

Jenzer Advisory | The Human Reliability Leader

The Human Reliability Leader

No Surprises in High-Hazard Operations

How leaders convert field intelligence into disciplined action before weak signals become operational surprises

Executive Leadership Briefing

Jenzer Advisory

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1. Why Human Reliability matters now

A reliability system is only as good as the truth it receives.

High-hazard operations rarely fail without warning. Before a shutdown, incident, or major performance surprise,

there is often a weak signal: a recurring defect, a temporary repair that has become normal, a procedure that no

longer matches reality, a repeated alarm, an overloaded shift team, or an experienced technician who has

become uneasy about what the plant is telling them.

The asset has often been speaking. The organization has not always listened early enough.

This is the Human Reliability challenge: the organizational ability to notice, interpret, escalate, decide, and act

before weak signals become events. It is not a soft culture slogan. It is the human layer of operational control.

Technical systems matter. Procedures matter. Maintenance strategies, risk registers, dashboards, digital tools,

and AI-enabled analytics all matter. But none of these systems are complete if the people closest to the work do

not trust the organization enough to feed it with truth.

The ambition is simple: no avoidable surprises. Not no problems. Not no uncertainty. Not no operational pressure. But fewer surprises created by hidden weak signals, normalized workarounds, unclear ownership, or

action lists that never close.

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Why this matters now

High-hazard, asset-intensive operations are becoming more complex, not less. Assets are aging.

Brownfield

modifications accumulate. Production pressure remains high. Skilled experience is retiring. Workforces are

more fragmented. Contractors play a larger role. Digital systems generate more signals, but not always more

understanding. AI will add speed and prediction, but it will not replace operational judgment.

In this environment, leaders cannot rely only on procedures, dashboards, and governance meetings.

They also

need a system that allows operational truth to travel early enough to matter.

That truth often lives first in people: the operator who hears a different sound, the technician who knows which

temporary fix is becoming permanent, the planner who sees the same job deferred again, the shift supervisor

who senses fatigue rising, the engineer who suspects the model is missing operating reality, or the contractor

who sees a hazard but is unsure whether speaking up is welcome.

Human Reliability Leadership closes the gap between what the formal system records and what the lived

system knows.

People and performance are not separate systems

Many organizations still treat people and performance as separate worlds. One world talks about engagement,

trust, recognition, psychological safety, and purpose. The other talks about process safety, reliability, maintenance execution, asset integrity, planning, shutdowns, KPIs, and risk management.

In high-hazard operations, that separation is artificial. Trust is not soft when it determines whether a near miss

is reported. Humility is not soft when it unlocks the expertise of people who know the asset better than the

manager. Fair accountability is not hard in opposition to care; it protects the people who do the right thing.

Discipline is not bureaucracy when it converts frontline truth into action closure.

The best leaders do not choose between people and performance. They connect them. Engagement is not the

goal. Engagement is the energy source for disciplined execution.

Human Reliability

“A r e l i a b i l i t y s y s t e m i s o n l y a s g o o d
as the truth it receives.”

No avoidable surprises in high-hazard operations.

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2. The Human Reliability Gap

Every complex operation has a formal system and a lived system.

The formal system includes procedures, drawings, registers, dashboards, plans, KPIs, assurance processes,

and governance meetings. The lived system includes habits, workarounds, relationships, tacit knowledge, local

practices, informal warnings, shift memory, and the experience of people who know how the asset really behaves.

The Human Reliability Gap is the distance between the two. When the gap is small, the organization sees reality early. When the gap is large, the organization is exposed to surprises. The formal system may say the risk is managed, while the lived system knows the control depends on experience, workaround, or luck.

Formal system Lived system Risk if disconnected

Procedures, drawings, standards

Actual work practices, field constraints, local adaptations

The documented method no longer reflects how work is done.

Dashboards, KPIs, reports Shift memory, informal warnings, operational unease

The dashboard looks green while the plant is trending amber.

Risk registers and action trackers

Workarounds, recurring defects, deferred fixes Known concerns remain invisible or unmanaged.

Governance meetings Frontline judgement and contractor observations Decision forums miss the people closest to the risk.

