7–10 years

Connection time

~410 GW

Queue requests (~87% data centres)

~7.5 GW

Approved since 2022

98%

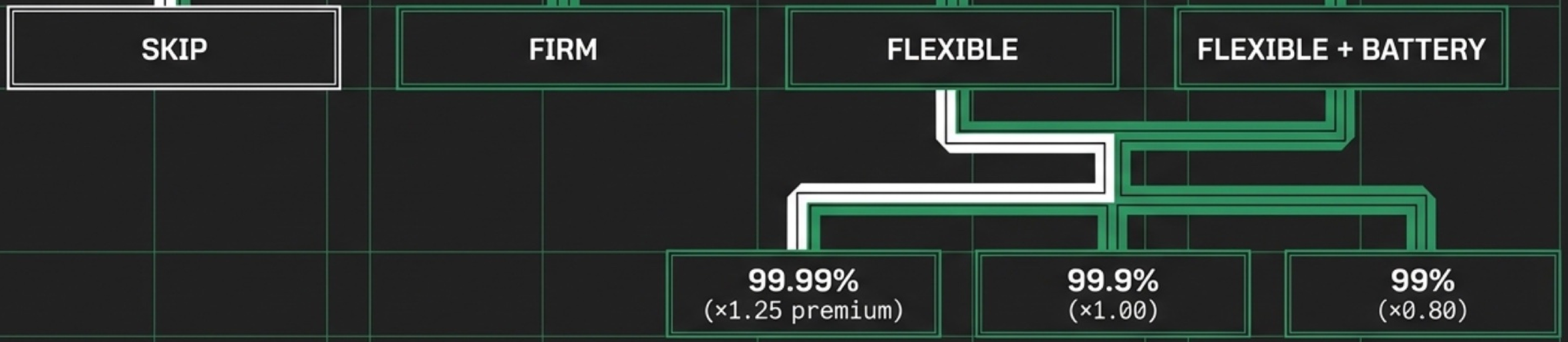
The room's question

PRESENTER NARRATIVE: Connecting a data centre takes seven to ten years. ERCOT is tracking about four hundred and ten gigawatts of large-load requests against seven point five gigawatts approved since twenty twenty-two. Someone in this room asked: what if it only needs ninety-eight percent availability? The utility said: we're trying. GRIDRUSH answers with a number.

The question: What if it only needs 98% availability?
The utility: "We're trying."
GRIDRUSH answers with a number.

40 SITES ON 8 SUBSTATIONS

(0.5–10 MW)



PRESENTER NARRATIVE: We give the agent forty sites across eight substations. For each, it chooses to skip, build firm, flexible, or flexible with a battery. It picks an availability tier at ninety-nine point nine nine, ninety-nine point nine, or ninety-nine percent. A verifier replays all eight thousand seven hundred and sixty hours of twenty twenty-five.

[HORIZON: 36-month]
[SIMULATION: 8,760-hour]

Strategy	Month-12 MW	MW-months	Net Value	Violations
All Firm	0.0 MW	651.3	$65.1M	0
All Non-Firm	172.6 MW	1447.9	–$449.5M	SLA Breach
GRIDRUSH	85.4 MW	2490.6 (3.82×)	+$279.9M (4.30×)	0

32 of 40 sites connected. zero modelled violations — the binding constraint is each site's SLA.

