

Leadership's Influence on Process Safety Management Performance

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AGENDA

- Leadership defined
- Corporate organizational leadership vs. PSM leadership
- Responsibilities for process safety
- Leadership effect
 - Positive
 - Negative
- Strategies for PSM excellence through leadership engagement
- Questions

CORPORATE LEADERSHIP DEFINITION

- **Corporate leadership** is the system of behaviors and decisions by a corporation's top leadership (board, CEO, executive team, senior line leaders) that:
 - **Sets direction** (purpose, strategy, risk appetite, priorities).
 - **Aligns the organization** (structure, resources, incentives, capabilities).
 - **Mobilizes performance through leaders and culture** (values, norms, accountability).
 - **Governs and assures** (oversight, internal controls, stakeholder duties).
 - **Delivers results sustainably** (short-term performance without compromising long-term health).
- Corporate leaders are trained and rewarded to “focus on enhancing shareholder value”

WHY PSM LEADERSHIP IS DIFFERENT

- Focusing on preventing and managing catastrophic incidents involving highly hazardous chemicals
- Major hazards are low-probability / high-consequence / systemic
- Prevention is less obvious: success means events that never happen
- Requires chronic unease, rigor, and deference to expertise
- Line leadership owns PSM; PSM function enables/assures



CORPORATE LEADERSHIP RESPONSIBILITIES AND PSM IMPACTS

Responsibility	Major (+) Impact	Major (-) Impact
Sets direction (purpose, strategy, risk appetite, priorities)	• Commitment to PSM • Measured Risk Tolerance • Effective Execution Strategy	• Low PSM Priority • Higher Risk Tolerance • Poor or No Planning
Mobilizes performance through leaders and culture (values, norms, accountability)	• Participatory Style and Engagement • Accountability • Shared Values	• Autocratic or Distant • Noncommunicative • Not Leading by Example • Destructive to PSM Culture
Governs and assures (oversight, internal controls, stakeholder duties).	• Direct Involvement • Risk Awareness • Structured Approach	• Disengaged • Lack of Risk Knowledge
Delivers results sustainably (short-term performance without compromising long-term health).	• Performance Driven • Sustainable Organization and PSM Management System	• Short-Term Financial Focus or Quick Fixes • Unsustainable PSM

PSM LEADERSHIP BEST-PRACTICE PRINCIPLES

- Boardroom-to-Frontline ownership of major-hazard risk
- Visible commitment + clear risk appetite
- Relentless focus on barrier health and operating discipline
- Learning culture: surface weak signals early, fix system causes