Inspection and maintenance plans

Equipment quirks, repair history, spares uncertainty

Technical plans miss lived asset reality.

Human Reliability Leadership closes this gap by creating trust channels, field presence, action routines, fair

accountability, and operating rhythms that allow lived reality to enter the formal management system.

This is especially important in brownfield recovery and restart environments, where documentation, current

condition, and operating practice may not fully align. The question is not only: "What does the system say?" It is

also: "What does the asset know through its people?"

The Human Reliability Gap

Formal System Lived System

Procedures

Drawings

Registers

Dashboards

KPIs

Governance

Workarounds

Tacit knowledge

Shift memory

Field constraints

Weak signals

Practical risks
Human Reliability Gap
where avoidable surprises grow
Human Reliability Leadership
Trust Channels
Field Presence
Weak-Signal Capture
Fair Accountability
Action Closure
The goal is to make lived reality visible early enough to manage.

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3. The Ownership Flywheel

The Human Reliability Leader creates an operating environment where people tell the truth early, leaders convert truth into disciplined action, and teams become proud owners of risk, reliability, and purpose. The chain is simple: respect creates trust; trust releases truth; discipline converts truth into closure; closure creates results; results build pride; pride creates ownership; ownership sustains reliability. This is the Ownership Flywheel. It is simple, intuitive, and easy to underestimate. The difficulty is not understanding it. The difficulty is keeping the chain intact under real operating pressure. Most leaders break the chain somewhere. They want truth without trust, action without ownership, accountability without fairness, engagement without discipline, or reliability without listening to the people who live with the asset every day. Human Reliability Leadership is the discipline of not breaking the chain.

Flywheel
element

Leadership meaning Operational test

Respect Leaders assume the people closest to the work know things the formal system may not yet see.

Do leaders ask what the frontline knows before defining the answer?

Trust People see consistency between what leaders say and what leaders do.

Is bad news received with curiosity before judgment?

Truth Weak signals, workarounds, recurring defects, and uncomfortable facts become visible.

Are concerns raised early, or only after escalation becomes unavoidable?

Action Truth is converted into owned, prioritized, tracked, and verified closure.

How quickly does observation become owner, action, and closure?

Results Closed actions remove recurring problems and prove that speaking up is worthwhile.

Can teams see tangible improvements from the concerns they raised?

Pride Teams care about the asset, the standard, and the outcome, not only the task.

Do people ask, "Is this good enough for us?"

Ownership Performance is pulled from within the team, not only pushed from above.

Do teams own risks and standards even when leaders are not watching?

Safe to speak. Unsafe to ignore.

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through ownership

The Ownership Flywheel

reinforces over time

Sustained

Reliability

Respect

Trust

Truth

ActionResults

Pride

Ownership

Human Reliability Leadership keeps the chain intact under pressure.

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4. From field intelligence to action closure

Field intelligence is the operational knowledge held by the people closest to the work. It includes observations,

concerns, patterns, practical constraints, informal history, equipment quirks, near misses, repeated defects,

and unease.

It is not always precise. It is not always complete. It is sometimes anecdotal. But it is often early. And early is

valuable.

The task of leadership is not to accept every concern uncritically. The task is to convert field intelligence into

disciplined assessment and action.

Step Purpose Leadership question

1. Invite it Make it safe and worthwhile to speak. Do people believe bad news will be handled fairly?

2. Capture it Record concerns, weak signals, and workarounds simply and consistently.

Is there a low-friction way to capture what people know?

3. Assess it Distinguish noise from risk without dismissing early concern.

Who helps translate observations into risk language?

4. Prioritize it Focus scarce resources on what matters most. Are priorities linked to risk, reliability, integrity, and operational consequence?

5. Close it Act, verify, communicate, and learn. Can the person who raised the concern see what happened next?

Truth-to-closure velocity

The decisive metric is not only whether people speak up. It is how fast weak signals move from observation to closure. Call it truth-to-closure velocity.

Truth-to-closure velocity turns culture into an operational performance question. It asks whether concern becomes record, record becomes assessment, assessment becomes priority, priority becomes owner,

owner becomes action, action becomes verified closure, and closure becomes learning.

