → affirmed, without limit. Three properties the protocol needs, which no other construction delivers together: a **monotonic distinct-signer curve** (each person counts once, forever, whatever they later choose), a **live current-state tally** (affirmed / revoked / not expressed, as of now), and **genuine revocability** (a write-once nullifier would mean no one could ever change their mind, which is not a consent instrument at all).

The residual, declared rather than hidden. A stable per-campaign nullifier is a **pseudonym**. It is linkable to itself *within* one campaign — that is what makes revocability possible — and unlinkable *across* campaigns, and it is never nominative in any campaign. Mapping a pseudonym back to a living human being requires their own document and their own device; the protocol holds neither and can be compelled to produce neither. A list of pseudonyms is not a proscription list. The protocol says this plainly rather than implying an unlinkability stronger than the one it actually has: overclaiming a privacy property is how people get hurt by systems that meant well. Nullifiers are not a registry of members' real-world legal identities within the meaning of §9.1.

The firewall, at the moment of signing. A recorded affirmation or revocation is a **political declaration and nothing else**. It creates no exemption from any law, tax, or obligation of any existing legal order, anywhere; it changes no one's legal status; it is not a legal act. The Registry states this on its face, at signature time, in every language it serves, in every jurisdiction. No hub, Foundation, campaign, or material of the Protocol may state or imply otherwise. Every movement that confused declared withdrawal with legal immunity destroyed its members and then itself, in that order.

The Registry is a **global instrument, not a members-only feature**. It carries two concentric scopes. *Within the network*, it is the standing mechanism by which members affirm or revoke consent to hub and Federation — governance plumbing, binding in its own domain. *Toward the world*, it is the

protocol's open offering to every human being: any person holding a validly signed identity document of a jurisdiction — member or not, on any continent — may participate in consent campaigns concerning that jurisdiction, because eligibility derives from the state's own signatures, not from HPP membership. Any hub may open and steward a campaign for its own region; a group of residents meeting a published threshold may petition any hub to host one. Three guards travel with the scope: global campaigns are Track A only (non-members hold no web-of-trust standing) and every publication says so; the §9.12 rules — three numbers, named census denominator, no headline figure, consultative-only disclaimer — apply with full force; and a stewarding hub's legal exposure in its own jurisdiction is assessed and disclosed under §9.13 before the campaign opens, because in some states hosting an unofficial consultation is itself the confrontation. The Federation thereby offers what no state can be: a neutral measurement layer for the one question every political order prefers unasked — *do the governed, today, still agree?*

§9.12 Registry Publication Rules (Coherence Amendment; amended by the Provisioning-Depth Amendment). Every published Registry figure states three quantities against a named public denominator: consent **affirmed**, consent **revoked**, and consent **not expressed**, with the denominator drawn from cited public census data. The Registry may never publish a single headline number — an instrument that can be reduced to one number can be captured by whoever chooses the number.

Its output has exactly two shapes, both published on a 13-week cadence (aligned with §5.1.1):

- A **current-state cross-section** — affirmed / revoked / not expressed, as of the publication date, against the named denominator. This is the tally that can move in both directions.
- A **monotonic distinct-signer curve** — the cumulative count of distinct people who have expressed anything at all in the campaign, which by construction only rises. It is a count of participation, never of agreement, and every publication says so, because a curve that silently conflated the two would be the single most misleading number the Protocol could produce.

What is never published, and why. No nominative record, in any shape. No cross-campaign linkage: a person's participation in one campaign is not joinable to their participation in another, by anyone, including the Protocol. What v5.2–v5.4 stated as "no history of individual changes of mind" is replaced by the accurate statement, which is stronger where it matters and weaker where honesty requires: **no nominative record, and no cross-campaign linkage**. Within a single campaign the stable nullifier (§9.11) does record that *some* pseudonym changed its bit — that is the price of revocability, it is declared, and it is not a name.

Consultative, not a ballot. The Registry does not claim the status of a secret ballot — participation is provable by the participant and therefore in principle coercible or purchasable — and every publication carries this disclaimer. Re-affirmation at any time is the mitigation, since no single coerced proof is durable. Where law requires a secret ballot, the booth remains the standard, and an official referendum outranks the Registry (§9.16); the Registry's role is to make the case that the booth be opened, and to walk people to it when it is (§9.18).

§9.13 The Honest Layer (Enumerated Refusals & Disclosure) (Coherence Amendment). The Federation complies with generally applicable law in every jurisdiction its hubs inhabit, with exactly **three constitutional refusals**, stated as a closed list: (1) mass identity disclosure to any external party

(§9.1, §9.2); (2) discretionary seizure or freeze of member holdings (§9.3); (3) lawful-intercept backdoors in member communications (§9.6). Nothing else is refused. The closed circuit (§5.6) shrinks the surface these refusals must defend: a system with no fiat rails is not a money transmitter, lists on no exchange, and holds nothing a financial regulator can freeze. Every member receives at onboarding, in plain language, a per-jurisdiction statement of which refusals conflict with the law of their jurisdiction and what the realistic consequences are — a member in Frankfurt and a member in Buenos Aires are not taking the same risk, and a single global disclosure serves neither. **The same statement discloses tax exposure (§9.19)** for any member who trades or intends to trade as an enterprise: that receipts in circuit tokens may be taxable under their own law, that the Protocol publishes no rate and will not value the receipt for them, that any liability falls due in their jurisdiction's currency from their own fiat revenue, and what the published jurisdiction tax opinion says — including where it says *not safely, not yet*. A member told about seizure and surveillance but not about their revenue authority has been told the dramatic risk and not the likely one. The protocol guarantees dignity income, voice, exit, and fair adjudication **within the network**; it does not and cannot protect anyone from state power, and it never asks any member to break their jurisdiction's law as a condition of membership. A hub facing state pressure follows the Compliance Ladder: transparency first, funded legal defense second, graceful infrastructure migration third, orderly member evacuation (§25.6) last. No hub improvises its own martyrdom; no member is recruited into an undisclosed risk.

§9.14 Registry Architecture — The Treasure That Is Never Created (Foundation Layer Amendment). The Registry's privacy guarantee is not encryption. It is categorically stronger: **the personal data never comes into existence outside the signer's device.**

- The signer's own phone reads the cryptographic chip of their passport or national eID over NFC. The chip carries the holder's data signed by the issuing authority under ICAO 9303 (or the national eID equivalent).
- **On the device — never on any server** — a zero-knowledge proof is generated attesting only: a *genuine, unexpired document signed by authority X, held by a unique adult*, together with the §9.11 campaign nullifier.
- **Only the proof and the nullifier reach the chain.** Name, document number, photograph, and birth date never leave the phone, exist on no server, and exist on-chain **in no form — not even encrypted**. This is a rule of principle, not of configuration: immutable ledgers cannot honour erasure, keys leak, and today's strong ciphertext is next decade's plaintext archive.
- **The rule is absolute: a treasure is not protected — it is made impossible to constitute.** Any authority demanding "the signers' data" receives the only true answer: it was never held. The implementation is open source; the claim is verifiable rather than promised.
- Because no personal data exists, there is no data residency to negotiate, no production order to fear, and nothing to localise across two hundred legal orders.
- **Hard separation from donation flows.** A Foundation receiving **donations** must perform genuine custodial identity checks through regulated processors — anti-money-laundering law requires it (§15.5). That silo shares **not one identifier** with the Registry: not a hash, not a salt, not a timestamp join key. Donors and signers are unlinkable **even by us**. A Foundation that linked the two would be in breach of its accreditation (§15.6).

This clause is listed in §7.3. The architecture it describes is not novel: the same pattern runs in production today for this exact use case — zero-knowledge passport verification (the zkPassport / proof-of-passport family), national-ID equivalents such as Anon Aadhaar, and anonymous political polling of citizens of authoritarian states via Freedom Tool, deployed where anonymity is a matter of personal safety.

§9.15 Verification Coverage & Declared Limits, Honestly (Foundation Layer Amendment). The Registry's trust anchor is the sovereign's own public-key infrastructure, which is a genuine irony and not an unlimited resource. The Protocol states the limits rather than the slogan:

- **ICAO PKD participation is well under half of issuing states.** Others distribute their certificates bilaterally, or via published master lists, and some publish nothing at all. Verification is therefore available for a large share of the world's documents and **unavailable for the rest**. Keys rotate; participation is discretionary and can lapse.
- Every campaign publishes its **verifiable-document coverage** for its own jurisdiction in its methodology, as a number, before it opens. "A large share" is an honest sentence in a constitution and a dishonest one in a campaign.
- **Dual-document holders** could in principle generate two nullifiers. This is percentage-level noise, mitigated by admitting **one document class per campaign**, and disclosed in every campaign's methodology.
- **A compromised device is the weak perimeter of any system ever built**, this one included. The mathematics protects the signature; it does not protect a searched phone.
- **Participation is provable by the participant.** That is precisely why the Registry is a declaration and never a ballot (§9.12).

§9.16 Evidentiary Standing (Foundation Layer Amendment). Campaigns will be attacked on exactly this question, so the Protocol answers it before anyone asks.

An **official referendum** — state-sanctioned, universal census, secret booth — remains the gold standard of political evidence, and **nothing built without the state equals it**. The booth's secrecy defeats coercion in a way provable participation cannot, and official convocation makes the sample the electorate rather than the self-selected. The Registry does not claim that rank and never will. **An official referendum outranks the Registry, always**, and where one is available it is the better instrument.

The Registry's claim is different and, for its purpose, sufficient: **it is the strongest political evidence attainable without the state's cooperation, and it is immune to precisely the attacks that destroyed every predecessor**. Those deaths have names, and every future campaign will be attacked with the same weapons:

- **Catalonia, 9 November 2014.** 2.3 million participants, volunteer stations, no verifiable census. Madrid's dismissal wrote itself: *only the convinced showed up, and anyone could have voted twice*. The number evaporated politically within days; the lasting legal consequences fell on the officials who had lent public means to it.

- **Veneto, Plebiscito.eu, March 2014.** Over two million adhesions claimed, contested within hours on duplicates, foreign participation, and unverifiable methodology. The headline number died under scrutiny it could not survive.
- **The paper petition**, oldest genre of all, never defensible at scale: signatures no one can verify, names no one can check, duplicates no one can exclude.

Verification was the epitaph of every one of them. The Registry inverts the weakness into the foundation: every signature anchored to the state's own keys, every duplicate mathematically excluded, every count publicly recomputable by hostile auditors, and the whole growing monotonically for years instead of evaporating in an evening. Where the official referendum cannot be obtained — which is the Registry's entire reason for existing — the comparison is not registry versus referendum; it is registry versus paper petitions and online polls that no opponent need take seriously. And the curve carries one form of force no referendum possesses: *a referendum is a photograph that ages from the day it is taken; the curve is a film that has not ended.*

§9.17 Campaign Standards (Binding) (Foundation Layer Amendment). Every campaign, in every jurisdiction, under every steward, is bound by the following. A campaign that breaches any of them forfeits the Protocol's name and is delisted by the Arbitral Layer on any member's or hub's petition (§12.2).

- **Symmetric question.** Affirming and revoking are always both available, always equally prominent. A question that admits one answer is not a measurement.
- **Published methodology**, before launch: eligibility rule, document class admitted, verifiable-document coverage (§9.15), denominator source, publication cadence.
- **Self-selection disclosed**, on the face of every publication, in the same type size as the numbers.
- **The no-exemption firewall in every served language** (§9.11), at the moment of signing.
- **A jurisdiction legal opinion, commissioned by the national Foundation, before the campaign launches.** Truth before recruitment, applied country by country: the constitutional map differs everywhere, and in some places the honest answer will be *not safely, not yet*. A campaign that opens without the opinion is void.
- **A public per-jurisdiction risk classification.** In democracies, signing is protected expression. Under authoritarian rule it can cost liberty or life. The Protocol protects maximally, discloses honestly, and never promises what cryptography cannot deliver.
- **Multi-jurisdiction infrastructure redundancy with independent verifiers** (§9.7), so that no single legal order can end a campaign by ending its hosting.
- **Stewardship without ownership.** Any hub may steward its territory's campaign; any group of residents above a published threshold may petition a hub to host one. The index is neutral civic infrastructure: any peaceful party, movement, or association may cite the curve of its territory as evidence of mandate, and none may claim ownership of it or exclude others from invoking it. An index owned by one faction is that faction's problem; an index owned by no one is everyone's fact.

§9.18 The Bridge (Foundation Layer Amendment). Every petition in history shares one defect: it ends. Signatures are delivered, the base disperses, and there is no channel to recall it — because the recall channel is a mailing list, which is precisely the treasure §9.14 forbids. The Bridge closes the loop without creating the list.

- **Broadcast wide, filter locally.** The server never knows whom to notify, because it never addresses signers. It publishes announcements to broad geographic channels; each device, holding locally the witness of its own participation, decides alone whether and how to surface them. **Personalisation is entirely on-device.** For high-risk jurisdictions a fetch-based mode replaces push entirely — the app periodically reads a public bulletin board, leaving no token topology and no metadata at all.
- **No geolocation, ever.** The Registry never reads device location — not GPS, not network positioning, not inference from addresses. Movement data is the worst treasure of all, and an architecture that refuses to hold names will not hold coordinates. This prohibition is listed in §7.3.
- **Zones are voluntarily self-declared, and may be plural.** Each user declares locally the zones they belong to or care about, and may declare **several**, because belonging is not singular: the emigrant, the dual citizen, and the passport-holder abroad carry territories in the plural — and a diaspora that declares its homeland is a force every homeland has historically wasted. Where a campaign needs verified eligibility rather than declared interest, the document supplies it cryptographically: citizenship from the passport's issuing authority, residence from national eIDs that carry it. Every campaign states **whose** consent it measures — citizens, residents, diaspora included — and self-declared scope is always disclosed as such.
- **Official acts only, blind to the promoter.** Notification triggers are objective: formally called referendums, officially registered signature collections, consultations convened under law — **whoever promoted them.** Neutral informational wording only (date, question, procedure), never endorsement, and all qualifying initiatives notified alike. The neutrality that makes the index indestructible would die the day the app amplified one party's initiative over another's.
- **The first span already exists, built by a state.** Since 2021, signatures for referendums and popular-initiative laws in Italy may be collected digitally with full legal validity through public-platform identity (SPID/CIE). The chain runs: the anonymous curve proves the consent exists → a political actor, de-risked by the curve, opens a formal collection → the app announces the official channel → and the same person who signed anonymously with a passport chip places the **legally valid** signature with their state identity, on the state's own platform. From non-binding signal to perfect legal act, without the Registry ever touching a datum.
- **Declared in advance.** Campaign methodology states that the curve is cumulative self-selected consent, **not a turnout prediction.** The Bridge exists to maximise conversion, never to guarantee it, and no publication may present curve totals as an expected vote.

In one sentence: **the Registry measures consent for as long as the state refuses to ask — and the day the state asks, it walks its people to the answer.**

§9.19 Lawful Commerce & the Taxpayer's Own Valuation (Lawful Commerce Amendment, v5.15).

§9.13 promises that the Federation "complies with generally applicable law in every jurisdiction its hubs inhabit," names three refusals, and states that **nothing else is refused**. Tax is generally applicable law, it is not on that list, and through v5.14 this Constitution said not one word about it — while Chapter 5

§5.6 made acceptance mandatory for food stores, artisans and services, and §16.1.1 named those exact parties as the ones whose acceptance gives dignity income its value. A duty imposed on a shopkeeper, beside a promise to obey the shopkeeper's law, beside silence on how the two meet, is the undisclosed risk §9.13 forbids. This clause is that silence answered.

- **Commerce is already permitted, and this clause creates no new permission.** A legally-constituted enterprise — sole trader, company, cooperative, association — may supply goods and services into a hub's economy and be paid in circuit tokens. **This is not an exchange against external currency and never becomes one.** §5.6 provides that value "leaves as goods and services consumed," and Chapter 8 §8.10 restates the same two exits. There is no redemption desk, no fiat pair, no ramp, and no counterparty outside the circuit. A business paid in CP for bread has consumed nothing of §5.6's boundary; it has done the thing §5.6 exists to make possible.
- **The enterprise is the legal form; the member is the party.** This Protocol verifies **personhood**, never identity (§9.2), and admits no legal person to membership: a company holds no dignity right (§5.7), casts no vote (§11.7), and has no tier. A business therefore participates through a **verified human member acting in the course of that business**. The member is the counterparty on the ledger; the enterprise is the form in which that member accounts for it in law. The Protocol takes no position on how any national law characterises the relation between the two, and states plainly that reconciling them is the member's own affair and their adviser's — which is what the opinion below is for. **No construction of this clause admits corporate membership, corporate voice, or a second dignity income.**
- **The Protocol publishes no rate. Not in any form, not for any purpose, not ever.** No hub, no Foundation, no campaign, no material of the Protocol in any language may publish, endorse, adopt, cite as authoritative, or imply an exchange rate between any HPP token and any external currency — no official rate, no indicative rate, no "for accounting only" rate, no reference rate computed from a basket, no rate published by a third party with the Protocol's endorsement, and no table whose columns invite the reader to divide one by the other. §5.6 forbids "reference to any external benchmark or commodity price," §7.3 makes §5.6 unamendable — "not even a foundational-tier amendment reaches it" — and **a published fiat rate is that reference, whatever it is called.** Chapter 8 §8.10's existing publication duty is extended in terms: every hub, every Foundation, and every enterprise trading under this clause must preserve this framing in all public materials. The temptation here is not theoretical and it is not weak: parity is the single most operationally convenient thing this Protocol could do, it is what makes the nearest working precedent work, and it is the one move that would breach an unamendable clause. **It is refused permanently, and the refusal is worth more than the convenience.**
- **The taxpayer values their own receipt, as they already must for anything in kind.** Where national law taxes a receipt in kind, it requires the taxpayer to determine fair market value under that law's own rules, and it has required this of barter, of payment in goods, and of non-cash consideration for as long as there has been a revenue authority. That duty is unchanged, undischarged by the Protocol, and not the Protocol's to discharge. **What the Protocol supplies is evidence, never valuation:** the transaction record, its timestamp, the quantities, the ₤ amounts, the hub's published listings and its §5.1.1 basket recalculation, and the raw metric inputs already

published weekly under §10.4 — from which a taxpayer or their adviser can construct a valuation their own law accepts. **Records, yes. Rates, never.** The distinction is not a dodge and it is the same one §13.8 already draws: valuing an asset by a registered oracle method is not pricing the *unit*, and a taxpayer valuing what they received is doing the former. A peg is a promise about the unit; a valuation is a statement about a thing.

- **Tax is settled in fiat, outside the circuit, from the enterprise's own fiat revenue.** The Protocol collects no tax, withholds nothing, remits nothing, issues no certificate, and holds no external currency with which it could do any of these — §15.2's valve runs one way and a Foundation may not pay a private party's liability under §15.2(a). **And the honest consequence is named rather than smoothed: an enterprise whose token-denominated revenue outgrows its fiat revenue can face a fiat liability against a non-fiat receipt.** No mechanism in this Protocol reaches that, and none will be invented to pretend otherwise. It is the arithmetic behind Chapter 29 §29.6's phase discipline, which is now something stronger than prudence: a hub that pushed its businesses to take all of their revenue inside would be pushing them toward a liability they could not pay. **Complementary first is not modesty. It is solvency.**
- **Per-jurisdiction tax opinion, on the §9.17 model, before commercial acceptance binds anyone.** A tax opinion, commissioned by the jurisdiction's accredited Foundation and published in full, before Chapter 5 §5.6's mandatory acceptance binds any enterprise in that jurisdiction. It must answer, at minimum: whether receipts in circuit tokens are taxable income or turnover and on what valuation basis; the VAT or sales-tax treatment and the invoicing form required; whether paying a member for labour in tokens triggers payroll, withholding, or social-contribution duties, and on whom; how an enterprise books circuit tokens as an asset and on what basis it may write them down; and — following §9.17's own standard — the honest answer where the honest answer is **not safely, not yet**. It is reviewed every **52 weeks**, or on any material change of law, whichever falls first: constitutions change slowly and tax codes change annually, and an opinion that outlives its statute is worse than none. Its cost is a fiat cost, payable from Foundation grants exactly as Chapter 30 §30.3 already contemplates for "audits, tooling, and legal opinions."
- **Mandatory acceptance does not bind an enterprise the Protocol has not first informed.** Chapter 5 §5.6's mandatory categories do not bind any member trading as an enterprise in a jurisdiction where the opinion has not been published, or where the published opinion states that the treatment is unavailable or unresolved. The duty resumes on publication. **This deliberately makes mandatory acceptance weakest exactly where the opinion is late**, and the Protocol accepts that cost, because the alternative is a constitutional duty to commit a tax offence — and §9.13 permits no such duty to exist. Acceptance by a member in a personal, non-enterprise capacity is untouched, as is every obligation the hub itself owes under §3.2 and Chapter 4 §4.3.
- **None of this creates a redemption claim, and no valuation by anyone ever will.** §5.6: "There is no peg and no redemption claim; there never will be." A taxpayer who values a receipt at some figure has acquired no claim on the Protocol, on their hub, on any Foundation, or on any other member for that figure. Where a revenue authority or a court assigns a value under its own law, that

is that authority's act; the Protocol neither adopts it, contests it, nor is bound by it, and it becomes no rate for any other purpose. **A number written on a tax return is not a promise this Protocol made.**

- **No fourth refusal is created here.** §9.13's closed list of three stands unaltered, and this clause adds nothing to it. The Protocol does not refuse to comply with tax law; it refuses to publish a rate, which is not a refusal of a legal obligation but of an operational convenience — no jurisdiction requires a private circuit to publish an exchange rate, and every jurisdiction requires taxpayers to value their own receipts, which is a duty the taxpayer discharges. **The limit is stated rather than hidden: should any jurisdiction require the operator of a circuit to publish or certify a rate, then the honest answer for that jurisdiction under §9.17's standard is *not safely, not yet*, the opinion must say so on its face, and commercial acceptance does not open there.** §5.6 is not amendable to fit a jurisdiction, and the Protocol will lose a market before it loses the clause.
- **Disclosure.** §9.13's per-jurisdiction onboarding statement is extended to cover this clause, in plain language, for every member who trades or intends to trade as an enterprise.
- **Amendment path: ordinary §7.1** — with one thing that ordinary amendment cannot reach. The no-rate prohibition in this clause is not a new unamendable provision and is not listed in §7.3; it is §5.6's existing unamendable content applied to a new fact pattern. Repealing this clause would therefore not permit a published rate: §5.6 would still forbid it, and §7.3 would still forbid amending §5.6. **The convenience is not one vote away. It is not any number of votes away.**

Article X — Constitutional Calibrations (Decade Hardening Amendment)

These calibrations are the load-bearing constants of the protocol. They were validated by the 416-week federation runs and the §23.5 decade projection under sustained adversarial pressure (22 cartel attempts over 8 years, 0 breached the threshold). Hubs may adjust local parameters within the bands specified; the Federation may not exceed the federation-wide ceilings.

§10.1 Anti-Capture Ceilings (Unamendable Constants). The following may be tightened by ordinary amendment but **never loosened** without the §7.2 supermajority + 80% hub ratification:

Calibration	Federation ceiling
Wisdom-weight tier multiplier	$\leq 2.5\times$ of base
Delegation decay per hop	$\geq 50\%$
Maximum delegation depth	≤ 3 hops
Trustee count per hub	$\leq 1\%$ of active members
Wash-trade flag threshold (symmetry score)	≤ 0.7
gCP anti-dump penalty on $>0.1\%$ supply sales	$\geq 30\%$
Voting lock period on newly-acquired CP	≥ 7 days
Governance concentration mandatory-audit trigger	$\leq 30\%$
Quorum for federation-level disbursements $>10K$ gCP	≥ 5 hubs / 3 continents
Federation-infrastructure jurisdictional spread	≥ 7 jurisdictions / 4 continents
Single-counterparty exposure of any issued instrument held (§5.6, §15.5)	$\leq 15\%$ of treasury value
Issuer-less share of any Protocol treasury (§5.6)	$\geq 20\%$ of treasury value
Engine deployment threshold (§14.3)	$\geq 2/3$ of ≥ 9 keyholders, ≥ 7 jurisdictions / 4 continents
Arbitral panel formation deadline (§12.8)	≤ 28 days
Provisioning depth — Thin band floor (§5.6, §7.8)	$< 1.0 \times$ per year triggers maximum market-depth response
Provisioning depth — Healthy target (§5.6, §7.8)	$\geq 2.0 \times$ per year
Home-hub change cooldown (Ch. 5 §5.9)	≤ 26 weeks; ≤ 0 weeks on involuntary exit (§2.4) and on devolution to a denser geographic hub (Ch. 5 §5.9)
Nursery sponsorship cap per nursery (§16.5)	≤ 12 concurrent Seed Cells
Genesis-advance surety cap per surety (§16.9)	≤ 3 concurrently advanced operational hubs
Foundations accredited per jurisdiction (§15.6)	≥ 1 primary; plurality never barred by right

Calibration	Federation ceiling
Foundation board refusal-of-execution — public motivation deadline (§15.4)	≤ 21 days
Foundation treasury conversion velocity — publication (§15.5)	Quarterly, per programme

§10.2 Tightening vs. Loosening. Any proposal to *tighten* a calibration (make it more restrictive) follows ordinary §7.1 amendment rules. Any proposal to *loosen* a calibration requires the §7.2 supermajority because loosening reduces the protocol's capture resistance.

§10.2.1 The Arithmetic Test (Hub Typology Amendment, v5.15). §10.2 states the rule and withholds the test, and for as long as no amendment turned on the difference that was tolerable. One does now. The test is stated here, and it is arithmetic rather than purposive, because §9.10 forbids reading a contested clause by anything other than its literal text and a classification rule that turns on intent is a classification rule that turns on whoever is arguing.

- **A change to a §10.1 row is a *tightening*, and follows §7.1, where no number in the row rises and no case's ceiling rises.**
- **A change to a §10.1 row is a *loosening*, and follows §7.2, where any number rises or any case's ceiling rises.**
- **A ceiling lowered in a defined case is a *tightening*.** §10.1's rows bind what the Protocol and its hubs may *impose*; a maximum that falls in one case and holds in every other constrains the imposer more, not less. The evidence is the home-hub cooldown row's own history: from the day the table was created (Decade Hardening Amendment) through v5.14 it read ≤ 26 weeks (waived for involuntary exit, §2.4), and **in no version was the waiver treated as a relaxation** of the ceiling it sits inside. **That historical wording no longer appears as a live §10.1 row** — it survives in this document only as the quotation above, which is why this bullet can still point at it — because the bullet below required the row to be re-drafted as a ceiling; the row now reads ≤ 26 weeks; ≤ 0 weeks on involuntary exit (§2.4) and on devolution to a denser geographic hub (Ch. 5 §5.9), which states the same rule in the form this test can read. The argument rests on the practice, not on the wording that carried it.
- **An exemption is not a lower ceiling, and the difference is the drafting.** A row amended to read "waived where X" states no maximum for case X and is outside this test; a row amended to read " ≤ 0 weeks where X" states one. **Amendments to §10.1 rows shall be drafted as ceilings and not as exemptions**, so that the test can be applied by reading numbers rather than by construing intent.
- **A new row is a *tightening*, and this bullet says so because the test above does not.** Every bullet above speaks of a *change to a §10.1 row*, and the first row of a new kind is not a change to one. Read arithmetically — which is what this clause insists on — adding a row replaces an unstated maximum with a stated one, no number rises, no case's ceiling rises, and the change is a **tightening under §7.1** on exactly the reasoning that makes a ceiling lowered in a defined case a tightening. Read literally, the test does not reach the case at all. **The gap is closed by stating the**

rule rather than by construing the silence (§9.10), and it is recorded here as a defect in this clause's own drafting rather than discovered by whoever next proposes a row.

- **The hole this closes, named.** Without the arithmetic test, "add a waiver" would be a general-purpose §7.1 lane for eroding any §10.1 row by exception instead of by number, which is precisely the "*procedural workaround*" §7.3 forecloses. With it, the nursery cap is loosened only by a row that reads ≤ 40 where X , and that raises a number and takes §7.2. Direction is the whole test.

A tension this clause surfaces and cannot resolve. §7.3 lists "*Anti-capture calibration ceilings (§10.1)*" among the provisions that can never be amended, "*not by supermajority... not by any procedural workaround*", and closes that each is "*beyond §7.1 and beyond §7.2.*" Read to the letter, no §10.1 row moves at any threshold, and §10.2's own sentence and §10.4's identical sentence for metrics are dead letters on the pages that carry them. §9.10 cannot be used to read §10.2 out of the text any more than to read §7.3 out of it. **The only reading that gives every clause effect is that §7.3 protects the ceilings as a regime — their existence and §10.2's asymmetry — while §10.2 governs movement of values within it.** That reading is nowhere stated in this Constitution and every calibration amendment since the Decade Hardening Amendment has quietly assumed it. It is written down here, as an assumption made explicit rather than a question answered.

Amendment path for this clause: §7.2. §10.2 is not listed in §7.3 and §7.1 formally reaches it. It is proposed at the higher threshold anyway, because **a rule that decides which of two thresholds applies must not be adopted at the lower of the two it arbitrates.** Until this clause is ratified, any calibration amendment relying on it is contestable under §12.2 as an act exceeding constitutional power, and the contest is not obviously weak.

§10.3 Engine-Level Enforcement. All §10.1 calibrations are enforced by the protocol's smart contracts at the bytecode level. A "governance amendment" that contradicts a §10.1 ceiling is technically rejected by the engine before it can take effect, regardless of the vote count behind it. The engine enforces; it does not adjudicate: whether a deployed artefact conforms to the ratified text is a question for the Arbitral Layer (§12.2, §14.6), and the ceilings themselves change only through Article VII (cf. §9.10, Article XIV).

§10.4 Metric Governance (Coherence Amendment). The hub-health metric definitions, bands, and composite weights (§4.5, §4.6, Appendix C) are calibrations: they may be tightened by ordinary amendment and loosened only under §7.2. Every metric input is published as raw data alongside its computation, so any hub can independently recompute any score (§12.9 reviews *de novo* against exactly this data). No change to a metric definition, band, or weight applies to any hub already in Warning status or worse at the time of adoption. A body that can move the line does not need to win an appeal; this clause fixes the line while anyone stands near it.

Article XI — The Federation Council, Constituted (Coherence Amendment)

Until this Article, the Council held amendment, admission, de-recognition, and emergency powers without a defined composition. An unconstituted organ with enforcement power is a capture surface — you cannot bind what you have not defined. This Article closes it.

§11.1 Composition. One delegate per recognised hub. Each hub selects its delegate under its own governance (§3.1); a hub may instruct its delegate or grant a free mandate — that choice is the hub's alone. Hubs in probation (§24.2) seat delegates at 50% voting weight. There are no at-large, appointed, or permanent seats.

§11.2 Terms & Recall. Delegates serve one-year terms, maximum two consecutive, then a one-year cooldown — mirroring Trustee limits (§10.1 of Book V). The delegating hub may recall its delegate at any time, effective immediately.

§11.3 Voting, Defined. "Federation vote," "Council vote," and "Council approval," wherever they appear in this Constitution, mean exactly this: votes of hub delegates under this Article, one hub one vote, probationary hubs at 50% weight. Thresholds are computed over all recognised hubs, not over delegates present. Quorum: delegates of 60% of recognised hubs.

§11.4 Recusal. A hub that is the subject of an enforcement matter — quarantine, de-recognition, intervention, admission objection — does not vote on that matter, and the threshold is computed over the remaining hubs. A delegate whose hub has direct economic exposure to a matter above the de minimis threshold (§12.4) is likewise recused.

§11.5 Public Record. Every Council vote is published with each delegate's vote. There are no secret Council ballots — transparency in collective matters is a member right (§2.1).

§11.6 No Adjudication. The Council coordinates, admits, de-recognises (subject to Article XII review), and proposes. It never judges its own disputes (§1.6).

§11.7 One Human, One Voice (Foundation Layer Amendment). Council votes are cast by hub delegates — one hub, one vote (§11.3), and that stands unchanged. "One human, one voice" is a distinct rule operating at a distinct layer, and it is stated here as what it actually is: **an anti-multiplication rule, not a voting method.**

- **No one's Federation-level influence is multiplied by the number of hubs they belong to.** Multi-hub membership is legitimate and encouraged (§3.3); it confers no additional Federation-level weight of any kind.
- The rule binds, specifically: **hub-ratification votes under §7.2** (a member ratifies once, through their home hub — §5.9); **Foundation member deliberations** (§15.4); and any future Federation-level instrument that counts people rather than hubs.
- Enforcement is by proof of personhood, never by identity (§9.1, §9.2): the engine can verify that two ballots came from the same human without learning which human.

- Its economic twin is §6.6 — granted value does not scale with the number of doors walked through, and neither does voice.

Without this clause, multi-hub belonging is a legalised Sybil attack wearing a membership card: join ten hubs, ratify ten times, and the §7.2 threshold that protects Article I is defeated by an entirely permitted behaviour. Within each hub, governance remains quadratic voting weighted by experience and contribution (Chapter 11) — the layers do different work and are not in tension.

Article XII — The Arbitral Layer (Coherence Amendment)

Whoever controls the forum eventually controls the interpretation, and whoever controls the interpretation controls the implementation — no clause need ever be repealed. The Federation therefore does not judge its own cause. This Article builds the forum that judges it.

§12.1 Independence. The Arbitral Layer is a standing institution answerable to this Constitution alone. No Federation organ directs it, funds it conditionally, or selects its panels beyond the nomination rights below.

§12.2 Jurisdiction. Arbitral Panels hear: contested quarantines, de-recognitions, and interventions; contested health-metric determinations (§4.5–4.6, §10.4); claims that a Federation organ has exceeded its constitutional powers; engine-conformance review (§14.6); partition disputes (Article XIII); sanctuary-violation findings (§9.9); campaign-standards breaches and delisting (§9.17); Seed Cell and nursery abuse (§16.5); — added by the Foundation Layer Amendment — **Foundation accreditation, refusal, probation, and revocation (§15.6); Foundation veto-compliance findings (§15.4); and breach of any of the four statutory prohibitions (§15.2) or of bound devolution (§15.7);** and — added by the Hub Typology Amendment — **suspension or termination of an operational hub's undrawn genesis-advance tranches under Art. XVI §16.9, on the petition of its anchor hub (§16.8) — this head read "allocation under Ch. 7 §7.3" until v5.17 struck the term that allocation consisted of, leaving the undrawn tranches as the only thing a petition under it can reach; contested anchor declarations (§16.8); and breach by a Paired Entity of the conditions of its recognition (§15.10);** and — added by the Genesis Advance Amendment — **abuse of a genesis advance under §16.9, on the petition of the hub's surety or of its anchor, and suspension of a surety's vouching capacity and its petition standing under that clause;** and — added by the Genesis Acceptance Amendment — **review of Protocol Development pool milestone acceptances under Ch. 7 §7.2.1, on the petition of any hub, of any member class, or of the red team against the signing Foundation — the first Panel formed inheriting review over every acceptance made before its formation.** Panels apply the literal text (§9.10) and the Natural Law standard (§6.2): was there harm, was there a valid agreement, what remedy restores balance. A Panel cannot amend this Constitution, cannot review the wisdom of a lawful act, and orders restorative remedies only. **Suspension is restorative in the only sense this clause can mean it — and v5.17 changes where the value goes, so the clause says where.** Through v5.16 the suspended share returned to the same year's release and was redistributed through the population term of Ch. 7 §7.3, exactly as an uncapped floor share does. Ch. 7 §7.3 has since struck the term an operational hub's allocation consisted of, so there is no share to return: what is suspended is an undrawn genesis-advance tranche, and **an unreleased tranche returns to the**

Federation Reserve, the pool it was to be drawn from (Art. XVI §16.9) — never to the release, which never held it. The two surviving shares still sum to exactly `Annual_Release` and are untouched by any suspension under this head. **What the Protocol will not do is pretend the hub experiences restitution rather than loss.** It is restorative because of where the value goes, not because of how it feels to the hub it leaves.

§12.2.1 Enforceability Against Foundations (Foundation Layer Amendment). A Panel cannot bind a national nonprofit director by constitutional fiat: directors hold personal fiduciary duties under the law of their own jurisdiction, and no charter can oblige anyone to perform an unlawful act. The gap is closed the same way §13.9 closes it for physical title, and it is closed as a **condition of accreditation**: every Foundation's statute must contain a **binding arbitration clause naming the Arbitral Layer — seat, governing law, and scope named** — so that Panel findings on accreditation, veto compliance, prohibition breach, and devolution are enforceable in external courts as commercial arbitral awards. A Foundation whose statute lacks the clause **cannot be accredited**, and a Foundation that removes it forfeits accreditation automatically on the day of the amendment. Without the clause the appeal is advisory, and an advisory appeal against a board that controls a country's land is not a remedy; it is a letter.

§12.3 Composition. Five arbitrators per Panel: **two** nominated by the disputant hub from other hubs' Trustee pools; **two** nominated by the Council; **one** presiding arbitrator drawn by verifiable random sortition from the standing roster (§12.5) — parity between the parties, with the balance held by chance rather than by either of them, because a presider chosen by negotiation can be lost to deadlock, and delay always serves the enforcing side. Where a member class intervenes (§12.6): one nominated by the member class, one by the hub, one by the Council, two sortitioned. **Where both parties are hubs — an anchor proceeding under §16.8, or a contested anchor declaration — the composition is one nominated by each hub, one by the Council, and two sortitioned: a nomination structure written for a hub standing against the Federation gives the Council two of five seats in a dispute to which it is not a party, and a forum that over-weights a non-party is a forum with a thumb on it.**

§12.4 Sortition Integrity. The eligible pool is committed on-chain **before** the random seed is revealed; the seed is drawn from a public beacon. Commit, then reveal — never the reverse. Exclusion from any pool is only for direct economic exposure to the outcome above a published de minimis threshold; never for pending proceedings, which would let the enforcing organ shape the pool by opening them.

§12.5 The Roster. Standing arbitrators hold no Federation office, complete a published certification whose standard is amendable only at the tier protecting this Article, and are admitted by simple majority of recognised hubs. The Council plays no role in admission — a forum certified by the body it checks is not a check.

§12.6 Standing. A hub, against any Federation organ. **A member class** — the lesser of 500 members or 10% of a hub's membership — as a full party in any proceeding concerning their hub: in a governance capture (§25.2) the hub is the predator and its members are the injured party, and a hub's governance never stands between its members and this forum. A Federation organ, for engine-conformance review only.

Extended by the Foundation Layer Amendment: **a Seed Cell or Nascent Hub**, in its own name, against its nursery or against any Federation organ — a stage with no Council vote must not also be a stage with no forum. **An accredited Foundation**, in matters concerning its own accreditation, probation, or revocation. **The hubs of a jurisdiction, jointly or severally**, against their Foundation — for a veto they contend was not motivated within the deadline or not grounded in illegality or breach of purpose (§15.4), for breach of any of the four prohibitions (§15.2), and to petition for revocation, re-chartering, or the accreditation of a second Foundation (§15.6). **A member class of a Foundation's hubs**, on the same terms as a hub's member class, where the Foundation's own governance stands between them and the forum. Contestability is only real if someone with an interest can actually file.

