THE LONG THAW · BALANCE NOTES

HOW THE LONG THAW WAS BALANCED

I ran the world through an offline simulator: 200 games of 60 turns and 200 creator builds put through duels, then marked what felt right and what didn't. These are the numbers behind the changes, for players who want to know how a fight, a purse or a pick is tuned, and for creators who want the method.

Build 66746d2c70a2 · 2026-10-29 · reports batch-20261029-013011.json, builds-20261029-012710.json

WHAT CHANGED

Look at levelling first

p-levels

60-turn runs never reached level 5; 96% of XP the narrator's, none from quests or triggers; the curve +400 a level → **level 5 in 7 of 200 runs (median turn 55)**

Steady XP: 500 +200 a level, a fight 200, a new place 25, a skill level 20, every quest 100 + 10 x its place's top level; the early days hold turns 1-30 to the band's bottom near the start.

Armour to about a third

e-armour

best full set 100 armour = 10% (Loader Frame 60 the best piece) → **best full set +435 armour = 43.5% less damage**

Every armour value x3: the best full set 300 = 30%, a third with armour on the weapon's parts; a run-away move for fights far above.

Bonus follows price

e-dominated

3 dominated (Arc Charge, Mag Anchor, Scoped Barrel) → **0 dominated**

Each gained a fitting bonus (Scrap 1, Climb 2, Aim 2); every price kept.

Bonus follows price

`e-unpriced`

9 kit gear pieces with bonuses and no price → **0 unpriced gear**

Priced off the world's own goods: armour at 1.25 Credits a point, the two damage-2 weapons at 10 under the Shock Baton's 15.

Lift the other Thaw picks

`b-thaw`

Clean Thaw 0.713 against Pulled Out 0.630, Woke Alone 0.625, Taken In 0.623 → **Clean Thaw 0.703 .. Taken In 0.660**

Each of the three +25 Health beside its own gift: 0.673-0.681 against Clean Thaw 0.718 (raise, never lower).

Held where they felt right

narrator pays / asks a run: **pays 131.1, asks 53.9 Credits a run (2.4x)** (marked at 2.4)

fight elite +5 or higher downed share: **82% downed** (marked at 82%)

FIGHTS: RANK AND LEVEL GAP

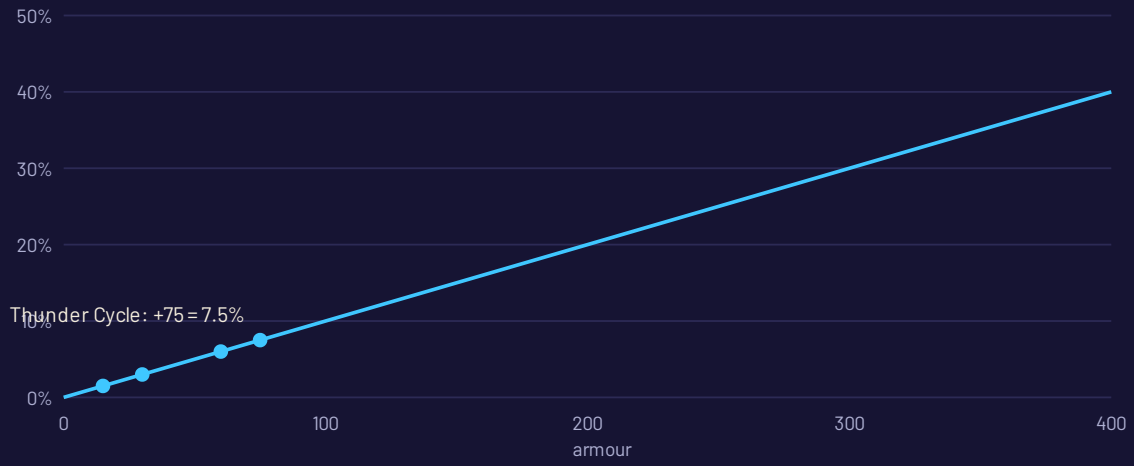
A foe's rank and how far it stands above you decide most of a fight. Each square is every simulated fight of that kind: how often the player went down, how often they won, and how many fights the number rests on. Plain squares had too few fights to say, and a foe rank the runs never met is left out.

	-5 or lower	-4..-1	even	+1..+4	+5 or higher
weak	no fights	no fights	**downed 0%** won 80% · 5	2 fights	**downed 36%** won 59% · 22
strong	no fights	no fights	no fights	1 fight	**downed 100%** won 0% · 7
elite	no fights	2 fights	**downed 19%** won 72% · 145	**downed 64%** won 23% · 56	**downed 82%** won 6% · 159

Downed share by foe rank (rows) and the foe's level minus yours (columns). Brighter red is deadlier. Bosses far above you can be escaped: flee or break away mid-fight and every foe in it is left behind.