Few things damage engagement more than repeatedly raising issues that never close. Conversely, few things

build confidence faster than seeing visible action on real operational concerns.

Field Intelligence Conversion Pathway

Field

Intelligence

Weak signals

Concerns

Patterns

Workarounds

Unease

Managed

Risk

Fewer surprises

Stronger reliability

Visible closure

Invite

safe to speak

Capture

simple recording

Assess

risk screening

Prioritize

scarce resources

Close

verified action

Learn

higher standard

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The minimum viable Human Reliability System

Human reliability does not require a massive transformation program. It can start with a minimum viable system: a small set of routines that make field intelligence visible, actionable, and credible.

Truth-to-Closure Velocity

The executive operating metric for human reliability

ObservationRecordAssessmentPriorityOwnerAction

Verified

Closure

Learning

speed + discipline

KEY VELOCITY METRICS

Time to Owner

From observation to assigned owner

Time to Decision

From assessment to prioritised action

Time to Verified Closure

From action to confirmed resolution

Culture becomes operational when truth moves visibly to closure.

Minimum Viable Human Reliability System

Eight interlocking elements that make reliability repeatable

Field Presence

Rhythm

Structured walks, not wandering

Weak-Signal

Capture

See it, say it, record it

Weekly Truth-to-

Closure Review

One meeting, full cycle

Fair

Accountability

Fair standards, clear consequences

Reliability

Integration

Embed in work, not beside it

Purpose & Pride

Routines

Connect effort to meaning

Outcome

Tracking

Measure closure, not activity

Communication

Loop

Close back to the field

The system that makes Human Reliability Leadership repeatable, not heroic.

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System element Minimum routine Evidence it is wo

Field presence rhythm Leaders regularly visit the asset to learn, listen, and test reality against reports.

Leaders discover issues before they appear in formal forums.

Weak-signal capture Teams have a simple way to record concerns, near misses, recurring defects, and workarounds.

More useful early concerns enter the system without creating bureaucracy.

Weekly truth-to-closure review

A short forum reviews weak signals, assigns owners, tracks closure, and

communicates progress.

Issues move faster from concern to owner to verified closure.

Fair accountability rules

The organisation distinguishes honest error, system weakness, at-risk behaviour, and wilful violation.

People speak up without standards becoming optional.

Reliability integration Field intelligence feeds bad actors, maintenance strategy, inspection plans, spares, shutdown scope, and risk registers.

Reliability processes reflect lived operating reality.

Purpose and pride routines

Leaders connect daily work to safety, reliability, community, customer value, and professional pride.

Teams protect standards because they care about the outcome.

Outcome tracking Progress is tracked through closure speed, recurring defects, overdue actions, near-miss quality, downtime, incidents, and engagement pulse.

Leading indicators improve before lagging indicators confirm the trend.

Communication loop Closed actions are communicated back to the people who raised or own the concern.

Speaking up becomes visibly worthwhile.

5. Applications: recovery, restart, reliability, and asset integrity

Human Reliability Leadership is not a standalone culture initiative. It is most valuable when embedded into the

work that already matters: brownfield recovery, restart, asset integrity, maintenance, reliability, shutdowns, and operational excellence.

Brownfield recovery and restart

Brownfield recovery is rarely clean. The asset has history. Documentation may be imperfect. Constraints are

real. People know workarounds. The organization has learned to live with certain risks. That is what makes

recovery different from textbook restart planning.

You rarely begin with a clean sheet. You begin with history. The challenge is rarely technical alone. It is about

rebuilding control in a system that is already complex, pressured, and often carrying legacy issues.

Recovery becomes credible when technical facts, operating reality, and leadership decisions are brought into

one rhythm. Not separate workstreams. Not parallel truths. Not activity without confidence. One owner-side

view.

Reliability and asset integrity programs

Many reliability programs begin with the right tools: asset criticality, RCM and FMEA, bad actor elimination,

maintenance strategy review, planning and scheduling, defect elimination, turnaround discipline, RCA, risk-based inspection, spare-parts optimization, procedure improvement, capability building, and governance forums.