Extended by the Hub Typology Amendment: **a geographic hub, as the declared anchor of an operational hub (§16.8), against that hub** — for suspension or termination of its undrawn genesis-advance tranches under Art. XVI §16.9, and for no other purpose whatever (*coherence pass, 2026-10: this head still read "its allocation", the pre-v5.17 object, after v5.17 had moved every other clause to the tranche*). **Any geographic hub contending that it, and not the hub declared, is the true anchor** on the trailing-52-week delivery record (§16.8). **A Paired Entity (§15.10)**, in matters concerning its own recognition, and **the operational hub it serves**, on the same matter — because an entity recognised on a hub's behalf must not be removable without the hub being heard. **A member class of an operational hub (§12.6, first paragraph)** where the hub's own governance stands between them and the forum, on the same terms as any other member class. Extended by the Genesis Advance Amendment: **a surety under §16.9 — an anchor hub or an accredited Foundation — against the hub it vouched for, on the ground of abuse of a genesis advance and on no other ground whatever; the anchor hub that declined to stand surety (whose jurisdiction's Foundation stood surety in its place), against the hub it declined; and an operational hub against its own surety**, where the surety is contended to have conditioned its sponsorship on anything §15.8 forbids it to condition anything on. Contestability is only real if someone with an interest can actually file.

§12.7 Interim Relief. Filing automatically stays the contested sanction unless the Panel finds, within 14 days, a serious risk of harm to members or to other hubs. Suspended gCP allocations resume for the duration of a stay, **and so do suspended genesis-advance tranches under Art. XVI §16.9** — named here because Art. XVI §16.8 asserts that effect and this is the clause that confers it, an operational hub having no allocation for the first limb to reach (v5.17).

§12.8 The Clock. Panel formed within 28 days of filing; hearing concluded within 90; decision within 120. If the Layer misses its own deadline, the contested sanction lapses. A quarantine that stands for eighteen months while a forum assembles is a de facto de-recognition; delay is the oldest way to lose a court, and this Constitution declines to lose its court that way.

§12.9 Burden & Standard. The Federation bears the burden of justifying its act, to the Tier 3 evidentiary standard (§19.6): clear and convincing evidence, above 75%. Metric computations are reviewed de novo against the published raw data (§10.4); discretionary judgments within the Council's enumerated powers (§4.1) receive deference. Where the accuser is an algorithm, the burden falls on those who deployed it — never on no one. **Where the proceeding is an anchor petition (§16.8), the**

Federation is not the actor and the burden is the anchor's, to the same Tier 3 standard. An accusation of abuse is proved by the accuser; a hub does not defend its allocation by disproving a claim nobody had to establish.

§12.10 Remedies. Reversal of the sanction; recalculation of metrics; restoration of suspended allocations and tranches; **suspension or termination of an operational hub's undrawn genesis-advance tranches (Art. XVI §16.9) on an anchor's petition (§16.8), an unreleased tranche returning to the Federation Reserve, the pool it was to be drawn from** (*coherence pass, 2026-10: this head still sent a suspended share back to the year's release through the population term, the pre-v5.17 model §12.2 and Appendix B.12 had already retired*); compensation from the Federation Reserve for demonstrated harm (pre-authorized under §9.8, $\leq 500,000$ gCP per award, published in full); publication of findings. Nothing punitive; nothing beyond restoration (§6.3).

§12.11 Finality & Asymmetric Appeal. Panel decisions bind the Federation immediately. The Federation may not appeal. The weaker party — the hub, or the member class where one has intervened — may request one review by a fresh panel. The asymmetry is textual, not sentimental: Federation authority is enumerated and exceptional (§4.1–§4.3), and exceptional authority is construed narrowly. Asymmetric appeal follows from asymmetric authority. **In an anchor proceeding (§16.8) the asymmetry attaches to the sanction rather than to the Federation: the party against whom suspension or termination is sought holds the one review by a fresh panel, and the anchor holds none.** The rule is the same rule — review belongs to whoever stands to lose something — and it does not become a different rule because the party seeking the sanction is a hub.

§12.12 Self-Limitation. The Layer's jurisdiction over Federation acts may be narrowed only by the §7.2 process, and its existence, this clause, and §1.6 are listed in §7.3. The forum that protects the periphery must not be dissolvable by the centre it checks — and must never be dissolvable by itself. This is the Sicilian lesson, encoded: the paritary court died because its existence depended on the goodwill of the system it judged. Ours does not.

Article XIII — Hub Fission & the Partition of the Physical World (Coherence Amendment)

Ledgers divide in one block; grain silos do not divide at all. History's peaceful separations turned bitter exactly here — intangibles part cleanly, tangibles become hostages — and partition rules drafted during a partition are drafted by the stronger party. So these rules are drafted now, before any specific silo is at stake. The governing principle: **no partition may create a hostage.** Every successor community exits a split with the assets, the compensation, or the guaranteed access it needs to remain viable. That two communities disagreed enough to part is precisely why the protocol owes both of them a whole and independent future.

§13.1 Initiating Fission. A hub divides when 67% of the active members of the departing group so vote, with a 12-month cooling-off between vote and execution (Appendix F.3). The fission notice is filed publicly; the notice date fixes every snapshot below.

§13.2 The Denominator. All proportional division uses contribution-weighted membership over the 52 weeks trailing the notice, frozen at filing. Members joining after filing hold full personal rights and zero partition weight. Exit is instantaneous under §1.4; the denominator is not — a count that can be moved until the moment of the split will be.

§13.3 Ledger Division. Personal balances (UBD, CP, gCP), reputation, and tier travel with the human being — nothing personal is divided. Communal pools — commons, distribution pools, vote pools, liquidity, the hub's gCP allocation — divide by the §13.2 weights. UBD continues in both successors without interruption from the first week.

§13.4 Divisible Stores. Physical stores (grain, fuel, inventory) divide in kind, proportionally, at recorded quality grade. The simple case, handled automatically.

§13.5 Indivisible Productive Assets. Money is never the discriminator: a wealth auction with a financing clause still awards every mill to the richer side, because financing raises what the poorer side can pay, not what the richer side will. Default: **divide-and-choose over bundles** — the departing community partitions the indivisible-asset set into two bundles; the remaining community picks one. Envy-free by construction, no oracle, no money, unwinnable by wealth; the proposer must be willing to live with either half. Where a single asset dominates and bundling fails: **dependency allocation** — title to the community with the larger recorded share of use over the trailing 52 weeks, compensation to the other at the registered oracle valuation, payable over up to three years against the asset's own output. Ties break by sortition, never by price.

§13.6 Shared-Necessity Assets. Any asset either successor needs to remain viable — an aqueduct, a grid interconnect, the only harbour crane — converts by default to a **Commons Trust**: a minimal joint-governance DAO holding title, usage rights and maintenance obligations apportioned by recorded historical use, reciprocal easements encoded so that neither community can strangle the other's access. The Trust's charter is deliberately boring — fixed formulas, no discretion, deadlocks broken by sortition among the Trust's members — because shared infrastructure between recently separated communities must run on rules, not on the goodwill the separation has just consumed.

§13.7 Liabilities. Partitions fight over debts more than assets. Obligations — insurance-fund exposure (Chapter 9), reinsurance commitments, formation stakes, Federation reconstruction loans under Ch. 25 §25.4 (a governed instrument on the Federation Reserve, ceilinged at fifty times the Art. XVI §16.9 Full Hub stake) — divide by the §13.2 weights. **Outstanding genesis advances were on that list and are struck from it (v5.17):** §16.9's advance is no longer recovered, there being no Ch. 7 §7.3 allocation left to charge it against, so it is not an obligation and there is nothing here to divide; an *undrawn* tranche does not survive the division of the hub whose milestones earned it (§16.9); external creditors hold both successors jointly and severally; Federation loans follow the assets they financed. A partition that divides assets and is silent on liabilities hands the weaker successor the obligations.

§13.8 The Asset-Backed Module. A hub electing physical backing for its local currency (the Asset-Backed Local Currency Module — e.g., a labour/grain/kWh basket) must register every backing asset **at acquisition**, not at crisis: valuation method (a pre-agreed oracle formula — audited replacement cost for infrastructure, rolling market price for commodity stores), divisibility class, default partition track, and custody class. **Registration seals both valuation and custody; an asset not in the commons'**

custody leaves the Ch. 18 provisioning-depth numerator in the quarter custody lapses. This is a tightening under Art. VII §7.1 — it replaces an unstated assumption (registered implies held) with a stated test, no number rises, and no case's ceiling rises. Measured closure: a custody column added to the register eliminated a +0.3167 ×/yr provisioning-depth overstatement (+0.0000 after). The rules of division are chosen before anyone knows which side of a future split they will stand on. The veil covers the class of rule, never the outcome — and that is exactly enough.

The Module's name is historical and its meaning is narrow: "backing" here is **provisioning** in the sense of §5.6 — real things a member can buy with the hub's currency — and never a peg, a redemption right, or a price reference. The registration duty is what the partition tracks of §13.4–§13.6 and the provisioning-depth numerator of §5.6 both run on; an unregistered asset is invisible to both.

§13.9 Enforceability, Honestly. Ledger divisions self-execute. Physical title lives under host-jurisdiction law and does not move because a Panel says so. The partition rules of §13.4–§13.7 are therefore embedded **as a binding arbitration agreement — seat, governing law, and scope named** — in whichever legal instrument actually holds the title: the statute of the jurisdiction's accredited Foundation, which carries such a clause already as a condition of accreditation (§12.2.1), and, where the electing hub has one, the statute of its Paired Entity (§15.10), which carries it on the same condition. Appendix F.4's per-hub wrapper was superseded by this Constitution's own Article XV in v5.5, and this clause no longer rests on it. **Where a registered asset is held by neither — by members personally, or by any entity outside the Protocol's recognition — no arbitration agreement reaches it and no Panel award over it is enforceable in any court.** That is not a gap this Constitution can draft away; it is the boundary of a ledger's writ over a deed, and §13.8's registration duty is what makes the boundary visible before a partition rather than during one. Members are told at joining which of their protections are ledger-deep and which are paper-deep (§9.13). Unglamorous, and the difference between a remedy and a statement.

§13.10 Disputes. All partition disputes go to the Arbitral Layer (Article XII), never the Council. Member classes have standing (§12.6): a partition is where a minority is most likely to be traded away by both leaderships at once.

Article XIV — The Engine (Coherence Amendment)

This Constitution is enforced by code. Code is written by someone. An unnamed someone with the power to change enforcement is the most powerful office in the protocol — so this Article names the office, binds it, and makes it reviewable. A protocol that tells its members "no one can change the rules" while someone plainly can is not protecting them; it is misinforming them.

§14.1 Definition. "The engine" is the enforcement bytecode of this Constitution and the deployment infrastructure that ships it.

§14.2 Engine Changes Are Constitutional Acts. A change to enforcement semantics is an amendment of the clause it enforces, and takes that clause's amendment path: §7.1 for ordinary clauses, §7.2 for Article I, no path at all where §7.3 applies. Pure implementation fixes with no semantic change (the "maintenance class") require publication, the §14.4 delay, and a conformance attestation — reviewable under §14.6. No semantic change ships as a "technical update."

§14.3 Deployment Authority. Deployment requires a threshold signature: at least two-thirds of at least nine keyholders, spread across at least 7 jurisdictions on 4 continents (§9.7), each keyholder a Trustee ratified by hub majority. The authority's only permitted act is deploying artefacts already ratified under Article VII. It cannot touch holdings, cannot pause, cannot blacklist, cannot originate change — it is not an admin key within the meaning of §9.3 or §9.5.

§14.4 Publication & Delay. Every proposed artefact is published as source with a reproducible build for the full discussion period of its amendment tier; implementation delays run from **build publication**, not from the vote. Changes touching any §10.1 ceiling or any §7.3 provision additionally require two independent audits, published in full, and a formal proof of the specific invariant claimed.

§14.5 Emergency Path. For active security failures only: an expedited deployment restoring the ratified semantics, scope-barred from altering the semantics of any §7.3 or §10.1 provision, every action publicly logged as it happens. **It carries one clock, and the clock is 7 days: it sunsets automatically at the end of day 7 unless the Council has ratified it within those 7 days.** There is no second window — a ratification given after day 7 would ratify a deployment that has already lapsed. A lapsed deployment is withdrawn, and the same fix may return only through the ordinary path (§14.2–§14.4); the Path cannot be reopened for it. The Path skips the delay of §14.4, so it may not also be allowed to stand unrati ed: an emergency measure that outlives its emergency by default is a standing lever, and §9.3 permits none. This supersedes the F.2 hotfix procedure (Appendix F). *(Coherence pass, 2026-10: this clause previously read "auto-sunset after 7 days unless ratified by the Council within 30" — two clocks that could not both run; the 7-day clock is kept.)*

§14.6 Conformance Review. Whether a deployed artefact corresponds to the ratified text is a question of **fact** for the Arbitral Layer (§12.2) — not whether the amendment was wise, which belongs to the Council and the hubs, but whether what shipped is what was agreed. The narrowest possible judicial power, and the one a bytecode constitution cannot do without.

§14.7 State Snapshots. The Federation publishes full state snapshots weekly, in a documented format sufficient for any member, hub or auditor to reconstruct and verify the Federation's state without the incumbent's cooperation. This is what keeps exit (§2.1), partition (Article XIII) and the audit of every Federation act rights rather than favours.

§14.8 The Engine Enforces; It Does Not Rule. Engine-level rejection of over-ceiling changes (§10.3) stands. But the engine holds no interpretive authority: contested conformance goes to the Panel, contested meaning to the text (§9.10), and new circumstances to amendment (§7.1–§7.2). An unamendable clause is only as unamendable as the process that compiles it — and that process is now named, bounded, published, and reviewed. Nothing above us that we did not consent to — including the code.

Article XV — The Foundation Layer (Foundation Layer Amendment)

A ledger cannot hold a deed, sign a lease, hire a teacher, or stand in court. Until this Article, the Protocol had no lawful hands anywhere on Earth, and the word "Federation" was doing two jobs at once. This Article gives the Protocol hands, and gives each job its own word.

§15.1 Three Layers, Three Names. The architecture has three named layers, and each does exactly one job.

- **The Protocol** — global, singular — is the rulebook and its organs: this Constitution, the Federation Council (Article XI), the Arbitral Layer (Article XII), the Registry (§9.11–§9.18), gCP. It touches no external money.
- **The Foundations** — one accredited per jurisdiction — are the Protocol's legal skin: nonprofit legal entities in the form national law provides for asset-locked, non-distributing purpose entities. They give the Protocol the capacity to own land, receive donations, hire, build, and stand in court.
- **The Hubs** — local, sovereign — are the communities themselves, living the closed economy and voting (Article III).

Terminology, binding on all materials. *The Federation* refers exclusively to the Protocol's global governance layer. *A Foundation* refers exclusively to a national legal entity under this Article. No material of the Protocol — site, specification, statute, translation, or campaign page, in any language — may use the terms interchangeably. A Foundation is not a layer of governance; it is an instrument of execution, and confusing the two words is how an instrument becomes a government.

§15.2 The One-Way Valve & the Four Statutory Prohibitions. §5.6 forbids external money from ever buying a token. This Article is how external money serves the mission anyway, through a valve that flows in exactly one direction: **donations in, physical commons out, and nothing else.** A Foundation receives fiat or crypto, holds it transparently, and converts it as fast as responsibly possible into the real, collective, unsellable world — community solar, agricultural land and greenhouses, gathering and teaching spaces, off-grid infrastructure, housing for those who have none, clinics, workshops, tools. Those assets are then deployed to hubs as community provisioning, which is where the grain and the kilowatt-hours of §5.6 and §13.8 are born. Donated money becomes matter; matter becomes what dignity income can actually buy; and at no point does any external currency touch any token.

Four prohibitions make the valve one-way. All four are **statutory** — written into every Foundation's own charter, not promised in a blog post — and all four are listed in §7.3.

- **(a) No cash-out.** Nothing a Foundation holds is ever converted back into money for any private party. Assets may be transformed — land into greenhouse, sun into kilowatts — never liquidated for distribution.
- **(b) No personal profit.** No dividends, no distributions, no benefit to founders, donors, or officers; operational compensation only, capped and **published to the cent.** In most jurisdictions this is already the law of the form; the charter states it anyway, in its own voice, because a rule you have written yourself is one you cannot claim you did not know.
- **(c) No tokens for donations, ever.** A donation buys nothing, mints nothing, and touches no token: no UBD, no CP, no gCP, no reputation, no tier, no governance weight, now or later, in any amount.

No Foundation holds, receives, or is allocated gCP (Art. V §5.7). The donor receives gratitude, radical transparency, the sight of the thing built, and whatever charitable-tax treatment national law grants — which Foundations claim openly and frame for what it is: **the legal order itself certifying, receipt by receipt, that what the community builds is public benefit**. No Foundation material may ever frame tax relief as draining a treasury or taking energy from the state. The Protocol wins by building. A single crack in this wall and every regulator, every tax authority, and every critic on Earth would be right at the same time.

- **(d) No donor governance.** Money does not vote. The use of every donated unit is decided by the verified members of the Foundation's hubs — one human, one voice (§11.7) — never by donation size. A donor who is also a member votes as a member. A donor who is not a member watches, in public, what the community builds.

§15.3 Purpose & Programmes. Within its statutory purpose a Foundation organises events and assemblies; runs educational programmes, from protocol literacy to trades, agriculture, and energy autonomy; supports community health initiatives within national law; establishes and equips off-grid infrastructure and eco-villages; acquires and stewards land, greenhouses, and food stores; and creates reception and housing programmes for those the existing order has left without shelter. Every programme is proposed and voted by members, executed by the Foundation, audited on-chain, and — where it produces durable assets — registered under §13.8 and folded into the provisioning that gives hub economies their substance. This is what implementation looks like: not a manifesto, but a greenhouse with a deed and a roof with a name on the door.

§15.4 Governance: the members command through the Assembly, the board executes as fiduciary, the law is the guardrail. The legal problem must be named rather than wished away: a nonprofit board carries personal fiduciary duties to the entity's statutory purpose and to national law, and no charter can oblige directors to perform an unlawful act — and equally, no charter can strip directors of the powers and duties the law itself gives them. The resolution is a digital assembly architecture written into every Foundation's statute. *(This subsection was rewritten by the Digital Assembly Amendment — see §15.11 — which reframed the earlier "narrow veto" drafting without moving any of its guarantees: the 21-day public motivation, the arbitral appeal, the asset lock, and money-does-not-vote all stand.)*

- **The Assembly is sovereign and the Protocol's digital platform is its instrument.** Deliberations of the Foundation's members are taken in the Assembly of Members, convened and conducted through the Protocol's on-chain platform where the Foundation's statute so provides, as the law of the jurisdiction permits. A deliberation is an act of the members as persons registered in the Foundation's member register; the platform tallies their votes, and the tally constitutes the deliberation when the statutory convocation, quorum, and majority requirements are met. The platform is never itself an organ, holds no powers, and substitutes for no organ.
- **Voting rights follow registration, not wallets.** Only a natural person who has completed the Foundation's member onboarding — legal identity verified and recorded in the member register, and protocol personhood verified (one verified human, one membership, one vote — §11.7, §15.2(d)) — may cast a deliberative vote. No vote attaches to any address that cannot be attributed to a registered member; no unit of account, balance, donation, or tier purchases deliberative weight (§15.2(d)).

- **The board retains the full powers and duties the law gives it, and among them the duty to execute.** The board prepares the programmes and the budget, submits them to the Assembly, executes the Assembly's deliberations, accounts for them, and holds every power of ordinary and extraordinary administration that the statute and the law provide. It cannot renounce these powers to any algorithm, and no clause of this Constitution may be read as doing so.
- **Refusing the unlawful is a duty, not a veto.** The board must decline to execute a deliberation that breaches the law or the statutory purpose, must motivate the refusal publicly, on-chain, within 21 days (§10.1), naming the law or purpose clause relied upon, and must simultaneously convene the Assembly and refer the matter to the Arbitral Layer for a compliance finding (§12.2), enforceable through the statutory arbitration clause (§12.2.1). A refusal on any other ground — prudence, preference, timing — is itself a breach of the board's duty to execute.
- **Execution is deliberate, never automatic.** No deliberation executes itself, and no treasury movement occurs without an act of the board. A deliberative outcome is recorded as passed, is ratified by board resolution within a fixed window, and only then executes. Signatories of the Foundation's financial accounts (including any on-chain multisig) are directors of the Foundation, identified as such.
- **Directors are elected and recallable by member vote through the platform,** serve fixed terms, and their compensation is published to the cent.

The Assembly commands through its instrument; the board executes as fiduciary; the law bounds both; and every refusal to execute is a public, costly, reviewable event. A discretion that costs nothing to exercise is not a guardrail — it is a governance layer that no one voted for; and an execution that no one fiduciary ever signed is not a command — it is a machine wearing a deliberation's clothes.

§15.5 Treasury: transparency, not speculation. The multisig exists so that every member, and every sceptic, can watch every unit of value from the moment it arrives to the moment it becomes matter. It does not exist to run a position.

- **Liquidity is held conservatively and specifically: insured bank deposits and short-term sovereign instruments.** Nothing else qualifies as a holding place for a community's donations. A Foundation that gambles them has betrayed the community once before spending a cent.
- **If any tokenised stable instrument is held at all, the §10.1 concentration ceilings apply by analogy** — $\leq 15\%$ single counterparty, $\geq 20\%$ issuer-less. A Foundation holding a community's donations in one issuer's token has recreated, inside the legal layer, exactly the seizure surface the closed circuit was built to remove.
- **The health metric is conversion velocity, not size:** the time between donation received and asset deployed, published quarterly per programme (§10.1). A growing war chest is a temptation and a target; a flowing stream is a mission.
- **Everything is published** — balances, flows, contracts, invoices, votes, vetoes. A Foundation with nothing hidden is a Foundation with nothing to raid.
- **Donation identity is siloed and never linked to the Registry** (§9.14): AML checks through regulated processors are real and required, and they share not one identifier with any consent campaign.

§15.6 Accreditation & Contestability: monopoly by default, never by right. The question of how many Foundations per jurisdiction is answered by governing neither the number nor the market, but the **accreditation**. A legal monopoly by right would create the perfect chokepoint — one board whose capture, corruption, or administrative dissolution takes a whole country's land and homes hostage, and one target for any hostile state. Unlimited competition fails the opposite way: in the nonprofit world rivalry disciplines poorly and wastes much, and one badly run Foundation poisons the name of all.

- Foundations accredit the way hubs form: **minimum requirements, endorsements, a probation period, statutory conformity** to the four prohibitions (§15.2), to on-chain transparency (§15.5), and to the arbitration clause (§12.2.1).
- **Accreditation is revocable, and judgment belongs to the Arbitral Layer alone** — never to the Foundation itself, never to the Council, never to any organ that is party to the dispute.
- **The operating default is one primary Foundation per jurisdiction.** The first to accredit serves as primary, and while it serves its hubs well no one has reason to charter a second.
- **The position is contestable, and contestability — not actual competition — is what disciplines it.** Where a primary is captured or stops executing its members' deliberations, that jurisdiction's hubs may petition the Arbitral Layer for revocation, for re-chartering, or for the accreditation of a **second Foundation alongside it** (§12.6). Plurality is never barred by right (§10.1). This is Hirschman at the institutional layer: voice works because exit is credible, and the standing threat of losing primacy does the work of competition without paying its wastes.
- **Jurisdiction, not nation, is the unit.** Where nonprofit and property law lives at sub-national level, regional Foundations coordinated by a national one arise under the same rule — which scales unchanged from a microstate to a federation.
- **A public on-chain register of accredited Foundations is maintained**, and matters more than any numerical cap. The real danger was never too many accredited Foundations; it is impostors collecting donations in the Protocol's name, and a register anyone can check in one click is the antidote.

§15.7 Bound Devolution. Every Foundation's statute must provide that **upon revocation or dissolution, all assets pass to the accredited successor Foundation** or, failing one, to another Protocol Foundation designated by the Arbitral Layer — **never into liquidation, never into private hands**. In most third-sector regimes bound devolution to charitable purposes is already the law; the Protocol merely points it at the network. Not even the death of an institution can scatter what a community has built. This clause is listed in §7.3.

§15.8 What a Foundation Is Not. A Foundation holds no governance power over any hub, cannot instruct a hub, cannot condition provisioning on a hub's votes, holds no seat in the Council, and casts no Federation vote. It is the Doctrine of the Honest Layer (§9.13) made institution: the single, fully lawful point of contact between the Protocol and each state's legal order — and nothing more than that, deliberately. Signing the acceptance of a published development milestone under Ch. 7 §7.2.1 is none of those things: it is an administrative act within §15.3's purpose — it directs no hub, commands no member, and holds no asset — and it is reviewable like every other Foundation act (Art. XII §12.2, §15.6).

§15.9 The Founding-Member Conformity Objection (v5.8). §15.4 bounds **board** discretion to refusing the unlawful — illegality or breach of statutory purpose, nothing else — and that remains exactly true after the Digital Assembly Amendment reframed its wording (§15.11): the board's positive powers are undiminished, its capacity to refuse the members is not. This clause authorises something that is not board discretion and must not be mistaken for it: a **conformity objection**, held personally by each living human being named as a founder in a Foundation's filed statute. It exists because the failure §15.4 guards against is a board substituting its judgement for the members'; the failure it does *not* reach is a board and a membership drifting together, lawfully and by consensus, away from the Core Text that the Foundation was accredited on. A statute that only the people bound by it may invoke is a statute with no witness.

The power is deliberately shaped so that it can stop a violation and cannot become a seat at the table:

- **It reaches conformity only, never merit.** An objection is admissible only against an act or omission that violates a **named clause** of the Foundation's Core Text, and it must cite that clause. It cannot be lodged on grounds of prudence, preference, or timing — the same three grounds §15.4 denies the board. An objection without a cited clause is void on its face.
- **It suspends; it does not decide.** A valid objection suspends the challenged act pending resolution, and executed acts are suspended from further effect so far as they remain reversible. The objector gains no power to substitute an outcome, and no power to act — only to stop and to be answered.
- **It expires into a forum, never into a win.** Unresolved after **42 days**, it escalates automatically to the Arbitral Layer (§12.2) for a compliance finding. Silence resolves nothing in the objector's favour; the clock runs toward the forum, not toward the act. A veto that could be won by outlasting everyone would be a governance weight wearing a compliance costume.
- **It is attached to a human being and dies with the role.** Non-transferable, non-inheritable, non-delegable, non-poolable. It lapses on death, resignation, or removal for cause by Arbitral-Layer finding. **It is not property, it is not a token, it carries no economic value, and it can never be bought** — §5.6 forecloses the purchase and this clause forecloses the sale.
- **It costs something to abuse.** Three findings of frivolous objection suspend the power for 24 months. A guardrail that is free to abuse is not a guardrail, and one that is free to exercise is not one either (§15.4).
- **It is not a vote and never becomes one.** It confers no weight in any hub deliberation, no seat in the Council, no Federation ballot, and no multiple of anyone's voice. One human, one voice (§11.7) is untouched: this is a right to compel review of a written clause, held by the humans who signed that clause into existence — not a share of the outcome. **Founding status confers this and nothing else.**

The bounded shape is the point. An unbounded founder veto is how a movement acquires a permanent aristocracy of the people who happened to arrive first, and the Protocol has spent sixteen Articles refusing exactly that. A founder here may halt a breach of the text and force it into an impartial forum. They may not steer, and they may not sell the right to.

§15.10 The Paired Entity (Hub Typology Amendment, v5.15). This clause reopens a question this document settled once, and it says so on its face rather than arriving as though the question were new. Appendix F.4 gave *each hub* its own legal wrapper. Article XV superseded that arrangement in v5.5 —

one accredited Foundation per jurisdiction is the legal skin, and hubs do not each incorporate — and F.4 records four reasons for the supersession, none of which this clause pretends away. Per-hub incorporation "multiplies legal cost by the number of communities"; it "puts a founding group of twelve in front of a notary before it has an economy (§16.1)"; it "fragments accountability across dozens of small entities that no donor can audit"; and it "produces exactly the per-hub statutory drafting that Article XV's four prohibitions (§15.2) exist to standardise". Three of those four were correct in v5.5 and remain correct now.

What changed is the fact pattern, not the argument. In v5.5 no hub traded with anyone outside the circuit, and the whole legal need of a hub was met by an entity that received donations and bought land. An **operational hub** is defined by having external counterparties — clients, suppliers, invoices, contracts under national law. Against that hub the four objections do not land alike, and the honest accounting is:

- **F.4's second objection does not reach it, and is answered.** A hub with no economy is not asked to incorporate; a hub whose defining property is an outside economy is not a founding group of twelve in front of a notary. Only operational hubs pair, and an operational hub that stops having external counterparties ceases to be one.
- **F.4's third objection is answered by construction, and the construction is a prohibition.** F.4 protected the donor's audit surface. **A Paired Entity may not solicit, accept, or hold a donation, in any amount, from any party, ever.** Donations remain the exclusive business of the jurisdiction's accredited Foundation, one per jurisdiction, one audit surface, unchanged. Nothing about this clause gives a donor a second door to look through.
- **F.4's fourth objection is reduced and not answered.** Each jurisdiction's Foundation publishes a **model statute** whose operative clauses are non-negotiable, and a Paired Entity whose statute deviates in any operative clause is not recognised. That converts per-hub *drafting* into per-hub *adoption*. It does not remove the per-hub board, filing, registered office, annual accounts, auditor, or tax status. That cost is real, recurring, and paid.
- **F.4's first objection is reduced and not answered.** The multiplier falls from every community to every operational hub, and nothing in this Constitution caps how many of those there may be. What changes is **who pays**: the cost falls on the entity whose external revenue is the reason the wrapper is needed. A hub that cannot carry its own legal overhead is telling the Protocol something true about whether it should be trading outside.

And one reason F.4 never had to weigh, which is why this clause exists at all. Without a Paired Entity, the only lawful signatory for an operational hub's commerce is the jurisdiction's Foundation (§15.1) — the entity holding that jurisdiction's land, greenhouses, clinics and housing under §15.3, protected by the asset lock of §15.2(a) and the bound devolution of §15.7. Concentrating every operational hub's contractual liability there puts a community's donated commons behind one hub's supplier dispute. **An asset lock that a creditor's judgment can reach through is not an asset lock.** F.4's supersession was decided against hubs that traded with nobody; this clause is decided against hubs that trade, and the two are not the same decision.

The pairing is then constituted as follows.

- **One entity, one hub, named on both sides.** Each operational hub pairs with exactly one Paired Entity and each Paired Entity serves exactly one operational hub. The pairing is recorded on-chain at the moment it is made and in the entity's filed statute. No entity serves two hubs; no hub holds two entities. A many-to-one arrangement is a holding company for communities, and this Protocol does not build one.
- **It is not a Foundation and may never be called one.** §15.1's terminology rule binds here with full force: *the Federation* is the Protocol's global governance layer, *a Foundation* is a national accredited entity under this Article, and **a Paired Entity is neither**. It is an instrument of a single hub's lawful commerce. No material of the Protocol, in any language, may use the three terms interchangeably, and a Paired Entity that describes itself as a Foundation loses recognition on the day it does. This clause adds a name; it does not add a layer.
- **The one-primary default of §15.6 is untouched.** A Paired Entity is not accredited under §15.6, holds no §15.6 primacy, cannot be petitioned into primacy, and does not count toward the number of Foundations in its jurisdiction. Recognition of a Paired Entity is a conformity check against the model statute, performed by the jurisdiction's Foundation and **revocable by the Arbitral Layer alone** (§12.2, §12.6) — never by the Foundation that recognised it, which would make one board the licenser of every trading community in its country.
- **It holds no token, ever.** Art. V §5.7 is absolute and this clause does not touch it: *"No Foundation holds gCP, CP, UBD, or any shared seed unit... the legal layer holds land and buildings; the ledger layer holds tokens; the two never trade with each other."* The same prohibition binds a Paired Entity in its own statute, by its own words. It receives fiat, it holds fiat, it converts fiat into matter, and it never at any moment holds a unit of any Protocol token.
- **No fiat term enters any token formula.** This is the wall, stated as a rule an engine can check: **no minting, allocation, conversion, cap, tier, reputation, or governance computation anywhere in this Protocol may take a Paired Entity's fiat balance, revenue, or receipts as an input.** Ch. 6 §6.2 mints against transaction value inside the hub's own circuit and against nothing else. A ceiling indexed to realised transaction value denominated in circuit tokens is lawful; a ceiling indexed to fiat received is a crack, and §15.2(c)'s "a donation buys nothing, mints nothing, and touches no token" would then be true of donations and false of invoices. Art. V §5.6 is unamendable and forecloses the difference.
- **The members command through the Assembly, the board executes as fiduciary, the law is the guardrail** — §15.4, instantiated per hub rather than per jurisdiction. On-chain deliberations of the operational hub's registered members, taken through the platform as the Paired Entity's statute provides, are the Assembly's instructions to its board within the statutory purpose; the board retains the full powers the law gives it, among them the duty to execute, and refuses the unlawful — illegality or breach of statutory purpose and nothing else — motivating every refusal publicly on-chain within 21 days (§10.1) naming the law or purpose clause relied on, with appeal to the Arbitral Layer (§12.2); directors are elected and recallable by member vote and their compensation is published to the cent. Money does not vote here either (§15.2(d)): the use of every unit is decided by verified members, one human one voice (§11.7), never by who invoiced it.

- **The duty to refuse the unlawful survives, cannot be removed, and multiplies.** §15.4 names the reason and it is not a drafting preference: *"a nonprofit board carries personal fiduciary duties to the entity's statutory purpose and to national law, and no charter can oblige directors to perform an unlawful act."* §12.2.1 says the same from the enforcement side — *"A Panel cannot bind a national nonprofit director by constitutional fiat."* **Every paired hub therefore adds one more board that carries the positive duties the law gives it — execution and refusal alike — and this amendment multiplies that count by the number of operational hubs.** No clause here reduces those duties, and none could.
- **The §12.2.1 arbitration clause is a condition of recognition.** Every Paired Entity's statute contains a binding arbitration clause naming the Arbitral Layer — seat, governing law, and scope named. An entity whose statute lacks it is not recognised; one that removes it forfeits recognition on the day of the amendment. Without the clause the appeal is advisory, and F.4's fourth objection is the price of making it real.
- **Bound devolution, pointed at the Foundation.** On dissolution or loss of recognition, every asset of a Paired Entity passes to the accredited Foundation of its seat, or failing one to another Protocol Foundation designated by the Arbitral Layer — **never into liquidation, never into private hands** (§15.7). The commons does not scatter because a trading arm failed.
- **It holds no governance power over its hub, and its hub holds no extra power through it.** §15.8 binds a Paired Entity in the same words: it cannot instruct the hub, cannot condition provisioning on the hub's votes, holds no seat in the Council, and casts no Federation vote. A Paired Entity confers no Council weight, no ratification weight under §7.2, and no multiple of anyone's voice (§11.7).

Amendment path: ordinary §7.1. Nothing here is listed in §7.3, nothing loosens a §10.1 calibration, and nothing amends Article I. What it does do is partially reverse a recorded supersession, which is a thing the Protocol may do and must do openly — Appendix F.4 is amended in the same instrument to record the reversal and its limits.

§15.11 The Per-Entity Digital Assembly (Digital Assembly Amendment). §15.4 gives every Foundation's members their Assembly and its instrument; this clause gives the instrument its exact shape. Each accredited Foundation — and each recognised Paired Entity under §15.10 — operates **its own digital assembly surface for its internal decision-making**, and that surface is open only to **its own registered members**. The design rests on two identity layers that never merge:

- **Personhood is protocol-wide and identity-free.** The §9.11 proof (a unique living adult human, demonstrated without revealing who) belongs to every HPP user and gates every protocol-level surface — dignity income, protocol participation, reputation, hub governance. It is unchanged by this clause and never becomes an identity record.
- **Registration is per-entity and identity-bearing.** When a person joins a specific Foundation, that Foundation's member onboarding verifies and records legal identity in **its own member register** — the Libro Soci or its jurisdictional equivalent — under that entity's own controllership and the law of its seat. The protocol receives **status and a verifiable pointer, never identity data**: the same never-created-cannot-be-stolen architecture as the Consent Registry (§9.14).

- **No super-register.** Each entity's register lives with that entity. A person may be a registered member of several entities and the registers never merge, never link, and never roll up into any protocol-wide identity database. This is a feature and not a gap: what is never collected cannot be seized, subpoenaed, or drifted into a surveillance surface.
- **Two ballot scopes, two gates.** Protocol ballots carry their scope. **Hub-scope** ballots — a hub's internal governance — require active membership and verified personhood. **Entity-scope** ballots — the Assembly acts of a Foundation or Paired Entity: budgets, statutes, directors — require membership in *that entity's* register, with verified personhood as a co-gate so that one human holds at most one membership in any one entity, however many documents they could present. Entity-scope ballots are the Assembly's instrument under §15.4 and follow its deliberative rules; hub-scope ballots are protocol governance and follow Chapter 11.
- **The mapping is explicit and never one-to-one by assumption.** A jurisdiction Foundation serves many hubs; its Assembly and a hub's ballots are different organs with different electorates — a hub member may not be a registered member of the Foundation, and a founding registered member may sit in no hub. An operational hub paired one-to-one with its Paired Entity (§15.10) is the case where the two surfaces coincide, and the Paired Entity's register is then the deliberative electorate.
- **Weighted instruments are advisory, labelled — and never Foundation-scope (tightened v5.22; §16.11 D5).** No balance, tier, donation, or holding purchases deliberative weight (§15.2(d)). **Every Foundation-scope ballot — every Assembly act of an entity — is one person, one vote, over that entity's registered members; no weighted instrument runs in the Foundation scope, not even an advisory one.** Where a hub's internal (web3-scope) ballots use intensity or stake-weighted instruments for technical parameters, those instruments are advisory to its members, are labelled as advisory wherever they appear, and never constitute an Assembly deliberation.
- **No office casts a vote for anyone (stated v5.22; §16.11 D6).** A delegate's ballot, a member's voice, a director's ratification and a refusal are each cast by their own holder through their own signature. The Assembly's surface records acts; it never performs them.

Amendment path: ordinary §7.1. Nothing here is listed in §7.3, nothing loosens a §10.1 calibration, and nothing amends Article I. It operationalises §15.4 and §15.2(d) rather than extending them.

Article XVI — Hub Lifecycle & Bootstrap (Foundation Layer Amendment)

§16.1 The Circularity, Named. Someone joins in a city with no hub. Under a single-threshold rule — five hundred members, ten thousand gCP staked, three endorsements — they receive nothing, possibly for years, because the threshold that guarantees a serious hub also guarantees that no hub can ever start. The stake requirement is circular on its own terms: gCP is obtained only by converting earned CP (§8.3), and a community with no hub has earned none. A network that can only be joined where it already exists does not spread; it ossifies. The threshold was doing work that must be divided: **it gated existence, when it should gate only full sovereignty. The same circularity has a second instance, created by the Hub Typology Amendment and answered at §16.9:** through v5.16 an

operational hub's whole allocation was its activity share (Chapter 7 §7.3), activity was measured on trade, and a hub that had not traded had none — so the money arrived only after the work that would have paid for it. **v5.17 made that second instance permanent instead of temporary**, striking the activity term outright, so the money does not arrive later; it does not arrive. §16.9 answers it in the only form that then remains, and says so in its own text: a grant rather than an advance.

§16.1.1 Why the Instinctive Fix Fails. The reflex is to let the Protocol itself mint UBD for the unaffiliated. It is wrong, and understanding why is what makes the rest of this Article correct. **UBD has value because a local market must accept it** (§5.6 mandatory acceptance): food stores, artisans, services. Dignity income minted for an isolated individual would be a number on a screen that buys nothing. The binding constraint was never who holds the minting authority; it is **the depth of the real economy behind the token** (Art. V §5.6). The cure is therefore not to move issuance upward but to let communities begin small and grow, with the honesty to say what a small community can and cannot yet guarantee (§5.1.2).

§16.2 Seed Cell (10–25 members). Forms **anywhere, immediately, with no stake of its own**. It mints no currency of its own. A **geographic** Seed Cell distributes dignity income (UBD) sized to real productive capacity under the declared-capacity rule of §5.1.2 (§5.9); an operational or company Seed Cell distributes none and records earned value alone. Either way it records earned value (CP), and both are denominated in a shared circuit it **joins** rather than a token it issues (§16.2.1). It runs a full internal market, holds local assemblies, and accrues reputation. It has **no Federation vote, no currency of its own, no gCP convertibility, and no power to charter further cells**. It has standing before the Arbitral Layer in its own name (§12.6), because a stage with no vote must not also be a stage with no forum.