ARMOUR

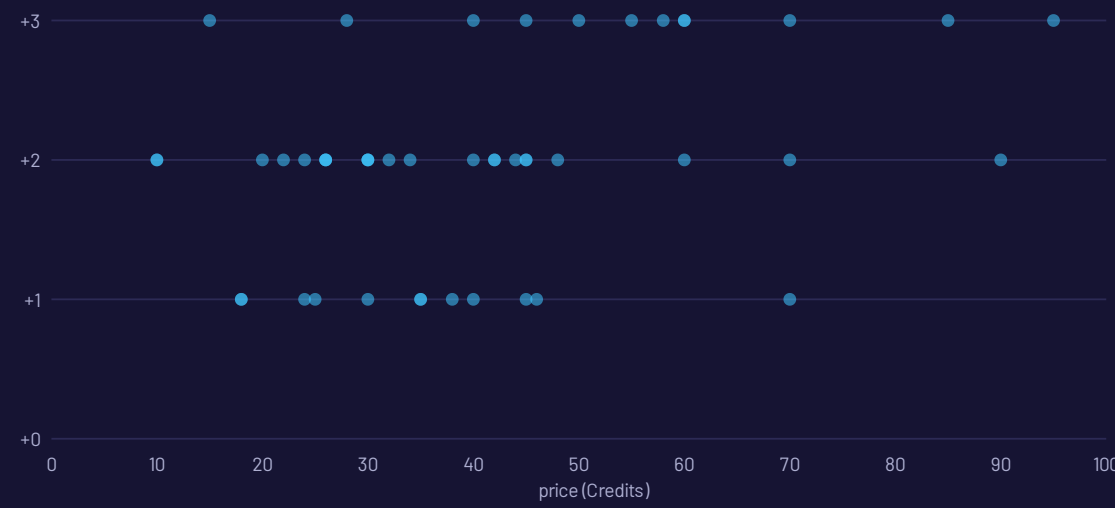
Every point of armour takes 0.1% off the damage you take, up to 90%. A full set of good armour now takes about a third off a blow: the best piece sold, Thunder Cycle, gives +75 for 900 Credits.



Damage cut against armour; each dot is a priced armour value in the world's shops.

GEAR: PRICE AND BONUS

Every price I wrote stands. Where a dearer part did no more than a cheaper one in its slot, it gained a bonus that fits it, and the kit pieces that had bonuses but no price now carry one from the world's own goods. Nothing on a shelf is beaten outright: 0 items are dominated now, 0 kit items unpriced.



Each dot is one priced piece of gear: its price against its skill, attribute and damage bonuses added up (armour is charted beside its own words).

THE THAW

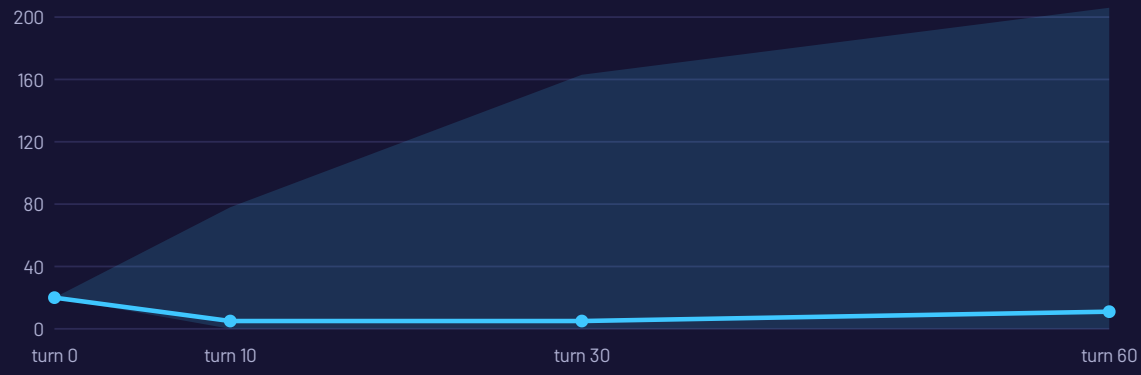
Every creator build was put through the same duels: three levels, every foe rank, four level gaps. A pick's score is the share of those duels its builds won. Clean Thaw led the other three. Pulled Out, Woke Alone and Taken In each gained 25 Health beside their own gift, which closed most of the gap without touching what makes each one different.



