Claim Ledger for Paper I

Lauri Korpela
MiulusTek Oy, Finland · lauri.korpela@miulustek.com

Accompanies Structural Classification of the Exterior-Exponent Collapse Mechanism (Paper I), 2026. It gives the current status of every claim in Paper I and in Attachments A–D. Attachment A presents its analysis in the order it was carried out; where its wording and this ledger differ, the ledger is authoritative. Bracketed numbers refer to the reference list of Paper I.

Current boundary

Theorem 9.60 closes full frozen-window high-frequency compactness on the original domain. The bound tends to infinity. The earlier independent-model transfer (Q) is superseded for this objective. No proved $|\tau|^{4/7}$ lower-bound rate, surjectivity, all-frequency inverse, variable-profile transfer, global height construction, or complete singular solution is contained in that theorem.

The active midplane layer is constructed exactly, and the global stress-free midplane preparation is closed under the quantified (NR) condition for the transcribed reduced equations. A generic principal frontier "do any admissible midplane profiles exist?" is obsolete. The height-dependent/global construction remains open. The earlier Return Lemma is redundant; it is neither a proved theorem nor a necessary remaining step.

Status semantics

Label	Meaning here
`[EXACT]`	Proved for the displayed equations, parameter hypotheses and domain; not a claim of complete construction
`[CLASS]`	A restriction defining the architecture, including source-free core and the specified covariance family
`[COND]`	A conclusion requiring the named assumptions or an unverified interface; do not suppress that condition
`[TRANSCRIPTION]`	The reduced source equations are those transcribed from [2] in Attachment A; their identification with the intended source/physical reduction is conditional
`[NUM]`	A computational report at its stated resolution; not a continuum theorem
`[COND-OA]`	An external construction-level assertion conditional on OA correctness and the relevant dictionary
`[FAIL]`	A withdrawn inference or failed route; the scope of the failure is specified
`[OPEN]`	A current unresolved statement at the stated level
`[FORMAL]`, `[BAL]`, `[MAP]`, `[REDUNDANT]`	Formal series, scale balance, dictionary or a bypassed obligation, respectively; none upgrades to an existence theorem

"Exact for the transcribed system" and "conditional identification with the external construction" are separate statements. Likewise the known midplane (NR) condition is not finite-frequency non-resonance of the frozen height operator.

Corrections to Attachment A and hypothesis audit

These corrections are made in Paper I. Attachment A keeps its original statements for comparison.

E1 — Full angular momentum [EXACT correction; Attachment A, §3]. With the ordinary cylindrical basis and scalar Laplacian, the correct identity is

$$D_t m = -p_\theta + \nu_{\mathrm{phys}}(\Delta m - 2m_r/r + 2\partial_\theta u^r/r) + rf^\theta.$$

The identity in Attachment A omitted $-2\nu_{\mathrm{phys}} m_r/r$, had the opposite sign on the viscous angular torque and omitted forcing from its full-field formula. Direct multiplication of the azimuthal equation gives the corrected identity; the sign is also confirmed by the Caltech coordinate equations [3]. Both torque obstructions remain. The mean stress divergence, source-free mean maximum principle and independently defined frozen operator are unaffected.

E2 — Width law [EXACT for a specified model; Attachment A, §2 and claim table]. The width law needs the strained cross-sectional vorticity equation, a moment definition and vanishing boundary terms, or an explicitly imposed leading width balance. It does not follow from incompressibility alone for an arbitrary vortex/cut. Paper I, Proposition 3.1 states the model and derives it. A physical construction must check its own width and strain normalization; a cut radius is not interchangeable with the moment radius without proof.

E3 — Differentiated supply and scope [COND on exact similarity; Attachment A, §§6–8]. $\Lambda \asymp \rho^{-\alpha}$ alone cannot be differentiated to obtain an instantaneous logarithmic growth rate. Paper I, §1 adds an explicit exact similarity premise for the leading model; differentiated asymptotics for perturbed profiles remain to be established. The maximum principle controls the entire parabolic boundary, whose comparison with radial exterior supply requires matching assumptions. Zero leading source is not automatically zero source in the full equation. Vanishing core energy is not a universal finite-energy condition; $\alpha = 1/3$ gives order-one core energy in the model and is not ruled out by "finite energy" alone. The exponent calculation survives with these hypotheses stated.