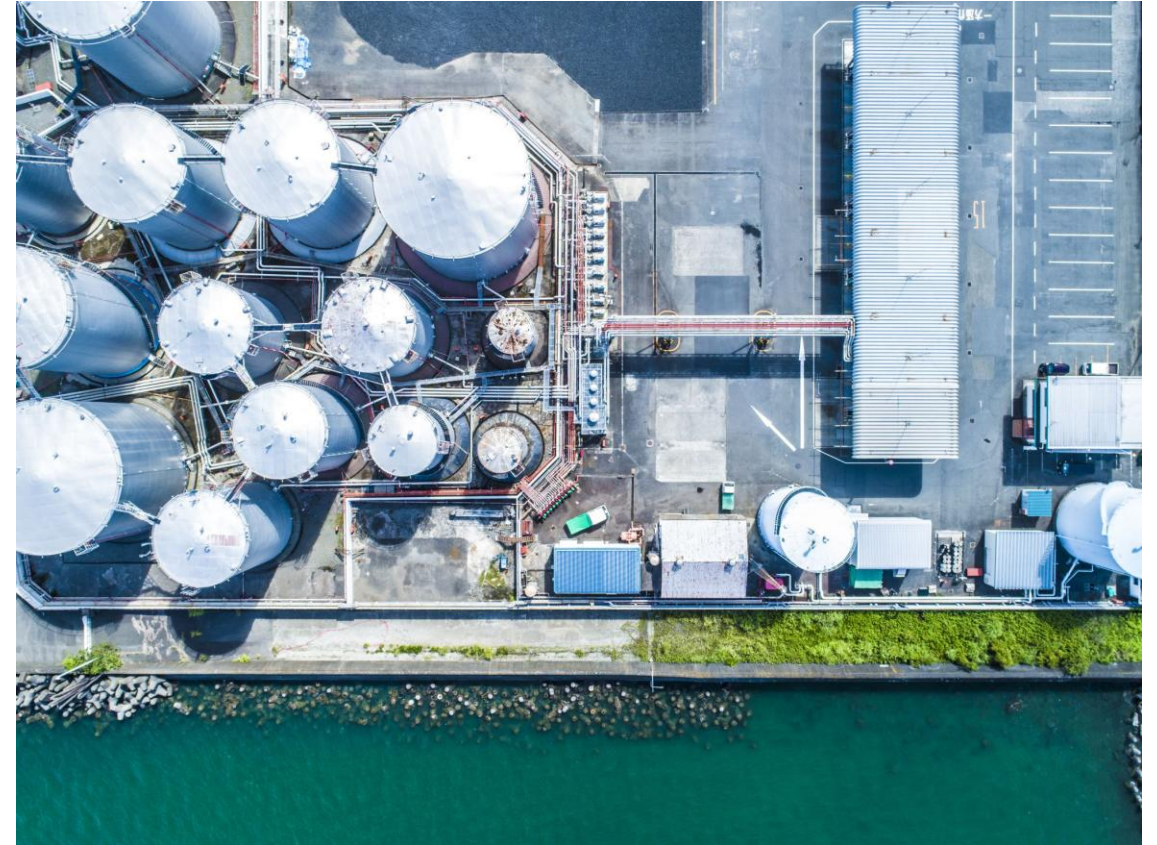
WHAT SENIOR LINE LEADERS DO

- Declare process safety a strategic value; set risk appetite
- Put ownership in the line; align incentives
- Fund critical barriers first; avoid deferrals
- Review barrier health trends and red-barrier recovery plans
- Build competence for critical tasks



MODEL OF EXCELLENCE FOR PSM

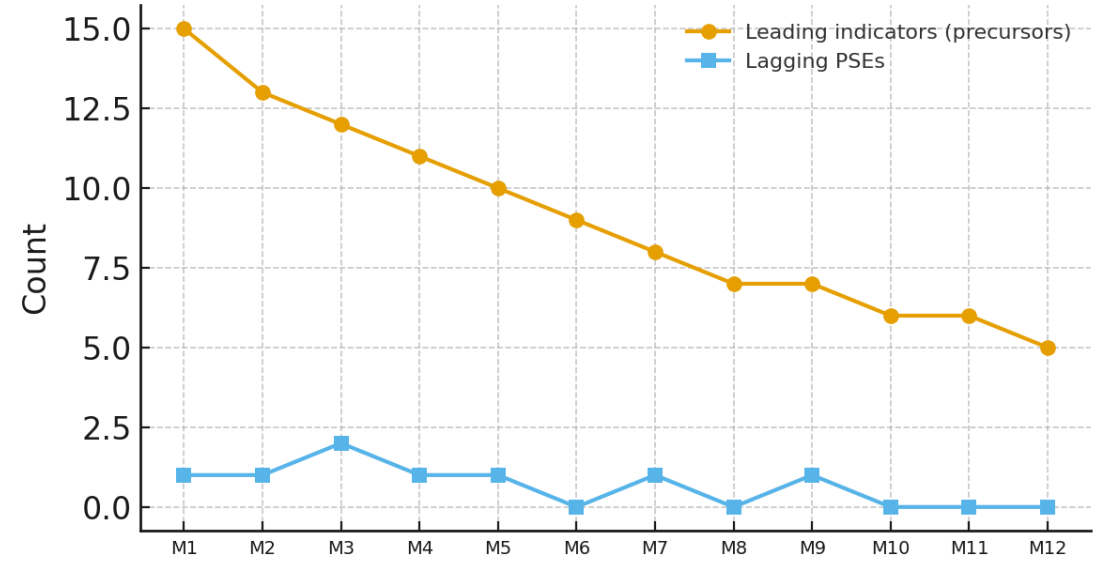
- Set direction: purpose, risk appetite, non-negotiables
- Build integrated PSM/Safety Management Systems with PDCA improvement
- Lead culture through behaviors and consequences
- Learn from weak signals, near misses, and events
- Assure barriers via leading indicators & audits