Mean duel win share of the builds that took each pick. The duels count the roll and the Health a pick gives, not the story it opens.

MONEY

Credits come slowly. A new character starts with 20, enough for a little kit. Over a 60-turn run the narrator pays about 131.1 Credits and asks about 53.9 for fares, food and favours (2.4x), and most runs come up short of a charge at least once (69%).



Credits held across the simulated runs: the line is the median run, the band the middle 80%.

PACE

Most experience comes from quests and story beats, little from fighting, so wandering and killing does not level you. In the simulated runs a new character reached level 5 in 7 of 200 runs, around turn 55: levels come where quests are finished, and the simulator's stand-in player finishes few of them, so read this as the slowest a run can go.



Share of the simulated 60-turn runs in which a character reached each level.

FOR CREATORS: THE METHOD

The simulator plays the world's own JSON turn by turn with Voyage's trigger rules, a seeded stand-in narrator, and combat from the documented formulas. Numbers no document settles are named assumptions, each with its source (below); live play on a private copy of the world settles what the simulator cannot.

My marks (page one) are what I judged from these numbers: each change was made, re-measured, and held only where the new number read right.

What live games proved

- The narrator pays about 2x what it charges in his recorded Long Thaw games (3,487 Credits paid, about 1,776 charged), close to the simulator's 2.4x.

WHERE IT CHANGED IN THE WORLD FILE

Every edit of the balance pass, by its place in the world JSON (sections, then records, then fields; * stands for each record listed under it), against the world before the pass (8a14b819^1). A creator can make the same change by hand at the same place. Hidden fields are named, never quoted.

`skillSettings › charXPPerSkillLevel: 5 → 20`

`progressionSettings › extraRequiredXPPerCharacterLevel: 400 → 200`

`progressionSettings › locationDiscoveryXP: 10 → 25`

`combatSettings › baseCombatXP: 100 → 200`

`itemTypes › * › bonuses › 1: added skill`

Arc Charge

`24 itemTypes (itemTypes › * › bonuses › * › value): each changed 2-180`

Body Feed, Cage-Runner Prototype, Coded Grip, Dust Skimmer, Glare Visor, Grip Soles, Guard Nerve, Hand Spool, Heavy Stock, Kinetic Core, Knuckle Wraps, Loader Frame, Mag Anchor, Patchwork Rig, Scoped Barrel, Sentry Frame, Shooting Gloves, Shoulder Guard, Sprung Boots, Sprung Stock, Taped Grip, Thermal Charge, Thunder Cycle, Vault Walker

`12 itemTypes (itemTypes › * › description): each changed`

Cage-Runner Prototype, Cutter, Dust Skimmer, Glare Visor, Grip Soles, Knuckle Wraps, Shooting Gloves, Shoulder Guard, Sling Rig, Sprung Boots, Thunder Cycle, Twin Pulse Cuff

`13 traits (traits › * › description): each changed`

Impact Knuckles, Loader Frame, Patchwork Rig, Pulled Out, Ram Plate, Recoil Brace, Runner, Sentry Frame, Shock Soles, Taken In, Tracking Eye, Vault Walker, Woke Alone

`3 traits (traits › * › resources › *): each added health, 25`

Pulled Out, Taken In, Woke Alone

`4 triggers (triggers › *): each added (hidden field, values not shown)`

`112 questTriggers (questTriggers › * › effects › *): each added player-experience, 200-300`

APPENDIX: THE ASSUMPTIONS

Every number the simulator could not read from a document or a live game, with the value it used and where that value comes from.

`conditions_read_phase_start_storage` `true`
R46-R47 (a typed write-boolean set in a pass is read by conditions from the NEXT turn) vs R17 (triggers see earlier writes in the same phase); parity settles it

`planning_script_starts` `12`
R46-R47 (planning held ~8 starts worst, 12-16 better)

`state_script_starts` `12`
R46-R47 (no state-phase measurement: planning's numbers)

`script_timeout_ms` `500`
triggers doc: 500 ms shared per phase

`script_trigger_delete_lands` `false`
R48 / R81: a `delete triggers[...]` never landed live

`ai_checks_per_turn` `15`
triggers doc Size Limits: ~15 per turn

`ai_checks_per_active_quest` `5`
triggers doc Size Limits: +5 per active quest

`objectives_start_hidden` `true`
unknown (plan Task 2 ruling)

`skills_start_at_zero` `true`
unknown

`text_contains_case_sensitive` `true`
unknown

`resource_clamped_to_max` `true`
unknown

`level_up_resource_rule` `by_gain`
OQ#13 open; live DEV canaries (gainPerLevel 0) stay 0 after a level set, so not 'fill' for those