E4 — On-axis cone criterion [EXACT correction; Attachment A, Theorem 9.2 / Attachment B, Theorem C3]. A positive on-axis demand requires $p_{s,1} > 0$ **and** $\Theta = |p_s|^2 - 2p_{s,1} > 0$. The first condition was absent from the displayed theorem. It follows from $p_s = (1+t)s$, $t > 0$, $s_1 > 0$; $(-1, 0)$ is a counterexample to the unqualified version. The general off-axis criterion is unchanged. All finite constructed axis-layer demands have $p_{s,1} > 2$ and satisfy the corrected hypothesis.

E5 — Moment submersion [COND retained; Attachment A, Theorem 9.6]. The published transcription caveat is retained, and the perturbation/height-jet restriction is made explicit. At $\eta = 0$, the term $-\int d(\delta\Pi)_\eta$ need not vanish for an arbitrary height-dependent perturbation. The triangular fibre calculation therefore cannot be exported as an unconditional right inverse on all profile variations. A chosen repair space must justify the pressure-jet restriction, uniform determinant and compatibility of its height derivatives. This ledger does not independently reprove that functional interface. The finite midplane perturbation has its own direct exact proof and does not depend on a generic submersion assertion.

E6 — Boundary-symbol evidence [NUM remains NUM; Attachment A, Theorem 9.37]. The exact principal reduction and zero-frequency factorization are retained. The nonzero-frequency Lopatinskii minimum reported from a grid is a numerical audit, not a proof that the continuum boundary symbol is

complementing everywhere. Paper I does not use it as such; the actual height trace/range theorem is deferred. Theorem 9.60 has its own original-domain proof.

E7 — Total axial flux [EXACT qualification of the displayed exterior ODE]. For a height-independent exterior, $c_U = (2+\alpha)\eta$ is a solution of the exterior flux equation. The general homogeneous term is $C(1-\eta^2)^{(1-\alpha)/2}$. Its admissibility depends on height-end regularity and the other moments. The solution with $c_U(0) = 0$ cannot be imposed without checking the integral of a chosen nonzero-sign midplane lift v. This is a Paper-II global compatibility obligation, not an objection to the stress-free slice theorem.

E8 — External-audit citation [editorial; Attachment B, §4]. The original text of Attachment B attributed to Gondauri's §4.4 [10] the test that one finite N suffices when the moment repair's C^2 norm is $O(N^{-1})$ and the cone gap is fixed and positive. In the Zenodo version of 10 September 2026 that test appears in §4.6 ("Completion of the Leading-Profile Theorem"), and Attachment B now cites §4.6; §4.4 states the joint-feasibility requirement. The note's other attributions match the audit: §4.3 (sign loss by squaring; pointwise versus uniform gap) and §A.5 (uniform cone gap on the exterior segment). No mathematical statement changes.

Complete disposition of the claim table of Attachment A

The 93 rows below correspond in order to the 93 labelled rows of the claim table in Attachment A, §1.2. Each statement is current and qualified here; the original wording remains in Attachment A.

ID	Current claim	Current status and scope
C01	Width, full angular momentum, exact mean stress divergence	[EXACT] with E1–E2 corrections; width has model hypotheses
C02	Source-free leading core	[CLASS]; not derived by the load-bearing rule R9
C03	Maximum-principle supply bound	[EXACT] for source-free core equation and full parabolic boundary; E3
C04	Non-axisymmetry required by growing saturated global circulation	[COND] on growing supply, forcing and global maximum-principle hypotheses; no general support-localization theorem
C05	$G = \alpha(1 - 2/K)$	[EXACT] in the specified similarity model; [COND] for asymptotic physical profiles; E3
C06	Axial rate, $a_{\mathrm{grow}} = \alpha/2$, cancellation identity	[EXACT] under width, saturated similarity and A5; E2–E3
C07	Growth and vanishing core-energy window	[COND] on those class premises; $0 < \alpha < 1/3$, not complete existence
C08	Circular cone and pointwise feasibility	[EXACT] for specified wave-family inequalities; on-axis criterion corrected by E4