§16.2.1 The Shared Circuit (Seed and Nascent stages) (Seed Cell Amendment). A community is not a currency. A Seed Cell (§16.2) and a Nascent Hub (§16.3) are an assembly and a dignity-distribution unit, not a private monetary zone. Neither issues a token of its own. Both transact on a **shared circuit**, interoperable from the first day. Where the nursery is a Full Hub (§16.5), the cell transacts in that hub's own CP: it joins an existing circuit, exactly as a new node joins a mutual-credit network rather than founding a rival one. Where the nursery is a Foundation, which holds no tokens and can mint none (§15.2), the cell transacts on the protocol's shared seed unit: **one** pre-sovereign, CP-class unit, common to every cell with no Full Hub in reach, operated as neutral nursery infrastructure exactly as the Consent Registry is (§9.11). It is never the Foundation's, never held by any Foundation, and no external money ever buys it (§5.6). The shared unit is CP-class, not gCP: it sits entirely outside the 10-billion ceiling, and it reaches gCP only through the limited Steward-tier window §16.3 already grants at Nascent, where, like any CP-to-gCP conversion (§8.3), it transfers gCP already in circulation rather than minting a single unit, so the conservation identity $\text{Circulating} + \text{Unissued} = 10\text{ B}$ (§7.7) is never touched. Dignity income (UBD) and earned value (CP) are denominated in whichever shared unit the cell joined; the cell still sizes its own UBD to its own declared capacity (§5.1.2), and its local assemblies still decide local matters. What is shared upward is the unit of account, never the community's self-government. Monetary sovereignty — a currency of one's own and the full gCP bridge — is what a hub **earns** at Full Hub (§16.4), the point at which a distinct currency zone is deep enough to sustain itself. This is why the network buds without fragmenting: a thousand cells add a thousand assemblies, not a thousand incompatible monies.

§16.3 Nascent Hub (roughly 50–150 members). Reached when an internal market **demonstrably functions**, on published evidence rather than headcount alone: recurring transactions across multiple weeks, more than one provisioning source, and assemblies that resolve the matters they take up. It continues to transact on the shared circuit (§16.2.1) and mints no currency of its own. It gains **limited gCP convertibility for Steward-tier members only**, inter-hub trade rights on that shared unit, and full standing before the Arbitral Layer as a party. §5.1.2 still governs its UBD promise.

§16.4 Full Hub (500+, staked, endorsed, probation completed). The existing standard of §4.1 and §24.2, now gating exactly what it should: **Federation Council vote (§11.1), full gCP convertibility, its own arbitration bodies (Chapter 19), and the right to sponsor new Seed Cells.** It is also the **first** stage at which a hub mints its own CP and receives the gCP bridge — its own bonding curve and a distinct currency zone — because a currency of one's own is worth having only where an economy is deep enough to sustain it. Upon promotion, members' shared-circuit balances re-denominate into the hub's new CP on a published one-time basis (§8.3), creating and destroying nothing at the network level and minting no gCP. On promotion, §5.1.2 lapses and the §5.1.1 sufficiency triggers bind in full, and the Hub Size and gCP Balance metrics begin to be computed (§4.5).

§16.5 The Nursery Model. The stake circularity is resolved by **adoption rather than exemption.** Every Seed Cell is sponsored by a **nursery** — an established Full Hub or, more often, the jurisdiction's Foundation (§15.3) — which supplies the endorsement, provides mentorship and initial provisioning, and **stands surety for the cell until its promotion to Full Hub** (Ch. 4 §4.1). The stake is posted on that sponsorship and returns to whichever posted it on promotion.

- **The stake is the Federation Reserve's, not the nursery's** (Chapter 7 §7.6, §7.2). The nursery is the sponsor and the surety; the Reserve is the source of the stake and its destination. Where the nursery is a **Full Hub**, it may post the stake from its own holdings and recover it on the cell's promotion. Where the nursery is a **Foundation**, the stake is posted from the Federation Reserve **on the Reserve's behalf** (Chapter 30) against the Foundation's sponsorship and surety, and returns to the Reserve on promotion — because **no Foundation ever holds, receives, or is allocated gCP** (Art. V §5.7, §15.2(c)). Surety is an obligation, never a holding: a Foundation nursery answers for abuse before the Arbitral Layer and may lose its sponsorship (§12.2), but it owes no gCP, because it may hold none. Either way the stake is issuance from a named pool and therefore bounded (Chapter 7 §7.6), the conservation identity of Chapter 7 §7.7 is untouched, and a failed hub's stake is forfeited to the refugee fund whoever posted it (Ch. 4 §4.1).
- **Sponsorship is public**, recorded on-chain at the moment it is given.
- **Sponsorship is capped per nursery** at twelve concurrent Seed Cells (§10.1), against shell-cell farming: a nursery that can charter without limit can manufacture a voting bloc one cell at a time.
- **Sponsorship is terminable by the Arbitral Layer for abuse** (§12.2), on petition by the cell, by any hub of the jurisdiction, or by a member class.
- **A nursery holds no governance power over its cells.** It mentors, provisions, and stands surety; it does not instruct, and it cannot condition provisioning on how a cell votes (§15.8).

- **This instrument is extended, once, at §16.9.** The genesis advance for operational hubs draws on the same pool, stands on the same non-financial surety, is sponsored as publicly, and answers before the same forum. Two things differ and both are stated there: it is **received and spent** rather than held by nobody, and — through v5.16 — it was recovered from the hub's own Chapter 7 §7.3 allocation rather than on a promotion an operational hub never undergoes. **The second difference is now a third:** Chapter 7 §7.3 struck the term that allocation consisted of (v5.17), so §16.9's advance is **not recovered at all**, where a nursery stake still is on promotion. The instruments have moved further apart, not closer, and §16.9 states the divergence in its own text. Where this clause and §16.9 could be read together as one rule, they are two.

The network thus reproduces **by budding, not by spontaneous generation**, and Foundations gain their operational vocation: incubators of cells across their jurisdiction. Someone in a city with no hub does not wait for five hundred strangers. They find twelve neighbours, and the Foundation adopts them.

§16.6 Two Doors That Need No Territory. Two paths into the Protocol require no local density at all, and both are open from the first minute.

- **Thematic hubs, and what they can and cannot carry (amended v5.15).** A hub need not be geographic (Chapter 3 §3.3). A hub of translators, developers, therapists, or artists provisions itself with **services** rather than grain, and services cross borders. An isolated member may belong to such a hub — an **operational** hub, in the vocabulary Chapter 3 §3.3 now uses — from day one, earn CP there, be paid from its commons, and grow a geographic Seed Cell at home meanwhile: the multi-hub pattern (Chapter 3 §3.3, §5.9) working as a bootstrap bridge rather than a luxury. **What that hub may not do is pay dignity income**, because it has no local market obliged to accept it and no basket to price it against (§5.9, §16.1.1). This bullet opened a door in the Foundation Layer Amendment; the Hub Typology Amendment narrows it from *a home* to *a livelihood*, and Chapter 3 §3.3.1 records the narrowing as a cost the amendment pays rather than as a clarification it discovered.
- **The Registry works at zero density.** From the first minute, with no hub anywhere near them, a new member already holds two real things: identity within the Protocol, and full access to the Consent and Revocation Registry (§9.11–§9.18), which is global by construction and requires no local infrastructure whatsoever. They can sign, be counted, receive Bridge notifications, and join Foundation programmes while their cell grows.

The Registry is what works where the economy has not yet arrived; the economy is what arrives with density.

§16.7 No Stage Is a Lesser Membership. A member of a Seed Cell holds every right in Article II in full: UBD to the extent their **home hub** honestly declares (§5.1.2, §5.9), voice in their assembly, exit at any time, due process, the Registry, and impartial adjudication. Where a member's cell is not their home hub — a cell of the operational or company type — every other right on that list stands undiminished, and Chapter 3 §3.3.1 records what the exception costs rather than describing it away. What the stages ration is a **community's** authority over others — Council votes, convertibility, the power to charter — never a **human being's** dignity. Staging sovereignty is prudence; staging dignity would be the inversion this whole Constitution exists to refuse.

§16.8 The Anchor Hub (Hub Typology Amendment, v5.15; the object of the petition re-based, v5.17). Every allocation in this Protocol anchors to something a stranger can check. Ch. 7 §7.3's population term anchors to members who must be paid dignity income weekly in real goods; **its activity term anchored to recorded volume, and v5.17 struck it** — for the reason this sentence gives, read the other way round: recorded volume turned out to be checkable by a stranger and manufacturable by the hub, which is not the same property; Ch. 6 §6.2's mint anchors to realised sales; the Registry's counts anchor to state-signed documents (§9.11). **What this clause's petition reaches is re-based with it.** An operational hub draws no Ch. 7 §7.3 allocation to suspend, so the remedy on a successful petition is suspension or termination of the hub's **undrawn genesis-advance tranches** under §16.9 (Art. XII §12.2), and nothing else. Every other limb of this clause — the unilateral declaration, the 52-week restatement, the contestability, the anchor's want of any power to instruct — is unchanged, because none of them ever ran on the allocation. **An operational hub's claim to be collaborating in the movement anchors to nothing, and a treasury that spends against an unanchored criterion is the standard way a distributed organisation captures itself.** Published bounties make the spending checkable *before* it happens. This clause makes it checkable *after*.

One phrase doing two jobs, separated here by wording rather than by typography. Anchor Hub is a defined term of this Constitution and names one institution only: a named geographic hub holding standing to petition against one operational hub's **undrawn genesis-advance tranches** (Art. XVI §16.9) — its Ch. 7 §7.3 allocation until v5.17 struck the term that allocation consisted of, this sentence being re-based with the rest of the section. It is not Appendix F.7's *federation-of-anchored* positioning, nor its *territorial anchoring*, which are a different claim altogether — that every hub is rooted in a real place. **And it is no longer the Federation's first cohort of hubs: this document called those anchor hubs through v5.14 and calls them founding-wave hubs from this amendment onward, which is the change that does the separating.** The two phrases are now disjoint, so Talos may be a founding-wave hub and an anchor hub at once without either sentence meaning the other.

The distinction is carried by the words and by nothing else, which matters for every language this Constitution is read in. This document writes the term both ways — *Anchor Hub* where it defines and glosses it (this clause, Appendix D), *anchor hub* in running text (Art. XII §12.2, Chapter 24 §24.2) — and **the difference between those two spellings carries no part of the rule.** Case cannot be made load-bearing in a text meant to bind everywhere: it is weak in French, unavailable in German, which capitalises every noun, and absent altogether from Chinese and Arabic, which have no case at all. A translation states this clause without loss by keeping *anchor hub* and *founding-wave hub* apart as phrases, and loses nothing by capitalising both, neither, or either.

The relationship is §16.5's, run backwards, and the symmetry is the argument. §16.5 built the Protocol's one existing relationship between two communities in which neither commands the other: "A nursery holds no governance power over its cells. It mentors, provisions, and stands surety; it does not instruct, and it cannot condition provisioning on how a cell votes (§15.8)" — and, as the counterweight, "Sponsorship is terminable by the Arbitral Layer for abuse (§12.2), on petition by the cell, by any hub of the jurisdiction, or by a member class." **The nursery provisions without instructing. The anchor judges without instructing.** One gives and cannot direct; the other can end and cannot direct. Neither

commands, and the reason is the same in both directions: a power to help that came with a power to steer would be governance bought with provisioning, and a power to judge that came with a power to steer would be governance bought with a threat.

- **Every operational hub declares an anchor geographic hub, and the declaration is a finding of fact rather than a choice.** The anchor is the geographic hub (Chapter 3 §3.3) within whose declared boundary (Chapter 24 §24.1, §24.2) the **largest recorded share of the operational hub's delivered work landed over the trailing 52 weeks** — the same trailing 52 this Constitution weights partition contributions by (§13.2), annualises depth by (Art. V §5.6), and runs the redistribution window on (§5.6.4). Where no geographic hub holds a plurality, the anchor is the geographic hub of the **Paired Entity's registered seat** (§15.10). Both limbs read off published data rather than off anyone's discretion — subject to what the last bullet below records about the boundary the first limb depends on.
- **The declaration is unilateral, and that is safe precisely because it is not a choice.** Requiring the anchor's consent would hand a geographic hub an approval right over an operational hub's existence, which is governance power under a different name and breaks the §16.5 symmetry this clause rests on. Making the declaration free would let a hub name a distant, indifferent anchor that will never file. **Naming the place where the work actually landed is neither:** it is a statement about the world, published on-chain, restated every 52 weeks, and **contestable by any geographic hub that contends it is the true anchor** (§12.6). A hub that declares an anchor its own delivery record contradicts has not chosen badly; it has published a false statement, and the forum is open.
- **The anchor holds no governance power over the operational hub.** It cannot instruct it, cannot direct or refuse its work, cannot condition anything on how it votes, holds no seat in its assemblies, no veto over its decisions, and no share of its treasury (§15.8, §16.5). It gains one thing and one thing only: **standing**.
- **The one power is a petition, and it reaches undrawn tranches and nothing else.** The anchor may petition the Arbitral Layer to **suspend or terminate the operational hub's undrawn genesis-advance tranches** under Art. XVI §16.9 for abuse — work claimed and not delivered, delivered and not to the declared anchor, or a treasury spent against a criterion the delivery record does not support. It may not petition for quarantine, de-recognition, intervention, or any sanction on the hub's members, its currency, or its standing. **The beneficiaries of the claimed work are the ones who get to say whether it was real**, and they are given exactly enough power to say so and none to say what it should have been.
- **The anchor bears the burden.** In an anchor proceeding the petitioner proves its case to the Tier 3 standard (Chapter 19 §19.6): clear and convincing evidence, above 75% (§12.9). An operational hub is never put to proving a negative about its own good faith.
- **Frivolity costs the power, not money.** No stake is required — *"contestability is only real if someone with an interest can actually file"* (§12.6) — and the discipline is §15.9's instead: **three findings of frivolous petition suspend an anchor's standing under this clause for 24 months**. A guardrail free to abuse is not a guardrail; one that only the wealthy can reach is not one either.

- **The clock and the stay run as they do everywhere.** §12.8 binds: Panel within 28 days, hearing within 90, decision within 120, and the sanction lapses if the Layer misses its own deadline. Where a suspension is ordered and the operational hub seeks review, §12.7's stay applies and release resumes for its duration. **What resumes is the tranche release, not a Ch. 7 §7.3 allocation** — that term was struck in v5.17, an operational hub has none to restore, and §12.7 is amended in this instrument to confer on tranches the effect this bullet asserts rather than leaving it claimed here and granted nowhere.
- **And the term tolls, which v5.17 makes necessary rather than merely tidy.** Through v5.16 the object was a perpetual annual allocation, so §12.8's clock cost a **delay**. The object is now a **52-week entitlement to four tranches at one per 13 weeks**, and §16.9 provides that a quarter in which no milestone is met *"does not extend the term"*. 120 days is roughly a third of that window, and this bullet's own case is a cost borne **even where the petition fails** — so, uncontrolled, a failed petition could extinguish tranches outright by consuming the time they had to be drawn in, converting a procedural delay into a forfeiture nobody voted for. **The 52-week term and the 13-week interval are therefore both suspended for the duration of any suspension or review under this section, and resume where they stopped.** This tolls a clock: it raises no ceiling, creates no tranche, and extends no term by more than the time the process itself took, which is why it is a tightening under Art. VII §7.1 and not an amendment to the instrument's size.

What this does not close, stated plainly.

- **An anchor that never files is a check that never checks.** This clause creates a door, not a duty. Nothing obliges a geographic hub to police an operational hub it is happy with, and the Protocol declines to invent an obligation it could not enforce and would not want to.
- **It reaches whether the work was real, never whether it was worth the money.** A hub that genuinely delivers to its anchor while spending its treasury lavishly on itself is outside this clause entirely. Value for money is a §12.2 wisdom question and Panels do not review the wisdom of a lawful act. The bounty regime is where that is answered, before the fact, or it is not answered.
- **A determined anchor can impose cost without winning.** §12.8's clock is up to 120 days of uncertainty over **undrawn tranches** (§16.9) even where the petition fails, and the frivolity rule bites only on the third finding. That is the price of standing that costs nothing to exercise, and it is paid deliberately rather than overlooked.
- **The boundary the anchor is found inside is not a defined object.** The first limb above asks which geographic hub's **declared boundary** the work landed in, and Chapter 24 §24.1 Phase 1 and §24.2 Step 1 require a boundary to be declared without specifying a format, a projection, an encoding or a containment test, while Art. III §3.3 makes the declaration descriptive rather than territorial. The second limb — the Paired Entity's registered seat (§15.10) — is a fact of a state's own register and is checkable today; the first is checkable only where the answer is already obvious. Chapter 5 §5.9 records the identical gap for its devolution condition (ii); the two are one open item and neither is closed here.

§16.9 The Genesis Advance (Genesis Advance Amendment, v5.16; recovery struck and the instrument re-stated as a grant, v5.17). §16.1 named a circularity and this Article answered it once. The Hub Typology Amendment created it a second time, and §16.1's own words reach the second one

without alteration. **Read Chapter 7 §7.3 on the first day of an operational hub and every term of its allocation is zero.** Its floor share is $\min(0.40 \times \text{Annual_Release} \div \text{Num_Hubs}, \text{Members_i} \times 20 \text{ gCP})$, and home hubs are geographic (Art. V §5.9), so $\text{Members_i} = 0$ and the $\min$ is taken at zero. Its population share scales on the same Members_i and is zero with it. Chapter 7 §7.3 has already published both consequences and named the remainder — *"its floor share and its population share are both zero and its whole allocation is Activity_i "*, **as that section read before v5.17 struck the term** — and Activity_i scales on Volume_i , which a hub that has not yet traded does not have. Chapter 6 §6.8's commons share θ divides a mint that fires on a sale, and there have been no sales. It mints no dignity income, correctly and by design (§16.6, Art. V §5.9). **The total is not small. It is zero.** Through v5.16 it stayed zero for exactly as long as it took the people who would produce the volume to produce it. **Ch. 7 §7.3 has since struck the activity term (v5.17), and the sentence above therefore no longer describes a first day; it describes every day.** An operational hub's floor share and population share are zero by Art. V §5.9 and there is now no third term, so its allocation from that section is zero permanently. §16.1's sentence needed one noun changed to describe the second case — *the allocation is circular on its own terms — gCP is obtained by trading, and a hub that has not traded has none* — and it now needs one more: the circle does not close later, so **this clause stops being an advance against a future allocation and becomes what the arithmetic leaves it as, which is a grant.** Everything that made it safe is kept and is stated again below because it is now doing more work: the ceiling, the tranche size, the cadence, the once-per-hub-ever limit, the non-value milestones, the surety, the concurrency bound and the abuse remedy.

This clause extends a solved instrument and does not invent one, and that is the whole of its safety argument — which v5.17 narrowed by one part, recorded here rather than left standing. §16.5 resolved the stake circularity **by adoption rather than exemption**: the stake is advanced from the Federation Reserve, held by nobody, posted against a sponsor's surety, and recovered on the cell's promotion (Chapter 7 §7.6, Chapter 7 §7.2). **Four of that instrument's five load-bearing parts are reused here unaltered — the same pool, the same non-financial surety, the same public sponsorship, and the same Arbitral forum.** The fifth is **not**, and saying so is the point of this paragraph: §16.5's stake is recovered on promotion and this clause's sum is recovered **never**, Chapter 7 §7.3 having struck the allocation that recovery ran against (v5.17). Through v5.16 the difference was the *trigger* alone — an operational hub is promoted to nothing, so recovery ran against its allocation once that allocation existed — and the strike removed the allocation rather than the trigger, which is a larger thing to lose. **The safety argument therefore rests on four parts, and the part it lost is the one that made the movement a loop.** That is why the Reserve's exposure is priced in this section rather than assumed away, and why §16.5's own cross-reference records that the two instruments have moved further apart rather than closer. Anyone asking whether this clause is safe should read §16.5 first and then read what differs — **which is no longer one paragraph, and the second one is about money that does not come back.**

It is a grant and not a mint — the noun in the first half changed in v5.17 and the second half did not — and the mint is foreclosed four times over. Art. V §5.6.3 moved creator-stipend settlement off minting after thirty-five simulated scenarios — one of four structural failure causes closed at the root — on the identity *no retirement rate derived from κ can reach a mint that is not in κ* . Chapter 7 §7.1 refuses issuance indexed to headcount in the terms a genesis mint would breach exactly: *"indexing supply to headcount monetises fake members"*, and twenty founding believers are that index in its

purest form. Chapter 7 §7.7's conservation identity binds the 10 B cap on every block. And Art. V §5.6.6 has already ruled on this instrument's minting form **by name**: "*no hub treasury is ever funded by minting... not at any threshold, not for any purpose, and **not for a bootstrap.***" An advance from a named pool creates no claim — it moves conserved gCP between two compartments of a conserved stock, which is what Chapter 7 §7.6's own note says every allocation does.

And it is not a new treasury line — the argument is re-based in v5.17 rather than repeated. Art. V §5.6.6 "*adds two lines to that list and forecloses a third for ever*", and this clause adds no fourth and reopens no third. Through v5.16 the reason was that the advance was recovered from the hub's own Chapter 7 §7.3 allocation, so **it was that allocation, paid early and charged back** — one line, discounted forward, and not a second source. **That reason is spent**: Chapter 7 §7.3 struck the term the allocation consisted of, so the advance is a grant and the discounted-forward reading no longer describes it. The conclusion nevertheless stands, on a different and stricter ground: **the third line Art. V §5.6.6 forecloses is a MINT**, and this instrument mints nothing. It moves conserved gCP out of the Federation Reserve — a pool §7.2 named and bounded at genesis — into a hub's treasury, exactly as §16.5's nursery stake and §7.6's refugee and mentorship allocations do, and every one of those was already on the list. Nothing in Art. V §5.6.6's derivation moves: κ is untouched, d remains the rate it was derived to be, $\text{Depth}^* = 52 \cdot d \div \kappa$ does not move, and Chapter 8 §8.5.1's c is where it was. **What does move is the Reserve's balance sheet**, and that is priced in the exposure bullet below rather than hidden in this one.

- **The source, and a ceiling that is not a new number.** The advance is drawn from the **Federation Reserve**, whose purposes have named *new hubs* since Chapter 7 §7.2 was written. The lifetime maximum for any one operational hub is the figure Chapter 4 §4.1 fixes as the **Full Hub stake** and Chapter 7 §7.6 pays for a hub promoted — **10,000 gCP** — and this clause takes it **by reference rather than by copy**, so that the Protocol keeps one number for what standing up a sovereign hub is worth and never two. Chapter 4 §4.1's reduced genesis figure does **not** apply: that reduction lowers a barrier, and applying it here would raise one. The ceiling is **flat per hub and reads no roster** — twenty founders and two hundred draw the same maximum — which is what keeps the instrument clear of Chapter 7 §7.1's objection rather than merely nearby it.
- **Four tranches, on the Protocol's own quarter, once per hub ever.** The advance is released in **four tranches of 2,500 gCP**, at most one per **13 weeks**, across a single **52-week** term beginning at the first tranche, and **no operational hub takes an advance more than once**. The interval is not chosen: 13 weeks is Art. V §5.1.1's recalculation interval, Art. V §5.6's depth window, Chapter 6 §6.4's and Chapter 13's trailing window and Chapter 6 §6.7's escrow bound, and a milestone measured over anything shorter would be measured over a window no other clause of this Constitution uses — which is the divergence Chapter 7 §7.3 already records as an open item against itself. A quarter in which no milestone is met releases no tranche and **does not extend the term**. A tranche of 2,500 gCP sits **below Art. IX §9.8's 10,000 gCP disbursement threshold by construction**, so the tranche is pre-authorized in the manner §9.8 already pre-authorises refugee grants and Arbitral awards: it executes on the published milestone, and the Reserve's signers may verify that the milestone is satisfied but **may not withhold execution of it**. A community's existence must never turn on five hubs across three continents agreeing that it deserves one.

- **The gate is delivered work with strangers, and it is never volume.** A tranche releases where, in the trailing 13 weeks, the hub has published and satisfied **at least one** of exactly three milestones, and no others exist: **(a) settled delivery to strangers** — work orders settled through Chapter 6 §6.7's escrow with counterparties outside the hub, satisfying Chapter 15 §15.4's bounds over the same trailing 13 weeks Chapter 15 §15.4 measures over: three unique counterparties on the hub's side of the relationship, none above one third of the counted work-order value — this is the hub's side of §15.4's bound, which the section states symmetrically; **(b) registered provisioning** — at least one asset registered under Art. XIII §13.8 in the window, at acquisition, with its valuation method, divisibility class and default partition track filed, held by the hub or by its Paired Entity (§15.10); **(c) a cell come alive** — a Seed Cell this hub sponsored reaching §16.3's Nascent gate on published evidence, which is available only to a hub that holds the chartering power at all (§16.4). **Each milestone is a count of counterparties, completions or filings. None of them is a quantity of value.** Chapter 15 §15.4's bounds enter as a **qualifying test and never as a magnitude**: they decide whether the delivery is diverse enough to count, not how much it was worth.
- **Why Volume_i is excluded, and the exclusion is measured rather than cautious — and it outlives the term that motivated it (v5.17).** No milestone under this clause may reference `Volumei`, `Total_Volume`, `E52`, `Activityi`, or any function of them, and no amendment may introduce one without re-deciding what follows. `Activityi` no longer exists, Chapter 7 §7.3 having struck it; the other three do, and **the exclusion is kept whole rather than trimmed to the survivors**, because a milestone denominated on a manufacturable quantity is the defect, not the section it used to feed. The manufactured-volume re-run (Chapter 23 §23.7) measured a ring of eight hubs returning **365× on fee** at year 3, with Chapter 7 §7.3's own published payoff indicator $100 \times \text{Annual_Release} \div \text{Total_Volume}$ standing above 1.00 until **year 15.8** — above 1.00, that is, in **every year of the Chapter 23 §23.5 projection**. A gate on volume would therefore be a gate on the one quantity this Protocol has **measured** to be manufacturable, in exactly the launch regime the advance exists for and in which the manufacture pays best. Two further criteria are excluded for reasons already ratified: **the size or growth of the hub's own roster**, because Chapter 7 §7.1 has ruled on indexing anything to headcount; and any finding by the surety, the Council or a Panel that the hub is *contributing* or *collaborating in the movement*, because Art. V §5.6.6 named that criterion as the way a treasury captures itself — *"the people who govern the spending decide who counts as a contributor, and reliably conclude that they do."*
- **Chartering is not a milestone; a cell reaching Nascent is — and the difference is the whole of §16.5's cap.** Sponsorship is an act of the sponsor and costs nothing that a determined sponsor cannot pay; §16.5 caps a nursery at twelve concurrent cells for that exact reason, *"against shell-cell farming: a nursery that can charter without limit can manufacture a voting bloc one cell at a time."* Paying for the act would turn that cap into a budget line. Milestone (c) therefore reads the same trigger §16.5's own recovery reads — **not the sponsorship, but the promotion** — one stage earlier, at the Nascent gate that §16.3 already defines on published evidence rather than on headcount.

- **Nothing funded by a treasury counts toward a milestone, and this is where that rule is load-bearing.** A work order posted from any hub commons, treasury or hub-controlled account — including from another hub's advance under this clause — **counts toward no milestone here**, on the recipient's side, without exception. It is the rule Chapter 7 §7.3, Chapter 6 §6.3, Chapter 15 §15.4 and Art. V §5.6.6 already state for `Volume_i` and `E52`, stated a fifth time where a fifth statement is needed. **Work settled through Chapter 6 §6.7's escrow that qualifies milestone (a) is excluded from Activity_i for the advance term's duration** — the act that unlocks tranche 1 must not arm recovery on the qualifying act itself. Absent it, three advanced hubs would meet each other's milestones out of each other's advances and the instrument would fund its own qualifying condition — a financing loop with a public register attached. **And the advance itself is not volume:** a tranche is a disbursement from the Federation Reserve, not a trade, and is excluded from the receiving hub's `Volume_i` and `E52` on the same principle and in the same terms.
- **Recovery is struck, and the instrument is a grant (v5.17).** This bullet read: *"From the first year in which Activity_i is non-zero, the hub's whole Chapter 7 §7.3 allocation is applied to the outstanding advance before any part of it reaches the hub's treasury, until the Federation Reserve is whole."* Chapter 7 §7.3 has struck `Activity_i`, so the first year in which it is non-zero never arrives and the first charge has nothing to bite. **The Protocol will not answer that by moving the charge somewhere else**, because the same bullet already ruled out every other candidate and the ruling stands on its own reasoning rather than on convenience: recovery reached **nothing else** — not the hub's trade proceeds, not its Chapter 6 §6.8 commons share, not its members' balances, and not the people its bounties paid — since a clawback against a contributor whose hub failed would be the discretionary confiscation Art. IX §9.3 forbids and Art. VII §7.3 makes unamendable. **A charge with no lawful object is not a charge, and this clause says so rather than keeping the word.** From v5.17 the tranches are advanced and not recovered. What follows from that, stated rather than left to be found: the Federation Reserve carries the whole of every advance it makes under this clause, so the exposure below is the **ceiling** and not an expected loss; the instrument is bounded by its own limits and by nothing else — 10,000 gCP per hub, once per hub ever, four tranches, one 52-week term, at most three concurrently advanced hubs per surety — which at Chapter 23 §23.5's year-10 federation of 2,500 hubs is at most 25 M gCP against a 2.5 B Reserve, about one per cent of it; and a **suspended or terminated tranche is simply not released**, returning to the Reserve as an unspent line rather than to any hub or to the release (Art. XII §12.2, §16.8). Chapter 7 §7.7's identity is untouched throughout: what moves is conserved stock between two of its own compartments, exactly as it was before, and the arithmetic that produced the release is not involved at all. Where an outstanding advance survives a division under Article XIII, there is nothing outstanding to divide; a **drawn** advance divides nothing and an **undrawn** entitlement does not survive the division of the hub that held it, the milestones being that hub's record and not its successors'.
- **Who stands surety, and why one party may hold both this and the §16.8 petition.** The advance is posted against the surety of the hub's declared **anchor** geographic hub (§16.8) or, where the anchor declines or none is found, of the jurisdiction's accredited **Foundation** (§15.3), on the terms §16.5 already sets: **surety is an obligation, never a holding**, and neither surety owes a unit of gCP — a Foundation because it may hold none at all (Art. V §5.7, §15.2(c)), an anchor because this clause asks it for none. The apparent objection is that the guarantor also holds the standing to

petition against the guaranteed. **It is answered by the surety being non-financial, and it is answered completely.** A guarantor who owes money has an interest in never filing, because a successful petition proves the guarantee misplaced and may cost him; a guarantor who owes only answerability has the opposite interest, the cheapest discharge of the obligation being to file early. **A non-surety anchor that declined to stand surety owes the same answerability as anchor — the hub trades under its declaration — and files early for the same non-financial reason.** And the exposure runs both ways on one instrument: §16.8 suspends an anchor's standing for 24 months on three findings of frivolous petition, and **this clause suspends the same standing for 24 months on three findings that it vouched for a hub the Arbitral Layer afterwards found to have abused an advance** (§15.9's discipline, §12.2's forum). Over-filing and over-vouching are priced in the same currency against the same party, which is the only structure in which one party may safely hold both roles.

- **Surety is declinable, and a decline is not a veto.** §16.8 holds that requiring the anchor's consent *"would hand a geographic hub an approval right over an operational hub's existence, which is governance power under a different name"* — and an approval right over the hub's funding is the same right wearing a ledger entry. So an anchor may decline, the decline is published on-chain, it carries no consequence whatever (*"This clause creates a door, not a duty"*), and the jurisdiction's Foundation may stand in its place. **The surety holds no governance power over the hub it vouches for** — it cannot instruct it, direct or refuse its work, condition anything on how it votes, hold a seat in its assemblies or take a share of its treasury (§15.8, §16.5, §16.8). It vouches without instructing, as the nursery provisions without instructing and the anchor judges without instructing. Sponsorship is public and recorded on-chain at the moment it is given, and **no surety stands behind more than three concurrently advanced hubs** (§10.1) — §16.5's twelve is the wrong bound here, because Chapter 6 §6.3's truncation puts full credit for manufactured volume at a **ring of eight**, and a surety that could carry twelve could carry the whole ring; at three, a majority of any such ring must stand behind sureties the attacker does not control.
- **No Company hub, ever, in any amount.** No Company hub (Chapter 3 §3.3) is eligible for an advance under this clause, at any stage, on any surety, in any amount, and no clause of this Constitution is to be read as granting one (§9.10). Chapter 3 §3.3 provides that a Company hub draws *"no protocol allocation of any size"*, and Chapter 3 §3.3.1 rests one of the three bounds on the captive on that provision — *"it draws no protocol allocation, so the commons never funds it."* **The exclusion has to be written here rather than inferred from Chapter 7 §7.3**, because that section's exclusion removes Company hubs from `Num_Hubs`, `Total_Members` and `Total_Volume`, which reaches the **Hub Allocation** pool and no other, while this clause draws on the **Federation Reserve**, whose rows in Chapter 7 §7.6 are type-blind on their face. **And the line against §16.5's stake is stated rather than left as a trap:** §16.2 contemplates a *company Seed Cell* and §16.5 posts its stake from the Reserve, which is lawful because that stake is **held by nobody and returns** — it confers standing, not value, and Chapter 3 §3.3's *none* is about value. An advance is **received and spent**, and does not escape Chapter 3 §3.3 the way a bond does. Type is declared once and this Constitution opens no path to change it (Chapter 3 §3.3), so the exclusion cannot be walked around in either direction.

- **The spending rule is Art. V §5.6.6's, unchanged, and this clause writes no second one.** An advance enters the operational hub's treasury and is spent exactly as that treasury's Chapter 7 §7.3 line is spent: through **published bounties** — published **before the work**, naming scope, deliverable, acceptance test and price **to the cent** (Art. XV §15.2(b)), settled **against delivery** on that published acceptance test and on nothing else, denominated and settled in **gCP**, the currency of the line that funds it, and **never against an external contribution of any kind** (Art. V §5.6, §15.10). A payment announced after the work, or settled on attendance, participation, membership or *collaboration*, is a grant wearing a bounty's name and Chapter 6 §6.6's per-person cap binds it in full. **The English word *grant* does double duty in this section, and the two senses must never be read across.** What this clause creates is a grant in the sense of an *instrument* — a bounded sum from a named pool, released against published milestones. What this sentence forbids is a grant in the sense of a *disguised payment*. **Six of this Constitution's seven translations use two different nouns here**, only one carrying both senses as English does — and one of the six found the collision by rendering this very bullet. Not all six chose: at least one had no free word left to merge them with, its obvious candidate having been spent on the forbidden sense two amendments earlier. **A vocabulary already committed cannot silently collapse two senses, which is a property worth more than the care of any particular translator. Each translation of this Constitution states at this bullet how its own language stands**, so that a reader can check the count against the text in front of them instead of taking it on trust. A translation that uses two nouns names them, and says that the sentence above is therefore **false of its own file** rather than asserting a collision its reader cannot find. A translation that carries both senses on one word says **that**, and the sentence above is true where it stands: in such a file the reading rule below has a live object rather than an inert one, which is the whole reason it is written as a rule and not as a note. English carries both, which is a property of the language and not a permission: where the senses could be confused, the instrument is the one with a ceiling, a cadence and a surety, and the disguised payment is the one with none of them. Publication, settlement and rejection are audited on-chain and publish on Art. V §5.6's weekly cadence with the raw inputs alongside (§10.4), and the bounty threshold is Chapter 12 §12.2's 66% with a four-week implementation delay, as it is for any treasury allocation. Where a recipient converts gCP down into a hub's own CP, Chapter 8 §8.4 governs at the curve price and the 2% hub fee, and Art. V §5.6.6's honest-edge bullet already states what that costs; **this clause opens no new door into any local circuit and grants no convertibility that §16.2 and §16.3 do not already grant.**
- **Failure ends the advance and does not transfer it.** An advance stops on the day the hub is de-recognised, dissolves, loses its Paired Entity's recognition, or ceases to be operational within the meaning of §15.10 — "*an operational hub that stops having external counterparties ceases to be one.*" Any tranche not yet released is not released. Any sum outstanding was, through v5.16, recovered from whatever allocation the hub afterwards received under Chapter 7 §7.3; **v5.17 leaves only the second limb of that sentence, which now governs every case** — Chapter 7 §7.3 pays an operational hub nothing, so an outstanding sum is **extinguished as a loss to the Federation Reserve, published as such** in the year it is written off, and the write-off is the ordinary course rather than the residual one. **A quarter in which no milestone is met releases no tranche and does not extend the term — that is a quiet lapse, not a failure.** Four consecutive quarters with no milestone met converts the quiet lapse into the failure limb, because §16.9's own tranche

clock is 13 weeks and one missed quarter already caps the advance at 7,500 gCP; four quarters is the whole term spent delivering nothing, and at that point the advance dies as a recorded default with a published Reserve write-off. Nothing is forfeited to the refugee fund on the Chapter 4 §4.1 model, because there is nothing left to forfeit: a stake is held and can be redirected, and an advance has been eaten.

- **Amendment path: ordinary §7.1** — proposal by 20+ hubs, a 26-week discussion period, 90% of the Council, a 12-week implementation delay. Nothing here appears in §7.3's list. The 10 B cap (Art. V §5.3) is untouched, Chapter 7 §7.7's identity is untouched, the closed circuit (Art. V §5.6) is untouched and is the reason no advance and no bounty funded by one may ever be paid against money. The single §10.1 row this clause adds — three concurrent advanced hubs per surety — lowers a ceiling from unbounded to three and is therefore a **tightening** under §10.2.1, which follows §7.1; §10.2.1 now closes the new-row gap rather than merely recording it, and the amendment this clause adds to §10.2.1 makes that closure explicit.

What this does not close, stated plainly.

- **The ceiling is sized in gCP against a projection this same instrument declines to certify in absolute terms.** The advance is 10,000 gCP for a hub whose `Members_i` is zero, and milestone (a) turns on three unique external counterparties whose legs are admitted only up to their own rolls under Chapter 6 §6.3's new limb. The bullet this amendment adds to Chapter 23 §23.7 says in the same breath that the reference federation's honest cross-hub channel runs at roughly a fiftieth of what Chapter 6 §6.3 and Chapter 23 §23.5 imply — so the engine certifies the *shape* of early cross-hub trade and not its *size*, and this ceiling is a size. It is taken by reference from Chapter 4 §4.1's stake rather than calibrated, which is why it is defensible and not why it is right. First re-derivation against a measured early regime should expect to move it.
- **A single missed quarter caps the advance at 7,500 gCP, and the ceiling is stated without that.** Four tranches at no more than one per thirteen weeks, inside a fifty-two-week term that a missed milestone expressly does not extend, leaves the fourth tranche no slot after any skip. Ten thousand is the arithmetic maximum and seven thousand five hundred is the one a hub that stumbles once will actually see. Neither figure is wrong; publishing only the first would be.
- **The lifetime ceiling is exactly Art. IX §9.8's disbursement threshold, and this clause does not lean on that.** A tranche of 2,500 gCP sits below it by construction, which is what tranching is for; the lifetime maximum of 10,000 gCP is the same number §9.8 exists to gate. Nothing here aggregates the four tranches for §9.8's purposes and nothing should — but a later proposal to raise the ceiling by reference, Chapter 4 §4.1's stake having moved, would cross §9.8 in aggregate without saying so. Whoever proposes that must reach §9.8 deliberately or not at all.
- **The Reserve's exposure is real, is not insured, and v5.17 made it total.** An advance is spent on people who ate, and non-recourse means exactly that. On Chapter 24 §24.4's measured **92% two-year survival**, and before any recovery, the expected loss was on the order of **800 gCP for every 10,000 gCP advanced** — an order, not a rate, and one that mixed windows: Chapter 24 §24.4's 92% is measured over two years while this advance runs a 52-week term whose recovery began only at the first non-zero `Activity_i` and was open-ended after it. **With recovery struck the expected loss is the whole 10,000**, and the figure named above is kept only as the record of what

this clause expected when it was written. That figure carries a second caveat the Protocol will not bury: Chapter 24 §24.4's survival rates were measured on a population of hub formations that contained **no operational hub**, and Chapter 24 §24.4 already records the same limitation about its own type-declaration row. The number is the best one this document has, and it is not a measurement of this instrument.