`narrator_move_before_state_phase` `true`
unknown: R10 settles a planning trigger's move only; parity measures the narrator's

`ai_budget_file_order` `true`
unknown (OQ#6: the order AI checks spend the budget in)

`satisfying_players_intersection` `true`
unknown: the doc names the satisfying player(s), not how several player conditions combine

`quest_accept_completes_progressed` `true`
unknown: Q says hidden/planned quests accumulate progress silently, not what accept then does

`premade_start_full` `true`
unknown: resourceSettings.md gives initialValue for a NEW (level 1) character only

`premade_xp_at_level` `true`
unknown: whether a premade above level 1 starts with its level's XP or with 0

`location_move_area` `first`
triggers doc: party-location cascades the area; which one is unknown: the first authored

`quest_triggers_after_triggers` `true`
unknown

`success_level_weights` `{"critical failure": 3, "failure": 12, "`
unknown until sim_parity calibrates it

`attack_words` `["attack", "strike", "slash", "stab", "h`
unknown: when Voyage resolves an action as combat is the narrator's call (batch policy)

`roll_spread` `cap`
skillSettings.md caps a roll's contribution at maxSkillSuccessLevel; its distribution is unknown (uniform assumed)

`player_base_damage` `10`
unknown: npcs.md gives +2.5 per level, not the level-1 base

`npc_base_damage` `8`
unknown: npcs.md gives +2.0 per level, not the base

`band_damage_factor` `{"critical failure": 0.0, "failure": 0.0`
unknown until sim_calibrate fits the recorded hits

`combat_xp_scaling` `flat`
unknown: combatSettings.md calls baseCombatXP a base, not how NPC level or tier changes it

`combat_xp_split` `equal`
unknown: combatSettings.md gives the base, not the split

`narrator_xp_chance` `0.132`
calibrated: 3762 turns

`narrator_encounter_chance` `0.05`
unknown until sim_calibrate counts foes the world does not author, first met in combat, per recorded turn

`encounter_tier` `authored_mix`
unknown: the rank the narrator gives a foe it makes (recordings carry no rank); authored_mix = the region's authored ranks, bosses and mythics out

`narrator_xp_size` `177`
recordings 2026-10-27: median 177, p10 153, p90 192 over 66 awards

`fight_to_finish` `true`
batch policy: an engaged player keeps attacking, so a fight's length and cost are measured whole

`max_fight_turns` `20`
batch policy: a fight longer than this counts as unfinished

`attack_skill_types` `["combat", "magic"]`
batch policy: the committed player attacks with its best combat or magic skill (an Onmyoji's art, not a sword it never trained); the narrator picks the skill li

`attack_move_rule` `attack`
abilities.md: the bonus reaches the relevant check; 'attack' = the move's text names an attack skill or reads as an attack (Asagiri: 'Improves the next Blade ac

`ability_use` `best_ready`
batch policy: live the player picks; the committed player uses its best ready move on an attack

`bench_levels` `[1, 10, 20]`
build bench grid (design 2026-10-28, phase 3b)

`bench_gaps` `[0, 3, 6, 9]`
build bench grid: NPC level = player level + gap; Asagiri 2026-10-28: elite wins 1.0/0.95/0.40/0.04 at +0/+4/+6/+8, so +-2 told no build apart

`bench_reps` `20`
build bench grid: duels per cell

`build_band` `0.1`
his creator method: a measured band; a pick whose builds win this much more or less than its tab's median

`equip_policy` `best`
batch policy: live the player equips by hand; the committed player wears the best held gear

`gear_score_weights` `{"damage": 10, "armor": 0.1, "resource":`
batch policy: 1 damage point (+10%) ~ 100 armor (10%) ~ 100 resource max ~ 10 skill points

`kit_at_start` `true`
batch policy; Asagiri's outfitter section: the 35-Mon start buys one garb and one mask

`kit_reserve` `0.15`
batch policy; Asagiri's outfitter section: garb and mask 'with a coach fare left over'

`shop_chance` `0.05`
unknown (batch policy: a buy roll per turn)

`narrator_income_chance` `0.012`
calibrated: 1910 turns of Credits

`narrator_income_size` `7.91`
calibrated: 22 lines of Credits

`narrator_spend_chance` `0.03`
calibrated: 1910 turns of Credits

`narrator_spend_size` `1.52`
calibrated: 58 lines of Credits

`move_chance` `0.2`
unknown (batch policy)

`accept_chance` `0.5`
unknown (batch policy: the player's Accept click per turn)