These tools are necessary, but they are not sufficient. Reliability programs fail when they are treated as technical exercises rather than operating-system changes. A procedure that people do not trust will not be used

properly. A near-miss log that does not lead to action becomes a bureaucratic burden. A bad actor list that

ignores field reality misses the real causes. An RCA that blames individuals suppresses the next weak signal.

Human reliability is what makes reliability tools work. It ensures that the right problems enter the system, that

people closest to the work contribute to the solution, and that actions close visibly enough to build confidence.

Technical systems create the floor. Human reliability creates the ceiling.

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Application area Common failure mode What Human Reliability adds

Brownfield

recovery

Parallel truths: technical plans, operating reality, and leadership decisions are not aligned.

A single owner-side view of current condition, weak signals, residual risk, decision rights, and closure discipline.

Restart readiness Activity progresses faster than confidence; teams are busy but uncertainty remains hidden.

A structured rhythm for surfacing assumptions, workarounds, deferred work, and readiness risks.

Reliability

programs

Tools are deployed from the office and miss lived asset reality.

Field intelligence feeds bad actors, RCA, maintenance strategy, spares, inspection, and shutdown scope.

Asset integrity Known vulnerabilities are normalized because controls appear formally in place.

A challenge process that asks whether controls work in practice, not only on paper.

Operational

excellence

KPIs improve locally but ownership does not sustain after the program team leaves.

Pride, ownership, and visible closure make improvement self-sustaining.

6. What Human Reliability Leaders do differently

Human Reliability Leaders do not rely on slogans. They build routines that make truth visible, action credible,

and ownership sustainable.

Behavior What it means in practice

They go to the work. They walk the asset, visit difficult corners, show up outside convenient hours, and listen to the people who live with the conditions.

They ask before they tell. They strengthen authority by learning from expertise wherever it sits.

They thank the messenger. They know the first response to bad news determines whether the next piece of bad news will ever be shared.

They close the loop. They do not collect concerns as theatre. They turn them into owned, tracked, prioritized actions.

They protect standards. They distinguish honest error, system weakness, at-risk behavior, and willful violation. No-blame language does not become no-accountability.

They create purpose. They connect daily tasks to safety, reliability, community, environment, energy supply, customer trust, and professional pride.

They build capability. They equip people to own what they are asked to manage: competence, coaching, decision rights, and routines.

They make performance visible.

They show progress, celebrate closure, and make improvement tangible.

They build systems that outlast them.

Their test is not whether performance improves while they are present; it is whether ownership continues after they leave.

Where Human Reliability Creates Value

Brownfield

Recovery

Restart

Readiness

Reliability

Programs

Asset

Integrity

Operational

Excellence

TYPICAL APPLICATIONS

Weak signals

HighHighHighStrongStrong

Field intelligence

HighStrongHighHighStrong

Ownership

StrongHighStrongStrongHigh

Closure discipline

HighHighHighHighHigh

Residual-risk

visibility

HighStrongStrongHighHigh

The common thread is converting lived reality into disciplined action.

High = primary

relevance

Strong = significant

relevance

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Leadership traps

The framework is simple. The traps are also simple. They matter because each one breaks the chain between

trust, truth, action, and ownership.

Seven diagnostic questions

A leader who wants to assess human reliability can begin with seven questions. The questions are simple. The

answers are often uncomfortable. That is why they matter.

1. What do frontline people know that is not visible in our formal systems?
2. Where have we normalized weak signals, temporary fixes, or workarounds?
3. Do people believe it is safe and worthwhile to report bad news early?
4. How quickly do weak signals move from observation to owner, action, and closure?
5. Are standards protected fairly, especially when violations are uncomfortable to confront?
6. Do our reliability processes reflect lived operating reality?
7. Does the team feel pride and ownership, or only compliance and fatigue?