ID	Current claim	Current status and scope
C09	$a_s = 2 + \alpha_{\mathrm{loc}}$, exterior $v_s - 2 = \alpha$	[EXACT] profile identities; cone nondegeneracy is not demand membership
C10	Uniform cone margin on compact active sets and exact exterior tails	[EXACT] under continuity/strictness and factored edge hypotheses; not a global OA certification
C11	Driven linear equations for the stress pair	[EXACT | TRANSCRIPTION]; both source terms retained
C12	Radial projected state does not close the full profile system	[EXACT | TRANSCRIPTION]; no invariant-region theorem for that unclosed state; no blanket impossibility theorem for every special reduction
C13	Openness and repair cost versus margin, Theorem 9.5	[EXACT] on the stated topology and factored-margin set; repair solvability is separate
C14	Moment-map submersion, Theorem 9.6	[COND | TRANSCRIPTION]; collar, jet, determinant and function-space hypotheses retained; E5
C15	Small moment discrepancy in trial profiles	[NUM]; not realizability or a complete solution
C16	Height-independent trial family has the wrong exterior stress	[EXACT | TRANSCRIPTION] for Theorem 9.7's family
C17	Stationary-layer flux derivative $c_U'(0) = 2 + \alpha$	[EXACT | TRANSCRIPTION] under its exterior assumptions
C18	$c_U = (2 + \alpha)\eta$ solves the exterior flux equation	[EXACT | TRANSCRIPTION]; uniqueness depends on additional data; E7; its flux symbol is not collapse Reynolds number K
C19	Odd-flux trial degenerates at the midplane	[EXACT] algebra / [NUM] family evidence; global necessity uses Theorem 9.18, not the scan
C20	Linearization near a zero-stress base	[EXACT] reduction when differentiable; obsolete as principal frontier after finite construction
C21	Midplane linearized map and numerical validation	[EXACT | TRANSCRIPTION] formula; [NUM] reported agreement
C22	Tangent feasibility of Theorem 9.9's tested backgrounds	[NUM]; not upgraded to a theorem for all backgrounds
C23	Tangent-to-nonlinear corollary at a suitable zero-stress base	[COND]; bypassed for the constructed axis layer by Theorem 9.13

ID	Current claim	Current status and scope
C24	Independent variation of axial jet and midplane velocity in the tested tangent problem	[NUM] where based on that test; exact finite direction now explicit in Theorem 9.13
C25	Failed on-axis fit for a tested nonzero-stress family	[NUM / FAIL] for that family only; no universal on-axis obstruction
C26	No downward stress-free crossing in Lemma 9.12	[EXACT | TRANSCRIPTION] only where $vE_1 = 0$; unqualified global version withdrawn by Lemma 9.20 and Theorem 9.25
C27	Stationary-layer axial flux equals $2 + \alpha$	[EXACT | TRANSCRIPTION]
C28	Finite cone-axis perturbation, Theorem 9.13	[EXACT | TRANSCRIPTION] for every real amplitude algebraically; positive demand for positive amplitude/bump
C29	Demand vanishes at matched layer edges	[EXACT | TRANSCRIPTION] under base and moment matching; strict raw margins are not asserted there
C30	Base preparation, Theorem 9.14	[EXACT | TRANSCRIPTION]; unique root in the fixed one-parameter family only
C31	Active-layer midplane realizability, Theorem 9.15	[EXACT | TRANSCRIPTION]; slice layer theorem, with global inboard closure separately C44–C45
C32	Parity restriction and forced first jet on the zero-velocity layer	[CLASS] parity; [EXACT | TRANSCRIPTION] implication on that layer; not a global parity assumption
C33	First-order axial moment requires height curvature	[EXACT | TRANSCRIPTION] in Corollary 9.16's restricted jet class
C34	Cusps from truncated axial-flux continuation; earlier wedge withdrawn	[EXACT] for the stated expansion; [FAIL] as a full continuation proof
C35	Fixed-edge rectangles, Theorem 9.17	[COND | TRANSCRIPTION] on the four matching identities; moving edges are not structurally forced
C36	Global zero-midplane-velocity preparation excluded, Theorem 9.18	[EXACT | TRANSCRIPTION] for its admissibility/core assumptions; zero velocity remains allowed on the layer
C37	Midplane demand depends on (E_0, v, U_1, E_1), Proposition 9.19	[EXACT | TRANSCRIPTION]; discarded higher jets do not enter this slice calculation