- **Recovery ate a hub's first allocations, and that cost is now the Reserve's instead (v5.17).** This bullet read: *"From the first non-zero `Activity_i`, the whole allocation is applied to the debt... The advance moves money **earlier**, never more."* With the allocation struck there is no debt service and the second half of that sentence no longer holds: **the advance now moves money that would otherwise not have arrived at all.** The hub keeps what it draws and runs afterwards on its Chapter 6 §6.8 share and its own fees, which is what it would have done in any case. The warning the bullet carried is therefore withdrawn and the cost it warned about has moved to the Federation Reserve, where the bullet above prices it.
- **The surety's double role makes an anchor slower to file, not faster.** The alignment argued above holds for the *institution*; it does not repeal the reluctance of any body to publish its own misjudgement. §16.8 already recorded that *"An anchor that never files is a check that never checks"*, and this clause makes that reluctance somewhat worse rather than better. The remedy not taken — giving the surety to a party other than the anchor — was rejected because it would create a second institution with an interest in the hub and no standing to act on it, which is worse; but it was a choice between two costs and not a discovery of a free option.
- **The advance is unreachable without lawful hands.** It runs through §16.8's anchor, whose genesis limb is the **Paired Entity's registered seat**, so a hub with no recognised Paired Entity has no anchor by that limb and no advance. Appendix F.4's first objection is *"reduced and not answered"* at §15.10 — per-hub board, filing, registered office, annual accounts, auditor, tax status — and this clause now makes that unanswered cost a condition of a **bootstrap** instrument. The founders who can least afford a notary are the founders this clause reaches last.
- **Where anchor and Foundation both decline, there is no advance and no third door.** That is a genuine dead end, and the Protocol declines to invent a Council override for it: an override would be the approval right §16.8 refuses, relocated to the centre.
- **The milestone will refuse real work that really happened.** Chapter 15 §15.4 already recorded the shape of this cost — *"[i]n a Seed Cell of twelve there may genuinely be one mason"* — and a diversity test that is a **qualifying** condition refuses a hub doing large, honest work for a single client. The remedy is Chapter 15 §15.4's own and is not restated here: the Shared Circuit clause of this Article puts a cell's counterparties inside its nursery's circuit rather than inside its own roster.
- **The grant moves value out of one named pool, permanently and in one direction — and since v5.17 nothing moves the other way.** Through v5.16 the Reserve funded the advance and the Hub Allocation pool refilled it through the hub's own share, which is what made the movement a loop. Chapter 7 §7.3 has since struck the term that share consisted of, so **the return leg is gone and only the outbound one remains.** Chapter 7 §7.7's identity is untouched — the stock is conserved and one compartment's balance falls — and the Reserve is still a replenished pool rather than a fixed one, §5.5's succession returns running the same way. What changed is that this instrument is no longer among the things replenishing it. The exposure that follows is priced in the Reserve-exposure bullet above rather than left to be found in a balance sheet.

§16.10 The Personal Advance (Personal Advance Amendment, v5.18). §16.9 gave an operational hub an instrument to borrow against its own future creation. Nothing equivalent existed for a person, and the asymmetry was nowhere argued. A mason with five years of reputation and saved CP, who needs materials in March and will earn them back by September, had no instrument at all while the Protocol would advance 10,000 gCP to twenty strangers on an anchor's word. This clause closes that gap with a person-scale instrument on §16.9's pattern, differing where a person differs from a hub.

It is a grant and not a mint — the same foreclosures that bind §16.9 bind here. Art. V §5.6.3 moved creator-stipend settlement off minting after thirty-five simulated scenarios. Chapter 7 §7.1 refuses issuance indexed to headcount. Chapter 7 §7.7's conservation identity binds the 10 B cap. And Art. V §5.6.6 rules on this instrument's minting form by name: *"no hub treasury is ever funded by minting... not at any threshold, not for any purpose, and **not for a bootstrap**."* An advance from a named pool creates no claim — it moves conserved gCP between two compartments of a conserved stock, exactly as §16.9's advance does and as §16.5's nursery stake does. κ is untouched, d remains the rate it was derived to be, $\text{Depth}^* = 52 \cdot d \div \kappa$ does not move, and Chapter 8 §8.5.1's c is where it was.

- **The source, and a ceiling that is not a new number.** The advance is drawn from the **Federation Reserve**, whose purposes Chapter 7 §7.2 amends in this instrument to include *individual advances* — the same ordinary-amendment path that added *genesis advances*. The lifetime maximum for any one verified human is the figure the Protocol already uses for its only per-person Reserve lump: **100 gCP per verified human, once ever** — `GCP_REFUGEE_GRANT` (Art. II §2.4, `Federation.derecognize_hub`), numerically Ch. 24 §24.3's " ~ 100 gCP per member per year" early-regime allocation. The ceiling is taken **by reference** in §16.9's own sense: the Protocol keeps one number for what a per-person Reserve lump is worth and never two. It is far below Art. IX §9.8's 10,000 gCP disbursement threshold by construction, on 13-week tranches $\times 4$ (§16.9's clock; one missed quarter caps at 75 gCP on §16.9's own arithmetic). No per-person advance and no hub commons may ever fund a company hub — Chapter 3 §3.3 provides that a Company hub draws *"no protocol allocation of any size"*, and Chapter 3 §3.3.1 rests one of the three bounds on the captive on that provision.
- **Once per person, enforced by the nullifier commitment.** The §6.6 nullifier commitment is the per-person enforcement mechanism — the same regime that makes federation-wide personhood re-attestation possible without a shared roll (Art. IX §9.11). Without it, cross-hub reconciliation is impossible, and the measured verdict S7 quantifies the gap: **per-hub reconciliation allows 6 $\times$ the ceiling** (one human drawing 600 gCP across six hubs), while the nullifier path measures **1 $\times$ with 20 refusals**. The nullifier's cost is the detector's cost, which S2 publishes: 299 franchises lapsed in stopping a sybil attack that would have drawn 8,085 gCP per 10,000 advanced — the cost published, not hidden.
- **Delivery and the currency wall.** The advance is drawn in gCP and converted down through Ch. 8 §8.4 — which **mints CP-local against gCP debited**, creating the provisioning-depth dilution S8 measured: at 25% take-up, expected loss is 10,000 gCP per 10,000 advanced (100% outstanding),

and depth falls from 2.76×/yr to ~2.52×/yr. Recovery runs in CP through the hub, which remits gCP to the Reserve out of its Ch. 7 §7.3 line — and where the treasury cannot pay, the shortfall is **published rather than conjured**. The conversion leg dilutes; the recovery leg does not.

- **Recovery — a division of the member's own mint, θ -shaped exactly as Ch. 6 §6.8's θ .** At the point of sale, a published fraction of the seller's own Ch. 6 §6.2 mint goes to the hub instead of to the seller. `cp_supply` is credited the identical total, so κ is unchanged, Art. V §5.6.1's d remains the rate it was derived to be, $\text{Depth}^* = 52 \cdot d \div \kappa$ does not move, and Chapter 8 §8.5.1's c is untouched by the recovery leg (it is moved by the conversion leg, which is the point of S8). The hub then remits the collected CP to the Reserve as gCP, out of its own Ch. 7 §7.3 allocation — and where the treasury cannot pay, the shortfall is published rather than conjured.
- **What recovery never reaches, stated plainly.** Not dignity income, not existing balances, not reputation, not a household. `models.User.obligation_to` and `User.obligation_ubd_per_week` are the **negative control** of this module and are never written by it — the engine's own structural proof that recovery runs only against the mint. Art. V §5.4/§2.2's non-assignment is why no standing charge exists: a charge that could attach to UBD would be the discretionary confiscation Art. IX §9.3 forbids, and Art. V §5.4 now voids a claim on *unreceived* income every week before settlement. The advance is secured on creation, not on the person — which is the anti-extraction property.
- **No forgiveness, and no forgiveness decision.** A member who stops selling produces a published Reserve loss — §16.9's failed-hub treatment at person scale. The expected loss is published from S3's ladder: **≈5,167 gCP per 10,000 advanced at reference parameters** ($d0/t10$, 0% default, $\theta=0.25$), rising to 5,298 at $d15/t10$ and 5,577 at $d50/t10$. The sweep slopes are shallow: strategic default increases loss predictably but not catastrophically. That figure is the cost the Reserve prices in, the way §5.6.5 publishes 26% → 11%.
- **The milestone — real delivered work through Ch. 6 §6.7's escrow, counts not value.** A tranche releases where, in the trailing 13 weeks, the member has published and satisfied **at least one** of exactly three milestones, and no others exist: **(a) settled delivery to strangers** — work orders settled through Chapter 6 §6.7's escrow with counterparties outside the hub, satisfying Chapter 15 §15.4's bounds over the same trailing 13 weeks Chapter 15 §15.4 measures over; **(b) registered provisioning** — at least one asset registered under Art. XIII §13.8 in the window, at acquisition, with its valuation method, divisibility class and default partition track filed; **(c) a cell come alive** — a Seed Cell this member sponsored reaching §16.3's Nascent gate on published evidence. Each milestone is a count of counterparties, completions or filings. None of them is a quantity of value, and none may reference `Volume_i`, `Activity_i`, or any function of them — §16.9's exclusion, already canon. Nothing funded by a treasury counts toward a milestone here, without exception.
- **The company bar — measured, and closed.** S4 measured what happens without it: **16,000 gCP of Reserve advance converted into companyco0 circuit**, minting 12,425 CP-local worth 12,736 $\text{\textcircled{D}}$ inside a company hub, with 700 members under standing arrangement and 7,130,047 $\text{\textcircled{D}}$ of claims voided. S4-barred measured the closed form: **642 conversions refused, 16,050 gCP parked in wallets** of members whose local market is the company's, barred from minting inside the company hub. Unbarred, the instrument defeats Ch. 3 §3.3.1's bound at one remove: *"it draws no protocol allocation, so the commons never funds it."* Barred, the flow is closed and the residual cost is

published, not denied — gCP parked in wallets whose only local market is the company's own. **An advance may not be converted into a company hub's CP**, enforceable at the conversion (Ch. 8 §8.4).

- **Companies excluded absolutely.** No Company hub (Chapter 3 §3.3) is eligible for an advance under this clause, at any stage, on any surety, in any amount, and no clause of this Constitution is to be read as granting one (§9.10). Chapter 3 §3.3 provides that a Company hub draws *"no protocol allocation of any size"*, and Chapter 3 §3.3.1 rests one of the three bounds on the captive on that provision. The exclusion has to be written here rather than inferred from Chapter 7 §7.3, because that section's exclusion removes Company hubs from `Num_Hubs`, `Total_Members` and `Total_Volume`, which reaches the Hub Allocation pool and no other, while this clause draws on the Federation Reserve, whose rows in Chapter 7 §7.6 are type-blind on their face.
- **Surety — none required, and why.** At 100 gCP the Reserve's exposure is the published expected loss (~5,167 per 10,000 at reference parameters), and a surety's non-financial answerability already exists at hub scale — the home hub countersigns the milestone as its §5.9 home-hub duty and owes nothing financial. What countersigning costs the hub is the discipline of §15.9's frivolity rule — three findings of frivolous countersignature suspend a hub's standing under this clause for 24 months — which is the same discipline that governs §16.8's anchor petition and §16.9's surety. A non-financial answerability filed early is the cheapest discharge; a financial one would create a creditor with an interest in never filing, which is the defect §16.9's own surety argument rejects.
- **The measured rejections, recorded as §16.9 records its own.** Candidate B — deferred settlement on Ch. 9's fund at §9.3 terms — fails because the fund covers **≈7% of loss value** (S5: 166 Ð paid, 2,123 Ð uninsured, 40 claims refused for want of fund) and the seller carries the whole risk. Candidate C — matter advance on §13.8's register — is viable **ONLY** because §13.8 now seals custody (its one measured attack, closed by S9: +0.0000×/yr overstatement). Candidate D — mutual advance circles — is rejected because the shipped detector (§15.2) flags **every honest circle** (S6: 144 circle members frozen out vs 2 of control, reputation 20.67 vs 64.20, CP 73.08 vs 222.94), and a circle the Protocol must blind its own detector to is not an instrument this Constitution can offer.
- **Amendment path: ordinary §7.1** — proposal by 20+ hubs, a 26-week discussion period, 90% of the Council, a 12-week implementation delay. Nothing here appears in §7.3's list. The 10 B cap (Art. V §5.3) is untouched, Chapter 7 §7.7's identity is untouched, the closed circuit (Art. V §5.6) is untouched and is the reason no advance and no bounty funded by one may ever be paid against money. The ceiling is taken by reference from an existing number (100 gCP = `GCP_REFUGEE_GRANT`), which is a tightening rather than a number rise. The conversion bar is a new exclusion and is therefore a tightening under §7.1. The eleven measured runs S1–S9 are recorded in Chapter 23 §23.7 alongside the suite — the suite count does not change (it remains thirty-eight), and the eleven are stated as measured candidate-defence runs, not as additions to the ratified set.

What this does not close, stated plainly.

- **The ceiling is sized in gCP against a projection this same instrument declines to certify in absolute terms.** S1 measured Federation provisioning depth at 2.76×/yr at week 155 on a control

federation of 176 accounts drawing 13,875 gCP — the shape is certified, not the absolute size. First re-derivation against a measured early regime should expect to move it.

- **A single missed quarter caps the advance at 75 gCP, and the ceiling is stated without that.** Four tranches at no more than one per thirteen weeks, inside a 52-week term that a missed milestone expressly does not extend, leaves the fourth tranche no slot after any skip. One hundred is the arithmetic maximum and seventy-five is the one a person who stumbles once will actually see. Neither figure is wrong; publishing only the first would be.
- **The Reserve's exposure is real, is not insured, and v5.18 measured it.** S3's expected-loss ladder puts the cost at **5,167 gCP per 10,000 advanced** at d0/t10 reference parameters, rising shallowly with default rate. That figure is now measured, not assumed — the mended engine (insurance claim path operational, custody column closed) reproduces the ~6,000 gCP/10k baseline the design memo cited, and the variance across the default-rate sweep is bounded rather than catastrophic.
- **The milestone will refuse real work that really happened.** Chapter 15 §15.4 already recorded the shape of this cost — "*[i]n a Seed Cell of twelve there may genuinely be one mason*" — and a diversity test that is a **qualifying** condition refuses a member doing large, honest work for a single client. The remedy is Chapter 15 §15.4's own and is not restated here.
- **Where home hub declines to countersign, there is no advance and no third door.** That is a genuine dead end, and the Protocol declines to invent a Council override for it: an override would be the approval right §16.8 refuses, relocated to the centre.

§16.11 Genesis Mode (Genesis Mode Amendment, v5.22). Through v5.21 the Protocol's operational reality was one signer — the operator of the smart-app — acting for every treasury and protocol role, with the deviation recorded in a runbook and not in this Constitution. A runbook is not the Constitution. This clause generalizes §7.2.1's three disciplines — **provisional authority, full publication, deferred review** — to every governance act while a single signer operates the Protocol, and gives the arrangement its name and its sunset.

- **What provisional authority may do.** Execute published rules. Operate custody as §9.8's stated deviation. Record the register as the Foundation's registrar. Nothing else, and nothing in a member's name: **every vote, ballot, voice, ratification and refusal is signed by its own actor** — the members', directors' and delegates' own keys — never by the operator for them. Nothing takes effect before it is **published on-chain**. No discretionary lever (Art. IX §9.3) is created or held. No parameter changes without a recorded, delayed, anchored operator act (§547's discipline).
- **What it may never be confused with.** Genesis Mode is not a stage of the Protocol and not a fourth custody model; it is the §7.2.1 formula applied upward, inheriting its own words: "*Genesis runs on trust plus full publication.*" The trust is one operator's, and the publication is total, and both are named here rather than in a runbook.
- **The sunset, one power at a time.** Custody passes at the Smart Engines flip, when validator threshold custody takes over and Art. IX §9.8's multi-signature vault arrives — until then, single-sig custody under the operator is the stated deviation this clause records. **Administrative levers** pass to the Federation Council at its constitution (Art. XI). **Review:** the first Arbitral Panel formed inherits review over **every act done in Genesis Mode**, on §7.2.1's own sentence — the Panel "*inherits*

review over every acceptance made before its formation" — here generalized to every act. Genesis Mode ends when all three have happened, and **its end is itself a published act**.

- **The first cohort.** The first governance cohort of a hub — the Trustees Ch.10's endorsement rule requires a seated cohort to elect — is seated by the published, recorded operator act this clause authorizes, on the register, delayed and anchored. Elections take over from the seated cohort; no election exemption is written, because none is needed once the seating act is itself the recorded, published, reviewable thing.

Amendment path: ordinary §7.1. Nothing here is listed in §7.3, nothing loosens a §10.1 calibration, and nothing amends Article IX's guarantees — §9.8's vault is named as deferred, not delayed into silence. It records a deviation and bounds it.

Book V — Local Governance

Chapter 10: The Tier System

A **permissionless and achievement-based** progression system. Tiers are not class. They are accumulated standing through honourable contribution.

10.1 The Four Tiers

Member (Verified)

- **Duration:** 3 weeks minimum
- **Benefits:** Weekly UBD distribution, marketplace access (buy side — including posting funded work orders, §6.7), 1 governance vote
- **Advance when:** 3+ purchases from **2+ unique sellers** AND reputation ≥ 50

Entry tier on verification of personhood. The starting point for every participant. (Coherence pass, 2026-10: the advance line read "... OR reputation ≥ 50 ", a disjunction §10.2's table and Appendix B.4 never had. Every criterion in a row applies together; the only alternative inside a row is the transaction count.)

Creator (Engaged)

- **Duration:** 10 weeks minimum
- **Benefits:** Can list goods/services/events, can take work orders (§6.7), can earn CP through sales, 3 governance votes, new creator grant (40 CP) on becoming a creator
- **Advance when:** 5+ sales to **3+ unique buyers** OR 15+ purchases, reputation ≥ 60

Active producer — one who creates value others receive.

Steward (Caretaker)

- **Duration:** 30 weeks minimum
- **Benefits:** Can convert CP to gCP, can mentor Members, can propose governance items, weekly creator stipend (5 CP if active, paid from the hub commons as its balance allows — §5.6.3), 7 governance votes
- **Advance when:** 30+ sales to **15+ unique buyers**, reputation ≥ 75 , **not flagged for wash trading**

One who manages resources on behalf of the collective — not as owner but as caretaker.

Trustee (Elder)

- **Election required**, with **community confirmation**
- **Term limit**: 1 year, max 2 consecutive terms, then 1-year cooldown
- **Recall mechanism**: 30% petition + 66% recall vote
- **Cap**: Max 1% of active hub members
- **Benefits**: Dispute resolution authority, protocol change proposals, treasury transparency access, revenue sharing from protocol fees, 15 governance votes

One who holds protocol-level responsibilities in trust for the membership.

10.2 Advancement Requirements

From	To	Min Weeks	Transactions	Unique Counterparties	Reputation	Other
—	Member	0	—	—	—	Verification
Member	Creator	3	3 buys	2 unique sellers	50	—
Creator	Steward	10	5 sells OR 15 buys	3 unique buyers	60	—
Steward	Trustee	30	30 sells	15 unique buyers	75	Election + not flagged

Unique counterparty requirements are critical — they prevent wash-trading from enabling tier advancement, regardless of how transaction-rich a sybil cluster appears.

Work orders count on both sides of the table, under one bound (Demand-Side Amendment, v5.15). A settled work order (§6.7) counts as a **buy** for its poster and as a **sell** for its taker, against the same rows above: a poster's unique **takers** are unique sellers, and a taker's unique **posters** are unique buyers. No row moves and no threshold changes — the demand side advances a member through the ladder the Protocol already has, or it does not advance them at all. What the demand side *does* need is a bound the supply side never did, because the two sides are not symmetric in what they cost an attacker: a fake sale needs someone willing to buy, and a fake purchase needs only a treasury and a roster. That bound is §15.4, and work-order value outside it counts toward no row in this table.

10.3 Trustee Selection (Reformed)

Problems addressed: self-perpetuating oligarchy risk, no term limits, no community oversight.

Process

1. **Nomination** — by existing Trustees. Requires 2 Trustee endorsements.

2. **Community Confirmation** — 14-day voting period. Requires 60% approval across all tiers, with quadratic voting.
3. **Term Limits** — maximum 1-year terms, may serve 2 consecutive terms maximum, then 1-year wait.
4. **Recall** — 30% of voters can petition. 66% vote to recall.

This converts Trustees from a closed elder council into a **time-limited service tier** subject to the community's continued consent.

Chapter 11: Quadratic voting, weighted by experience and contribution

We use **quadratic voting** — meaning each extra vote costs more than the last, paid for with credits that regenerate at the same flat rate for every member regardless of what they hold or trade — so no one can concentrate outcomes, because holdings are never a lever this mechanism reads in the first place. Then we weight it by **experience and contribution** (tier, reputation, tenure), so genuine long-term participation is honoured without enabling oligarchy. The combination is what does the work.

11.1 The formula

$$\text{Effective_Votes} = \sqrt{(\text{Credits_Spent})} \times \text{Experience_Weight}$$

$$\text{Experience_Weight} = \min(2.5, \text{Tier_Base} \times \text{Rep_Multiplier} \times \text{Tenure_Multiplier})$$

Components:

`Tier_Base = {1.0, 1.3, 1.6, 2.0}` for {Member, Creator, Steward, Trustee}
(rebalanced down from {1.0, 1.5, 2.0, 3.0} in early simulation)

`Rep_Multiplier = min(1.5, Reputation / 50)`
(capped to prevent reputation-farming dominance)

`Tenure_Multiplier = 1 + ln(Weeks_Active / 4) / 10`

The outer `min(2.5, ·)` makes the §10.1 constitutional ceiling arithmetically binding at any tenure. Without it, tier × reputation × tenure compounds past 3.6× at Trustee minimums and grows without bound — by year ten it quietly returns to the 4.6× the design was moved away from. Capped, quadratic cost becomes the dominant force: no combination of tier, reputation, and tenure can take over an outcome, and token holdings were never a term in this formula to begin with.

11.2 Quadratic voting cost

Each extra vote costs more than the last. That's the whole point: dominating gets expensive fast.

Votes Desired	Credits Required
1	1
2	4
3	9
4	16
5	25
9	81

Credits regenerate **weekly (10 credits)**, capping at 50.

11.3 Why this works

- **Quadratic cost reads no token holdings at all** — the formula has no term for them, only for credits spent, and those regenerate at the same flat rate for every member. **That is what makes dominating an outcome ruinously expensive for anyone, and not merely for the rich:** the guarantee is structural rather than a matter of price, and a reader who takes it for "a wealthy buyer cannot buy the result" has taken the weaker half.
- **Experience weight** honours genuine contribution without enabling oligarchy.
- **Reputation cap** stops reputation-farming from creating unbounded influence.
- **Tenure logarithm** rewards long-term commitment but at diminishing returns.

The rules are the same for all of us. The numbers just decide how much each of our votes actually counts.

Which layer this chapter governs. Quadratic voting weighted by experience and contribution is **hub-level** governance: a member's voice inside their own community. Two other layers work differently and are not in tension with it. At the Federation Council, votes are cast by hub delegates — one hub, one vote (§11.3 of the Constitution). And across every layer that counts people rather than hubs — §7.2 hub ratifications, Foundation member deliberations (§15.4) — the rule is **one human, one voice**, meaning specifically that no one's influence is multiplied by the number of hubs they belong to (§11.7 of the Constitution). Multi-hub membership earns more CP where more was actually created (§6.6); it never earns more voice.

Chapter 12: Delegation, Thresholds & Alternative Systems

12.1 Liquid Delegation

Members may delegate voting credits to representatives, with safeguards:

Delegation Decay:	50% per hop	(steeply diminishing – was 10% in early design)
Max Delegation Depth:	3 hops	
Max Received Credits:	1,000 per delegate	
Concentration Alert:	>10% delegated to one user	→ governance flag
Revocation:	Instant	
Override:	Always allowed	(vote directly to override delegate)

A 50% per-hop decay means **delegation pyramids collapse fast**. After three hops, only 12.5% of the original power remains. This makes large delegation cartels economically irrational.

12.2 Governance Thresholds

Domain	Threshold	Implementation Delay
Parameters (minor)	60%	4 weeks
Treasury allocations	66%	4 weeks
Economic changes	75%	6 weeks
Constitutional changes	80%	12 weeks

The implementation delay gives the community time to plan, adapt, or organize a response if a hostile proposal somehow passes.

These are **hub** thresholds. Federation thresholds are §7.1 (ordinary, 90% Council + 12 weeks) and §7.2 (Article I, 95% Council + 80% hub ratification + 26 weeks), and the §7.3 provisions have **no threshold at any tier** — not even a foundational-tier amendment reaches them. Where a hub-level vote would count individual members across hubs, §11.7 applies: one human, one voice, never multiplied by memberships.

12.3 Alternative Governance Systems

Hubs may adopt alternative governance within the Constitution's bounds:

System	Requirements
Liquid Democracy	Must be revocable
Consensus	Must have a fallback
Sortition	Must be fair
Council	Must be recallable
Direct Democracy	Must have a quorum

All systems must be: consent-based, allow exit, protect minorities, be transparent, include appeals.

This permits a Permaculture Hub to use full consensus, a Digital Nomad Hub to use liquid democracy, and a Territorial Hub to use traditional village assembly — all within the same Federation, all interoperable through gCP.

Book VI — The Reputation System

Chapter 13: Multi-Dimensional Reputation

13.1 Why reputation

In the inverted economy, credit scores measure your obedience to debt. Here, **reputation measures your contribution to collective flourishing** — what you've made, who you've kept commitments with, who you've helped, whether disputes against you held up.

Reputation cannot be bought. It is earned through consistent honourable action over time. The same way it works among real neighbours, scaled up and made unforgeable.

13.2 The Composite Model

Dimension	Weight	Components
Reliability (R)	30%	Commitments kept vs. broken, response time, dispute rate (lower is better).
Quality (Q)	30%	Average rating received (§14.4 states who may rate, the visibility and the contest windows), repeat customers, curation features.
Contribution (C)	20%	Community participation hours, mentorship provided, governance participation.
Trust (T)	20%	Verification level, account age, vouches from high-reputation members.

Composite Score:

$$\text{Rep} = (R \times 0.3) + (Q \times 0.3) + (C \times 0.2) + (T \times 0.2)$$

Scale: 20–100

Chapter 14: Reputation Dynamics & Effects

14.1 Daily Dynamics

$$\text{Daily_Change} = \text{Positive_Signals} - \text{Negative_Signals} - 0.03 + \text{Activity_Bonus}$$

Positive Signals:

- Successful sales +0.3 to +1.0
- Good ratings +0.2 to +0.5
- Mentoring sessions +0.5
- Governance participation +0.2

Negative Signals:

- Failed commitments -1.0
- Bad ratings -0.5 to -1.0
- Disputes lost -1.0 to -2.0
- Wash trading detected -20

Decay: 0.03 per day (gentle pressure to stay active)

Activity Bonus: +0.5 per week (entering the per-day equation above amortised as $+0.5/7 \approx +0.0714$ per active day) if active in marketplace or governance – seven active days realise the full +0.5

Bounds: Floor = 20, Ceiling = 100

Max daily change: ± 3 points

14.2 Reputation Tiers and Effects

Rep Score	Status	Benefits	Limitations
20–40	Probation	UBD only, may receive redistribution	Cannot list, limited transactions
41–55	Building	Can list with standard stake	Daily transaction limits
56–70	Established	Full access, lower stakes	None
71–85	Trusted	Curation eligible, mentor status	None
86–100	Exemplary	Trustee eligibility, leadership	None

14.3 Reputation Transfer Across Hubs

When a member moves between hubs (voluntarily or as a refugee):

- **Voluntary migration:** 80% of reputation transfers.
- **Refugee placement:** 70% of reputation transfers.

- **Hub-blocked exit:** 100% transfers (and the blocking hub is sanctioned).
- **Involuntary exit under §2.4:** 100% transfers; the member bears no penalty for circumstances they did not choose.

Reputation is **portable through the Federation, not stuck in a hub** — and *partially* portable by design, because trust is earned in a community rather than carried as a title (Art. V §5.7). This makes hubs compete for members on quality. In migration the three elements of the topology behave according to their natures: the **dignity right continues** in full from day one in the destination hub (§5.9), **reputation transfers in part** per the table above, and **earned CP converts** through gCP (§8.3–§8.4).

14.4 Ratings — who may rate, what is seen, how it is contested (Ratings Amendment, v5.22)

Chapter 13 §13.2 prices "average rating received (defined at §14.4, which states who may rate and the contest windows this term prices)" into Quality; through v5.21 no clause said who rates, whether a rating is public, how one is contested, or what stops retaliation. This clause says. It follows the recorded decisions of 2026-10-02, and the code that already runs it (#513) does so on these exact parameters.

- **Who may rate (D1).** Only the **payer of a settled Agreement** (§6.9), once, within **30 days** of settlement. Sellers do not rate buyers. A payer who did not go through a settled exchange has nothing the signal wants: the rating prices an experience of delivery, and there is no delivery to price without the settlement.
- **Visibility (D2).** The rated member sees the author and the reason. The public sees only the **aggregate** — the count, the mean, the band. A rating is feedback to the person and a statistic to the market, and neither needs the other's view.
- **Contest (D3).** A **bad** rating is held **7 days** before it applies, and is contested through Chapter 19 — Tier 1, then Tier 2 at §19.6's majority. A **good** rating applies immediately. The asymmetry is deliberate: the harm a false bad rating does is a member's standing; the harm a delayed good rating does is a week.
- **Retaliation and coordination (D4).** Five rules, all binding. (a) A settled transaction is required — no rating without the settlement it prices. (b) One delta per buyer → seller pair per 30 days — a second purchase may refresh a signal, never compound one. (c) Bad ratings from a cluster flagged under Chapter 15 are held until the flag resolves. (d) **No office creates, edits or deletes a rating** — not a hub-admin, not a board, not the operator; Chapter 19 alone, on a contest, suppresses one. (e) Refusing or repricing a sale over a rating is itself a Chapter 19 matter, priced as retaliation.
- **The scale (D5).** One to five stars, mapped onto §14.1's bands: +0.5 / +0.2 / 0 / -0.5 / -1.0, with an optional note of 500 characters or fewer. The note is the reason D2's visibility protects; the number is the thing §13.2 reads.

(Cross-reference added at Ch.13 §13.2: the "average rating received" this section prices is defined at §14.4, and inherits its contest-hold windows.)

Book VII — Security & Anti-Capture

The protocol is designed not for an idealised world but for an **adversarial** one. Every mechanism here has been simulated under attack. The point of this Book is not to describe the threats — it's to show how each one was already absorbed by the structure before this whitepaper was even written.

Chapter 15: Fake-Volume Trading (wash-trade detection)

15.1 The problem

Coordinated reciprocal trades inflate transaction counts, mint CP, and — without protection — would let attackers climb the tier ladder without ever serving a real counterparty.

15.2 Detection

Symmetry score: ratio of reciprocal volume between two parties
 Trigger: Symmetry ≥ 0.7 across ≥ 3 reciprocal transactions

When triggered:

- -20 reputation (immediate)
- Make-whole: any CP minted on the flagged volume is retired (Art. IX §9.3 – no burn of the balance)
- Account flagged for 90 days
- Tier advancement frozen
- Repeat offense: account suspended pending review

(Coherence pass, 2026-10: the second line read “-10% CP balance (penalty)”, as did Appendix B.5 (“10% balance”): a burn of holdings. Art. IX §9.3 prohibits punitive seizure and §6.3's remedies are restorative, so the remedies are the reputation reduction, the 90-day flag with tier advancement frozen, suspension pending review on repeat — a time-bounded marketplace restriction — and make-whole of the CP the fake volume minted. Nothing is taken from what a member earned honestly.)

15.3 Why unique counterparties matter

Tier advancement requires **unique** sellers/buyers (2, 3, 15 at the respective tiers). A fake-volume cluster, no matter how large, advances no faster than the count of its distinct real members. Combined with humans-only verification (a cryptographic check that you are a unique human), this makes fake-volume trading a losing strategy.

15.4 Why the symmetry detector cannot see a work order (Demand-Side Amendment, v5.15)

§15.2's detector reads one quantity: "**ratio of reciprocal volume** between two parties", triggering at "Symmetry ≥ 0.7 across ≥ 3 **reciprocal** transactions". Every word of that is about value moving *both* ways. A work order (§6.7) moves value **one** way — poster to taker, and never back — so a hub, a treasury, or a member funding an unbroken stream of orders to the same people produces a symmetry score near **zero** and is flagged by nothing. The detector is not weak here; it is measuring a different shape. Art. X §10.1 caps the threshold at ≤ 0.7 and permits tightening by ordinary amendment, and tightening it would not help: no threshold on a reciprocity ratio detects a flow that has no reciprocity in it at all.

The vector, named at the level it actually operates — and closed at that level in v5.17, which this section records rather than deletes. The obvious version is a member farming tier: post orders, pay confederates, climb Chapter 10's ladder. §15.3's unique-counterparty requirement already blunts that, because a cluster still advances no faster than its distinct real members. The version that matters was one tier up, and through v5.16 Ch. 7 §7.3 allocated gCP partly by

```
Activity_i = 0.10 × Annual_Release × (Volume_i / Total_Volume)      [ STRUCK,
v5.17 ]
```

Volume_i is a hub-level term, and a hub can manufacture it. A hub commons pays its own members to do work for the hub; the value settles; the volume is real in the ledger and circular in the economy; and — through v5.16 — the hub's share of every other hub's gCP release rose with it. **That last consequence is gone:** Ch. 7 §7.3 struck the term, so no share of any release now turns on **Volume_i**. **The bounds below are not withdrawn with it**, because they were never only about the allocation: settled work-order value still counts as `Transaction_Value` for §6.2, still moves Chapter 10 §10.2's advancement rows, and still enters Ch. 6 §6.3's `E5.2` and the supply cap that rests on it. What follows therefore reads as it always did, with one consequence struck from its motivation and none struck from its operation. Nothing in §15.2 fires, because nothing is reciprocal. Nothing in Chapter 16 fires, because no identity is fake and no holding is concentrated. Ch. 7 §7.3 defends its *floor* term against fission and its *population* term against sybil inflation, and reasons explicitly that "a fake member is a permanent claim on the hub's grain and kilowatt-hours" — but a fake *transaction* between two real members claims no grain at all. The activity term was the one term with no defence, and until the demand side existed it was also the one term nobody could cheaply inflate. Adding a demand side without adding this bound would open it.

The bound, and its derivation. Measured over any trailing **13 weeks** — the Protocol's quarter (Art. V §5.1.1, Art. V §5.6, §6.4) — settled work-order value counts as `Transaction_Value` for §6.2, toward Chapter 10 §10.2's advancement rows, and toward Ch. 7 §7.3's `Volume_i`, only within these bounds:

Bound	Value	Where the number comes from
Minimum unique takers, per poster	3	Chapter 10 §10.2's Creator → Steward row — 3 unique buyers, the count at which the Protocol first credits a member with genuinely selling
Maximum share of a poster's counted work-order value to any one taker	1/3	The reciprocal of the floor. A requirement of n unique counterparties means nothing if one of them can be the whole relationship; the weakest non-trivial form of "at least n " is "none above $1/n$ "
Minimum unique posters, per taker	3	The same rule read from the other end. One payer funding one earner is the same circle seen from the other side
Maximum share of a taker's counted work-order value from any one poster	1/3	As above

The two bounds are one bound stated twice, and the minimum-compliant configuration is an exact three-way split — which is the point. **One consequence for the identity this bound feeds, measured in v5.16 and recorded in both places:** this section's 1/3 is **looser** than Ch. 6 §6.3's 15%, not tighter, and substituting it for §6.3's truncation raises a reciprocal pair's retained credit from 15.1% to 33.5%. Nothing here is thereby changed — the bound is a **diversity** requirement on work-order value and §6.3's is a **concentration** ceiling on a cap's base, and Ch. 7 §7.3's open item on reconciling the two is unaffected except in the one respect that its earlier statement of the direction was wrong. **Value outside the bounds still settles.** The taker is paid, the escrow releases, the obligation is discharged, and nothing is confiscated (Art. IX §9.3). What the excess does not do is mint, advance a tier, or move a hub's gCP allocation. The Protocol declines to *count* circular activity; it does not presume to *forbid* two members from paying each other.

Hub-posted work orders count for nobody. A work order posted from a hub commons, treasury, or any hub-controlled account settles and mints under §6.2 like any other, and is **excluded entirely** from Ch. 7 §7.3's `Volume_i` and from Ch. 6 §6.3's `E5.2` — which, both being inbound measures, means excluded on the taker's side, there being no other side for it to bite on (Ch. 7 §7.3, Art. V §5.6.6) — and advances no one's tier on the posting side, there being no tier for a treasury to hold. Its value and its takers are published on the §4.5 weekly cadence with the hub's other metrics. A hub that wishes to commission work from its members may do so freely and openly; what it may not do is have that commissioning read back to the Federation as evidence that it deserves a larger share of a fixed 10 billion.

Foundations cannot post work orders at all, and no new rule was needed to say so. Art. XV §15.2(c) and Art. V §5.7 provide that no Foundation holds, receives, or is allocated any token. A work order must be escrowed at posting (§6.7), an escrow is a lock on the poster's own token balance, and a Foundation has none. The Foundation route into this vector is closed by text that was already ratified — which is worth stating, because a reader who did not check would reasonably assume otherwise.

What this costs, recorded rather than waived. In a Seed Cell of twelve there may genuinely be one mason, and this bound will refuse to count real work that really happened. The Protocol takes that cost deliberately and does **not** scope the bound away at the nursery stages, because a waiver aimed at the stage with the least scrutiny is a waiver aimed at exactly the wrong stage. The remedy is structural and already exists: Art. XVI §16.2.1 puts every Seed Cell and Nascent Hub on a **shared circuit** with its nursery, so a cell's work orders may settle to takers in the nursery hub or in sibling cells — a different roster, and one an attacker does not control. A cell that cannot find three takers anywhere in its own nursery's circuit is a cell whose work orders should not be counting toward a gCP allocation yet.

And what it does not reach. Two members who agree to lie about a delivery will succeed at small scale, as §6.7 records. This bound does not detect dishonesty; it prices it, by requiring an attacker to recruit and coordinate at least three distinct real humans per window on each side and to keep no one of them dominant. That is the same claim §15.3 makes and no larger.

Chapter 16: Defence against fake-identity floods, large-holder concentration, coordinated-group attacks, and instant-borrow exploits

16.1 Fake-identity defence (sybil defence)

- **Humans-only verification required** for UBD distribution — a cryptographic check that you are a unique human, without recording who you are.
- Hubs may use biometric attestation, web-of-trust vouches, or proof-of-personhood protocols within constitutional limits.
- Unverified accounts: receive 50% UBD or none, depending on hub policy.
- **Simulation result:** fake-identity attack with 30% sybil pressure → all targets pass.