Seven Leadership Traps That Break Human Reliability

1

Authority without
humility

People comply but won't
speak up

2

Listening without
closure

Trust erodes when nothing
changes

3

No-blame without
standards

Accountability disappears
entirely

4

Standards without
trust

Workarounds go
underground

5

Activity without
confidence

Busy but not reliable

6

Technical fixes without
human insight

Root causes stay hidden

7

Heroics without

system design

Depends on individuals, not
process

Each trap breaks the chain between trust, truth, action, and ownership.

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7. Human Reliability Review: a practical owner-side diagnostic

The practical next step is not a culture campaign. It is a focused owner-side diagnostic to test whether weak

signals, field intelligence, and operational risks are reaching the right forums early enough — and whether they

are being converted into disciplined action closure.

Human Reliability Review

A focused 2–4 week owner-side diagnostic for high-hazard, asset-intensive operations where leaders want to

reduce avoidable surprises by improving weak-signal flow, field intelligence conversion, action closure, and

ownership.

Diagnostic output Purpose

Human Reliability Gap Map Shows where operational truth is visible, stuck, or missing from the formal system.

Weak-Signal Flow Review Tests how concerns, recurring defects, workarounds, near misses, and unease move from field observation to decision forum.

Truth-to-Closure

Assessment

Measures whether issues are prioritized, owned, actioned, verified, and communicated.

Leadership Trap Review Identifies behaviors and routines that weaken trust, accountability, discipline, or ownership.

Reliability Integration

Check

Assesses whether field intelligence feeds maintenance strategy, bad actors, inspection plans, spares, shutdown scope, and risk registers.

90-Day Improvement

Roadmap

Defines practical interventions to reduce avoidable surprises without launching a large transformation programme.

Human Reliability Self-Assessment

Score each area. The lowest scores identify where avoidable surprises can grow.

1

Weak

2

Partial

3

Inconsistent

4

Strong

5

Embedded

Frontline truth visibility

Weak signals and workarounds
visible

Safe and worthwhile to speak

Truth-to-closure velocity

Fair accountability

Reliability processes reflect reality

Pride and ownership

Download, score honestly, and use the gaps to focus leadership attention.

Scores of 1–2 indicate priority attention; scores of 3 suggest inconsistent practice; scores of 4–5 indicate an embedded routine.

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Typical focus areas

- weak-signal flow;
- field intelligence capture;
- action closure discipline;
- reliability-process integration;
- brownfield risk normalization;
- leadership presence and trust;
- ownership and decision rights;
- residual-risk visibility.

About Jenzer Advisory

Jenzer Advisory supports leaders of high-hazard, asset-intensive operations in recovery, restart, reliability, asset

integrity, operational excellence, and disciplined execution under pressure.

Drawing on deep experience in refineries, gas assets, joint ventures, brownfield environments, maintenance

and reliability programs, and large-scale operational improvement, Jenzer Advisory helps owners and leadership teams rebuild clarity, control, and confidence where operational risk, legacy constraints, and performance pressure intersect.

Typical duration

2–4 weeks

Focus

High-hazard,
asset-intensive
operations

Human Reliability Review

A focused owner-side diagnostic to reduce avoidable surprises.

Gap Map
Weak-Signal
Flow Review
Truth-to-Closure
Assessment
Leadership
Trap Review
Reliability
Integration Check
90-Day Improvement
Roadmap

Jenzer Advisory | Owner-side support for high-hazard, asset-intensive operations.

Practical actions to reduce
avoidable surprises

Whether field intelligence
enters core processes

Behaviours that weaken trust or
discipline

How fast actions reach verified
closure

How concerns move from field
to decision

Where operational truth gets
stuck

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8. Closing note

The goal is not no problems. Complex operations will always face problems. Brownfield assets carry history.

People are fallible. Documentation is imperfect. Production pressure is real. Resources are constrained. Unexpected things will happen.

The goal is no avoidable surprises.

Avoidable surprises reduce when weak signals are visible, workarounds are understood, recurring defects are

assessed, ownership is clear, and residual risk is explicit. No Surprises is not a promise that nothing will go

wrong. It is the discipline of ensuring fewer things go wrong silently.

The future of reliability will not belong to the organization with the most dashboards. It will belong to the organization where truth travels fastest, actions close visibly, and people care enough to own the outcome.