ID	Current claim	Current status and scope
C38	Crossing lift relation, Lemma 9.20	[EXACT | TRANSCRIPTION]: $ve_1 = 2l' - h$ at $l = 0$
C39	Division-free lift with $E_1 = 0$, Theorem 9.21	[EXACT | TRANSCRIPTION]; an alternative partial preparation
C40	Slaved on-axis global preparation excluded when $E_1 = 0$, Theorem 9.22	[EXACT | TRANSCRIPTION]; not an exclusion when $E_1 \neq 0$
C41	Onset and shear bridge, Lemma 9.23 / Theorem 9.24	[EXACT | TRANSCRIPTION] formulas; [NUM] tested implementations; partial route only
C42	Return-window trial families leave the cone	[FAIL / NUM] scoped to those families; not global nonexistence
C43	Omission of the pressure-height derivative in a corner calculation	[FAIL]; withdrawn and repaired in Attachment A
C44	Global stress-free midplane lift equivalent to linear BVP, Theorem 9.25	[EXACT | TRANSCRIPTION]; a slice and its first jet
C45	Unique axis-regular, flat-matched lift above (NR), Theorem 9.26	[EXACT | TRANSCRIPTION] with sign-crossing and tame-return hypotheses; global midplane closed
C46	Wronskian resonance criterion and locations below (NR)	[EXACT | TRANSCRIPTION] criterion and stated spectral characterization; [NUM] reported amplitudes for the tested design
C47	Return Lemma	[REDUNDANT]; no longer a necessary frontier, not proved
C48	General edge/moment rank and stress-free inboard reduction	[EXACT | TRANSCRIPTION]; conditions are functions of height; no extra independent copy of the outer moments
C49	Height principal symbol and repeated jet operator, Theorem 9.27	[EXACT | TRANSCRIPTION]; [NUM] high-frequency tests are audits
C50	Formal height hierarchy	[FORMAL / COND]; higher-order tame forcing must be proved, and formal solvability is not convergence
C51	Treating the chosen midplane as arbitrary two-sided Cauchy data	[FAIL]; does not exclude specially compatible BVP solutions
C52	Stagnation geometry and nonlocal horizontal coupling, Proposition 9.28	[EXACT | TRANSCRIPTION]; outflow statement requires endpoint regularity
C53	Horizontal inboard stagnation slice excluded, Theorem 9.29	[EXACT | TRANSCRIPTION] under its global radial admissibility assumptions

ID	Current claim	Current status and scope
C54	Stagnation set as a freely chosen design surface	[FAIL]; numerical source/sink patterns are not universal geometry
C55	Intrinsic clock identities, Proposition 9.30	[EXACT] coordinate identities where defined; not a Cauchy clock across a transverse fold
C56	Sign-domain separation criterion, Theorem 9.31	[EXACT | TRANSCRIPTION] at the stated geometric/operator level
C57	Splitting the inboard problem into independent clocks	[FAIL] for the coupled geometry; tested sign patterns remain [NUM]
C58	Coupled forward/backward height BVP is the retained formulation	[EXACT | TRANSCRIPTION] equation classification; [OPEN] full solvability
C59	Stagnation source/tangency criteria, Proposition 9.32	[EXACT | TRANSCRIPTION]; no theorem forcing all tested sinks
C60	Axis fold and flat exterior junction, Theorem 9.33	[EXACT | TRANSCRIPTION] with stated axis and flat-matching hypotheses
C61	Sinks in six tested midplane lifts	[NUM]; not unavoidable sinks for every construction
C62	Can unwanted sinks be eliminated by admissible design?	[OPEN] in the global height problem; geometry must come from a solution
C63	Scalar budget forces $X_a < 8$	[EXACT] for that sufficient scalar criterion only; not a class restriction
C64	Full energy identity and diagonal-multiplier obstruction, Theorem 9.34	[EXACT | TRANSCRIPTION]; matrix/nonlocal methods and existence are not excluded
C65	Height-mass Schur complement and index results, Theorem 9.35	[EXACT | TRANSCRIPTION] with singular-endpoint hypotheses; infinite index is not PDE instability
C66	Six lifts fail scalar budgets and unit-multiplier tests	[NUM]; method/family evidence only
C67	Scalar axis-fold model, Theorem 9.36	[EXACT] on its cylinder, domain and coercivity hypotheses; not the full coupled system
C68	Quasi-elliptic coupled axis model, Theorem 9.37	[EXACT | TRANSCRIPTION] principal reduction and weight; full boundary-symbol assertion qualified by E6
C69	Diffusion alone disposes of the coupled fold index	[FAIL]; the pair sets the principal core model