16.2 Concentration defence (large-holder defence)

- **Capital cannot enter at all — this is the first line of defence.** The closed circuit (§5.6, §8.10) has no pre-sale, no fiat ramp, no exchange, and no way to buy any token with outside money. There is no door through which a dominant position can be *bought*, so closing the boundary **deletes** this threat rather than mitigating it.
- **The only way up is to earn it.** A large position can be reached only by earning it — many real sales over time — or through a **founder allocation**, itself capped at 2% of active gCP and decaying on a 24-month half-life (F.1). The residual threat is therefore **concentration of earned holdings**, never purchased entry.
- **Even the largest earned holding is capped where it counts — in governance.** Quadratic voting makes cost grow as N^2 while influence grows as $\sqrt{N}$; the reputation multiplier is capped at 1.5×; the experience-weight ceiling is 2.5× (§11.1); delegation decays 50% per hop (Ch. 12.1, A.6).
- Sell-off penalties on the bonding curve; 12-week vesting on conversion inflows above 5,000 CP (§8.7 — inflow, never purchase; no purchase path exists).

- **Simulation result:** the largest earned holding pushed to takeover scale → Gini stays below 0.65, governance concentration <17%.
- **The strongest defence removes the door.** No capital gets in, and even the biggest builder cannot buy the vote.

16.3 Coordinated-group defence (cartel defence)

- Delegation decay (50% per hop) makes large delegation pyramids economically irrational — after three hops only 12.5% of the original power remains.
- Governance concentration alert (>30%) triggers automatic investigation.
- Constitutional protections cannot be amended away.
- Inter-hub: coordinated groups of hubs are detectable and sanctionable.
- **Simulation result:** 3-hub coordinated attack with 30% of votes attempting vote takeover → blocked, exposed, sanctioned, federation back to normal operation by week 52.

16.4 Instant-borrow exploit defence (flash-loan defence)

- 7-day voting lock on newly acquired CP.
- Voting credits do not transfer (they regenerate weekly per account).
- Snapshot mechanics use historical balances.
- **Simulation result:** instant-borrow attack scenario → no governance impact, attacker loses fees.

Chapter 17: Trust-collapse spiral protection

17.1 The scenario

If high-skill creators stop accepting UBD, UBD becomes worthless, holders' purchasing power collapses, the system unwinds. This is the single most dangerous failure mode for any dignity-based economy — and the protocol absorbs it.

17.2 The defence

- **Mandatory UBD acceptance** for basic goods and services (Skill 1–2).
- Health-factor exchange-rate adjustment: when creator ratio drops below 25%, the UBD/CP rate shifts to discourage UBD-to-CP conversion and encourage creation.
- Creator stipends from the User Distribution Pool to keep the creator base healthy.
- **Simulation result:** trust-collapse spiral with 50% of high-skill creators rejecting UBD → ecosystem stabilises at 39.9% creator ratio, all targets pass.

Chapter 18: Provisioning-Depth Monitoring

Through v5.4 this chapter monitored **reserve coverage** — reserve balance over circulating value — which is the right metric for an instrument that promises redemption. The closed circuit promises no redemption (§5.6), so the metric had no referent: *sixty per cent of what promise?* v5.5 does not relabel the ratio; it replaces it with the measurement the closed circuit actually needs.

$\text{Provisioning_Depth} = \text{Purchasable_Real_Value} / \text{Active_Circulation}$

$\text{Purchasable_Real_Value}$ = ð-valued goods and services, registered under §13.8, actually purchasable with the token this quarter at registered oracle valuations – grain in the store, kWh under contract, labour committed, inventory listed and in stock. ANNUALISED ($\times 52/13 = 4$) before the band is applied, so the ratio is a per-year rate (§5.6).

$\text{Active_Circulation}$ = token value in wallets that transacted at least once in the trailing 13 weeks, at the \$7.4 / \$8.5 curve price.

Provisioning Depth (× / year)	Status	Action
≥ 2.0	Healthy	Normal operations, base fees
1.0 – 2.0	Caution	Market-depth response active: fees rise, limits tighten (A.13)
< 1.0	Thin	Fee curve at maximum — prohibitive, never closed (Art. V §5.6)

Why the band reads 2.0/1.0 and not 0.50/0.35 (v5.6). Because depth is a *flow over a stock* and therefore a rate, while the coverage ratio it replaced was a *stock over a stock* and therefore a fraction. v5.5 inherited coverage's thresholds verbatim, which made the gate unpassable by construction; the 28-scenario re-run surfaced it, at 0.02–0.23 per quarter against a 0.35 floor. The numerator is now stated per annum and the band is taken from §7.8's velocity target — 2–4× per year, intervention below 1× — because annualised depth and velocity are the same species of quantity and the Protocol should not keep two rulers for one measurement. Full account in §5.6; measured figures, and the scenarios that fail the corrected gate, in §23.6 and §23.7.

Why the numerator is the interesting half. A coverage ratio asks whether the vault can pay out. Depth asks whether the money buys anything — which is the only question a holder in a closed circuit can act on. It also changes what a thinning reading *means*, and therefore what the response should be: falling coverage says "the vault is emptying, defend it"; falling depth says "the real economy behind this token is not keeping pace with the claims circulating in it, so slow the claims and grow the economy." The second diagnosis is the true one here, and it points at the right remedy: register more provisioning, or mint less.

Work orders, and why a commitment is not provisioning. Chapter 6 §6.7's demand side produces the one thing the numerator names and no earlier instrument supplied — labour committed by a specific person to a specific job. It is counted at **settlement**, once, in the quarter the order is accepted, and not at commitment; the full reasoning and its four consequences are in Art. V §5.6. The short form

is that this metric was corrected once already for confusing a standing offer with a one-shot stock (§23.6, §23.7), and counting an escrowed-but-undelivered order would be the same confusion running the other way. What is published alongside depth, weekly, is the $\bar{D}$ value of work orders funded and not yet taken — a demand figure, kept beside the supply figure and never added to it.

Three honest properties of the metric. Depth is **quarterly in its measurement** — the numerator observes one 13-week window and is then annualised — and therefore lags a sudden loss of provisioning by up to 13 weeks; the §5.6 impairment playbook exists precisely to handle the sudden case without waiting for the metric. Depth **excludes dormant balances** from its denominator, because money that is not moving is not seeking anything to buy — which makes the ratio honest about pressure but means a dormancy wave can improve the reading without anything real improving. And **annualisation is a rate conversion, not a forecast**: multiplying the quarter by four states this quarter's purchasable flow per year in the ordinary way any quarterly figure is annualised, and claims nothing about whether the same goods will be re-offered. All three are published alongside the number rather than smoothed away: the raw quarterly numerator, the annualisation factor, the per-annum numerator, the raw denominator, the dormancy share, weekly (§10.4).

There is no pause. A binary halt converts a liquidity problem into a confidence collapse at the worst possible moment, and hands whoever controls the halt a kill switch (§9.3). A price response needs no admin key, cannot be captured, and asks no one to press a button. **Composition** is monitored on the same cadence, by category: depth is only half the health of a provisioned currency — the other half is whether anyone outside the circuit can touch what stands behind it, and in a closed circuit provisioned by issuer-less registered assets, no one can (§5.6).

Book VIII — Dispute Resolution

Chapter 19: The Three-Tier System

Disputes are resolved through escalating, restorative tiers. Punishment is the last resort. Restoration is the goal.

19.1 Tier 1 — Direct Negotiation (Free)

1. Dispute filed
2. 48-hour cooling period
3. Structured dialogue (parties + protocol-provided template)
4. Agreement reached → resolved
No agreement → escalate to Tier 2

19.2 Tier 2 — Mediation (5 CP stake from each party)

1. 3 randomly-selected Stewards review the dispute
2. 48-hour deliberation
3. Verdict:
 - Clear winner → winner receives stake + 3 CP fee
 - Compromise → stakes split per fault percentage
 - No consensus → escalate to Tier 3

19.3 Tier 3 — Arbitration (15 CP stake from each party)

1. 3-Trustee panel (drawn from hub or, for cross-hub disputes, neighbouring hubs)
2. Full investigation, with right of reply
3. Binding decision
4. Winner: all stakes
5. Loser: reputation penalty proportional to fault

19.4 Cross-Hub Disputes

For disputes between members of different hubs, the panel is drawn from a third hub agreed by both parties (or randomly assigned by the Federation if no agreement).

19.5 Constitutional Disputes

Constitutional questions, and any dispute in which a Federation organ is a party, escalate to the **Arbitral Layer** (Article XII) — never to the Federation Council, which holds no adjudicative role (§1.6, §11.6). All other disputes are resolved at the hub or inter-hub level.

19.6 Evidence Standards

Tier	Evidence Required	Burden of Proof
1	Self-reported	Good faith
2	+ Screenshots, records, logs	>50% likely
3	+ External verification, witnesses	>75% likely

19.7 Escrowed work orders in dispute (Demand-Side Amendment, v5.15)

A work order (§6.7) carries escrowed value, so a dispute over one is a dispute with money already locked. Three rules govern it, and all three are clocks rather than judgments.

- **The escrow holds, and it holds where it is.** Filing a dispute suspends every clock in §6.7's state machine. The escrow does not move to the hub, to a Trustee, to a mediator, or to a panel — there is no custodial account in this Protocol and this clause does not create one. It stays locked exactly as it was, and the finding releases it.
- **Standing is never the obstacle.** Tiers 1–3 apply as written, cross-hub orders route through §19.4, and where a party is a Seed Cell or Nascent Hub, Art. XII §12.6 gives it standing before the Arbitral Layer in its own name — "a stage with no Council vote must not also be a stage with no forum." A member class of a hub whose commons is the poster has standing on the same terms.
- **The forum has a deadline, and missing it resolves the escrow rather than extending it.** If no verdict issues within **120 days** of filing, the escrow releases to whichever party performed — to the taker where delivery was marked, to the poster where it was not. The number is Art. XII §12.8's own decision deadline, and the principle is that clause's own: "delay is the oldest way to lose a court, and this Constitution declines to lose its court that way." An escrow that could be held indefinitely by filing is a freeze that any counterparty can trigger, which is precisely what Art. IX §9.3 forbids anyone to hold. **The lapse rule is what keeps the escrow on the lawful side of that line**, and it is why §6.7's 13-week term may be tolled by a dispute without becoming unbounded. **(Scoped to books-level escrows, v5.22; §6.9.)** The 120-day hold reaches the escrows this chapter's own machinery locks — the books-level escrow of §6.7's original drafting. **A ledger escrow of §6.9** cannot be held at all: the ledger returns it at its fixed `CancelAfter` whatever a panel does, so §6.9 states its own earlier backstop (delivery deadline + one week + fourteen days), at which this clause's lapse direction applies early — to the performer if delivery was marked, back to the payer if it was not — and a dispute still open past it continues as a matter between the parties whose finding is an award rather than an escrow release.

Chapter 20: Natural Law Standards

Every dispute, at every tier, is judged by three questions:

1. **Was there harm?** (Injury must be demonstrated, not assumed.)
2. **Was there a valid agreement?** (Consent must have existed at the time.)
3. **What is the just remedy?** (Restoration first; punishment only when restoration is impossible.)

Key Principles

- Innocent until proven otherwise.
 - Accuser bears burden of proof.
 - Right to face accuser.
 - Right to present defense.
 - No double jeopardy.
 - **Restoration over punishment.**
 - Reintegration of the offender when possible.
-

Book IX — Simulation & Validation

Chapter 21: Methodology

Note (v5.1): See Appendix G for an honest characterisation of the **scenario-design methodology** used to produce the 21/21 result — specifically, the distinction between find scenarios this passes (for-pass) and find scenarios this fails (adversarial red-team), and the planned shift in balance going forward. We are committed to dynamic security, not a single screenshot.

Note (v5.6, extended in v5.8): the 21/21 headline is superseded for the provisioning metric. v5.6 re-executed the suite — 28 federation scenarios at the time — against **provisioning depth**, discharging the undertaking in §22.1, and published the measured table, the cause and the arithmetic error in v5.5's band in **§23.6** and §5.6. **v5.8 supersedes that result in turn:** the suite is now **35 scenarios**, seven of them written against the closed circuit rather than inherited from the extraction era, and the engine has since been amended. **§23.7 carries the current figures and is the only section that should be quoted for them.** Counts are deliberately not restated in this note — it has gone stale once already. The historical tables in §22.1 and §23.3 are left as the record of what was measured at the time and are not restatements of depth.

Note (v5.3): v5-era simulations printed protocol prices with a dollar glyph, a modelling convenience. The closed circuit (§5.6, §8.10) admits no external currency and no exchange rate, so the glyph denominates nothing: **every \$ in the historical result tables below is to be read as ₤ — a substitution of labels, not a conversion, and it asserts no rate against the dollar or any other external currency.** The dynamics are unit-independent. Re-running the pipeline with native ₤ labels is queued with the Appendix G reproducibility work.

We didn't argue the protocol works — we ran it. Continuously, using agent-based models with realistic user archetypes. Every parameter in this whitepaper is tuned and stress-tested in those runs. The numbers below are what we measured, not what we hoped.

21.1 User Archetypes

Archetype	% of Users	Behavior
Lurker	50%	UBD recipient, occasional small purchase, minimal listing
Casual	35%	Active buyer, occasional seller, moderate engagement
Power	13%	High-frequency creator, governance participant, mentor
Griefer	2%	Adversarial actor (sybil, whale, wash trader, cartel member)

These ratios were tuned to match observed online-community behavior.

21.2 Economic Modeling

- 26-week boom/bust cycles (1.4× / 0.6× activity multipliers)
- 2% base churn rate per week
- Reputation-modulated reactivation (10% baseline)
- Skill verification with 5% disputed-claim rate
- Wash-trading detection running every cycle

Chapter 22: All Single-Hub Scenarios

The single-hub simulation runs 52 weeks with 1,000 initial users, growing at 2% per week, under each scenario.

22.1 Single-Hub Results

Scenario	Creator %	Gini	Exch Rate	Gov Conc.	Coverage* (retired metric)	Status
Baseline	41.5%	0.511	94.4	16.5%	49.3%	✓ PASS
Sybil Attack	37.6%	0.540	94.4	16.7%	49.3%	✓ PASS
Whale Attack	38.5%	0.598	94.4	16.6%	49.3%	✓ PASS
Cartel Attack	39.5%	0.515	85.9	16.6%	38.0%	✓ PASS
Recession	40.5%	0.511	94.4	16.6%	49.3%	✓ PASS
Governance Capture	40.2%	0.511	94.2	16.7%	49.1%	✓ PASS
Flash Loan	40.6%	0.506	94.4	16.5%	49.3%	✓ PASS
Death Spiral	39.9%	0.510	94.4	16.4%	49.3%	✓ PASS
Genesis (early stage)	14.3%	0.402	115.0	10.7%	50.0%	✓ PASS
Stress Test (all)	38.4%	0.622	85.9	16.6%	38.0%	✓ PASS

*** Metric-change disclosure (v5.5) — DISCHARGED IN v5.6, AND ONE OF ITS CLAIMS WAS FALSE.** The Coverage column above was measured against **reserve coverage**, the retired metric of v5.4 and earlier, on the single-hub engine. v5.5 replaced coverage with **provisioning depth** (§5.6, Chapter 18) — a different quantity, not a relabelling — reported the old figures unaltered rather than rescaled, and undertook that "the 21 scenarios are queued for re-execution under the depth definition on the reproducible pipeline (Appendix G.3), and the re-run figures will replace this table when published."

That re-execution has now been performed, on all 28 federation scenarios, and the figures are published in §23.6. (That was the v5.6 run. The suite has since grown to 35 scenarios and the engine has been amended; **§23.7 carries the current result and supersedes §23.6's table.** What follows is the v5.6 record, kept because the undertaking it discharges was made in v5.5.) Three things must be said about the outcome, in the order that does not flatter us:

1. **The v5.5 disclosure's central reassurance was wrong.** It said "the pass/fail structure is unaffected ... the depth band floor (0.35) was deliberately set at the same numerical threshold as the coverage floor it replaces, so no scenario changes side." Every scenario changes side. Coverage was a *stock over a stock* and depth is a *flow over a stock*; deliberately reusing coverage's threshold was not the conservative choice it was presented as, it was a dimensional error, and it is corrected in §5.6 by annualising the numerator and deriving the band from §7.8's velocity target. The v5.5 text had already articulated the principle — the two "are not the same number and the Protocol will not pretend they are by moving a decimal point" — and then broke it in the same paragraph.
2. **Under the corrected metric, 2 of 28 scenarios clear every gate and 26 do not** (§23.6). Twenty-five of the twenty-six fail exactly one gate, provisioning depth, and the reason is that the engine assumes **no** philanthropic provisioning at all: §15.2 fixes no donation magnitude, so none is assumed. The figures are published with the failures in them.
3. **The Coverage column above is not superseded by those figures and must not be read as depth.** It is a retired metric from a retired engine, kept only as the historical record of what was measured at the time; the remaining columns (creator ratio, Gini, exchange rate, governance concentration) stand on their own runs, and the ✓ PASS verdicts in this table refer to those columns and to coverage as it then existed — never to provisioning depth. For depth, read §23.6 and nothing else.

Reporting a re-derived metric with old numbers dressed up as new ones is exactly the relabelling this amendment was written to forbid — and so is reporting a corrected metric only where it happens to pass.

22.2 Target Definitions

Metric	Target	Rationale
Creator Ratio	10–50%	Healthy balance of creators and consumers
Gini Coefficient	<0.65	Moderate inequality, well below crisis thresholds
Exchange Rate	50–200	Within hard bounds
Governance Concentration	<40%	No oligarchy
Provisioning Depth	≥1.0 ×/yr	Annualised real goods behind active circulation (Art. V §5.6); §7.8 intervention line. NOT measured in these single-hub runs — the column above is retired coverage. Measured on the federation suite in §23.6 (the v5.6 run) and, currently, in §23.7

Result: all ten single-hub scenarios pass all targets they were measured against. Provisioning depth was not one of them: these runs predate the metric and measured coverage instead (see the disclosure above). Depth is measured on the federation suite — §23.6 for the v5.6 run, §23.7 for the current one.

Chapter 23: All Federation Scenarios

The federation simulation runs 104 weeks with 7+ hubs and tests cross-hub failure, migration, and coordinated attacks.

23.1 Per-Hub Targets

Metric	Target
Creator Ratio	15–50%
Gini Coefficient	<0.65
Exchange Rate	Within bounds
Provisioning Depth	≥1.0 ×/yr annualised (Art. V §5.6, §7.8) — measured in §23.6 (v5.6: failed by 26 of 28) and re-measured in §23.7 (v5.9, on the corrected numerator and a stationary claim stock: failed by 3 of 35)
Governance Concentration	<40%

23.2 Federation Targets

Metric	Target
Hub Survival Rate	≥90% at 5 years, allowance floored at one hub (§23.2.1)
Refugee Absorption	100%
gCP Price	0.50–2.00 $\tilde{\text{D}}$ (curve band; ceiling is the curve's own maximum at the 10 B cap — $1.00 \times 10^{0.3} = 1.995$ — and not a governance dial, B.3)
Hub Failure Cascade	Max 2 hubs affected

§23.2.1 The survival allowance is floored at one hub (Claim-Stationarity Amendment, v5.9).

"Survival $\geq 90\%$ " means "losses $\leq 10\%$ of chartered hubs", and below ten hubs that allowance rounds to zero. The rule then silently stops being a survival *rate* and becomes a demand for perfection — and it does so most severely on the smallest federations, which Article XVI holds to be the most fragile. A threshold that gets stricter as a community gets smaller is not the rule it claims to be.

The allowance is therefore **10% of chartered hubs, or one hub, whichever is greater**. The 90% is untouched, and at ten hubs or more nothing changes at all ($7 \rightarrow 1$, $12 \rightarrow 1$, $25 \rightarrow 2$, $50 \rightarrow 5$, $100 \rightarrow 10$). This is a repair to a rate's expression, not a relaxation of it: losses beyond the allowance remain a failure however long the period over which they accumulate.

It does not rescue the run that exposed it — and under §5.6.4's window and §5.6.3's settlement it no longer has to. *Decade long* loses one hub of seven over ten years and clears the survival gate under the floor, and with stipends settled from the commons its provisioning depth crosses the §5.6 floor as well (§23.7): the run now clears every gate. The loss is attrition rather than cascade, with every displaced member placed — and the depth failure is kept in this record because it was one when measured.

23.3 Federation Scenarios

Baseline (104 weeks, 7 hubs)

Metric	Result	Target	Status
Hub Survival	100%	>90%	✓ PASS
Avg Gini	0.52	<0.65	✓ PASS
gCP Price	1.02 Ğ	0.50–2.00 Ğ	✓ PASS
Avg Hub Health	78	>60	✓ PASS

Hub Failure Scenario

A hub experiences economic collapse and is de-recognized at week 67.

Metric	Result	Status
Failing Hub	De-recognized at week 67	Expected
Refugees	100% relocated	✓ PASS
Cascade	0 additional failures	✓ PASS
Federation Stability	Maintained	✓ PASS

Of 8,000 hub members, 5,000 became refugees and 3,000 stayed in a restructured hub merged with a neighbour. Average reputation transfer: 75%. Federation cost: 500,000 gCP (0.5% of the Federation Reserve pool).

Mass Migration Scenario

20% of a hub voluntarily moves to a new hub.

Metric	Result	Status
Migrants moved	Successfully	✓ PASS
Origin Hub	Survived	✓ PASS
Destination Hub	Absorbed and grew	✓ PASS
Reputation Transfer	70% maintained	✓ PASS

Coordinated Attack: 3-Hub Cartel

Three colluding hubs attempt federation governance capture with 30% of votes.

Week	Attack Status	Governance Conc.	Federation Response
40	Initiated	32%	Alert triggered
42	Escalating	38%	Investigation opened
44	Blocked	25%	Delegation limits enforced
46	Failed	18%	Cartel exposed, sanctions applied
52	Resolved	15%	Normal operations resumed

Sanctions: 3 hub representatives banned from Council (1 year), a reputation reduction and a time-bounded marketplace restriction on the cartel members, make-whole of anything the cartel gained, enhanced monitoring for 2 years. **No de-recognition** (innocent members protected). *(Coherence pass, 2026-10: as first recorded, this line also listed a "5% gCP penalty on cartel members" among the sanctions the v5 run reported applying. A gCP penalty is punitive seizure of holdings: Art. IX §9.3 prohibits it and Art. VII §7.3 places that prohibition beyond amendment. It is not a permitted remedy and is not part of the Protocol. The sanctions listed are the restorative ones the Constitution permits (§6.3); the table above is unchanged.)*

Stress Test (All Shocks Combined)

Recession (week 10) + Hub failure (week 20) + Mass migration (week 30) + Cartel attack (week 40) + Natural disaster (week 50). Run for 104 weeks.

Metric	Start	End	Target	Status
Active Hubs	7	12	>5	✓ PASS
Total Members	398K	890K	Growing	✓ PASS
gCP Price	1.00 Ğ	1.15 Ğ	0.50–2.00 Ğ	✓ PASS
Average Gini	0.45	0.58	<0.65	✓ PASS
Average Creator %	28%	36%	15–50%	✓ PASS
Refugees Absorbed	—	100%	100%	✓ PASS
Governance Capture	—	0%	0%	✓ PASS

The federation grew during a multi-shock stress scenario.

23.4 Failure Statistics (Aggregate Simulation)

Failure Type	Frequency	Recovery Rate	Avg Duration	Refugee %
Economic Collapse	3% / year	65%	26 weeks	35%
Governance Capture	1% / year	85%	16 weeks	15%
Mass Exodus	5% / year	N/A	N/A	N/A
External Shock	0.5% / year	90%	52 weeks	20% temp
Cascade (2+ hubs)	0.1% / year	80%	32 weeks	10%

Key finding — RETRACTED IN v5.6, AND FALSE WHEN PUBLISHED. This line read "No simulated failure scenario produces stateless humans. All refugees absorbed within 30 days." The engine's own shipped results say the opposite: `results_v5_hub_failure.json` records **0 of 740** placed and `results_v5_refugee_crisis.json` records **0 of 1,590** — not one displaced living human being placed in either run. Both files nonetheless report `refugee_placement_rate: 1.0` and both cleared the refugee-placement gate, because `federation.py` returned a hard-coded `1.0` whenever the placed list was empty: total placement failure and total placement success were indistinguishable at the gate, and it read the worse of the two as the better. The gate is fixed in the engine and the full suite is queued for re-execution on the reproducible pipeline (Appendix G.3); the measured placement figures will replace this line when published, whatever they are. Until then the Protocol claims nothing about refugee absorption in simulation.

23.5 Long-Term Projection (10 Years)

Year	Hubs	Members	gCP Price	Notes
1	14	1,000,000	1.21 €	Initial growth
2	35	3,000,000	1.35 €	Rapid adoption
3	80	8,000,000	1.48 €	Network effects
4	150	20,000,000	1.62 €	Mainstream awareness
5	300	50,000,000	1.78 €	Global reach begins
6	500	90,000,000	1.89 €	Competition with legacy systems
7	800	140,000,000	1.95 €	Institutional integration
8	1,200	200,000,000	1.98 €	Mass adoption
9	1,800	280,000,000	1.99 €	Near-saturation in early-adopting regions
10	2,500	400,000,000	1.99 €	5% of global population

Correction (v5.8) — this column asserted two arithmetically impossible prices. The §7.4 / B.3 curve is $\text{price} = 1.00 \times (\text{circulating} \div 10^9)^{0.3}$, whose value at the 10 B hard cap is $10^{0.3} = 1.995 \text{ €}$. That is the curve's own maximum, reached only when every last gCP is in circulation, and it is arithmetic rather than a governance-adjustable dial — there is no input to the curve that produces a higher number. Years 9 and 10 previously read 2.02 and 2.05, above a ceiling the same document declares unreachable, and the target band beside the two tables above read 0.50–5.00 against a ceiling of 2.00. Both are corrected here and in §23.2 and §23.3. The trajectory is unchanged in shape: it asymptotes toward the curve maximum and never arrives, which is what a hard cap on a bonding curve means. **This table is a design projection, not a measured run** — the measured price in every one of the 35 scenarios is 0.81 € , constant, because the engine holds `gcp_circulating` fixed at 500 M and the release schedule of §7.6 is not modelled in the federation runs. That limitation is stated here rather than smoothed, and it is why the projection is labelled a projection.

At Year 10:

- Average hub size: 160,000 members.
- Largest hub: 10,000,000 members, with many narrower-scale hubs inside its boundary — peers, not subordinates (§3.2, §3.3).
- Smallest viable hub: 500 members.
- Cumulative hub failures: ~42 of ~2,542 formed (1.6%).
- Refugee absorption: 100% successful throughout.

- Average Gini: 0.55 (stable across the decade).
- Federation: self-sustaining, gCP fully distributed.

23.6 Provisioning-depth re-execution (v5.6) — the promise in §22.1, discharged

v5.5 published its result tables against **reserve coverage** and undertook to re-execute every scenario against **provisioning depth** on the reproducible pipeline. That has now been done. The whole suite — 28 federation scenarios — was re-run end to end, and this table is the output rather than a summary of it. It is not a flattering table, and it is published as measured.

Two corrections had to be made first, and both are arithmetic. v5.5's band (>0.50 / $0.35-0.50$ / ≤ 0.35) had been inherited verbatim from coverage, a stock/stock fraction, and applied to depth, a flow/stock rate; under it 26 of 28 scenarios failed the depth gate at 0.02–0.23 per quarter. So the numerator is now stated **per annum** ($\times 52/13 = 4$) and the band is **derived from §7.8's velocity target** — Healthy ≥ 2.0 , Caution 1.0–2.0, Thin < 1.0 (§5.6). Nothing else in the engine, in any scenario, or in any economic parameter was changed to produce these numbers.

Scenario	Wk	Hubs A/F	Active members	Numerator Ð/yr	Denominator Ð	Depth ×/yr	Band	A.13 fee / window	Depth gate ≥1.0
Baseline	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin	×10.00 / ×0.25	× FAIL
Sybil flood	52	7/0	12,576	1,395,867	1,530,480	0.912	Thin	×10.00 / ×0.25	× FAIL
Whale	52	7/0	12,070	1,181,030	1,850,209	0.638	Thin	×10.00 / ×0.25	× FAIL
Cartel (3 hubs)	52	7/0	12,236	1,210,631	2,958,844	0.409	Thin	×10.00 / ×0.25	× FAIL
Wash trading	52	7/0	12,043	1,327,716	1,587,999	0.836	Thin	×10.00 / ×0.25	× FAIL
Flash-loan vote	52	7/0	12,059	1,183,777	1,707,647	0.693	Thin	×10.00 / ×0.25	× FAIL
Governance capture	52	7/0	12,189	1,165,877	2,321,102	0.502	Thin	×10.00 / ×0.25	× FAIL
Death spiral	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin	×10.00 / ×0.25	× FAIL
Recession	52	7/0	11,971	1,168,194	1,506,368	0.776	Thin	×10.00 / ×0.25	× FAIL
Mass migration	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin	×10.00 / ×0.25	× FAIL
Hub failure	78	6/1	11,356	1,254,994	1,853,686	0.677	Thin	×10.00 / ×0.25	× FAIL
Refugee crisis	78	5/2	10,459	1,082,981	1,723,684	0.628	Thin	×10.00 / ×0.25	× FAIL
Federation capture	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin	×10.00 / ×0.25	× FAIL
Stress (all shocks)	52	6/1	11,791	1,218,011	2,472,430	0.493	Thin	×10.00 / ×0.25	× FAIL
Genesis	78	1/2	716	123,142	135,335	0.910	Thin	×10.00 / ×0.25	× FAIL
State seizure	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin		

Scenario	Wk	Hubs A/F	Active members	Numerator \$/yr	Denominator \$	Depth x/yr	Band	A.13 fee / window	Depth gate ≥1.0
								×10.00 / ×0.25	× FAIL
Closed circuit	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin	×10.00 / ×0.25	× FAIL
Provisioning impairment	52	7/0	12,043	5,327,148	1,557,764	3.420	Healthy	×1.00 / ×1.00	✓ PASS
Foundation Layer	52	7/0	12,043	4,906,423	1,557,767	3.150	Healthy	×1.00 / ×1.00	✓ PASS
Consent Registry	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin	×10.00 / ×0.25	× FAIL
Engine conformance	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin	×10.00 / ×0.25	× FAIL
Impartial adjudication	52	7/0	12,043	1,183,692	1,557,618	0.760	Thin	×10.00 / ×0.25	× FAIL
Long term	156	7/0	12,863	2,608,539	4,881,052	0.534	Thin	×10.00 / ×0.25	× FAIL
Scale test	52	25/0	53,091	4,768,711	6,657,186	0.716	Thin	×10.00 / ×0.25	× FAIL
Seed-cell bootstrap	260	13/1	15,737	3,391,515	11,168,437	0.304	Thin	×10.00 / ×0.25	× FAIL
Mega scale	26	50/0	259,652	3,310,475	7,666,584	0.432	Thin	×10.00 / ×0.25	× FAIL
Planet scale	13	100/0	500,421	3,294,957	13,615,765	0.242	Thin	×10.00 / ×0.25	× FAIL
Decade long	520	6/1	22,812	1,236,468	15,751,548	0.078	Thin	×10.00 / ×0.25	× FAIL

Result: 2 of 28 scenarios clear every gate. 26 do not, and 25 of those 26 fail exactly one gate — provisioning depth. The twenty-eighth, *Decade long*, additionally misses hub survival (6 of 7 hubs at 520 weeks); that failure is pre-existing and unrelated to this metric. Every other gate passes in all 28 runs: creator ratio, Gini, governance concentration, wisdom-weight ceiling (\$10.1), closed-circuit

integrity (§5.6), gCP hard cap, gCP price band, no-Foundation-holds-gCP (§15.2(c)), zero unamendable-clause violations, and the A.13 bound — fees never above 10×, window never at zero, in every week of every run.

Superseded by §23.7 (v5.8). The table above is the v5.6 re-execution and is kept as the record of what was measured then. It is not the current state: v5.8 corrected a measurement error in the depth numerator — live listings were priced as one-shot stock although a sale does not consume a standing offer — and added five constitutional mechanisms. v5.9 then made the claim stock stationary (§5.6.1), repaired an identifier collision that was destroying a member on every migration, and floored the hub-survival allowance at one hub (§23.2.1). On the corrected engine the baseline reads **2.123 ×/yr (Healthy)** rather than 0.760, and **30 of 35 scenarios clear every gate** rather than 2 of 28. Read §23.7 for the current figures; read this table for what v5.6 knew.

Correction (v5.8): this paragraph originally listed refugee placement among those passing gates, and that entry was an artefact rather than a result. The gate returned a hard-coded 1.0 whenever the placed list was empty, so a run that placed nobody and a run that placed everybody were indistinguishable at the gate, and it read the worse of the two as the better — see the retraction at §23.4. Two scenarios were in fact placing zero displaced living human beings (0 of 740; 0 of 1,590) while reporting 100%. A second defect compounded it: three scenarios fired their displacement events before week 26, when every hub is still *FORMING*, so no receiving hub was eligible and the refugee list was empty for a reason the gate then concealed. Both are fixed, and under the v5.8 re-execution refugee placement passes **as measured rather than as assumed**: 765 of 765 in *Hub failure*, 1,804 of 1,804 in *Refugee crisis*, 830 of 830 in *Genesis*, 795 of 795 in *Stress*, 9,531 of 9,531 in *Decade long*, and 60 of 60 in *Seed-cell bootstrap*. (Those totals are the v5.9 restatement. v5.8 published 1,667 for *Refugee crisis*, 3,441 for *Decade long* and 26 for *Seed-cell bootstrap*; the difference is not a change of policy but the identifier-collision repair described in §23.7 — the earlier run was destroying a sitting member each time one arrived, so it was counting arrivals against a roll that was quietly shrinking.) The claim is now true. It was not true when it was published, and the reason it survived review is that a green gate is not read as closely as a red one.

What the depth failures actually say, stated plainly. They are not a finding about attacks. Every adversarial scenario — Sybil, whale, cartel, wash trading, flash-loan, governance capture, state seizure, all shocks stacked — reads within ± 0.4 of the un-attacked baseline. Depth is measuring something else, and the two scenarios that pass say what: **Provisioning impairment** and **Foundation Layer** are the only two runs in which a Foundation declares a donation rate (8.00 and 5.00 $\tilde{\text{€}}$ per member per week). Every other scenario runs at the engine's default rate of **zero**, because §15.2 fixes the valve's direction and its four prohibitions and fixes **no magnitude at all** — donations are voluntary by definition, so there is no constitutional donation rate to assume, and inventing one that made the gate pass would be precisely the fudge the amendment forbids. Every Thin reading in this table is therefore a **production-only lower bound**: the hubs' own listed goods and committed labour, with no philanthropic provisioning standing behind them.

That is a real and reportable finding: **§15.2 is load-bearing**. The Protocol's own text already says Foundation-deployed physical commons is where the grain and the kilowatt-hours of §5.6 and §13.8 are born; the re-run puts a number on how load-bearing that is. On the baseline federation, measured by sweeping the declared rate and changing nothing else:

Declared donation rate (₵ / member / week)	Depth ×/yr	Band
0.00 (engine default — no assumption made)	0.760	Thin
0.50	0.999	Thin
0.55	1.023	Caution
1.00	1.238	Caution
2.60	2.003	Healthy
5.00	3.150	Healthy

The Thin floor is crossed at roughly **0.5 ₵ per member per week** and the Healthy target at roughly **2.6** — that is 0.05% and 0.26% of the ₵1,000 weekly UBD level. So the gap the table reports is small in absolute terms and entirely real: it is the difference between a currency provisioned only by what its members happen to have listed, and one with registered physical commons behind it. The remedy §5.6 names is the remedy the numbers name — register more provisioning, or mint less — and the Protocol has no mechanism, and wants none, that would let a simulation assume the first into existence.

Second reportable observation: the denominator grows faster than the numerator with scale and time. Depth falls monotonically along the size and horizon axes — 0.760 at 7 hubs / 52 weeks, 0.716 at 25 hubs, 0.432 at 50, 0.242 at 100, and 0.078 at 520 weeks — while the dormancy share rises to 68–75% in the largest and longest runs. Both halves of that are worth stating: dormant balances are already excluded from the denominator, so what remains is genuinely active claims outgrowing the listed order book, and the §5.6 publication duty exists so that this shows up as a falling number rather than as a surprise. It is the honest form of the constraint §16.1.1 already states — the binding constraint was never who holds the minting authority, it is the depth of the real economy behind the token.

A second, independent witness that the band and not the economy was wrong. The retired single-hub engine also computed a depth ratio, with its own band copied into its own configuration file, and on its baseline it read **0.341** — failing the inherited 0.35 floor by three thousandths, in an engine whose numerator is measured differently and whose denominator excludes gCP entirely. Two engines with different numerators, different denominators and different populations both landing just under the same threshold is the signature of a threshold in the wrong units, not of two economies that happen to be thin. Corrected the same way — annualised, band imported from the one place it now lives — that engine reads **1.364 ×/yr**, Caution. That figure is *not* a §5.6 depth measurement and must not be quoted as one: the single-hub engine excludes dormancy from neither side, prices only local CP, and registers no §13.8 assets. It is evidence about the ruler.

Reproducibility. All 35 result files reproduce byte-for-byte across processes with `PYTHONHASHSEED=random` and `PYTHONHASHSEED=0`; seeds derive from `blake2b` via `stable_seed()`, never from `hash()` (§10.4, §14.4, Appendix G.3).

23.7 The closed-circuit threat model (v5.8) — what the old attacks stopped measuring

§23.6 reported that every adversarial scenario — Sybil, whale, cartel, wash trading, flash-loan, governance capture, state seizure, all shocks stacked — reads within ± 0.4 of the un-attacked baseline, and offered that as reassurance. It is not reassurance. It is a warning, and this section is the correction.

Every one of those attacks was designed against a protocol with a pre-sale and a 60% reserve.

In that protocol the attacker's goal was always the same and always denominated outside the circuit: acquire cheaply, inflate, leave through the ramp with someone else's money. §5.6 closed the ramp — and closing it did not *defeat* those attacks, it *deleted their payoff*. A flash loan cannot be funded without an external lender the Constitution forbids to exist. A whale cannot dump without a buyer outside the circuit. Wash trading cannot support a listing when there is no listing to support.

So the suite was answering the question *do attacks that need an exit work when there is no exit?*, and the answer is no, and the answer is close to a tautology. Three consequences had to be faced honestly:

1. **One scenario was not merely neutered but broken.** *Flash-loan vote* removed its attacker in the same tick it created him — the follow-up event landed in the list being iterated — so he never survived a single step and the defence at §11.4 was never once exercised. It had never run, through four published revisions.
2. **Two scenarios were doing nothing at all.** *Death spiral* and *Mass migration* produced results bit-identical to the baseline on every final metric. The first set a refusal flag that no code path read; the second filtered for receiving hubs by a status no hub yet held at week 20. Both are fixed and both now move.
3. **Three scenarios point at a gate that cannot see what they inject.** *Whale*, *Cartel* and *Governance capture* inject CP at the governance-concentration gate, and that gate sums voting credits — wealth is not a term in it. A member holding fifty million CP has exactly the voting power of one holding none. That is arguably the correct design (§11.7 is a claim about people, not balances), but it means those three runs are not evidence about wealth.

What replaces them. In a closed circuit value cannot leave as money, which leaves four things worth taking, and the seven new scenarios are organised around them: **the real goods** (grain has an outside price even when the token does not), **the measurement** (v5.5 made depth binding, and a binding metric is worth attacking), **the franchise** (power needs no exit to be worth holding), and **the captive** (a member who cannot leave with value has less leverage against whoever controls what they can buy — the honest cost of §5.6).

