GAS DISTRIBUTION INTEGRITY / READINESS CHECK

Customer-meter leakage

Probability x consequence screen | Navigator evidence | 03 September 2026

1 VERDICT: NOT YET

Navigator supports a demonstration, but exposes no verified meter population, meter-linked leak history or meter consequence data. Its 180 pipe segments are synthetic; sampled 70% and 83% completeness values cannot be transferred to meters. [A, B]

Minimum input / purpose	Status	Priority	System of record*	Complete**	Basis***
P | Meter ID, premise link, active dates / meter-years	GAP	P1	Meter registry / CIS	~0% verified	Measured needed
P | Confirmed meter leaks, dates, component, repair	GAP	P1	Leak system / EAM	~0% verified	Measured needed
P/V | Survey dates, method, coverage, no-leak results	GAP	P1	Leak survey / EAM	~0% verified	Measured needed
P | Age, make/model, joints, condition, repeat leaks	PROXY	P2	Meter registry / EAM	~0% verified	Defaulted
C | Indoor / enclosed / outdoor meter location	GAP	P1	Meter registry / GIS	~0% verified	Measured needed
C | Building use, occupancy, nearby people/property	PROXY	P1	GIS / CIS / buildings	~0% verified	Inferred planned
C | Pressure, release size, ignition, isolation time	PROXY	P2	Asset registry / EAM	~0% verified	Defaulted
C | Repair cost and service interruption	PROXY	P3	EAM / cost ledger	~0% verified	Defaulted
V | Dated confirmed outcomes, causes, dispositions	GAP	P1	Leak system / EAM	~0% verified	Measured needed
V | Join audit, missingness, holdout, sensitivity	GAP	P1	Screen QA register	~0% verified	Measured needed

P = probability; C = consequence; V = validation. GAP = evidence required; PROXY = provisional assumption possible. P1 critical to credibility; P2 materially improves ranking; P3 refinement.
*Candidate authoritative systems from Navigator discovery guidance; none verified as connected. **~0% verified means no usable meter-level coverage demonstrated through this MCP; actual inventory completeness is unknown. ***Planned input treatment, not evidence already obtained. [A-C]

2 SINGLE MISSING FIELD: METER LOCATION CLASS

Indoor / enclosed / outdoor. Confinement can change gas accumulation and people exposure enough to reverse rankings at similar leak probability. This is an engineering hypothesis, not measured Navigator sensitivity. Keep unknowns explicit and test both indoor and outdoor cases; never silently assign outdoor. Asset IDs and linked outcomes remain prerequisite run gates.

3 THREE FASTEST MOVES TO A RUN

1. P1 - Build one joined pilot extract. Use a bounded district: active meter IDs and service dates, confirmed meter-component leaks, and survey coverage over a common historical window. Deduplicate and audit joins; estimate cohort leak rates per meter-year.

2. P1 - Add location and exposure. Recover location class from installation records; infer building use from GIS. Review unknowns among likely top-ranked meters. Use one-year leak probability x conditional consequence; use a pooled rate for sparse cohorts and scenario ranges for release/ignition/isolation.

3. P1 - Validate, then run. Hold out the latest usable period; check top-ranked assets against confirmed outcomes and survey effort. Vary unknown location and consequence defaults; flag unstable ranks. Freeze inputs and assumptions for an engineer-reviewed pilot; do not wait for P2/P3 inventory perfection.

Evidence: Navigator MCP, 03 Sep 2026: [A] get_capabilities; [B] list_pipe_segment_risks (2 of 180);
[C] plan_model_expansion (custom: customer-meter leakage) and get_risk_model_guidance (data_quality).