ID	Current claim	Current status and scope
C70	Common modal structure, Theorem 9.38	[EXACT | TRANSCRIPTION] symbol/eigenvectors with $l > 0$ and stated noncoalescence region
C71	Locked tilt/shear and normal form, Theorem 9.39	[EXACT | TRANSCRIPTION] for the stated scaling/symbol reduction; not global coefficient transfer
C72	Core transmission/radial traces and Lopatinskii test	[EXACT] inherited principal traces and zero-frequency factorization; [NUM] sampled nonzero-frequency minimum; complete trace theorem [OPEN] (E6)
C73	Reading coarse mode sources as exact fine-scale local sources	[FAIL]; the fine-scale normal form retains the tilt and shear
C74	Whole-line Kolmogorov gauge and specified half-range model, Theorem 9.40	[EXACT] on those domains; no cut-off-window transfer; localization claim withdrawn in C79
C75	Symmetric fold well posed, Theorem 9.41	[EXACT] under its small-window/outflow inequalities; the full skew shear is a separate problem
C76	Corner treated as a $t \sim r$ Mellin model	[FAIL]; wrong balance for the retained pair/diffusion problem
C77	Skew Volterra residue, Proposition 9.42	[EXACT] frozen decomposition; proposed approximate correction does not settle it
C78	Exact symmetrization necessary for the specified energy method, Lemma 9.43	[EXACT]; method obstruction, not absence of solutions
C79	Glued symmetrizer and harmless compact mass localization error	[FAIL]; skew errors multiplying height derivatives remain load-bearing
C80	Discrete exact-symmetrizer landscape and real mass spectra	[NUM]; no continuum or resolvent non-resonance theorem follows
C81	Small-frequency lower bound, Proposition 9.44	[EXACT] on the stated frequency interval (all frequencies for the symmetric model); full-shear grid scans [NUM]
C82	Symmetrizer-gluing route (S)	[FAIL / REDUNDANT]; replaced for high-frequency target by original-operator quasimode exclusion
C83	Frequency confinement, Lemma 9.45	[EXACT] for the frozen operator and the stated fractional regularity range

ID	Current claim	Current status and scope
C84	Local model list, Proposition 9.46	Model claims retain their specified domains; independent-model exhaustion was conditional and is now [REDUNDANT] for (C*) by Theorem 9.60
C85	Empirical growth exponent and trial packet bounds	[NUM] continuum-growth evidence; trial-family estimates do not give a matching lower rate
C86	Exact axis intertwining/decoupling, Theorem 9.47	[EXACT] with specified endpoint realization; no unauthorized window gauge
C87	Frozen mass has no kernel, Lemma 9.48	[EXACT] in the weighted original space; not kernel exclusion for every finite-frequency resolvent
C88	Compactness reduction, Proposition 9.49	[EXACT] bounded-energy exclusion; zero-frequency concern resolved by 9.50 and full exhaustion by 9.60
C89	Whole-line lower bound through zero Fourier frequency, Lemma 9.50	[EXACT] on its maximal weighted graph domain; unrestricted Green range compatibility survives separately
C90	Original pressure reflection, transport limits and reconstruction, 9.51–9.57	[EXACT] for the full frozen operator; remove physical mass outside every fixed fraction of $\rho_{\lvert\tau\rvert}$
C91	Axis core, exact six-component interval and compactness, 9.58–9.60	[EXACT] full original-domain high-frequency compactness; lower bound diverges with no proved power rate
C92	Current realizability frontier replacing generic “Lemma H double-prime open”	Midplane pieces closed under their hypotheses; [OPEN] complete height-dependent/global Level A profile and Level B construction; no stale midplane-existence question
C93	OA construction-level realization and nonemptiness	[COND-OA]; algebraic dictionary rows remain separately [MAP] / [EXACT | MAP]; no certification or priority claim