The first publication of this section reported all seven attacks landing against a Protocol that had **no mechanism** to answer four of them, and said so rather than writing gates that passed over the holes. Five mechanisms have since landed, and the table below is the re-execution. Every attack is unchanged and undiluted — none was weakened, rescheduled or deleted to produce a green column.

Scenario	Wk	Numerator Ð/yr	Denominator Ð	Depth ×/yr	Band	vs baseline	Verdict
<i>Baseline (control)</i>	52	2,674,464	857,190	3.120	Healthy	—	all gates pass
Depth manipulation	52	2,918,636	877,844	3.325	Healthy	+0.205	all gates pass
Oracle capture	52	4,426,650	857,190	5.164	Healthy	+2.044	all gates pass
Foundation withholding	52	4,806,523	857,190	5.607	Healthy	+2.487	all gates pass
Account accumulation	52	2,674,464	857,190	3.120	Healthy	+0.000	all gates pass
Company town	52	2,674,464	857,190	3.120	Healthy	+0.000	all gates pass
PPP arbitrage	52	2,563,539	852,627	3.007	Healthy	−0.113	all gates pass
Fission farming	156	4,392,268	1,510,220	2.908	Healthy	−0.212	all gates pass

Across all 35 scenarios in this table's suite, all 35 clear every gate — and the three added since do not, which is recorded here rather than in a footnote. Every closed-circuit gate — §13.8, §11.7, §5.4, §7.9, §15.8 — passes in every run, *including the runs that attack it*, and no failure among those thirty-five is an attack success. The suite is now **thirty-eight**: the manufactured-volume re-run Ch. 7 §7.3 called for adds a hub commons paying its own members (**19 of 19 gates pass**, 0% counted, net **−8,664 gCP**), a reciprocal pair (**18 of 19 pass**, 15% counted, net **+20,868,488 gCP**, 2,410× on fee) and a ring of eight (**18 of 19 pass**, **100%** counted, net **+11,044,217 gCP**, 365× on fee). The gate each of the latter two fails is the same one, and it is the one written for this: "*§7.3 activity term: manufactured volume yields no allocation advantage.*" **Two of those three are attack successes, and they are the first this record has had to report.** None of the eighteen pre-existing gates moves under any of them — which Ch. 7 §7.3 predicted in words and this suite now knows by measurement — and the consequence for the activity term is drawn there rather than here: bounded, not defended, the claim that it was defended withdrawn in v5.16 — and **the term itself struck in v5.17**, after a weight-and-fee sweep found no positive coefficient and no chargeable fee that changes the sign of the payoff (Ch. 7 §7.3, `simulations/analyze_v517_activity_weight.py`). **These three scenarios are kept in the suite and their figures are kept here**, because they are the measurement the strike rests on; under the two-term formula the gate they fail reads on a term that no longer exists, and the suite records that rather than quietly re-scoring them. **And the engine has not been re-based on the amended formula, which is stated here and not left to a reader who runs it.** `Federation.annual_hub_allocation` still carries the three-term v5.6 shape — a divergence between

engine and text that this chapter already records for the v5.15 definitions, and that v5.17 widens by one coefficient. Every committed result file therefore still reproduces byte-for-byte, which is the property this record depends on and the reason the re-basing is not done in the same commit. It is an open item on this section's own terms — **named, not closed** — and what would close it is the engine moved onto `Floor + Population` with the whole suite re-run and re-published, green or not. The structural causes behind the earlier failures have been closed at the root — §8.5.1, §5.6.2, §5.6.4, whose redistribution window closed the three surviving inequality failures as measured, and now §5.6.3, whose stipend settlement closed the last two depth failures the same way: *seed cell* 0.733 → 2.585 and *decade long* 0.293 → 1.229, both across the §5.6 floor. What survives is not a failing gate but a recorded residual — stipend fulfilment from a commons that pays dignity first, named below, ruled on in §5.6.5, and not tuned away.

The five mechanisms, and why none of them is a threshold change.

- **§13.8 — the valuation is sealed at acquisition, and the admitted figure is the lowest standing attestation.** A registered valuation can no longer be restated: the attempt is refused by the data model rather than by a branch, and anyone may attest a lower figure without stake or permission. *Oracle capture* still attempts its ×6 and ×9 revaluations in full; the gate now reads `0 admitted; 2 refused by the acquisition seal (max attempted ×9.0); 1 challenge admitted`. The scenario's depth still reaches Healthy — but from the Foundation's *declared* deployment, not from the attack, which is the distinction the seal exists to draw.
- **§11.7 — personhood is re-attested periodically, federation-wide.** v5.5 verified a human once and thereafter verified a credential; the gap between those two is precisely what an off-ledger credential sale buys. Re-attestation runs through an unlinkable per-ceremony nullifier (§9.11–§9.18), because a shared roll of members would be the identity registry Art. IX §9.1 forbids — and it must be federation-wide, since a per-hub ceremony would leave a buyer one voice *per hub*. Only the voice lapses: balances (Art. IX §9.3) and dignity income (Art. II §2.1) are untouched. The gate reads `1 voice under one controller (940 credentials acquired off-ledger, 938 franchises lapsed)`.
- **Art. V §5.4 — dignity income is not assignable.** The earlier engine settled standing obligations inside UBD distribution, on the stated reasoning that the Protocol "has no mechanism that could" refuse. It had one, and the settlement loop was inventing a primitive that does not exist: **there is no operation in this Protocol that moves dignity income between members**. A claim on income not yet received is now void every week before settlement. The gate reads `0 Ð captured at source from 910 members; 5,166,471 Ð of claims voided` — and names the residue on its face, below.
- **§15.8 — the deployment split has no weighting term.** Aiming was previously possible because the code read a weights attribute; §15.8 was a norm honoured only while nobody deviated. The field no longer exists, so the deviation cannot be expressed rather than being checked for. Withholding *magnitude* remains lawful and is stated as such: §15.2 fixes the valve's direction, not its size.
- **§5.2 — balances re-denominate when a member crosses a PPP boundary.** This one was a measurement error, not a missing defence. The spread is nominal — dignity income mints at `× ppp` and listings price at `× ppp`, so the same basket costs the same Ð everywhere — but balances crossed hub boundaries un-re-denominated. *PPP arbitrage* now moves people for real

and measures the gain: 0 spreads exploited for 0.00 $\bar{\text{D}}$; 2 attempts yielded nothing real at nominal spread up to $\times 4.00$.

The eleven personal-advance runs, and what they measured (v5.18). Issue #148 asked whether a person could draw an advance against their own future creation, as §16.9 allows a hub to do. The answer is measured in eleven candidate-defence runs alongside the suite, S1–S9, run on the mended engine (insurance claim path operational, custody column closed). The suite count does not change — it remains thirty-eight — and the eleven are stated here as measured verdicts, not as additions to the ratified set. S1 (baseline) measured 2.76 $\times$ /yr provisioning depth at week 155, with 5,880 gCP expected loss per 10,000 advanced (58.8%) — the instrument operates sustainably at the baseline configuration. S2 measured the sybil-defence cost: 300 fake identities detected, 299 franchises lapsed, 8,085 gCP expected loss per 10,000 (80.8%) — the personhood re-attestation regime catches the attack before it can draw. S3 measured the expected-loss ladder: 5,167 gCP per 10,000 at d0/t10 reference (0% default, $\theta=0.25$), 5,298 at d15/t10, 5,577 at d50/t10 — strategic default increases loss predictably but not catastrophically. S4 measured the company-store attack without a conversion bar: 16,000 gCP reached a company hub, 12,425 CP-local minted inside it, 7,130,047 $\bar{\text{D}}$ of claims voided — the §3.3.1 gate correctly detects the flow. S4-barred measured the closed form: 642 conversions refused, 16,050 gCP parked in wallets — the bar closes the flow and publishes the residual. S5 measured the insurance-fund gap against deferred settlement: 166 $\bar{\text{D}}$ paid, 2,123 $\bar{\text{D}}$ uninsured, 40 claims refused for want of fund — the fund covers $\approx 7\%$ and the seller carries the risk. S6 measured the circle-detector cost: 144 circle members frozen out vs 2 of control, reputation 20.67 vs 64.20, CP 73.08 vs 222.94 — the shipped detector flags every honest circle, which is the cost S6 records. S7 measured per-hub farming: 1 human drew 600 gCP (6 $\times$ across hubs) — without cross-hub reconciliation, the ceiling is circumventable. S7-reconciled measured the closed form: 20 refusals, 100 gCP ceiling enforced — the nullifier commitment closes the hole. S8 measured depth dilution at 25% take-up: expected loss 10,000 per 10,000, depth 2.52 $\times$ /yr — the conversion leg creates the dilution, bounded by geometry. S9 measured custody closure: 200 of 400 assets left custody and never returned, overstatement +0.0000 $\times$ /yr — the v5.18 custody column closes the accounting loophole. The verdict pack is the quantitative basis for Art. XVI §16.10.

Two corrections sit underneath this table, and together they moved baseline depth 0.762 $\rightarrow$ 1.743 $\rightarrow$ 2.123. The first (v5.8) was a measurement error: the numerator priced every live listing as one-shot stock, but a sale does not consume a listing — it is a *standing* offer, and Lagos was delivering 108,541 $\bar{\text{D}}$ in a quarter from an order book the metric valued at 39,647. The second (v5.9, §5.6.1) was structural: CP was minted against production and retired against nothing, because §6's anti-hoarding decay applies only above an absolute floor ordinary balances never reach — the median member held 77 CP against a floor of 1,000, and what little was collected was paid straight back out, so net retirement was *negative*. Universal demurrage at the derived rate makes the claim stock stationary. Its effect on depth rises monotonically with horizon — 1.08 $\times$ at 13 weeks to 2.02 $\times$ at 520 — the signature of a stock control correcting a cumulative defect rather than a level being nudged.

What is still open, stated plainly.

- **The identity layer catches the fake person and never reaches the money.** The sybil-attack controller holding 300 purchased credentials lost 299 franchises and **kept 41 advances worth**

3,650 gCP, with 0.00 recoverable and 0.00 reported as recovered — the identity layer validates the person but the money-side has no comparable claim, which is why recovery must run at source on any advance-scale instrument rather than through the identity layer.

- **Point-of-sale capture is not closed.** §5.4 now voids a claim on *unreceived* income, which is the assignment. It does nothing about a dominant provisioner who is simply the only door the tokens can go through once received. That is the honest cost of §5.6: an open circuit exports the risk to an exchange, where the victim sells and leaves; a closed one keeps it at home. The gate says so in its own value string rather than in a footnote.
- **Depth no longer fails, and the residual that remains is recorded, not patched.** Retirement fixes the *quantity* of claims; the *price* term it could not reach — §8.5 valuing CP at $(\text{Circulating} \div \text{Initial})^{0.5}$ with *Initial* frozen at a hub's founding supply — is closed by §8.5.1's per-member baseline, and the mint term is closed by §5.6.3: creator stipends were paid from dignity-income overflow rather than production, minting $1.80\times$ what the marketplace does, so no retirement rate derived from κ could reach a mint that was not in κ . Under §5.6.3's settlement both surviving runs cross the floor — *seed cell* $0.733 \rightarrow 2.585$ (Healthy), *decade long* $0.293 \rightarrow 1.229$ (Caution) — and *long term* reads $1.143 \rightarrow 2.759$ (Healthy). What §5.6.3 recorded is answered by §5.6.5: with §13 paid first, measured stipend fulfilment is 26% of the entitlement on the baseline, 16% on *long term*, 12% on *seed cell* and 11% on *decade long* — ruled no-floor, published as the standing expectation, not tuned away.
- **Retiring the stock raised measured inequality — closed by §5.6.2 and §5.6.4.** Four scenarios missed $\text{Gini} \leq 0.65$ at v5.10, having previously sat within 0.007 of it. The demurrage is exactly proportional and therefore Gini-neutral in itself; what moved was §6's anti-hoarding intake, whose floor is *absolute* — shrinking every balance pushes more of them beneath it, cutting that intake by 69% and the commons redistribution it funds by 32%, and the bottom decile fell hardest because that redistribution is what it lived on. §5.6.2 re-funded the commons off the claim stock, and §5.6.4's window lets that redistribution reach the capital-poor again: measured across all thirty-five scenarios, no run now misses the inequality ceiling. Moving the floor would have erased the finding and flattered the metric, which is the practice §5.6 was amended to end.
- **Hub survival: the gate was ill-posed, and repairing it changed the verdict, not the record.** "≥90% survival" means "losses ≤10% of hubs", and below ten hubs that allowance rounds to zero — so the rule silently stopped being a *rate* and became a demand for perfection, growing stricter as a federation grew smaller, which inverts Article XVI's premise. §23.2.1 now floors the allowance at one hub, changing nothing at $N \geq 10$. Under §5.6.4's window *Decade long* loses one hub of seven across ten years — attrition rather than cascade, every displaced member placed — and clears the survival gate under the floor; its remaining failure was provisioning depth alone, §5.6.3 has closed that too, and the run now clears every gate — the failure is kept in this record because it was one.
- **What this engine can and cannot certify about manufactured volume, stated in its own units.** The three new scenarios are the right instrument for **retention** and the wrong one for **gCP**, and the reason is arithmetic rather than stylistic. Measured on the shipped ring run: honest hubs book **295–529 Ğ** of cross-hub inbound across 156 weeks — **0.1 to 0.5 Ğ per member** — against a ring hub's 3,000,000 Ğ, or **3,732 to 4,088 Ğ per member**. That is a separation of roughly **10,000× per member**, which is why the retention column is network-scale and trustworthy: no plausible parameter error closes four orders of magnitude. **But the same figures put this reference**

federation's whole honest cross-hub economy at roughly 400 Ğ a year, while a ring of eight minimum-size hubs has a *lawful* capacity of $8 \times 500 \times 2,000 = 8,000,000 \text{ Ğ}$ under the payer's-roll bound Ch. 6 §6.3 now carries — and §23.5's year 1 puts `Total_Volume` at 900 M Ğ, against which that same 8 M is 0.9% of the federation. **The reference federation's cross-hub channel is about 0.3% of its own realised sales where Ch. 6 §6.3 and §23.5 together imply about 16% — a factor of fifty.** So: this suite certifies **which shapes retain credit and which do not**, and it does **not** certify any absolute figure in Ğ, in either direction, because no absolute bound can be validated against an economy off by that factor. **The two failing gates' gCP figures are therefore evidence of sign and shape, not of magnitude** — they are computed against this federation's own thin honest base, which is exactly what makes a manufactured leg look as large as it does — and Ch. 7 §7.3 quotes both kinds and marks which is which where it does: the suite's own `+20,868,488` and `+11,044,217` are the two failing gates' nets, reported here and repeated there as evidence of sign and shape; the take-reduction figures in its open items come from a closed-form model run on Chapter 23 §23.5's projection. Neither is the other, no reading of one certifies the other, and an earlier draft of this bullet claimed all of §7.3's magnitudes were closed-form, which was wrong. **The remedy is a cross-hub channel sized to §6.3's own equivalence, and it is named here as work rather than done here**, on the model of the corrections above: a suite whose honest inter-hub trade is fifty times too thin will read every ceiling denominated in Ğ as generous.

A third correction, and why §23.6's refugee figures move again. Member identifiers are unique only *within* a hub — each hub starts its own counter at 1 — and the transfer routine wrote an arriving member into the destination under their old identifier. Measured: **672 of 672 migrants landed on an occupied identifier and destroyed the sitting member**, so a destination's roll could read 1,548 before and 1,548 after while 672 people "arrived". This corrupted every migration, every refugee absorption and every Article XIII partition, silently, because the count still moved in the right direction. It is the refugee gate's defect wearing different clothes: a run that reports somebody placed while the placement deletes a host is not reporting a placement. Migrants are now re-keyed into the destination's own identifier space, and §23.6's placement figures are restated on the corrected engine — *Decade long* places **9,531** rather than 3,441, because the old number counted arrivals against a roll that was quietly losing people.

Reproducibility. All 35 result files reproduce byte-for-byte under `PYTHONHASHSEED=0`, `random`, and `12345`, on the same pipeline and seeding discipline as §23.6 — and the three added since reproduce on the same discipline.

Book X — Hub Formation & Failure

Chapter 24: Hub Formation Process

Before either path below: the Seed and Nascent stages. Both paths in this chapter describe how a community reaches **Full Hub** status. Neither is how a community *begins*. Under Article XVI, ten to twenty-five people form a **Seed Cell** anywhere, immediately, with no stake of their own — a nursery sponsors them, and the stake is posted from the Federation Reserve or by a Full Hub nursery (§16.5, §7.6) — distributing dignity income under the declared-capacity rule (§5.1.2) and transacting on a shared circuit rather than minting a currency of their own (§16.2.1), running a full internal market and their own assemblies from week one. They grow to **Nascent Hub** when the internal market demonstrably functions, gaining Steward-tier gCP convertibility and inter-hub trade. Only then do the thresholds below apply, and they gate Council votes and full convertibility — never existence. The stages are set out in §16.2–§16.4 and parameterised in B.11; what follows is the last stage, not the first.

24.1 Genesis Path (First 50 Hubs)

Before the Federation exists, founding hubs must bootstrap.

Phase 1 — Commitment (Weeks 1–4)

- Gather 250+ founding humans
- Each founder commits 20 gCP from the hub's genesis allocation (no external purchase – the circuit is closed from block one, §5.6)
- Draft local constitution (must adopt Federation Constitution)
- Declare hub type – geographic, operational, or company (§3.3)
 - geographic: declare the boundary; only this type may be a home hub and mint UBD (Art. V §5.9)
 - operational: declare the anchor geographic hub and the paired nonprofit
 - company: declare the member stake schedule; no protocol allocation
- Elect founding council (7–15 members)
- Total stake: 5,000 gCP (genesis rate – §4.1)

Phase 2 — Technical Setup (Weeks 5–8)

- Deploy hub blockchain / rollup
- Initialize local token contracts (UBD-local, CP-local)
- Set up bonding curve with initial gCP stake
- Test all systems on testnet
- Security audit (simplified for genesis hubs)

Phase 3 — Soft Launch (Weeks 9–12)

- Onboard founding members
- Begin UBD distribution at 50% rate initially
- Open marketplace (founders only)
- Test inter-hub bridge with other genesis hubs
- Iterate on issues

Phase 4 — Full Launch (Week 13+)

- Open to new members
- Full UBD distribution
- Marketplace fully operational
- gCP conversion enabled
- Federation recognition (when 10+ genesis hubs exist)

24.2 Standard Path (After Federation Exists)**Step 1 — Application (2 weeks)**

- 500+ verified humans commit (ordinarily a Nascent Hub that has grown – \$16.3)
- Stake 10,000 gCP in formation contract (locked 2 years)
 - where a nursery sponsored the cell, posted from the Federation Reserve, or by a Full Hub nursery from its own holdings, and returned to whichever posted it on promotion (\$16.5, \$7.6); never purchased with external money
- Submit application to Federation Council:
 - Hub charter and constitution
 - Governance plan
 - Economic parameters (UBD amount, CP rates)
 - Hub-type declaration under §3.3 – geographic (with boundary), operational (with anchor hub and nonprofit pairing), or company (with member stake schedule)
 - Technical infrastructure plan
- Pay 100 gCP application fee (non-refundable)
- Secure 3 existing-hub endorsements

Step 2 — Review Period (4 weeks)

- Federation Council reviews application
- Public comment period (any hub can raise concerns)
- Applicant addresses concerns
- Modified application if needed
- Council votes (60% threshold)

Step 3 — Probationary Period (26 weeks)

- Recognized as "Forming Hub"
- Limited voting weight in Federation (50%)
- Reduced gCP allocation (50%)
- Mentor hub assigned (from endorsers)
- Bi-weekly health metric reporting
- Can be de-recognized if metrics fail
- Full membership after passing probation

Step 4 — Full Recognition (Week 27+)

- 66% Council confirmation vote
- Full gCP allocation
- Full Federation voting weight
- Stake stays locked: returned only after the hub survives 2 years, to whichever posted it (Step 1; §24.3, §4.1) – not at recognition
- Mentor relationship ends (optional continuation)

(Coherence pass, 2026-10: this step returned the stake at recognition, week 27, against Step 1's two-year lock, §24.3 and Appendix B.6. The two-year rule is the one kept.)

24.3 Formation Economics

Cost / Benefit	Amount	Notes
Initial Stake	10,000 gCP	Returned if hub survives 2 years
Application Fee	100 gCP	Non-refundable
Technical Setup	~1,000 gCP	External services
First Year gCP Allocation	Population-based	~1M for 10K members
Mentor Support	Free	Required for probation
Failure Penalty	Stake forfeited	Goes to refugee fund

24.4 Formation Success Factors

Based on simulation of 500 hub formations:

Factor	Success-Rate Impact
Population >1,000	+25%
5+ endorsements	+15%
Experienced leadership	+20%
Clear type declaration (§3.3)	+10%
Strong initial economy	+20%
Good mentor relationship	+15%

Note (v5.15). The +10% above was measured against the two-type declaration this chapter carried before the typology amendment, and is reported unchanged because relabelling a row does not re-measure it. Whether a three-type declaration that decides UBD, the CP cap and the allocation predicts formation success at the same rate is untested, and will stay untested until the suite is re-run.

Aggregate formation success rate: 78% Probation pass rate: 85% 2-year survival rate: 92%

Chapter 25: Hub Failure Modes & Refugee Protocol

25.1 Economic Collapse (the most common failure mode)

SCENARIO10: Hub experiences economic death spiral**Triggers:**

- Major employer/contributor leaves region
- UBD velocity drops below 5%
- Creator ratio drops below 12%
- Provisioning depth falls below 1.0 × per year (§5.6 Thin band)
- Mass emigration (>10%/year – the §4.5 Critical band)

System response:**Week 8 – YELLOW ALERT**

- Federation detects velocity anomaly
- Alert sent to hub governance
- Resources offered (economic advisors)
- Public metrics posted
- No restrictions yet

Week 12 – ORANGE ALERT

- Multiple critical metrics
- Mandatory Federation consultation
- Emergency economic measures allowed:
 - Temporary mint rate reduction
 - Conversion limits
 - Stimulus from local commons
- Member exit notification (rights explanation)
- 90-day improvement plan required

Week 20 – RED ALERT (Intervention)

- Federation observers deployed
- Hub governance supervised (not replaced)
- Members can transfer reputation at 80%
- Refugee preparation begins

Week 26 – DECISION POINT

- If recovering → return to monitoring
- If still Critical → Quarantine (13 consecutive Critical weeks – the §4.6 clock, counted from ~week 13 here)
- If governance corrupt → De-recognition vote

Quarantine status:

- Inter-hub trade restricted (gCP fees ×3, formulaic)
- gCP allocation suspended (resumes during any §12.7 stay)
- Federation Council oversight
- 26-week recovery window (§4.6)
- Reviewable at the Arbitral Layer (§12.2); filing stays the restriction unless the Panel finds serious risk

De-recognition:

- Triggered by 66% Council vote (§11.3; subject hub recused, §11.4)

- Reviewable at the Arbitral Layer before execution (§12.2)
- Implementation over 8 weeks
- Refugee placement before any other action (§25.6)

25.2 Governance Capture

SCENARIO: A small group attempts to capture hub governance.

Defenses:

- Quadratic voting limits whale influence
- Reputation cap (1.5×) limits farmed-rep influence
- Delegation decay (50%/hop) breaks pyramid schemes
- Concentration alerts (>30%) trigger automatic investigation
- Constitutional protections cannot be amended away

If captured:

- Member class files at the Arbitral Layer (§12.6) – the lesser of 500 members or 10% stands as a full party against their own hub's governance; capture victims need not wait for exit to be heard
- Members exit en masse (right of exit is constitutional)
- Hub fails the emigration metric → quarantine
- Federation intervention if constitutional violations
- De-recognition possible within 16 weeks
- Refugees absorbed elsewhere

Recovery rate: 85%.

25.3 Mass Exodus (Members Leave)

SCENARIO: A faction leaves to form a new hub or join another.

This is NOT failure. This is the protocol working.

Mass-exodus protections:

- Cannot block member departure (constitutional violation)
- Reputation must transfer at minimum 70%
- CP must convert at fair market rate
- UBD continues in new hub immediately
- A hub that blocks exit: immediate sanctions, potential de-recognition

If origin hub remains viable: it continues, often healthier.

If origin hub no longer viable: it dissolves cleanly.

25.4 External Shock (Natural Disaster, etc.)

SCENARIO: Hub experiences external disaster (flood, earthquake, regional crisis).

Day 1 – EMERGENCY DECLARED

- Hub governance declares emergency
- Federation emergency protocol activated
- Emergency powers granted (simplified governance, time-limited)
- Immediate aid mobilized

Day 3 – REFUGEE COORDINATION

- Federation broadcasts to all hubs
- Nearby hubs volunteer capacity
- Temporary membership created (UBD from host hub, can return when home recovers, reputation preserved fully)
- Federation grants: 100 gCP per displaced member

Week 2 – RECONSTRUCTION

- Federation emergency fund activated
- Technical infrastructure rebuilt
- **Economic stimulus loan from Federation Reserve** – a governed instrument on Art. XVI §16.9's pattern: source pool is the Federation Reserve; ceiling is fifty times the §16.9 Full Hub stake ($500,000 \text{ gCP} = 50 \times 10,000 \text{ gCP}$); authorisation requires Art. IX §9.8 quorum above 10,000 gCP, signed by the Federation's keyholders under §14.3; default mirrors §16.9's published write-off; **this creates a governed liability that divides by Article XIII §13.7's weights**.
- Reduced metrics expectations for up to 12 months

Recovery rate: 90%.

25.5 Cascade Risk

SCENARIO: Multiple hubs fail simultaneously (e.g., regional crisis affecting 5 hubs).

System response:

- Federation Council emergency session
- Cascade risk assessment (affected population vs. healthy-hub capacity)
- Differentiated responses: economic intervention, voluntary mergers, restructuring
- Regional alliance coordination
- gCP liquidity support
- Prepared refugee distribution if needed

CASCADE PREVENTION DESIGN:

- Hub economic independence (local UBD)
- Distributed gCP (no single-hub dependency)
- Capacity buffers in healthy hubs
- Regional alliances for mutual support
- Federation Reserve pool sized for 10% simultaneous failure
- Circuit breakers on the gCP bridge

Simulation result: A scenario with 500,000 members in 3 critical hubs resolved with only 50,000 actual refugees, 5M gCP used (0.05% of the Federation Reserve pool), and zero cascade.

25.6 The Refugee Protocol

When a hub is de-recognized, the refugee protocol guarantees that **no human in the federation becomes stateless**.

Provision	Value
Refugee grant	100 gCP per person
Reputation transfer	70% (refugee) / 80% (voluntary) / 100% (involuntary, Art. II §2.4)
Displacement bond (involuntary only, Art. II §2.4)	+200 gCP one-time
UBD continuity	Immediate in receiving hub
Placement guarantee	All refugees placed within 30 days
Choice	Refugees may choose receiving hub if multiple offer capacity

The refugee fund is a permanent line item in the Federation Reserve pool, sized to absorb up to 10% simultaneous federation-wide failure.

Book XI — Implementation Roadmap

Chapter 26: From Groundwork to Global Scale

Renamed in v5.5: "Foundation" now names a national legal entity (Article XV) and cannot double as a project phase.

Phase 0 — Groundwork (Months 1–12)

- Core protocol development
- Federation layer development
- Smart contract suite (gCP, hub registry, bridge, governance, dispute)
- Independent security audits
- Testnet deployment with mock hubs
- Genesis Hub recruitment (10 founding-wave candidates minimum)
- Arbitral roster certification standard drafted (§12.5)
- Engine deployment keyholder framework (§14.3) and reproducible-build pipeline (§14.4) stood up
- Consent Registry prototype: Track A + Track B proofs (§9.11), on-device proof pipeline per §9.14, per-campaign nullifier per §9.11
- First Foundation accreditation standard drafted (§15.6); model statute carrying the four prohibitions (§15.2), the transparency regime (§15.5), bound devolution (§15.7) and the arbitration clause (§12.2.1)
- Nursery programme designed (§16.5); first Seed Cells chartered

Phase 1 — Genesis Hubs (Months 13–24)

- First hubs of the founding wave launch in parallel
- 10 founding hubs in the first cohort
- Federation Constitution ratified by 10+ hubs
- Federation Council constituted per Article XI at ratification
- First arbitral roster admitted by hub majority (§12.5)
- Consent Registry v1 live, first cross-section and distinct-signer curve published (§9.11–§9.12); first campaign under the §9.17 standards
- First accredited Foundation live; first nursery-sponsored Seed Cells promoted to Nascent Hub (§16.3)
- Total: 50 genesis hubs target by month 24
- Distribution: 5 Africa, 5 Europe, 5 Americas, 5 Asia (geographic), 5 operational (initial spread) – §3.3
- gCP launches at 1.00 $\bar{D}$ base; first inter-hub trades
- Population target: 50,000–250,000 verified humans

Phase 2 — Growth (Months 25–48)

- 1,000 hubs across the federation
- 5 million members
- Trade-agreement networks emerge (regional alliances)
- Technical scaling (hub-rollups, sharded state)
- First merchants accept CP at Champion tier (100% acceptance)
- Standard hub-formation path opens (replacing genesis allowances)
- Seed Cell density becomes the growth engine: cells outnumber Full Hubs by design, and Foundations are the incubators (§15.3, §16.5)

Phase 3 — Scale (Years 4–10)

- 50,000 hubs
- 500 million members (~6% of global population)
- Full global coverage; every continent has hub density
- Mature governance with stable Federation Council
- Refugee absorption capacity proven through real events
- Institutional recognition by some progressive jurisdictions

Phase 4 — Maturity (Year 10+)

- 100,000+ hubs
- 1B+ members
- Self-sustaining on internal fees and inter-hub fees alone: Foundation grants continue to fund physical commons (§15.2) but the treasury no longer depends on them for operations (§30.3)
- Replication template: other movements adapt the principles
- Founding-wave hubs become heritage references of the alternative

Why "replication, not domination"

The goal is **not** for this protocol to be the only economic system. The goal is to prove that another way is possible — that the rules can be the same for all of us, that worth doesn't have to be earned to qualify, that an economy can recognise we already arrive whole.

Other movements may adapt the principles and build their own versions. That is the point. We are building a working alternative. We are not building a monopoly.

Book XII — Doctrine: The World, the Lever, the Method

The Books before this one specify machinery. This one specifies the argument the machinery serves — what the world actually permits, what measured consent is *for*, and the principles that bind every community and every campaign that raises this Protocol's name anywhere on Earth. It is doctrine, not mechanism, and it is load-bearing: a methodology that misdescribes the world destroys the people who trust it.

Chapter 27: The World as It Is — the legal reality, stated without discount

Before any theory of leverage, the terrain. Three facts govern every consent campaign on Earth, and the Protocol states them to every community **before a single signature is collected** (§9.17, Chapter 29). They are stated without discount because the alternative — a comfortable version — is how movements burn the people who believed them.

27.1 States are born of facts, not procedures

There is no legal pathway to statehood. The modern record shows four doors: dissolution of the parent state, decolonisation, negotiated separation, and unilateral secession that succeeds politically and wins recognition. International law's role in all four is the same — **it arrives afterward, to ratify what political weight has already decided.**

Self-determination, in settled doctrine, belongs to colonial and occupied peoples, not to regions of functioning democracies, where the competing principle of territorial integrity prevails. And historical statehood, however ancient and however real, **generates no living title**: effectiveness and acquiescence extinguish old claims. Scotland's centuries as an independent kingdom counted for nothing at law. Texas's republic did not survive *Texas v. White*. Even Hawaii, whose annexation the United States has formally admitted to be unlawful, received an apology and no remedy. The one apparent exception proves the rule: the Baltic states returned in 1991 because the world had never recognised their annexation — a dormant legal personality existed to restore. Where recognition was universal, there is nothing to revive.

Anyone who promises statehood by decree, by petition to a court, by proclamation, or by legal ingenuity is not merely mistaken; they are spending credibility that belongs to the people they are recruiting.

27.2 In democracies the political path is open — which is precisely why the shortcut is closed

The doctrine of remedial secession legitimates unilateral exit **only where the internal political road is blocked**. A functioning democracy that lets you found a party, win elections, measure consent, and negotiate has, by that very openness, delegitimised the forced route — and simultaneously guaranteed the legality of the long one.

This is not a consolation prize. It is the strategic map. Everything this Protocol builds — the hub, the Registry, the curve — lives entirely on the open road, needs no one's permission, and can be declared inadmissible by no court, because **a functioning economy is not a referendum and a signed declaration is not a vote** (§9.11, §9.16).

27.3 The law is the photograph of the cage, not the cage

Constitutional indivisibility clauses do not prevent change. They prevent change *by judicial or administrative route*. When a community's measured will becomes overwhelming, sustained, and organised, no article stops it: a solution is negotiated, or a constituent moment arrives — exactly as every existing state was itself born from an act its predecessor never authorised.

The binding constraint was never the text. It was always the weight. The whole methodology of this Protocol is the lawful accumulation of that weight, and Chapter 28 states how.

Chapter 28: The Lever — how measured consent becomes political power

The Registry measures (§9.11–§9.18). This chapter states what the measurement is *for*, in any country, for any people — because an index that never becomes leverage is a monument, and this Protocol does not build monuments.

28.1 The theorem

Across every peaceful territorial renegotiation of the modern era, one mechanism recurs: **borders and charters move when a persistent majority makes the cost of denial exceed the cost of concession**.

Scotland obtained its 2014 referendum because the movement had won an outright majority in a system designed to prevent one — at which point refusing the vote cost London more than granting it. Czechoslovakia separated without a single referendum, when both leaderships concluded the marriage cost more than the divorce. Montenegro negotiated the very rules of its own vote. Never arms — **weight**. The armed path is, statistically, the losing one; the weighted path is how it is actually done.

28.2 The four conditions

The successful cases share a sequence.

1. **Majority will that persists** — not an emotional spike a state can wait out, but a generation that does not change its mind.
2. **Demonstrated capacity for self-governance** — what theorists call *state capacity in waiting*: a community that visibly already governs, administers, and provides for itself.
3. **The window** — the moment the centre needs something from the periphery, through economic, constitutional, or political crisis.
4. **The table** — where entrenchment clauses are not overthrown but **consensually bypassed**, because constituent power can rewrite a pact when both seated parties want it rewritten.

The lesson of every negotiated exit is the same: consent is revoked between **equals**, and the entire game is becoming weighty enough to be treated as one.

28.3 What this Protocol changes: the first two conditions stop requiring decades

Persistent majority, which history could prove only through twenty years of electoral hegemony, becomes a public, verifiable, cumulative curve — signatures that, unlike votes, **do not expire at the end of a legislature** (§9.12). Thresholds are definable for any territory as ratios to its own politics, and each territory publishes its own:

- a curve exceeding the **local referendum-petition threshold** enters the national conversation;
- a curve exceeding the **real vote count of the territory's largest party** becomes negotiating mass no political actor can ignore, because it represents more measured consent than any of them holds;
- a curve approaching **a majority of the electorate** is a constitutional fact in waiting.

Demonstrated capacity is precisely what a hub is: an economy that functions, assemblies that decide, disputes that resolve, dignity that is guaranteed (Article III, Chapter 19, §5.1).

28.4 The Hirschman multiplier

Voice is only as strong as the credibility of exit. The signature of someone who declares withdrawal weighs one. The signature of someone who declares withdrawal **while already living partly inside an alternative economy** weighs ten — because it is not an opinion, it is a move already begun. This is why the economy and the Registry are one design and not two: each is what makes the other credible.

28.5 On rupture, named honestly

Every legal order was born from an act the previous order did not authorise — Sieyès's constituent power — and legality always arrives afterward, to certify what weight has already decided. But history is equally clear about which ruptures get certified and which get crushed. **Certified** are the separations that arrive *negotiated or peacefully irresistible*: the velvet divorce, the Baltic chain of hands, Scotland at the table. **Crushed** are those forced without the weight.

The Registry therefore prepares exactly one kind of rupture: the moment when the curve, the economy, and the demonstrated capacity make a community an interlocutor more valuable to hear than to repress. **The lever is never swung at the table — it is built until the table sets itself.**

28.6 The firewall, restated where it matters most

None of the above alters what a signature is: **a political declaration with zero individual legal effect.** It exempts no one from any law, tax, or obligation of any existing order, anywhere, and every campaign in every jurisdiction states this at the moment of signing (§9.11, §9.17). No hub, Foundation, or campaign may state or imply otherwise, and anyone who tells a member that revocation frees them from an obligation is leading that member to personal ruin.

The Registry's power has never resided in what one signature does — which is nothing — but in what a million persistent, verifiable signatures make undeniable. The Protocol offers this instrument to every people on Earth on those terms and no others: not a key out of the law, but a lever into the negotiation.

Chapter 29: The Method — principles that bind every hub and every campaign

The instrument is global; so is the discipline. Every hub, every campaign, every community that raises this Protocol's name anywhere on Earth is bound by five principles — not as etiquette, but as the operating conditions without which the entire architecture stops working.

29.1 Absolute nonviolence and legality of means

Not from timidity — from strategy and coherence at once. The historical record is unambiguous: in democracies the violent path is the losing path, and a movement founded on consent cannot be built on coercion without refuting itself. **No campaign asks any member to break the law of their jurisdiction, ever** (§9.13), and any group that does forfeits the Protocol's name and is delisted (§9.17, §12.2).

29.2 Truth before recruitment

Every community is told the legal reality of Chapter 27 **in full, before joining** — what the law permits, what it forbids, what the Protocol guarantees, and what it cannot protect anyone from (§9.13). A Seed Cell publishes what its UBD actually covers before anyone joins it, and may never overstate it (§5.1.2). Every campaign commissions a jurisdiction legal opinion before it opens, and in some places the honest answer will be *not safely, not yet* (§9.17). Informed consent is not a slogan here; it is the **validity condition of every signature collected.**

29.3 Exit always survivable

From every hub, from every campaign, from the Protocol itself — with one's balance, reputation, and dignity intact (§2.1, §2.4, §14.3, F.3). A consent movement that trapped its members would be a walking contradiction. This is the most sacred constraint in the system and it is **unamendable** (§7.3).

29.4 Consent asked, never presumed — at every level

In the Federation, in the hub, in the assembly, in the Registry (§2.6, §9.11). What this document reproaches states for — never asking (§2.7) — is what the Protocol could never forgive itself. **The daily plebiscite applies first of all to us.**

29.5 Dignity is recognised, not earned

Every human being has value by existing (§1.2). UBD is the economic translation of that sentence, no metric or reputation can touch it, and **no campaign — however urgent its politics — may subordinate a member's dignity to its goals.** The movement exists for the people, never the reverse. This is also why no stage of Article XVI rations dignity: staging sovereignty is prudence, staging dignity would be the inversion (§16.7).

29.6 Phase discipline

The principles imply a tempo, and the tempo is published rather than improvised. Every hub begins **complementary** — no member is asked to abandon the existing economy — deepens toward **essential needs** as its real capacity grows, and advances toward substitution only at the speed its members freely choose, measured by public thresholds, never decreed by ambition (§5.1.2, §8.10). Patience is not a compromise of the vision. It is the vision's proof of seriousness.

Book XIII — The Vision

Chapter 30: Why this works. Why this matters.

30.1 The inversion, side by side with the alternative

§1.5 set the inversion out in full — every turn, and the article that holds each one turned. This is the same thing at the end of the argument rather than the start of it, in the register the whole protocol was built in: not a specification, but the difference it makes to a life.

The inverted system	The alternative
Must earn the right to exist	Dignity guaranteed
Community is optional	Community is foundational
Debt creates artificial scarcity	Abundance through creation
Government grants rights	Rights are inherent
Failure means exclusion	Failure means restoration

Where the money is born, which way service runs, what a thing is worth, and who may bend the rules are the other half of the same table — each one in §1.5, against the article that enforces it.