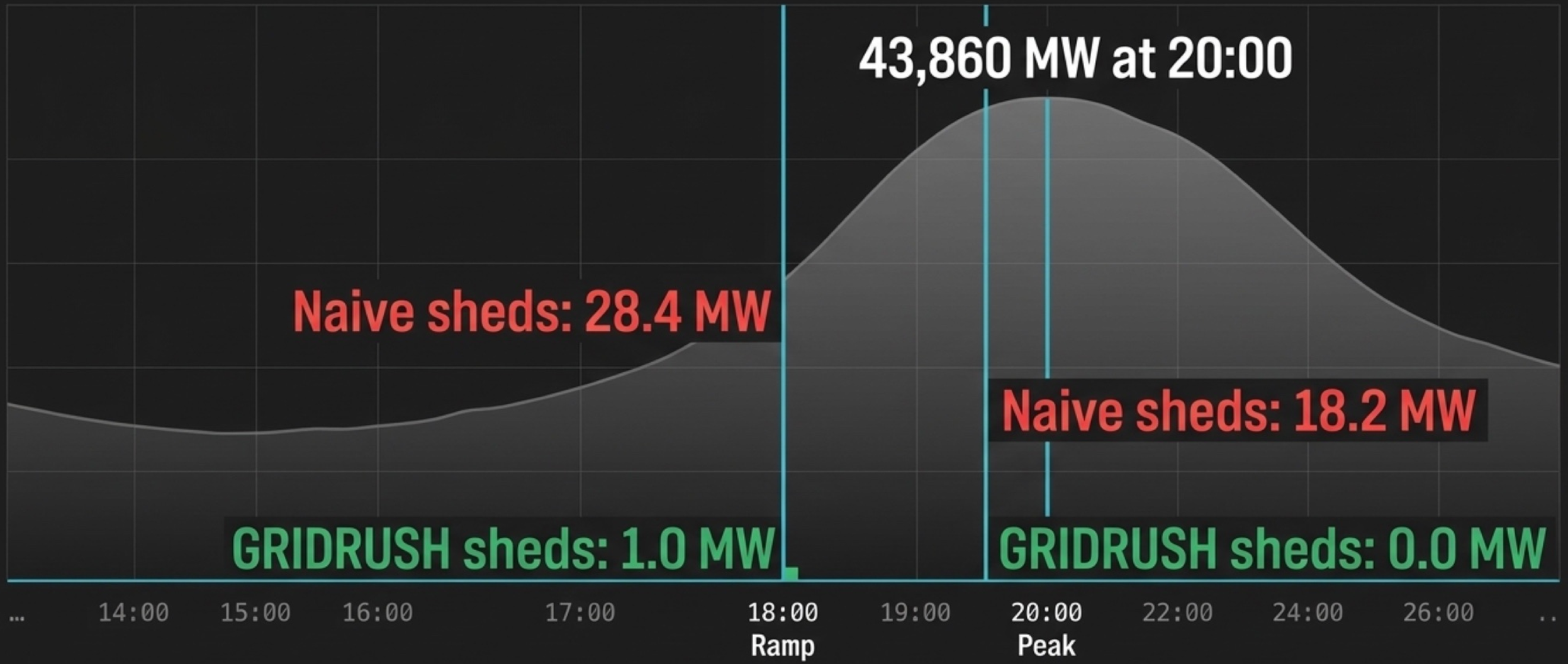
PRESENTER NARRATIVE: All firm gives you zero megawatts at month twelve and sixty-five point one million dollars. All non-firm gets one hundred and seventy-two point six megawatts online, but loses four hundred and forty-nine point five million dollars after SLA breaches. GRIDRUSH achieves eighty-five point four megawatts, plus two hundred and seventy-nine million dollars, zero modelled violations — the binding constraints is each site's SLA. It connects thirty-two sites and says no to eight.