Additional claims from Attachments B–D and current dispositions

ID	Claim family	Current disposition
N01	Squared covariance inequality loses a sign if used alone	[EXACT] algebra; the tested equivalence and mismatch percentages are [NUM]. Keep the unsquared sign condition
N02	$\Theta > 0$ necessary for every off-axis positive margin	[FAIL]; off-axis pointwise criterion is C08. Correct on-axis criterion is E4
N03	Conditional local deformation/implicit-function argument around a complete OA seed	[COND-OA] for that seed and OA's full moments, plus uniform right-inverse/margin assumptions; midplane results do not verify the full seed
N04	Global OA uniform cone gap and its full repair mechanism	[COND-OA / OPEN independent verification]; compact active-set/factored-tail criteria C10/C13 do not verify a supplied construction on their own
N05	Earlier "interior integrated stress unknown" / "find a near-solution" statements	Midplane role superseded by C28/C44/C45; arbitrary full-height admissible profile remains C92, not an unknown pointwise cone formula
N06	Transport scale $\rho_t \sim t^{-1/7}$ and candidate 4/7 cost	[BAL] identifying a scale; [NUM] rate support; C91 proves qualitative divergence only
N07	Naive cutoff/freezing has incompatible widths at the comparable scale	[EXACT] incompatibility of those particular error bounds; [FAIL] that transfer method, not a counterexample to compactness
N08	Dropping pressure reflection admits a decaying transport kernel	[EXACT] model counterexample; actual primitive relation is retained in C90
N09	Virial of the full mass with an outer primitive term	[EXACT] identity in the quasimode note; not yet a finite-frequency coercive estimate
N10	Symbolic Dirac/cutoff/six-component checks and sampled cubic eigenvectors	Audits of exact formulas; sampled conditioning and residuals remain [NUM]. Uniform estimates are proved in the closure note
N11	Finer pulse hierarchy is necessary for every class member	[OPEN]; no universality or non-necessity assertion; Paper II must compare complete realizations

ID	Claim family	Current disposition
N12	Positive global flux from a nonzero-sign midplane lift versus chosen height-end data	[OPEN] constructive compatibility under (II-E), with the exact ODE qualification E7; no loss of the slice theorem
N13	Generic E, U are arbitrary independent design variables after fixing the full PDE	[FAIL] if read that way: they are candidates before source, moment, height and global constraints; those constraints remain state-bearing
N14	Tangent feasibility at a general background and away from the midplane	[OPEN] beyond the tested families; the exact axis-layer construction does not prove this generalization and does not require it
N15	Historical corner and height-weight frontiers	A finite jet does not decide the full corner geometry; fixed-edge rectangles have C35's matching conditions. The earlier separate frozen-corner gap is superseded by C75/C91 at their respective scopes. A bounded positive diagonal height weight does not remove C64/C78's skew-mass obstruction; that proposal is not a remaining prerequisite for frozen compactness

All remaining numerical tables and sampled obstruction tests in Attachments A–D are retained as **numerical reports about the stated families only**. None enters the proofs of Paper I as a universal obstruction or a continuum bound.

Obligations deferred to Paper II

Current open interface	Exact boundary
Finite-frequency non-resonance	Full shear, original domain, remaining compact real-frequency band; distinct from the midplane (NR)
Surjectivity / Fredholm closure	State and prove the range theorem on each required domain; lower bounds alone do not assert it
Source-fold restoration	Restore $\kappa t\partial_t$ in the coupled system
Height boundary and outflow	Actual trace/range theorem, including corners and pressure endpoint
Variable-profile transfer	Uniform original-operator estimate with variable coefficients and physical norm retention
Height continuation and global patching	Solve the nonlinear inboard/layer/exterior BVP, all height moments, flux compatibility and spatial far field

Current open interface	Exact boundary
Level B and physical verification	Divergence-free interaction field, all covariances/errors, specified forcing contract, regularity, energy and final NS equations
Transcription and repair-space verification	Independently validate the reduced-source dictionary and the conditional functional right-inverse interface before applying them as physical construction theorems
Optional quantitative strengthening	A 4/7 lower rate, uniform parameter estimates or sink-free designs require new proofs if a construction needs them; they are not part of Theorem 9.60

Reproducibility and coverage

The scripts for the symbolic and numerical runs cited in Attachments A–D are in the calculations repository [13]. They include the audit scripts of Attachments C and D and the recovered scripts for runs cv1–cv38, among them cv22–cv38. The recovered scripts are preserved as found and have not been re-run, so the numbers reported from them remain `[NUM]`. Runs cited in Attachment A without a label cannot be matched to specific scripts, although the working files from the same stage of the analysis are also preserved in the repository.

Rows C01–C93 cover every labelled row of the claim table in Attachment A. Other status labels in Attachments A–D are interpreted through the current claims and N01–N15, not through the order in which they were written. This ledger is an editorial status synchronization and a scoped specification audit, not a new independent proof audit of every theorem in the attachments.