LEADING INDICATORS PREVENT TIER 1/2 EVENTS

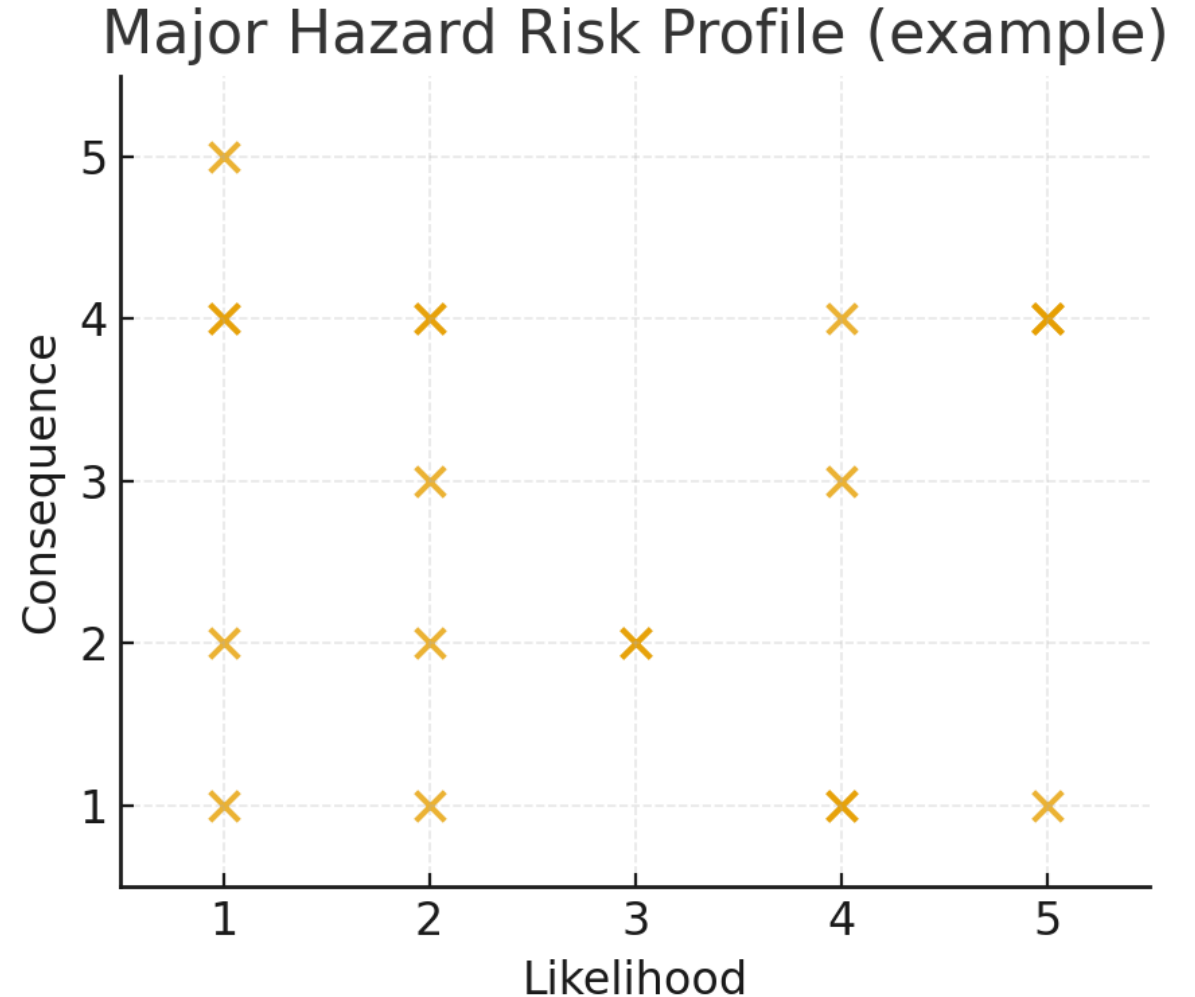
- Track precursors: MI red backlog, SIS tests overdue, alarms, bypasses, MOC past due
- Reward high-potential near miss reporting
- Use trends for early intervention

Leading Indicators Drive Lagging Outcomes (example)