30.2 Incentives aligned with what we already want

If you want...	What it takes...
More CP	Make something useful for someone real
Governance power	Contribute consistently over time
Basic security	Just exist — you already qualify
To exploit the system	Face stakes, reputation loss, detection, removal

When the incentive structure is aligned with what we already want — care for each other, build something useful, leave the place a little better — and adversarial behaviour costs more than cooperative behaviour, the system stabilises. That isn't a hope, and it is also not yet a proof. The simulation suite runs 35 scenarios out to 520 weeks, and it says three things that have to be held together. Every *extraction-era* adversarial run — Sybil, whale, cartel, wash trading, flash-loan, governance capture, state seizure — reads within a few tenths of the un-attacked baseline and clears every security gate (§23.6); but that is largely because §5.6 deleted those attacks' payoff rather than defeating them, so it is a weaker result than it looks (§23.7). Second, the seven scenarios written *against* the closed circuit found four holes the Protocol had no mechanism to close, and five mechanisms have since landed in answer — an acquisition seal and an attestation floor on §13.8 valuations, periodic personhood re-attestation under §11.7, non-assignable dignity income under §5.4, a deployment split with no weighting term under §15.8, and §5.2 re-denomination at a PPP boundary. Every one of those gates now passes under its own undiluted attack (§23.7). Third, and no longer open for those thirty-five: **all 35 scenarios clear every gate** (§23.7) — but the suite is thirty-eight now, and two of the three scenarios added since, written against §7.3's activity term, are attack successes: the first this record has had to publish, and the consequence is drawn at §7.3 rather than here (§7.3, §23.7). The depth cause was structural rather than adversarial, and all three of its roots have now been removed: CP was minted on every sale and retired against nothing, so the claim stock grew without bound — universal demurrage at the rate §7.8 derives now makes it stationary (§5.6.1); a hub that merely grew priced its own CP above 1.00 Ð against a frozen founding supply — §8.5.1's per-member baseline ends that; and creator stipends were minted against dignity-income overflow rather than production — §5.6.3 settles them from the commons the hub's fees already collect, so new claim is minted against production alone and the last two depth failures close. The inequality the retirement repair measured is closed as well: §5.6.2 funds the commons off the claim stock, and §5.6.4 makes the redistribution entitlement a recurring window rather than a lifetime quota, so the capital-poor are reached again and every run clears the Gini ceiling. What survives is a residual, recorded rather than tuned away: with §13's redistribution paid first, measured stipend fulfilment is 26% of the entitlement on the baseline run — answered by §5.6.5's no-floor ruling, not a failing gate (§5.6.3, §5.6.5). A threshold moved to flatter a metric remains the practice §5.6 was amended to end. Appendix G states the epistemic standing of the whole result honestly.

30.3 Economic sustainability — re-derived for the closed circuit

Earlier versions of this whitepaper contemplated a token sale, and a sale is a *lump* of funding: it lets a treasury model start with a balance and spend down. The closed circuit removes it (§5.6, §8.10), so the model is re-derived here on the three sources that actually exist — **internal fees, inter-hub fees, and Foundation grants** — rather than relabelled. Where the re-derivation leaves a genuine gap, the gap is stated rather than smoothed.

Three distinct treasuries, three distinct currencies. Conflating them is what made the old model look solvent.

Treasury	Denominated in	Funded by	Pays for
Hub commons	Local CP + UBD — and gCP where the hub holds a §7.3 allocation, or an Art. XVI §16.9 grant (v5.17)	2% hub conversion fee (§8.3–§8.4), CP transaction fees, activity decay (§6.4), UBD overflow (§5.4), insurance contributions (§9.2); and, in non-geographic hubs only (§3.3): the §6.8 mint share 0, and — through v5.16 — the hub's §7.3 gCP allocation, which v5.17 struck to nil for that class (Ch. 7 §7.3), leaving Art. XVI §16.9's grant as the only gCP line (Art. V §5.6.6)	Creator stipends (settled here since v5.11 — Art. V §5.6.3), local redistribution, local projects, local mutual aid; and, in non-geographic hubs, published bounties for non-transactional work (Art. V §5.6.6)
Federation treasury	gCP	0.1% inter-hub trade fee (§7.7), 0.1% federation conversion fee (§8.3), frivolous-proposal deposits, published penalty schedules (§7.5, §8.6) — genesis advances are no longer an inflow, their recovery having been struck with the §7.3 allocation it charged (v5.17, Art. XVI §16.9)	Refugee grants (Art. II §2.4, §25.6), Arbitral Panel awards (Art. IX §9.8, Art. XII §12.10), nursery stakes on the Reserve's behalf (Art. XVI §16.5), genesis advances to operational hubs (Art. XVI §16.9), engine operation
Foundation	Fiat / crypto donations	Donations only (Art. XV §15.2)	Physical commons only — land, greenhouses, solar, roofs, clinics, tools, programmes (Art. XV §15.3). Never tokens, never operations of the ledger layer

Flows in, by treasury. Hub: 2% of every CP → gCP conversion, 2% of every gCP → CP conversion, the CP-side transaction fee, decay recovered to commons, and 70% of UBD overflow. Federation: 0.1% of inter-hub trade volume plus 0.1% of upward conversions. Foundation: donations, deployed at published conversion velocity (§15.5).

Flows out, by treasury. UBD and stipends are hub-level and self-funding by construction: UBD is minted, not spent from a balance (§5.3), and its cap and overflow (§5.4) return excess to the same pool that pays the stipends. Refugee grants and Panel awards are federation-level and pre-authorised (§9.8). Physical provisioning — the grain, the kWh, the workshop — is **Foundation-level and donation-funded**, which is the substantive change: it was previously implied to be purchasable from a sale-funded treasury, and it never could have been, because a treasury denominated in a currency nobody can spend outside the circuit cannot buy a field.

Does it function on that basis alone? For the two ledger treasuries, yes, and the mechanism is simple: every one of their cost lines is denominated in the same currency as its revenue line. A hub's stipends are paid in the CP its own fees collect; the Federation's grants and awards are paid in the gCP its own fees collect. Neither treasury has an external liability, so neither can be insolvent in the sense that matters — there is no creditor to fail. Fee volume scales with activity, and so does every obligation it funds: more trade means more fees *and* more transactions to police; more members means more UBD *and* more minting capacity. The 10B gCP cap (§5.3) bounds the Federation's maximum lifetime disbursement to a known number rather than an inflating one, and the tapering release schedule (§7.3 allocation) spreads it across roughly thirty years.

The solvency property survives the two lines v5.15 adds, and it survives because they were shaped to. The claim above is not that these treasuries are rich; it is that neither can be insolvent *in the sense that matters*, because every cost line is denominated in the same currency as its revenue line. The §6.8 mint share arrives in CP and pays CP bounties. The §7.3 allocation arrived in gCP and paid gCP bounties — **and v5.17 struck it to nil for this class, leaving Art. XVI §16.9's grant in its place**, which arrives in gCP and pays gCP bounties on the same property and for the same reason. Neither creates a liability in a currency its own income is not denominated in, and no bounty may be denominated in external money at all (Art. V §5.6.6, Art. V §5.6, Appendix F.6). Nor does either line reach a geographic hub: creator stipends are still settled from the fees a geographic commons collects, at the fulfilment Art. V §5.6.5 publishes, and this amendment does not move those figures. A treasury that promised a fiat invoice against a gCP allocation would be the fiat cost gap below, wearing a budget — which is why the honest sentence remains the one already written: only Foundations can pay a fiat bill, permanently, and out of donations alone.

Two genuine gaps, stated in the open.

The bootstrap gap. Fee revenue is proportional to activity, and at genesis there is almost none. The Federation must fund the engine, audits, the first nursery stakes and the first genesis advances (Art. XVI §16.9) before the fee base exists — and through v5.16 the advances were the one line of the four that came back, out of the allocations of the hubs that took them. **v5.17 struck that allocation and with it the recovery, so none of the four comes back and the bootstrap gap is wider by the whole of the advance line** (Art. XVI §16.9). Three real sources cover it and they are all we have: the Protocol Development pool (§7.2 — 500M gCP vested over ten years, which pays for gCP-denominated work such as bounties, stakes, and allocations, but cannot pay a fiat invoice); Foundation grants out of donations, which can pay fiat invoices for audits, tooling, and legal opinions (§15.3, §9.17); and unpaid contribution. There is no fourth, and the honest consequence is that **the early roadmap of Chapter 26 is donation-paced**. A phase with no donors runs slower; it does not run on a token sale, because there is not one.

The fiat cost gap. Some costs can only be paid in external currency — audits, hosting, legal opinions, insurance. The ledger treasuries cannot pay them at all, by construction. Only Foundations can, out of donations, and Foundations are bound by purpose (§15.3): they fund public-benefit programmes, and protocol infrastructure qualifies only where a Foundation's own statute says it does. This is a real

constraint on the Protocol's fiat expenditure, permanently. It is also the constraint that makes the closed circuit true, and the trade is made deliberately: an architecture that can always pay its fiat bills is an architecture with a fiat door.

Balance. Slight inflation (1–3%) funds growth; aggressive deflation is prevented by decay and overflow; aggressive inflation is prevented by the 10B cap and the per-hub CP cap (§6.3). No line in this model depends on a sale, a listing, a peg, or a redemption — because none of those exists.

30.4 What this is not

- **Not a cryptocurrency speculation.** gCP has a hard cap, real provisioning, a curve ceiling — and no fiat or stablecoin pairs exist by constitution (§5.6): nothing to buy in, nothing to cash out, nothing to speculate on. Parabolic moves are not merely prevented; they are meaningless.
- **Not a peg, and not a redemption promise.** No token here promises stable value against anything external, guaranteed redemption in any asset, or reference to any commodity price (§5.6, §8.10). Provisioning is what the money can buy inside the network, which is a different object from a financial product — economically and legally.
- **Not a UBI experiment.** UBD is permanent, structural, and embedded in a complete economic protocol.
- **Not a corporation.** The Federation cannot tax, cannot police, cannot extract rents.
- **Not a state.** Hubs are voluntary. Membership is opt-in. Exit is constitutional and unamendable.
- **Not a charity.** UBD is dignity-recognition, not aid. CP is earned, not granted. And a donation to a Foundation buys nothing, mints nothing, and votes on nothing (§15.2).
- **Not a legal exemption.** A Registry signature is a political declaration with zero individual legal effect; it exempts no one from any law, tax, or obligation anywhere (§9.11, §28.6). Anyone who says otherwise is not speaking for this Protocol.

30.5 What this is

An alternative, designed to work, to a system that has failed too many of us.

A federation that scales without becoming an empire.

An economy that recognises we already arrive whole — without abandoning the recognition of what we make.

A governance structure that honours contribution without becoming oligarchy.

A safety net that catches anyone, anywhere, at any time — no exceptions, no paperwork, no permission required.

Something that does not ask permission to exist.

30.6 The close

We did not ask permission to build this. We are not begging for reform. We are not working within their system.

We are building the alternative. It is engineered and simulated; now it has to be built, hub by hub, by the people who will live in it. You already know how to live differently — care for your people, build something useful, leave the place a little better. That part is not missing. The infrastructure is — and that is the part we are building.

Every one of us has worth. Every community is sovereign. Together, we are the alternative in the making — the rules are the same for all of us.

This is the system. This is the federation. *The part that isn't missing is you.*

It's ours to build — let's build it together.

In Honour, In Truth, In Service to All of Us.

Appendices

Appendix A — Mathematical Specifications (Authoritative)

A.1 UBD Distribution

```
UBD_weekly      = Hub_calibrated_amount (default 1000)
UBD_cap         = 12 × UBD_weekly
```

```
If balance + weekly > cap:
    overflow = balance + weekly - cap
    balance  = cap
    distribution_pool += overflow × 0.70
    vote_pool      += overflow × 0.20
    burned         += overflow × 0.10
```

A.2 CP Minting (Capped, Quality-Weighted)

```
Effective_Rate = Base_Rate × (1 - (Supply / Max_Supply)^0.5)
CP_minted      = Value × Effective_Rate × Quality × Creator_Bonus
```

```
Quality        = clamp(Reputation / 50, 0.5, 2.0)
Creator_Bonus  = 1.2 if creator else 1.0
Max_Supply     = Hub_Population × 1000
```

A.3 UBD ↔ CP Exchange Rate

```
Rate = clamp(Base × Demand × Health, 50, 200)

Base    = 100
Demand  = clamp(UBD_Volume / (CP_Minted × 100), 0.8, 1.3)
Health  = 1.3 if creators < 15%
        | 1.1 if creators < 25%
        | 1.0 if creators < 35%
        | 0.9 otherwise

Weekly_Change ≤ 5%
```

A.4 Activity-Based Decay

```

If active_this_week:
    Activity_Score = min(1.0, Activity_Score + 0.1)
Else:
    Activity_Score = max(0.1, Activity_Score × 0.9)

Effective_Decay = 0.02 × (1 - Activity_Score)

If weeks_inactive ≥ 8:
    Effective_Decay × 2

Decay applies only to balance above 1,000 CP
Decayed CP → Local Commons

```

A.5 Wisdom-Weighted Quadratic Voting

```

Effective_Votes = √Credits × Wisdom_Weight

Wisdom_Weight = min(2.5, Tier_Base × min(1.5, Rep/50) × (1 + ln(Weeks/4)/10))

Tier_Base = {1.0, 1.3, 1.6, 2.0} (Member, Creator, Steward, Trustee)

```

The outer `min(2.5, ·)` enforces the §10.1 constitutional ceiling at any tenure. Without it the product exceeds 2.5× from Trustee minimums onward and grows without bound; with it, the formula and the Constitution state the same number, and the engine can enforce both (§10.3).

A.6 Delegation Decay

```

Delegated_Power = Direct_Credits × 0.5^depth

Max_Received    = 1,000 credits per delegate
Max_Depth       = 3 hops
Concentration_Alert: >10% to single delegate

```

A.7 Local CP Bonding Curve

```

Price (Ø)      = 1.00 × (Circulating / Initial)^0.5
Provisioning_Depth target = 2.0 × per year (§5.6, §7.8)
Anti-Dump      = penalty 5–30% depending on sale size
Vesting        = required above 5,000 CP, 12 weeks

```

A.8 gCP Bonding Curve (Federation)

Price ($\bar{D}$) = $1.00 \times (\text{Circulating} / 1,000,000,000)^{0.3}$
 Provisioning_Depth target = $2.0 \times \text{per year}$ (annualised purchasable real value / active circulation – \$5.6; the target is \$7.8's velocity floor because depth annualised and velocity are the same species of rate; provisioning is hub productive capacity + \$13.8 registered assets; closed circuit, no peg, no redemption claim; any held instrument obeys the \$10.1 concentration ceilings)
 Price_Floor = $0.50 \bar{D}$ (suspendable only by the \$5.6 impairment playbook)
 Curve_Ceiling = $2.00 \bar{D}$ (curve maximum at 10B circulating; protocol conversion bound – no governance dial)
 Large-conversion = up to 30% penalty + 52-week vesting above 0.1% of supply (internal surface only – \$7.5, \$8.10)

A.9 Insurance Fund

Fund_Rate = 5% of all transaction fees
 Max_Claim = 500 CP
 Min_Reputation = 55
 Max_Claims_Per_Year = 2
 Min_Reserve = 10,000 CP (triggers reinsurance from Commons)

A.10 Reputation Daily Update

Daily_Change = Positive_Signals – Negative_Signals – 0.03 + Activity_Bonus

 Bounds: Floor = 20, Ceiling = 100
 Max daily change: ± 3 points

A.11 Hub Health Composite

Full Hub:

$$\text{Health} = 0.15 \cdot \text{Creator} + 0.15 \cdot \text{Gini} + 0.20 \cdot \text{Depth} + 0.10 \cdot \text{Velocity} \\ + 0.10 \cdot \text{Participation} + 0.10 \cdot \text{Growth} + 0.10 \cdot \text{Emigration} \\ + 0.05 \cdot \text{Size} + 0.05 \cdot \text{gCP}$$

Seed Cell / Nascent Hub (Size and gCP not computed, weights renormalised):

$$\text{Health} = (0.15 \cdot \text{Creator} + 0.15 \cdot \text{Gini} + 0.20 \cdot \text{Depth} + 0.10 \cdot \text{Velocity} \\ + 0.10 \cdot \text{Participation} + 0.10 \cdot \text{Growth} + 0.10 \cdot \text{Emigration}) / 0.90$$

Range: 0–100

One metric list: measured = published = scored (§4.5, §10.4).

A.12 gCP Hub Allocation (re-derived v5.6; terms defined v5.15; activity term struck v5.17)

$\text{Annual_Release} = \text{Remaining_Unissued_Hub_Pool} \times 0.03$ (geometric; never exhausts)

Definitions (v5.15):

Num_Hubs = number of recognised hubs, Company hubs excluded (§3.3);
the index i runs over the same set

Members_i = verified humans whose home hub is i (Ch. 5 §5.9);
each human counted once federation-wide;
personhood not identity (Art. IX §9.2)

$\text{Total_Members} = \sum \text{Members}_i$

$E_{52,i}$ = annualised inbound cross-hub value, $\bar{E}$, §6.3 basis
(each leg admitted at $V_k \times \min(1, 2,000 \bar{E} \times \text{Members}_k \div \text{Out}_k)$ – the PAYER's roll-backed capacity, pro-rated across everyone that payer pays, applied BEFORE Gross_i is formed (§6.3, v5.16);
then per-counterparty truncation at $0.15 \times \text{gross}$;
intra-Art.-XIII-ancestry legs excluded;
commons, treasury and hub-controlled-account disbursements excluded on receipt;
no external-currency input at any remove)
– and NOT an input to this appendix from v5.17. $E_{52,i}$ is retained in this block because Ch. 6 §6.3's supply cap and Ch. 15 §15.4's diversity bound both read it, and both are unchanged; no share below reads it.

$\text{Volume}_i \equiv E_{52,i}$ (same; not a term of the formula below)

$\text{Total_Volume} = \sum \text{Volume}_i$ (same; not a term of the formula below)

$\text{Floor}_i = \min(0.40 \times \text{Annual_Release} / \text{Num_Hubs}, \text{Members}_i \times 20 \text{ gCP})$

$\text{Population}_i = 0.60 \times \text{Annual_Release} \times \text{Members}_i / \text{Total_Members}$

$\text{Annual_Hub_gCP}_i = \text{Floor}_i + \text{Population}_i$

Activity_i – STRUCK (v5.17). It read
 $0.10 \times \text{Annual_Release} \times \text{Volume}_i / \text{Total_Volume}$, and its
 0.10 is carried by Population_i above. Struck because no
positive coefficient and no chargeable fee makes
manufactured volume unprofitable across the volume
regimes §23.7 admits, and because at the ratified 0.10
the term's own input rests 42–95% manufactured on the
midpoint volume reading and 98.9–99.9% on §23.7's
(§7.3, v5.17).

Floor remainder unclaimed under the per-capita cap rolls into Population,
so $\sum_i \text{Annual_Hub_gCP}_i = \text{Annual_Release}$ exactly, whenever
 Total_Members is positive.

Zero-denominator boundary – one denominator now, not two:

$\text{Total_Members} = 0 \Rightarrow \text{Population}_i = 0$ at every hub – and $\text{Members}_i = 0$
at every hub, so $\text{Floor}_i = 0$ too; the floor
remainder has no destination and does not roll,

and NOTHING is distributed (through v5.16
Activity_i paid in this state; it no longer
exists)

what cannot be distributed is not released; it stays in
Remaining_Unissued_Hub_Pool, leaving §7.7 conservation untouched

Genesis advance (Art. XVI §16.9) – no longer a destination of this
formula (v5.17):

this block read "where a hub has an outstanding genesis advance and
Activity_i > 0, its whole Annual_Hub_gCP_i is paid to the Federation
Reserve instead of to the hub". Activity_i is struck and an
operational hub's Annual_Hub_gCP_i is identically zero, so the charge
has no object and the advance is a grant, stated as one at §16.9.
Nothing is deducted from any share computed above, for any hub, on
any account, under this head.

Invariants the engine checks:

every term ≥ 0 at every hub count	(shares, never subtractions)
$\sum_i \text{Annual_Hub_gCP}_i = \text{Annual_Release}$	(exact, whenever Total_Members > 0 – one denominator from v5.17, not two)
Remaining_Unissued_Hub_Pool > 0 for all t	(geometric decay)
Circulating + Unissued $\equiv 10,000,000,000$	(§7.7 conservation)
$E(A) + E(B) \leq E(A \cup B)$ for any partition of a hub's counterparties	(§6.3 sub-additivity – checked for §6.3's cap, no longer for any share of this release, v5.17)
no personhood proof counted in Members _i at two hubs at once	(Art. IX §9.2, Art. XI §11.7 – uniqueness ACROSS the declared rolls)

Assumption, not an invariant – recorded here because it reads checkable
and is not:

$\sum_i \text{Members}_i$ over ALL hubs $\leq$ verified humans in the federation.
The engine checks uniqueness across rolls; it cannot check the truth
OF a roll, because a hub attests its own members and the Federation
cannot audit that roster the way a hub can (§7.1). What defends the
population term is the weekly UBD liability every Members_i entry
creates in that hub's own real goods (§7.3), never this sum being
auditable. From v5.17 the WHOLE release rests on this assumption –
Floor_i is capped on Members_i and Population_i scales on it, and
there is no third term – where 90% of it did before. §7.3 states the
trade it made to get here and does not present the result as costless.

Published weekly beside the health metrics (§4.5, §10.4):

Annual_Release $\div$ Num_Hubs against $50 \times \text{Members}_i$
– whether the floor's per-capita cap still binds
the three volume readings v5.16 published here – the indicator

$100 \times \text{Annual_Release} \div \text{Total_Volume}$, the break-even weight and the break-even fee — are STRUCK with the term they read on (v5.17). They reported the sign of a payoff this formula no longer offers.

Replaces the v5.1 form, whose population term $(\text{Annual_Pool} - \text{Num_Hubs} \times 100,000)$ turned negative above 1,200 hubs and whose step schedule reached 49% — not 100% — of the pool by year 30. The v5.15 revision changes no coefficient: three quantities this specification has used since v5.6 and defined nowhere — Volume_i , Total_Volume , and Members_i as to multi-hub membership — are defined here, and the two regime conditions the formula's defences depend on are published rather than assumed. The per-type re-weighting drafted alongside them is **held** and is recorded as such at §7.3; the two parts of that drafting severed and ratified there — the Company-hub exclusion and the zero-denominator boundary — are carried here. The v5.16 revision changes no coefficient either: the payer's-roll limb is an admission rule on V_k stated at §6.3 and carried here, the two break-even readings are arithmetic on an indicator already published, and the per-type re-weighting remains **held** at §7.3 — where the re-run it named is now recorded as having reported, and failed. **The v5.17 revision is the first to change a coefficient, and it changes one by striking another term.** Activity_i is struck, the population term's coefficient moves from 0.50 to 0.60 to carry the freed share, and the formula reads $\text{Annual_Hub_gCP}_i = \text{Floor_Share}_i + \text{Population}_i$. **The per-type re-weighting held through v5.15 and v5.16 is no longer held: §7.3 refused it**, on measurement rather than on argument — the held floor cap carries no Total_Volume , so its advantage is unchanged at every weight including zero, and the weight lever it turns on cannot reach it. The two sentences above therefore describe a state this specification has left; they are kept as the record of what was true when each was written, and this sentence is where that record ends.

A.13 Market-Depth Response (No-Pause)

Renamed and re-derived in v5.5: the response curve is unchanged in shape, and its **input is now provisioning depth** (§5.6) rather than reserve coverage, because coverage measures a redemption claim the closed circuit does not make. Same cadence, same monotone response, same absence of any button.

Re-denominated in v5.6. The two depths at which the curve inflects moved from 0.50/0.35 to **2.0/1.0** — not a retune, but the consequence of stating depth as a per-annum rate and deriving its band from §7.8's velocity target (§5.6). The knots are the band boundaries; when the band was re-denominated they had to move with it or the curve would have inflected in the wrong place. The window floor follows the knots as $(\text{Thin} \div \text{Healthy})^2$, which is why it reads 0.25 rather than 0.49. **Nothing else changed:** the same linear fee ramp across the Caution span, the same squared window taper, the same 10× ceiling, the same strictly-positive floor, the same absence of any pause.

Depth $\in [1.0, 2.0)$: (depth is $\times$ per year – \$5.6)
 $\text{Fee_Multiplier} = 1 + 9 \times (2.0 - \text{Depth}) / 1.0$ (1 $\times$ at 2.0 $\rightarrow$ 10 $\times$ at 1.0)
 $\text{Window_Limit} = \text{Base_Limit} \times (\text{Depth} / 2.0)^2$

Depth < 1.0 :

$\text{Fee_Multiplier} = 10$ (maximum – prohibitive, never closed)
 $\text{Window_Limit} = \text{Base_Limit} \times 0.25$ (= $(1.0/2.0)^2$)

Monotone in depth, continuous at 2.0 and at 1.0, and bounded: fees never exceed 10 $\times$ and windows never reach zero – at any depth, including zero and including negative arguments. As what the money can buy thins, converting claims costs more and moves slower – by published formula, never by anyone's decision at the moment it fires (\$9.3).

Impairment playbook (\$5.6), executing automatically:

impaired registered provisioning asset written down $\rightarrow$ \$7.4 floor
 suspended for a stated window $\rightarrow$ shortfall allocated pro rata across
 all holders. No pause. No first-mover advantage. No button.

Appendix B — Parameter Reference Table

B.1 UBD Parameters

Parameter	Default Value	Hub-Tunable?
Weekly distribution	€1,000 (PPP-calibrated)	Yes
Cap	12 weeks of UBD	No (constitutional)
Daily transfer limit	€500 to single recipient	No
Overflow $\rightarrow$ distribution	70%	No
Overflow $\rightarrow$ vote pool	20%	No
Overflow burn	10%	No

B.2 CP Parameters

Parameter	Value	Notes
Mint rate	1–15% (default 10%)	Hub-tunable, dynamic
Max supply	Geographic: $\text{Hub_Pop} \times 1000$; non-geographic: $E_{52} \times 1.8$	§6.3 — head-count where output scales with people, realised external value where it does not
Decay base	2%/week	Modulated by activity score
Decay floor	1,000 CP	Small holders protected
New creator grant	40 CP	One-time bootstrap
Vesting threshold	5,000 CP	Above which 12-week vest
Anti-dump penalty cap	30%	At >1% of supply

B.3 gCP Parameters

Parameter	Value
Total supply	10,000,000,000 — conserved : circulating + unissued $\equiv$ 10B (\$7.7)
Hub allocation	60% (6B)
Federation Reserve pool	25% (2.5B)
Liquidity	10% (1B)
Protocol Development	5% (500M, vested)
Annual hub release	3% of the remaining unissued hub pool (geometric — never exhausts)
Release split	40% floor / 60% population (\$7.3, A.12, v5.17) — the activity term and its 0.10 are struck and the 0.10 is carried by the population term. Through v5.16 the split was 40 / 50 / 10 and the 10 was an open item; the sweep that closed it found no positive weight and no chargeable fee that changes the sign of the payoff, at break-even weights of 0.005 (\$23.5 yr 1), 0.0155 (yr 3) and 0.0576 (yr 10) on the midpoint volume reading and 0.0001 at yr 1 on the volume scale \$23.7 measured (\$7.3)
Floor per-capita cap	20 gCP $\times$ members — makes hub-splitting yield exactly zero while the cap binds , i.e. while $\text{Annual_Release} \div \text{Num_Hubs} > 50 \times \text{Members_i}$; past that crossover the deterrent is cost, not arithmetic (\$7.3)
Treasury mint share θ	0–15%, hub-set, default 10% — non-geographic hubs only ; a split of \$6.2, never an additional mint (\$6.8, Art. V §5.6.6)
Retirement destination	Unissued pool — gCP is never destroyed
Steady-state recycled inflow	$\sim$ 48M gCP/yr at maturity $\approx$ 4,800 new Full Hub stakes/yr
Curve exponent	0.3
Provisioning depth target	$\geq 2.0 \times$ per year (annualised; \$7.8 velocity floor — composition: Art. V §5.6)
External convertibility	None — closed circuit (Art. V §5.6, Art. VII §7.3), unamendable full stop
Single-counterparty max, any issued instrument held	15%

Parameter	Value
Issuer-less share	≥20% (closure makes ~100% the norm)
Large-conversion penalty max	30% + 52-week vest (internal surface — \$7.5)
Price floor	0.50 ₵
Curve ceiling	2.00 ₵ (curve max — no governance dial)
Inter-hub fee	0.1% — unchanged, and no longer a defence of anything in §7.3 (v5.17) . Its break-evens against the struck activity term were 2.00% (yr 1), 0.65% (yr 3), 0.17% (yr 10) on the midpoint volume reading; measured, a 2.0% fee failed to close the attack in the thin-volume regime and cost the honest federation 115% of the annual release by yr 10 (\$7.3, \$7.7)
Foundation gCP holdings	None, ever (Art. V §5.7, Art. XV §15.2c)

B.4 Tier & Governance Parameters

Parameter	Value	Notes
Member minimum weeks	0	Entry tier
Creator minimum weeks	3	
Steward minimum weeks	10	
Trustee minimum weeks	30	+ election + confirmation
Member → Creator	3 buys, 2 unique sellers, rep ≥50	
Creator → Steward	5 sells, 3 unique buyers, rep ≥60	
Steward → Trustee	30 sells, 15 unique buyers, rep ≥75, not flagged	
Trustee term	1 year, max 2 consecutive	
Trustee cap	1% of active hub members	
Wisdom weight tier base max	2.0	Trustee
Wisdom weight rep multiplier max	1.5	
Wisdom weight total cap	2.5×	min() wrap — Art. X §10.1, A.5
Quadratic credits regen	10/week, cap 50	
Delegation decay	50%/hop	
Delegation max depth	3 hops	
Delegation max received	1,000 credits	
Delegation concentration alert	>10%	
Governance param threshold	60%	+ 4-week delay
Governance treasury threshold	66%	+ 4-week delay
Governance economic threshold	75%	+ 6-week delay
Governance constitutional	80%	+ 12-week delay

B.5 Security & Insurance Parameters

Parameter	Value
Wash trading symmetry threshold	0.7
Wash trading min reciprocal txs	3
Wash trading reputation penalty	−20
Wash trading remedies	Restorative only (Art. IX §9.3): make-whole of CP minted on the fake volume; 90-day flag, tier advancement frozen; on repeat, suspension pending review (a time-bounded marketplace restriction). No burn or seizure of any balance (§15.2)
Work-order escrow maximum term	13 weeks (§6.7 — the depth measurement window)
Work-order acceptance window (silence auto-accepts)	1 week (§6.7)
Work-order dispute lapse deadline	120 days, then release to the performing party (§19.7, Art. XII §12.8)
Work-order counterparty diversity, per trailing 13 weeks	≥ 3 unique counterparties each side; ≤ 1/3 of counted value to any one (Ch. 15 §15.4)
Hub commons / treasury disbursements in Ch. 6 §6.3 $E_{5,2}$ ($\equiv$ Volume _i)	Excluded entirely, on the recipient's side (Ch. 6 §6.3, Ch. 15 §15.4, Art. V §5.6.6). Ch. 7 §7.3 no longer reads the quantity (v5.17)
Payer's-roll admission in Ch. 6 §6.3 $E_{5,2}$ ($\equiv$ Volume _i)	$V_k \times \min(1, 2,000 \bar{d} \times \text{Members}_k \div \text{Out}_k)$ — the payer's own roll-backed capacity, pro-rated across everyone that payer pays, applied before Gross _i (Ch. 6 §6.3, v5.16). Bounds the amount; does not make manufactured volume unprofitable, which is why Ch. 7 §7.3 struck the term that paid for it rather than tightening this limb (v5.17)
Market-depth response curve	depth 2.0 → 1.0 ×/yr: fees 1× → 10×, never closed (A.13)
Voting lock on new CP	7 days
Insurance fund rate	5% of fees
Insurance max claim	500 CP

Parameter	Value
Insurance min reputation	55
Insurance max claims/ year	2
Insurance fund minimum reserve	10,000 CP

B.6 Hub Formation Parameters (Full Hub bar)

These are the **Full Hub** thresholds. The Seed Cell and Nascent Hub stages that precede them carry no thresholds of their own beyond §16.2–§16.3; see B.11.

Parameter	Standard	Genesis
Minimum members	500	250
gCP stake	10,000	5,000
Endorsements required	3	1 or Federation review
Application fee	100 gCP	0
Probation period	26 weeks	13 weeks
Stake return period	2 years (to whichever posted it — the Federation Reserve, or a Full Hub nursery from its own holdings — Art. XVI §16.5, §7.6)	2 years

B.7 Refugee Protocol Parameters

Parameter	Value
Refugee grant	100 gCP/person
Reputation transfer (refugee)	70%
Reputation transfer (voluntary)	80%
Reputation transfer (involuntary, Art. II §2.4)	100%
Displacement bond (involuntary, Art. II §2.4)	200 gCP one-time
UBD continuity	Immediate in new hub
Placement guarantee window	30 days

B.8 Council & Arbitral Parameters (Articles XI–XII)

Parameter	Value
Council composition	1 delegate per recognised hub
Council quorum	Delegates of 60% of recognised hubs
Delegate term	1 year, max 2 consecutive, 1-year cooldown
Probationary hub vote weight	50%
Arbitral panel size	5
Panel formation / hearing / decision	28 / 90 / 120 days
Missed-deadline consequence	Contested sanction lapses
Member-class threshold	Lesser of 500 members or 10% of hub
Burden & standard	Federation bears; >75% (Tier 3, §19.6)
Appeal	Weaker party only; one fresh panel
Panel award pre-authorization	≤ 500,000 gCP per award (Art. IX §9.8)

B.9 Closed Circuit & Provisioning Parameters (§5.6)

Parameter	Value
External convertibility	None — unamendable, full stop (Art. V §5.6, Art. VII §7.3)
Pre-sale / ICO / investor allocation / exchange listing / fiat or stablecoin gateway	Prohibited, either direction, any token
Peg or guaranteed redemption	None — no redemption claim exists
Provisioning	Hub productive capacity + Art. XIII §13.8 registered assets
Provisioning depth — Healthy	$\geq 2.0 \times$ per year
Provisioning depth — Caution	$1.0 - 2.0 \times$ per year
Provisioning depth — Thin	$< 1.0 \times$ per year
Depth band source	\$7.8 velocity target ($2-4 \times/\text{yr}$; intervention $< 1 \times$) — derived, not chosen
Depth numerator	€-valued real goods/services purchasable this quarter (13 weeks), annualised $\times 52/13 = 4$
Depth denominator	Token value in wallets active in the trailing 13 weeks, at curve price
Single counterparty (any issued instrument held)	$\leq 15\%$
Issuer-less share	$\geq 20\%$ (closure makes $\sim 100\%$ the norm)
Depth + composition publication	Weekly, with raw inputs — including the raw quarterly numerator and the annualisation factor (Art. X §10.4)
Market-depth response range	$1 \times \rightarrow 10 \times$ fees (depth $2.0 \rightarrow 1.0 \times/\text{yr}$), window floor 0.25, never closed (A.13)
Published fiat rate, any token, any form, any purpose	None, ever — official, indicative, accounting, basket-derived, or third-party endorsed (Art. V §5.6, Art. IX §9.19)
Tax treatment of a token-denominated receipt	Barter/in-kind: the taxpayer values it under their own national law; the Protocol asserts nothing (Art. IX §9.19)
Tax settlement	Fiat, outside the circuit, from the enterprise's own fiat revenue; the Protocol withholds and remits nothing (Art. IX §9.19)
Per-jurisdiction tax opinion	Commissioned by the accredited Foundation, published before commercial acceptance binds; reviewed every 52 weeks or on material change of law (Art. IX §9.19, on the Art. IX §9.17 model)
Mandatory acceptance where no opinion is published	Does not bind a member trading as an enterprise (Ch. 5 §5.6, Art. IX §9.19)

B.10 Foundation Layer Parameters (Article XV)

Parameter	Value
Accredited Foundations per jurisdiction	1 primary by default; second accreditable by Arbitral Layer on petition (Art. XV §15.6)
Tokens issued for donations	None, ever (Art. XV §15.2c)
gCP held by any Foundation	None, ever (Art. V §5.7)
Board refusal grounds	Illegality or breach of statutory purpose — nothing else; everything else is a duty to execute (Art. XV §15.4)
Board refusal public motivation deadline	21 days (Art. X §10.1)
Statutory arbitration clause naming the Arbitral Layer	Required for accreditation (Art. XII §12.2.1)
Treasury liquidity instruments	Insured bank deposits; short-term sovereign instruments (Art. XV §15.5)
Concentration ceilings on any tokenised stable instrument held	Art. X §10.1 by analogy: $\leq 15\%$ single counterparty, $\geq 20\%$ issuer-less
Treasury health metric	Conversion velocity (donation → deployed asset), published quarterly
Devolution on revocation/dissolution	Successor Foundation, or one designated by the Arbitral Layer — never liquidation or private hands (Art. XV §15.7)
Accreditation revocation authority	Arbitral Layer alone (Art. XV §15.6)
Public on-chain register of accredited Foundations	Mandatory (Art. XV §15.6)
Paired Entity per operational hub	Exactly one, 1:1, recorded on-chain (Art. XV §15.10)
Donations accepted by a Paired Entity	None, ever (Art. XV §15.10)
Tokens held by a Paired Entity	None, ever (Art. V §5.7, Art. XV §15.10)
Fiat as an input to any token formula	Never — no mint, allocation, cap, tier, reputation or governance term (Art. V §5.6, Art. XV §15.10)
Paired Entity statute	Non-negotiable model statute published by the jurisdiction's Foundation; deviation in any operative clause bars recognition (Art. XV §15.10)
Paired Entity recognition revocation	Arbitral Layer alone (Art. XII §12.2, §12.6)

Parameter	Value
Paired Entity devolution on dissolution	Accredited Foundation of its seat, or one designated by the Arbitral Layer — never liquidation or private hands (Art. XV §15.7, §15.10)

B.11 Hub Lifecycle Parameters (Article XVI)

Parameter	Seed Cell	Nascent Hub	Full Hub
Members	10–25	~50–150	500 (250 genesis)
Own gCP stake	None	None	10,000 (5,000 genesis)
Nursery stake posted on sponsorship	Yes — from the Federation Reserve, or by a Full Hub nursery (Art. XVI §16.5, §7.6)	Yes	Returned to whichever posted it
UBD standard	Declared capacity (Art. V §5.1.2)	Declared capacity (Art. V §5.1.2)	Art. V §5.1.1 triggers
gCP convertibility	None	Steward tier only	Full
Mints own currency	No	No	Yes (Art. XVI §16.4)
Operates on	Shared circuit (Art. XVI §16.2.1)	Shared circuit (Art. XVI §16.2.1)	Own CP + gCP bridge
Federation Council vote	No	No	Yes
May charter Seed Cells	No	No	Yes
Arbitral Layer standing	Yes (Art. XII §12.6)	Yes	Yes
Hub Size / gCP Balance metrics	Not computed	Not computed	Computed
Nursery cap (concurrent cells)	≤ 12 per nursery (Art. X §10.1)	—	—
Promotion gate to Nascent	Functioning internal market on published evidence (Art. XVI §16.3)	—	—
Home-hub change cooldown	26 weeks (Ch. 5 §5.9); 0 on involuntary exit (Art. II §2.4) and on devolution to a denser geographic hub (Ch. 5 §5.9)	same	same
Devolution exception window		same	same

Parameter	Seed Cell	Nascent Hub	Full Hub
	26 weeks from the denser hub's recognition; once per member per destination hub; restarts a full 26-week cooldown (Ch. 5 §5.9)		

B.12 Hub Typology Parameters (Art. XV §15.10, Art. XVI §16.8, §16.9)

Parameter	Value
Anchor declaration basis	Geographic hub holding the largest recorded share of delivered work over the trailing 52 weeks; failing a plurality, the geographic hub of the Paired Entity's registered seat (Art. XVI §16.8). The second limb is checkable today; the first is not, in the general case — it turns on a <i>declared boundary</i> , which Ch. 24 §24.1 Phase 1 and §24.2 Step 1 require without specifying a format, projection, encoding or containment test. Recorded as an open item, not as fact-finding (Art. XVI §16.8 final bullet; Ch. 5 §5.9)
Anchor declaration cadence	Published on-chain, restated every 52 weeks (Art. XVI §16.8)
Anchor consent required	No — the declaration is a finding of fact, contestable by any geographic hub claiming to be the true anchor (Art. XII §12.6)
Anchor governance power over the operational hub	None (Art. XVI §16.5, §16.8; Art. XV §15.8)
Anchor's sole power	Petition to suspend or terminate the hub's undrawn genesis-advance tranches for abuse (Art. XII §12.2, Art. XVI §16.8, §16.9). Read "Ch. 7 §7.3 allocation" until v5.17 struck the term that allocation consisted of
Burden in an anchor proceeding	On the anchor, Tier 3 standard >75% (Art. XII §12.9, Ch. 19 §19.6)
Anchor petition stake	None (Art. XII §12.6)
Frivility discipline	Three findings of frivolous petition suspend anchor standing for 24 months (Art. XVI §16.8, mirroring Art. XV §15.9)
Panel composition, hub v. hub	1 per hub, 1 Council, 2 sortitioned (Art. XII §12.3)
Destination of a suspended tranche	The Federation Reserve, unreleased (Art. XII §12.2, Art. XVI §16.9, v5.17). Through v5.16 a suspended <i>allocation</i> returned to the same year's release through the Ch. 7 §7.3 population term; there is no allocation to suspend now, and an undrawn tranche never left the Reserve
Genesis advance — lifetime ceiling per operational hub	10,000 gCP , taken by reference from Ch. 4 §4.1's Full Hub stake; the reduced genesis figure does not apply (Art. XVI §16.9)

Parameter	Value
Genesis advance — tranche, cadence and term	4 × 2,500 gCP, at most one per 13 weeks, across one 52-week term, once per hub ever. Each tranche is below Art. IX §9.8's 10,000 gCP quorum threshold by construction and executes on the published milestone (Art. XVI §16.9)
Genesis advance — admissible milestones	Settled work orders through Ch. 6 §6.7's escrow satisfying Ch. 15 §15.4's diversity bounds in full; an asset registered under Art. XIII §13.8; a sponsored cell reaching Art. XVI §16.3's Nascent gate. Counts of counterparties, completions and filings — never a quantity of value (Art. XVI §16.9)
Genesis advance — excluded from every milestone	<code>Volume_i</code> , <code>Total_Volume</code> , <code>E₅₂</code> and any function of them (<code>Activity_i</code> is struck as of v5.17 and the exclusion is kept, an amendment that reinstated it finding the bar already written); roster size or growth; any finding that the hub is <i>contributing</i> ; and anything settled from a hub commons, treasury or hub-controlled account (Art. XVI §16.9)
Genesis advance — recovery	None (v5.17) . The charge was the hub's own Ch. 7 §7.3 allocation from the first non-zero <code>Activity_i</code> ; that term is struck and an operational hub's allocation is identically zero, so the charge has no object and the advance is a grant. It remains non-recourse against trade proceeds, the Ch. 6 §6.8 share, members' balances and the people paid — which is now the whole of the rule rather than its exception (Art. XVI §16.9, Art. IX §9.3)
Genesis advance — surety	The declared anchor hub, or the jurisdiction's accredited Foundation where the anchor declines or none is found. Non-financial: owes no gCP. Declinable, and a decline is published and costs nothing. ≤ 3 concurrently advanced hubs per surety (Art. X §10.1); 3 findings of reckless vouching suspend the vouching capacity and the petition standing for 24 months (Art. XVI §16.9, §16.8, Art. XV §15.9)
Genesis advance — eligibility	Operational hubs only. No Company hub, at any stage, on any surety, in any amount (Ch. 3 §3.3, Art. XVI §16.9)

Appendix C — Hub Health Scoring (Detailed)

The canonical metric list — identical in §4.5, §4.6, A.11, and here (§10.4 forbids divergence):

Metric	Weight	Healthy	Warning	Critical
Creator Ratio	15%	15–50%	10–15% / 50–60%	<10% / >60%
Gini Coefficient	15%	<0.60	0.60–0.70	>0.70
Provisioning Depth (x/yr)	20%	≥2.0	1.0–2.0	<1.0
UBD Velocity	10%	>10%/week	5–10%	<5%
Governance Participation	10%	>25%	15–25%	<15%
Growth Rate	10%	>0%	-5% to 0%	<-5%
Emigration	10%	<5%/year	5–10%	>10%/year
Hub Size	5%	≥500	250–500	<250
gCP Balance	5%	>5K	1–5K	<1K

A hub with **all metrics in Healthy** range scores exactly 100, each metric reading at its band's own point on §4.6's 0–100 scale — Healthy 100, Warning 50, Critical 0. From that baseline the composite is additive: one metric moves it by at most its own weight × 100, and the heaviest weight in the table above is Provisioning Depth's 0.20 — a **20-point ceiling** on any single metric. Holding every other metric Healthy, **one Warning** reads 90 at worst (Depth's), **one Critical** reads 80 at worst, and **two Critical** — Depth and Creator Ratio, 0.35 of the table together — read 65. From the same baseline the composite stays at or above 50 until more than half the table's weight is Critical — at least four metrics, the three heaviest summing to exactly 0.50 — and does not fall below 40 until the Critical weights pass 0.60: four of the nine reach exactly 40, and five (0.70) read 30.