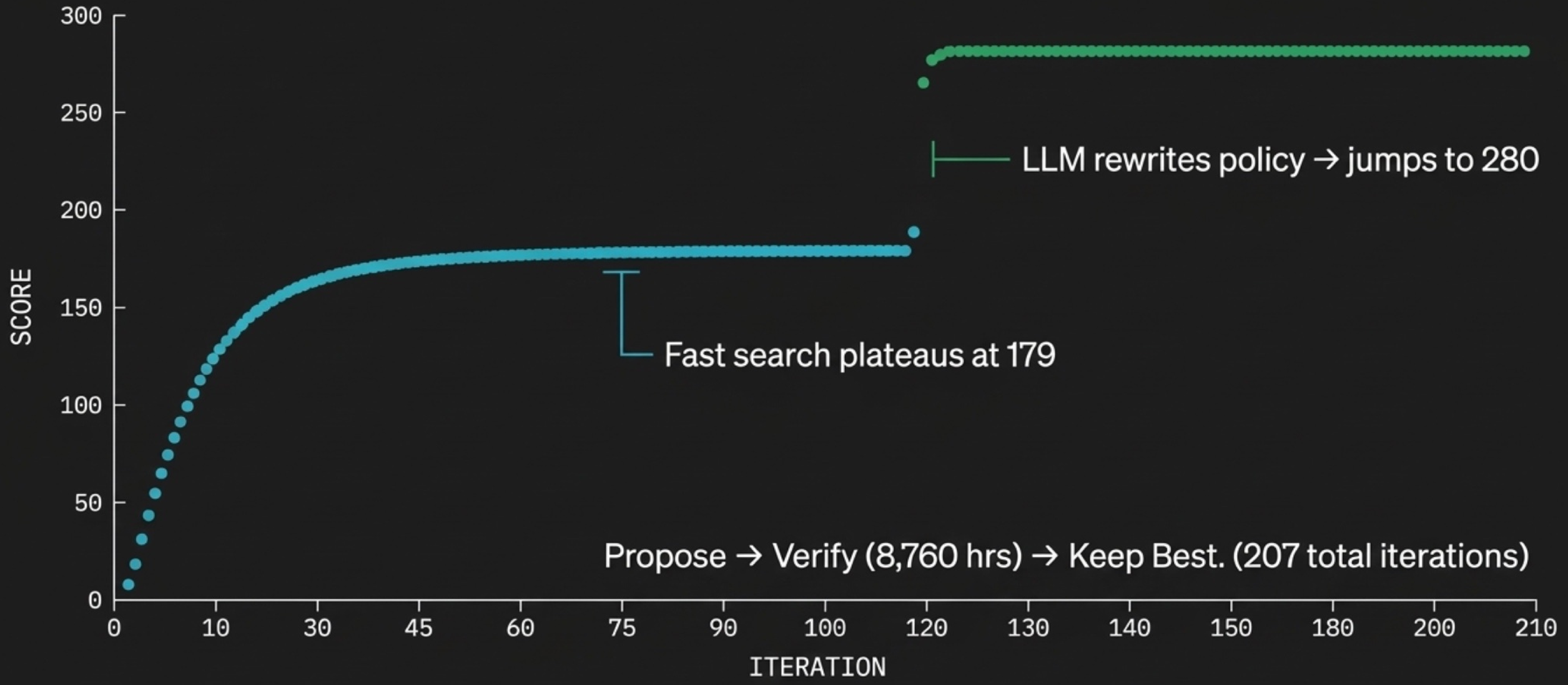
The per-site availazbility trade. Global availabitlity is a trap.

PRESENTER NARRATIVE: Why does it win? Because the trade is per-site, not global. It secures sixteen sites at ninety-nine point nine nine percent, six at ninety-nine point nine, and ten at ninety-nine percent where the grid is congested. It actively refuses eight sites. Three years: four point three zero times more value.

[SOURCE: Real CAISO 2025 Data]



PRESENTER NARRATIVE: This is a real stress day in California. At eighteen hundred hours, the evening ramp, the naive plan must shed twenty-eight point four megawatts. GRIDRUSH never sheds more than one point zero. At the twenty hundred hours peak of forty-three thousand eight hundred and sixty megawatts, GRIDRUSH sheds zero.



PRESENTER NARRATIVE: This is exactly what the event asked for: a real loop. Every dot is one plan: the proposer writes it, the evaluator scores it, the archive keeps the best. The fast search plateaus at a score of one hundred and seventy-nine. Then the LLM rewrites the policy code and jumps to two hundred and eighty. Two hundred and seven total iterations.

[STATUS: Physics inside the loop]

6.53 MW

admission limit per feeder (measured AC power flow).

2.39×

Net value drops (an honest −44.5% cost).

1.22×

On 8 real substations. Constraint is at circuit level (124 of 1462 circuits = 8.5% already deficient).

PRESENTER NARRATIVE: We keep the project honest. We put real AC power flow inside the loop with a six point five three megawatt admission limit. The result drops to two point three nine times — an honest forty-four point five percent cost of real physics. On eight real PG and E substations it drops to one point twenty-two, which locates the constraint exactly at the circuit level.

REAL

EIA-930 demand, AC physics, PG&E substations.

SYNTHETIC

Site geometry & economics (documented).

[SYSTEM: Fully reproducible. Offline.]

Ask = Circuit-level ICA and queue data.

PRESENTER NARRATIVE: We are completely transparent about what is real data and what is synthetic economics. The next step is real feeders. One utility engineer and one circuit-level dataset is what we ask for. GRIDRUSH turns the queue from a wait into a decision.