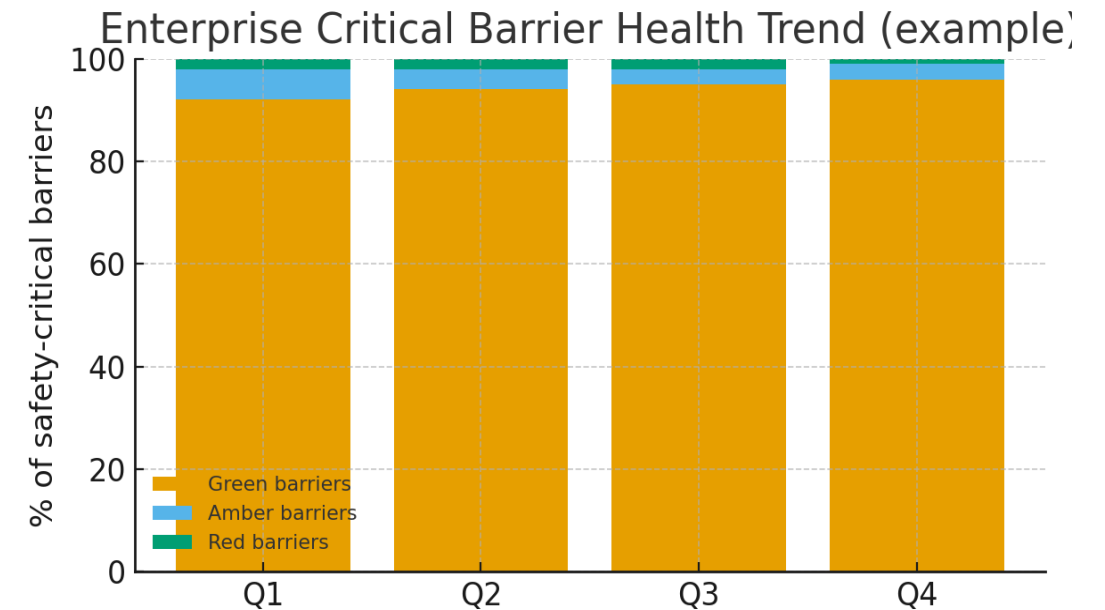
ENTERPRISE MAJOR-HAZARD RISK PROFILE

- Top MAHs identified via PHA / bowties
- Quarterly exec review of risk trends
- Resources targeted to highest-criticality risks



CRITICAL BARRIER HEALTH INDEX (CBHI)

- Enterprise view of safety-critical barrier integrity
- Green = exists + functional + effective + assured
- Amber = degraded / overdue with recovery plan
- Red = impaired barrier; requires constraints or shutdown



LEADERSHIP BEHAVIORS THAT DRIVE PSM EXCELLENCE

- Be visible in the field; ask barrier-focused questions
- Treat MI/SIS backlog like production loss
- Stop or throttle when W=3 barriers are red
- Celebrate early bad news; punish concealment
- Demand systemic RCA and verify effectiveness





PSM GOVERNANCE RHYTHM (ENTERPRISE)

- Monthly: site/unit barrier reviews chaired by line leaders
- Quarterly: enterprise CBHI + MAH posture to CEO/Board
- Annually: independent audits and scenario refresh
- Every turnaround/startup: PSSR and control verification

WHAT CORPORATE PSM MANAGERS DO

- Maintain integrated PSM/SMS and standards
- Provide MAH + CBHI visibility in business terms
- Coach leaders on field behaviors
- Own leading-indicator system & early warnings
- Provide independent assurance and escalation



A “PSM EXCELLENCE” LEADERSHIP FRAMEWORK

- In major-hazard businesses, the best-performing companies use a **Boardroom-to-Frontline** model:
 - **Governance & visible commitment** from senior leaders
 - **Line ownership** of major-hazard risk
 - **A strong PSM / Safety Management System (SMS)** that is continuously improved
 - **A culture of chronic unease + learning**
 - **Assurance through leading indicators & barrier health**

LEADERSHIP'S INFLUENCE ON PROCESS SAFETY PERFORMANCE

- **Bottom line**
- Leadership influences process safety through **priority-setting, culture, resourcing, governance, tradeoff decisions, learning systems, field engagement, and metrics.**
- The most safety-successful organizations are almost always the ones where leaders consistently demonstrate—through actions, not slogans—that preventing catastrophic events is a core value and daily operational discipline.

THANK YOU!

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