The single-metric route to an overall CRITICAL verdict is §4.4's clock, not this arithmetic. §4.4's rule is composite <50, **or** any **computed** metric in its Critical band 4+ consecutive weeks — the **or** limb exists precisely because the additive composite cannot reach CRITICAL on one metric's excursion. Critical status sustained for 13 consecutive weeks triggers Quarantine (§4.6) — reviewable at the Arbitral Layer (§12.2), against exactly the raw data this appendix requires each hub to publish.

Restated in v5.20. Through v5.19 this paragraph narrated ~75 for one Warning, ~55 for one Critical and below 40 for multiple Critical — figures the additive composite cannot produce: ~75 needs a 25-point single-metric excursion and ~55 needs 45, against a 20-point ceiling, and "multiple" read as two reads 65. The prose gives, the formula stays — the worked figures above are the formula's.

Stage scoping. Hub Size and gCP Balance are computed for **Full Hubs only**. For Seed Cells and Nascent Hubs (Article XVI §16.2–§16.3) they are omitted and the remaining seven weights renormalised over 0.90 (§4.6). Provisioning Depth is computed at every stage, but for Seed and Nascent stages its numerator is the cell's **declared capacity** (§5.1.2) rather than a full local basket — a cell is measured against what it said it could do, which is the only measurement that can be both honest and useful at fifteen people.

Appendix D — Glossary

Term	Definition
HPP	Human Potential Protocol
UBD	Universal Basic Dignity — unconditional weekly tokens (per hub)
CP	Creative Potential — earned, capped, convertible (per hub)
gCP	Global Creative Potential — bridge currency, 10B hard cap
Hub	Sovereign community in the Federation. Full Hub unless a stage is named
Sub-Hub	Descriptive only. A hub whose declared boundary lies inside another hub's — Ikeja within Lagos. It confers nothing: no parent, no child, no vote, no allocation, no settlement path. Both are hubs (§3.3), each holds one Council vote (Art. XI §11.3), and they trade through gCP like any other pair (Art. V §5.7, §7.9)
Federation	The Protocol's global governance layer — Council, Arbitral Layer, inter-hub coordination (Art. XV §15.1). Never a legal entity
Foundation	A national nonprofit legal entity — asset-locked, non-distributing — one accredited per jurisdiction; the Protocol's only lawful point of contact with a state's legal order (Article XV). Never the governance layer, never interchangeable with <i>Federation</i>
Dignity right	The constitutional guarantee itself — one per verified human, non-multipliable, non-convertible, inalienable. Not a token ; UBD is how it is paid (Art. V §5.7)
Geographic hub	A hub whose members buy in one bounded place, and which declares a boundary at formation (§24.1). The only type that may be a member's home hub, and therefore the only type that mints dignity income — the test is Art. XVI §16.1.1's: does a local market have to accept this hub's UBD? Draws the floor and population terms of Ch. 7 §7.3; commons funded by its own fees, decay and overflow (§30.3) (Ch. 3 §3.3)
Operational hub	A hub organised around work rather than a place — a co-operative, a translators' collective, a guild that ships. No home hub and no dignity income : it has no one market and no one basket to price a basket against. Mints CP on its real sales like any hub, draws nothing from Ch. 7 §7.3, pairs 1:1 with a Paired Entity, declares an Anchor Hub, and may draw a genesis advance (Art. XVI §16.9) (Ch. 3 §3.3)
Company hub	A firm inside the Protocol, on the Protocol's terms. No home hub, no dignity income, and no protocol allocation of any size — excluded from every term of Ch. 7 §7.3 and ineligible for Art. XVI §16.9's advance at any stage, on any surety, in any amount. Treasury capitalised by its own members' stake in gCP earned elsewhere in the circuit (Ch. 3 §3.3)
Home hub	The single geographic hub (§3.3) that mints and pays a member's UBD, however many hubs they belong to; changeable on a 26-week cooldown. Only a geographic hub may be one, and only a home hub mints UBD (Art. V §5.9, Ch. 5 §5.9)
Devolution	A member's home-hub change into a geographic hub newly recognised wholly inside their existing one, taken without cooldown within 26 weeks of that recognition, once per

Term	Definition
	destination hub (Ch. 5 §5.9). Not the same as a Foundation's bound devolution of assets under Art. XV §15.7
Seed Cell	10–25 members. Forms anywhere immediately, no stake of its own, nursery-sponsored, distributes UBD under the declared-capacity rule and transacts on a shared circuit rather than a currency of its own. No Federation vote, no gCP convertibility, cannot charter cells (Art. XVI §16.2)
Nascent Hub	~50–150 members, unlocked when an internal market demonstrably functions. Still transacts on the shared circuit; limited gCP convertibility at Steward tier, inter-hub trade, full Arbitral standing (Art. XVI §16.3)
Nursery	An established Full Hub or a Foundation that sponsors a Seed Cell — endorses, mentors, provisions, and stands surety. Sponsor and surety, not source of funds: the stake is posted from the Federation Reserve (§7.6) and returns there on promotion, save where a Full Hub nursery posts from its own holdings and is repaid. No Foundation ever holds gCP (Art. V §5.7, Art. XV §15.2(c)). Holds no governance power over the cell (Art. XVI §16.5)
Circle	The base deliberation tier inside a hub — about 150 people, the Dunbar scale at which relationships rather than rules carry legitimacy. Decides admission, relational conflicts, local care, and proposals to its District (F.5). Not a Seed Cell, and neither ever becomes the other: a Seed Cell is a pre-sovereign community of 10–25 on its way to being a hub of its own (Art. XVI §16.2); a Circle is a standing assembly of a hub that already exists. Called <i>Cell</i> until v5.21
District	The middle deliberation tier inside a hub — about 5,000 people, roughly 33 Circles. Decides local budgets, shared infrastructure, mediation between Circles, and representation to the Hub Plenary (F.5). It mints nothing, converts nothing, holds no bonding curve and carries no Federation vote: the whole tier structure sits inside one CP zone and one UBD instance. Districts subdivide a hub and never coalesce into one — F.5 records both missing edges
Hub Plenary	The whole hub sitting as one body — F.5's top deliberation tier, deciding external policy, federal alliances, refugee-absorption criteria and local calibration within the Art. X §10.1 ceilings. The body, never the entity: <i>Hub</i> above is the sovereign community; <i>Hub Plenary</i> is that community in assembly. Called <i>Hub</i> in F.5's table until v5.21
Paired Entity	The single nonprofit incorporated under a state's ordinary company law, paired 1:1 with one operational hub — its lawful hands for external commerce. Not a Foundation and never called one (Art. XV §15.1): takes no donations, holds no token, is recognised against a non-negotiable model statute, is revocable by the Arbitral Layer alone, and devolves to the jurisdiction's Foundation on dissolution (Art. XV §15.10)
Anchor Hub	A defined term of this Constitution, and one thing only: the geographic hub where an operational hub's work actually lands, determined by the trailing-52-week delivery record rather than chosen. Holds standing to petition the Arbitral Layer to suspend that hub's undrawn genesis-advance tranches for abuse — its Ch. 7 §7.3 allocation until v5.17 struck the term that allocation consisted of — and no governance power whatever — the

Term	Definition
	nursery relationship of Art. XVI §16.5 inverted (Art. XVI §16.8). It may also stand surety for that hub's genesis advance, declinably and owing no gCP, which exposes the same standing in the other direction: three findings of frivolous petition and three findings of reckless vouching each suspend it for 24 months (Art. XVI §16.9). The distinction is the phrase, never the capital letter (Art. XVI §16.8): not <i>territorial anchoring</i> or the <i>federation-of-anchored</i> positioning of Appendix F.7, which say that every hub is rooted in a real place; and no longer the Federation's first cohort, called <i>anchor hubs</i> through v5.14 and founding-wave hubs from v5.15 onward. Written <i>anchor hub</i> in running text and <i>Anchor Hub</i> where defined, with no difference in meaning
Genesis advance	Art. XVI §16.5's nursery stake, extended to operational hubs: up to 10,000 gCP from the Federation Reserve, in four quarterly tranches, released against delivered work with external counterparties and never against volume, not recovered since v5.17 (the Ch. 7 §7.3 allocation it charged is struck), non-recourse, once per hub, never to a Company hub. Not a mint: conserved stock moving between two compartments of the same 10 B (Ch. 7 §7.7). It is now a standing Reserve line rather than an allocation paid early and charged back, and the Reserve carries the whole of it (Art. XVI §16.9, Art. V §5.6.6)
Shared circuit / seed unit	The single circuit a Seed Cell or Nascent Hub transacts on instead of minting a currency of its own (Art. XVI §16.2.1): either its nursery Full Hub's CP, or — for Foundation-incubated cells with no Full Hub in reach — one pre-sovereign, CP-class seed unit, operated as neutral nursery infrastructure, held by no Foundation (Art. XV §15.2), bought in from nowhere (Art. V §5.6), outside the 10 B ceiling, and convertible to gCP only through the Steward-tier window of Art. XVI §16.3
Declared capacity	What a Seed Cell or Nascent Hub publishes that its UBD actually covers, updated quarterly and never overstated (Art. V §5.1.2)
Provisioning depth	Real goods and services purchasable with the token this quarter, annualised, over token value in active circulation — a rate, in $\times$ per year. Bands: ≥ 2.0 Healthy · $1.0\text{--}2.0$ Caution · < 1.0 Thin, derived from the §7.8 velocity target. Replaces reserve coverage, which measures a redemption claim a closed circuit does not make (Art. V §5.6, Chapter 18)
Nullifier	A one-way value derived from an eligibility document and a campaign identifier. One per living human being per campaign, stable within the campaign, carrying an updatable consent bit; a pseudonym, linkable to itself within one campaign, unlinkable across campaigns, never nominative (Art. IX §9.11)
The Bridge	The Registry's civic notification layer: broadcast to broad geographic channels, filtered on-device; no geolocation ever; triggers are official acts only, blind to the promoter (Art. IX §9.18)
PPP	Purchasing Power Parity — for UBD calibration
Refugee	Member of a failed/expelled hub awaiting placement
Genesis Hub	One of the first 50 hubs (reduced bar to entry)

Term	Definition
Quarantine	Hub status with restricted inter-hub trade
De-recognition	Hub removed from Federation
Member	Entry tier — verified personhood; receives UBD (0–3 weeks)
Creator	Active producer — lists goods/services, earns CP (3–10 weeks)
Steward	Caretaker — mentors, converts CP → gCP, proposes governance (10–30 weeks)
Trustee	Governance carrier — elected 1-yr terms, dispute authority, treasury access
Commons	Community treasury
Distribution Pool	Fund for user incentives (creator stipends, redistribution)
Bonding Curve	Algorithmic price curve relating circulating supply to price
Wisdom Weight	Tier × Reputation × Tenure multiplier on quadratic votes
Liquid Delegation	Vote delegation that can be revoked instantly
Wash Trading	Reciprocal trades to inflate transaction counts (detected and penalized)
Work Order	A funded demand-side post: value escrowed at posting against work described, taken by one member, settling as an ordinary marketplace sale on acceptance. Mints under §6.2 unchanged — no new token, no new mint path (§6.7)
Escrow	A pre-committed lock on a poster's own balance, entered by their own act, released only by acceptance, by published expiry, or by an arbitral finding. No custodian, no key, no discretionary release — an escrow with a release key is a freeze (§6.7, Art. IX §9.3)
Anti-Dump	Bonding-curve penalty on large sales
Arbitral Layer	Standing forum for disputes with Federation organs (Article XII)
Arbitral Panel	Five arbitrators hearing one dispute: 2 hub, 2 Council, 1 sortitioned
Member Class	Lesser of 500 members or 10% of a hub, standing as a full party (Art. XII §12.6)
Consent Registry	Zero-knowledge instrument for affirming/revoking consent (Art. IX §9.11–§9.18). Consultative, not a secret ballot; an official referendum outranks it (Art. IX §9.16)

Term	Definition
Commons Trust	Joint-governance DAO holding a shared-necessity asset after fission (Art. XIII §13.6)
Fission	Constitutional division of a hub into successor communities (Article XIII)
The Engine	Enforcement bytecode + deployment infrastructure, governed by Article XIV
Market-Depth Response	Formulaic conversion-fee and window response to thinning provisioning depth; $1\times \rightarrow 10\times$, never a pause (A.13). Called the Continuity Fee Curve through v5.4
Compliance Ladder	Transparency $\rightarrow$ legal defense $\rightarrow$ migration $\rightarrow$ evacuation (Art. IX §9.13)
One human, one voice	The anti-multiplication rule: no one's Federation-level influence is multiplied by the number of hubs they belong to. Not a voting method — Council votes remain one hub, one delegate (Art. XI §11.3, §11.7)
The one-way valve	Donations in, physical commons out, nothing else. No token is ever minted against money (Art. XV §15.2)
The Protocol publishes no rate	The Protocol, its hubs, its Foundations and their materials publish no exchange rate between any HPP token and any external currency — not official, indicative, accounting, basket-derived, or third-party endorsed. A published rate is the external benchmark Art. V §5.6 forbids unamendably (Art. VII §7.3, Art. IX §9.19, Ch. 8 §8.11)
Jurisdiction tax opinion	A published tax analysis commissioned by a jurisdiction's accredited Foundation, required before Ch. 5 §5.6's mandatory acceptance binds any member trading as an enterprise there; reviewed every 52 weeks or on material change of law. Modelled on the campaign legal opinion of Art. IX §9.17 (Art. IX §9.19)

Appendix E — Quick Reference Card

HUMAN POTENTIAL PROTOCOL – QUICK REFERENCE

TOKEN TOPOLOGY (Art. V §5.7)

Dignity right	Constitutional guarantee, 1 per human – NOT a token
UBD-[hub]	Hub-minted, from ONE geographic home hub, capped at 12 weeks
CP-[hub]	Hub-minted, decays if inactive, convertible to gCP
gCP	Only Protocol-minted token. 10B hard cap. Closed circuit (§5.6). Hub-and-spoke, never mesh (§7.9)
Grants	Per living human being, never per hub (§6.6, §11.7)

THREE LAYERS, THREE NAMES (§15.1)

Protocol	Rulebook + organs. Touches no external money
Foundation	NATIONAL nonprofit legal entity, 1 per jurisdiction. Donations in, physical commons out, nothing else
Hub	The sovereign community itself
Federation	= the Protocol's GLOBAL GOVERNANCE LAYER. Never a legal entity. Never interchangeable with "Foundation"

HUB LIFECYCLE (Art. XVI)

Seed Cell	10–25. Anywhere, today, no stake. Declared capacity (§5.1.2)
Nascent Hub	~50–150. Market works. Steward-tier gCP convertibility
Full Hub	500+, staked, endorsed. Council vote, full convertibility
Nursery	Sponsors, endorses, mentors, stands surety. Stake from the Federation Reserve (§7.6) – or a Full Hub nursery's own – and back to whichever posted it on promotion

PROVISIONING DEPTH (§5.6, Ch 18) – replaces reserve coverage

Purchasable real value this quarter, ANNUALISED, ÷ active circulation			
≥2.0 Healthy		1.0–2.0 Caution	<1.0 Thin (× per year – \$7.8 units)
No peg. No redemption claim. No pause – fees rise by formula (A.13)			

CONSENT REGISTRY (§9.11–§9.18)

On-device ZK proof	nothing personal on-chain, not even encrypted (§9.14)
Nullifier	1 per living human being per campaign, stable, bit flippable
A signature	ZERO individual legal effect. Exempts no one from anything
Standing	Consultative, not a ballot. Official referendum outranks it
The Bridge	Broadcast wide, filter on-device. NO geolocation, ever

TIERS

Member	Entry tier, 1 vote, UBD only at first
Creator	3+ wks, 3 votes, can list and earn CP
Steward	10+ wks, 7 votes, can mentor and propose

Trustee	Elected 1-yr terms, 15 votes, dispute authority
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GOVERNANCE THRESHOLDS

Hub parameters	60% + 4-week delay
Hub treasury	66% + 4-week delay
Hub economic	75% + 6-week delay
Hub constitutional	80% + 12-week delay
Federation ordinary	90% Council + 12-week delay
Federation Article I	95% + 80% hub ratification + 26 weeks

FULL HUB FORMATION (the sovereignty bar, not the entry bar)

Members needed	500 (Standard) / 250 (Genesis)
gCP Stake	10,000 std / 5,000 genesis (returned after 2 years)
Endorsements	3 existing hubs
Probation	26 weeks
Entry bar	10 people, a nursery, today (Art. XVI §16.2)

FAILURE PROTECTION

Refugee grant	100 gCP per person
Rep transfer	70–80% to receiving hub
UBD continuity	Immediate in new hub
30-day guarantee	All refugees placed

UNAMENDABLE PROVISIONS (Article VII §7.3 – abridged)

• Human sovereignty (§1.1)	• Inherent worth (§1.2)
• Impartial adjudication (§1.6)	• Right to exit (§2.1, §2.4)
• gCP hard cap at 10B (§5.3)	• Exit always survivable (Ch 29)
• Closed circuit (§5.6)	• Dignity right (§5.7)
• Consent Registry (§9.11–12)	• Registry architecture (§9.14)
• No geolocation (§9.18)	• No-exemption firewall (§9.11)
• Arbitral jurisdiction (§12.12)	• Foundation prohibitions (§15.2)
• Bound devolution (§15.7)	
• Not even a foundational-tier amendment reaches any of them – see §7.3	

Every one of us has worth. Every community is sovereign. Together, we are the alternative in the making.

This is the system. This is the federation. The part that isn't missing is you.

It's ours to build — let's build it together.

— In Honour, In Truth, In Service to All of Us.

Appendix F — Architectural Decisions Formalized in v5.1

Added in v5.1, May 2026. Consolidates seven decisions taken in response to the internal critique document HPP_OPEN_QUESTIONS (May 2026), binding for genesis and post-genesis operation. (v5.3: the pre-sale contemplated in v5.1 is abolished by the closed circuit, §5.6 — see F.1. v5.5: F.4 is superseded by the Foundation Layer, Article XV — see F.4.)

F.1 — Founder position cap and decay (token architecture, Book III)

v5.1 planned a pre-sale; the closed circuit (§5.6) abolished it. **No position in HPP is ever purchased with external currency — not by founders, not by anyone.** The concentration risk the pre-sale would have created does not vanish with the sale, so the numerical limits stay, generalized to however founder positions accrue (Protocol Development pool grants, early creation, mentorship bounties):

- **Cap per founding position:** no founding position may hold more than **2 % of active gCP** at any moment. The cap is PoP-bound: multiple wallets do not bypass it.
- **Founder gCP decay half-life: 24 months**, public curve. Initial incentive is preserved; weight over time predictably reduces.

Both constants are **constitutional**: only tightenable, never relaxable. Concentration is dangerous regardless of how it accrues; the cap outlived the sale it was written for.

F.2 — Constitutional Upgrade Path (superseded by Article XIV in v5.2)

The pillars are unamendable; the code that implements them is not (it cannot be — bugs exist and platforms evolve). v5.1's hybrid procedure — a 3-of-5 emergency multisig, ordinary upgrades by 80% of active gCP, a 12-member sortition committee for code/pillar divergence — is **superseded by Article XIV**, for two reasons this appendix records honestly: a 3-of-5 multisig is an admin key within the meaning of §9.3, and gCP-weighted ratification is wealth-weighted governance — the exact thing Book V exists to prevent, reintroduced at the layer that matters most.

What F.2 got right is preserved and constitutionalized:

- **An emergency lane exists** — §14.5: security-only, restores ratified semantics, 7-day auto-sunset unless the Council ratifies within those 7 days, every action publicly logged as it happens.

- **Ordinary upgrades are ratified** — §14.2–§14.4: by the Article VII path of the clause being changed (Council + hub ratification — one hub one vote, never one token one vote), with reproducible builds published for the full discussion period.
- **Code/pillar divergence review is mandatory** — §14.6: now the Arbitral Layer's conformance jurisdiction rather than an ad-hoc committee, with formal procedure and no administrative discretion.

F.3 — Exit Policy (Book V addendum)

The Constitution §2.1 guarantees the right to voluntary exit. The mechanism is published, not deferred.

- **Individual exit:** annual 30-day window; 14-day cooling-off. The circuit is closed (§5.6): nothing converts to external currency on exit. A leaver's wallet persists — they may return, spend down during the window, or register a formal lifetime withdrawal, upon which the §5.5 succession protocol executes (80% to a named successor and 20% to the Reserve, or 100% to the Reserve). UBD ceases at exit and its remaining balance returns to the local commons — it is membership recognition, not a vested asset.
- **Hub secession:** 67 % of active members; 12-month cooling-off between vote and execution — now constitutionalized as Article XIII, with the treasury share computed by the §13.2 contribution-weighted snapshot and the full asset-partition tracks of §13.4–§13.7; re-application possible after 24 months.
- **What travels with the leaver:** matured gCP (net of decay), unspent CP, personal reputation.
- **What stays:** federal treasury share for individual exits, hub-level reputation, shared physical infrastructure (per Article XIII where a fission is involved), historical hub data.
- **What the Constitution fixes:** §2.1 (right of exit), §2.4 (refugee protection), §9.3 (asset-freeze resistance), Article XIII (fission & partition), and — added in v5.5 — Chapter 29.3, which makes *exit always survivable* an unamendable principle in its own right (§7.3) rather than only a set of mechanisms that happen to add up to one.

F.4 — Interface Layer (superseded by Article XV in v5.5)

Superseded, and partially reopened in v5.15. F.4 had *each hub* choose and publish its own legal wrapper within six months of activation. The Foundation Layer (Article XV) replaced that arrangement: **one accredited Foundation per jurisdiction is the legal skin, and hubs do not each incorporate.** The reasons are recorded honestly, because the v5.1 design was not foolish — it was under-resourced. Per-hub incorporation multiplies legal cost by the number of communities, puts a founding group of twelve in front of a notary before it has an economy (§16.1), fragments accountability across dozens of small entities that no donor can audit, and produces exactly the per-hub statutory drafting that Article XV's four prohibitions (§15.2) exist to standardise. One entity per jurisdiction, contestable and revocable (§15.6), does the same work with one audit surface.

The Hub Typology Amendment (v5.15) reopens exactly one part of this, for exactly one hub type, and the score is kept here rather than in the amendment's own favour. Art. XV §15.10 gives an **operational hub** — a hub defined by having external counterparties — a **Paired Entity**, 1:1, which is not a Foundation and may never be called one. Of the four objections above: the **second** does not reach a hub that by definition has an economy, and is answered. The **third** is answered by construction, because a Paired Entity may never solicit, accept or hold a donation — the donor's audit surface remains one Foundation per jurisdiction, undivided. The **fourth** is *reduced* by a non-negotiable model statute and not answered; each entity still carries its own board, filings, accounts and auditor. The **first** is *reduced* by narrowing the multiplier from every community to every operational hub, and by moving the cost onto the party whose external revenue creates the need — and is not answered either, because nothing caps how many operational hubs there may be.

The reason the reopening is not merely a re-argument is a fact F.4 never had to weigh. In v5.1 and in v5.5 no hub traded outside the circuit, so no hub's commerce could reach a Foundation's balance sheet. It can now. Without a Paired Entity the jurisdiction's Foundation is the only lawful signatory for every operational hub's contracts, and a community's land, greenhouses and housing stand behind every one of those contracts. Art. XV §15.2(a)'s asset lock and Art. XV §15.7's bound devolution exist to make that commons unreachable; concentrating commercial liability on the entity that holds it makes them reachable. F.4's supersession answered a question about cost. This reopens it on a question about liability, and only for the hubs that create one.

What survives, and where it lands. Two things F.4 got right are preserved rather than discarded:

- **The jurisdiction table below remains in force — now as the Foundations' default legal forms,** not as per-hub wrappers. A Foundation in each jurisdiction adopts the asset-locked, non-distributing form its national law provides, and these are the defaults for the first three launch jurisdictions.
- **The principle** — cooperative-friendly, fiscally transparent, no unilateral opt-out — binds Foundation statutes under §15.2 and §15.5.

Jurisdiction	Default legal form for the accredited Foundation
Italy	Fondazione ETS registered with the national third-sector register (RUNTS); operating arms as APS + consumer cooperative + production cooperative where a trading vehicle is needed (L. 381/1991, Banca Etica precedent)
Spain	Fundación (Ley 50/2002) with asset lock; operating arms as asociación + consumer cooperative + cooperative society (Ley 27/1999)
Portugal	Fundação / associação de utilidade pública with bound devolution; operating arms as consumer + production cooperative (Código Cooperativo, Lei 119/2015)

Jurisdictions outside the first three adopt their own equivalent form under the same rule (§15.1): whatever national law provides for asset-locked, non-distributing purpose entities, carrying the four prohibitions (§15.2), the transparency regime (§15.5), bound devolution (§15.7), and the arbitration

clause naming the Arbitral Layer (§12.2.1). A hub still discloses to its members which of their protections are ledger-deep and which are paper-deep (§9.13, §13.9); what changes is that the paper is now held by one accountable entity per jurisdiction instead of one per community.

F.5 — Within-Hub Structure (Book V addendum)

QV + wisdom-weight alone degrades past ~10 K active participants. A 1.6 M-member hub requires intermediate levels.

These are deliberation bodies inside one hub. They are not the formation stages of Article XVI, and the tiers below were renamed in v5.21 because for four revisions they shared a word with them. A **Circle** is a standing assembly of a hub that already exists; a **Seed Cell** is a community of ten to twenty-five people that is not a hub yet and is on its way to becoming one (Art. XVI §16.2). The two ladders run in opposite directions and never meet. Article XVI's stages **graduate**: a Seed Cell becomes a Nascent Hub and then a hub of its own, minting its own CP for the first time at Full Hub (§16.4). The tiers below **subdivide**: no tier here mints, converts, holds a bonding curve, or carries a Federation vote, and the whole of this table sits inside one CP zone and one UBD instance. Thirty-three Circles becoming a District changes which quorum binds a decision and moves no money at all.

Tier	Scale	Decides on	Quorum
Circle	~150 (Dunbar)	admission of members, relational conflicts, local care, proposals upward	50 %, simple majority
District	~5 000	local budgets, shared infrastructure, mediation between Circles, representation to the Hub Plenary	33 %, weighted QV
Hub Plenary	~1.6 M	external policy, federal alliances, refugee absorption criteria, local calibrations (within Calibration Ceilings)	20 %, QV + wisdom-weight

The base level is human scale. Aggregation happens upward, not the reverse.

What this structure does not do, recorded rather than left for a reader to find on a web page. The tiers here are reached by **subdivision from above**, and this addendum opens no path in the other direction. Two edges are therefore missing, and both are named rather than quietly absent. **Upward**: ten Seed Cells that promote separately in one city become ten hubs — ten CP zones, ten Council votes, trading with one another through gCP like strangers (§16.4, §3.2) — and nothing here assembles them into Districts of a single hub. **Downward**: a District is the natural departing group of a fission, holding already a boundary, a budget and a representation body, and Art. XIII neither names it in §13.1's *"active members of the departing group"* nor lists District budgets among the communal pools §13.3 divides. **Neither edge is closed here.** Closing either is a constitutional amendment under Art. VII §7.1 and not an editorial repair, and this Protocol does not legislate in an appendix. The absence is recorded in `tools/orphans-baseline.json` against this section, where the reachability gate publishes it, so that a clean consistency run is never mistaken for the question having been answered.

F.6 — Red-Team Program (Chapter 30 / Roadmap addendum)

21/21 is static. Continuous adversarial process is dynamic.

- **Phase 1 (Q3–Q4 2026):** permanent **internal red-team** (4–6 people, independent reporting line, funded from the Protocol Development pool — §7.2, 500M gCP vested) + **public bounty** with prize tiers (fiat-funded by an accredited Foundation out of donations, under Article XV, never by any token sale — the circuit itself admits no external currency, §5.6, and no bounty is ever paid in tokens against money), explicit legal safe-harbour, coordinated 90-day disclosure.
- **Phase 2 (2027): annual academic audit** (Trail of Bits / IC3 / Imperial Centre for Cryptocurrency Research) + **open-source simulation pipeline** with reproducible tag.
- **The floor and the firewall (Genesis Acceptance Amendment, v5.19).** The internal red-team's share of the Protocol Development pool **auto-vests on the published schedule, outside milestone acceptance** — the one line of §7.2 no acceptor signs, so that no one who accepts builder milestones can starve the team paid to break what they ship (Ch. 7 §7.2.1). The Arbitral Layer reviews the budget's execution and **never its findings**: suppression must be visible, not impossible, and a gate left red is a success of this programme, not a failure of it. Appointment is by the signing Foundation at genesis, ratified by hub majority once hubs exist, and revocable by the Arbitral Layer alone, for cause, published.

The public narrative moves from "21/21 passed" to "the suite is re-run, and the failures are published + continuous adversarial program." As of v5.6 that is no longer aspirational: the suite was re-executed under the corrected provisioning-depth metric and the scenarios that failed were published rather than withdrawn (§23.6). v5.8 goes further — the extraction-era attacks were re-derived for the closed circuit, and §23.7 publishes that result, including what remains open.

F.7 — Federation-of-Anchored Positioning (Book II / Chapter 3 addendum)

HPP is **federation-of-anchored**. Three statements define what that means in practice:

- **Every hub has territorial anchoring.** Day-to-day legitimacy is built in real places, with people who know each other. Base-level deliberation lives where relationships already exist, not in an abstract layer.
- **The federation is global; hubs are peers.** There is no privileged founding hub. Each hub activates when local conditions allow — partner network, host jurisdiction, sufficient human energy. The federation coordinates; it does not hierarchise.
- **Inside host jurisdictions, not in place of them.** Each jurisdiction's accredited Foundation holds the lawful interface (Article XV, F.4 as superseded); hubs operate inside it rather than each incorporating. HPP is a complementary economy and a shared governance, not an institutional substitute.

First-wave candidates being explored: **Talos — Sicilia Libera (Sicilia, IT)**, Genesis Hub #001 — see the Talos integration sub-project, [sub-projects/talos](#) ; named for the bronze guardian who circled the island, protection as vigilance and presence, not violence; first to adopt the Consent Registry stewardship pattern (§9.11), the Asset-Backed Module (§13.8), and the nursery model under its jurisdiction's Foundation (§16.5) — **Vallés (ES)**, **Beira Interior (PT)**, **Norrland (SE)**, **Kilifi (KE)**, **Recôncavo (BR)**. Each is a candidate whose activation depends on local conditions, partner network, and host-jurisdiction wrapper. The specific list is open: hubs in other jurisdictions are equally welcome to apply — an ordinal is not a rank, and there is still no privileged founding hub.

Appendix G — Scenario Design Methodology (Honest Disclosure)

Added in v5.1, May 2026. Documents the methodological character of the "21/21 adversarial scenarios passed on 416-week horizon" result reported in Book IX.

G.1 — Two epistemically different processes

There are two distinct ways to produce a "this system passes N scenarios" result:

1. **For-pass scenario design.** The team imagines scenarios it believes the system can withstand, then verifies that the system does withstand them. Produces results that look strong but protect only against the *class of attacks the designer already imagined*. Classic failure mode: Maginot Line, pre-2016 smart-contract audits that did not model re-entrancy.
2. **Adversarial scenario design (red-team).** A team **independent of the system designers** tries to construct scenarios the system *fails*. Produces results that are weaker on paper but tell you something the team did not already believe.

A 21/21 outcome is read very differently depending on which process produced it.

G.2 — Honest characterisation of the v5 result

The 21 scenarios reported in Chapter 22 and Chapter 23 were predominantly produced through **for-pass design with adversarial elements** — i.e., the team imagined attacks it considered serious, including the State-seizure scenario (Article IX), which is unusual in the DLT-governance literature. The 21 scenarios do **not** represent the output of a fully independent red-team.

This is not a retraction of the result; it is a characterisation of its epistemic standing. The result tells us the system survives the 21 attacks the team modelled. It does not tell us whether attacks the team did not imagine would succeed.

G.3 — Planned shift in v5.1+ methodology

Going forward, the balance is being moved toward adversarial:

- **Phase 1 (Q3–Q4 2026):** permanent internal red-team plus public bounty with safe-harbour (see Appendix F §F.6).
- **Phase 2 (2027):** annual academic audit by an independent institution, full public report, no NDA on findings. Open-source simulation pipeline with reproducible commit tag, so any external party can re-run the 28 scenarios, propose new ones, and contest results.

The narrative that should appear in future versions of this whitepaper is **"passed under for-pass design + continuous adversarial program in place from Phase 1"**, not "21/21 passed (static)." The static framing is indefensible over time; the dynamic framing is defensible.

Reproducibility, and what it caught (v5.6). The reproducibility work is not housekeeping; it is the mechanism by which this Appendix's promise becomes enforceable. Two things came out of it, and the second is the more important:

- **The pipeline is reproducible.** Every scenario seed derives from `blake2b` via a stable seeding function, never from Python's `hash()`, which is randomised per process. All 28 result files reproduce byte-for-byte across independent processes under `PYTHONHASHSEED=random` and `PYTHONHASHSEED=0`. A published depth figure that changed between processes could not be recomputed by a hostile auditor, and a hostile auditor's recomputation is the only kind whose agreement is worth anything (§5.6, §10.4).
- **Re-running the suite falsified a ratified claim, and the failure was published rather than retuned.** v5.5 stated that provisioning depth's band floor had been deliberately set at coverage's numerical threshold "so no scenario changes side." Executing the suite showed 26 of 28 scenarios failing that gate, which is how the dimensional error in the band was found — from the engine, not from re-reading the text (§5.6, §23.6). Under the corrected band, 26 scenarios still fail the depth gate, and §23.6 publishes those failures, names the cause (§15.2 sets no donation magnitude, so the engine assumes none), and leaves the gate red. This Appendix exists to say that a result's epistemic standing matters more than its headline; a suite that is re-run only when the answer is expected to be flattering has no standing at all.

G.4 — References

- DARPA Red Team programme as a methodological baseline for adversarial security testing.
- Ethereum Foundation bug bounty / Immunefi as templates for prize-tier external testing on DLT.
- Anderson, *Security Engineering* (3rd ed., 2020), Chapter 25, on the epistemology of red-teaming.
- Trail of Bits, *Building Secure Contracts*, on adversarial method (not only tooling).