

PRINCIPLES OF HIGH RELIABILITY ORGANIZATIONS

white paper

OVERVIEW

High Reliability Organizations (HROs) are considered examples of operational excellence. They provide practical evidence of high-value performance and transferable lessons for businesses that want to reduce variation, maximize reliability, and deliver maximum value to stakeholders.

Research into HROs has typically focused on large-scale incidents in industries such as aerospace and defense, where the consequences of failure are extreme. However, the lessons learned from HROs can be implemented by any organization, regardless of the nature of its operations. The performance improvements are real and can be delivered quickly.

Recent incidents across the oil and gas industry highlight the massive impact a significant failure can have on a company's reputation and license to operate. Organizations can draw from the business models built by HROs to avoid such costly failures, deliver operational excellence, and enhance project planning performance.

Increasing legislative pressures, input cost escalations, and project cost overruns force us to consider how we can bring our organizations into a high-reliability framework.

This paper introduces the principles of a High Reliability Organization. It outlines how companies can adapt these principles to drive operating cost reductions and higher output, while maintaining the high safety environment demanded by modern workplaces. Whether an existing plant or a greenfield project, HRO principles deliver benefits that translate to the balance sheet and market valuations.

THE DEFINITION OF A HIGH RELIABILITY ORGANIZATION

HROs are organizations that conduct consistent, sustainable, and low-error operations based on informed, high-quality decision making and controls. A key to the HRO's performance is not its superior long-term, non-failure outcomes or its ability to make sound decisions that maintain reliability and consistency. The differentiating characteristic is how it goes about its business by structuring itself to 'think' and 'act' differently from its peers or rivals.

HROs maintain constant vigilance in operations by:

- Observing and tracking small failures and anomalies
- Resisting oversimplification and maintaining sensitivity to operations
- Ensuring they remain resilient
- Maintaining accountability. Employees and management are held immediately accountable for their areas of responsibility.
- Embracing complexity, which is essential to understanding and reacting to the modern world

HROs are focused on their failures; they are sensitive to lapses and errors and increase diligence when no failures are present. This leads to insights into system vulnerability.

WHAT HROs DO THAT OTHERS DO NOT

- Organize its efforts to increase the amount and quality of attention to failure and data analysis
- Engage every member and level of the organization in the problem-resolution and prevention process
- Increase alertness to detail so all people can detect subtle differences in context by examining data and looking for predictions
- Focus on what the organization needs to do to reach the performance target on a continuous basis
- Act as a 'mindful' organization; thinking and learning constantly by empowering individuals to interact continuously with others in the organization as they develop in their roles

Key to the development of the HRO is that work practices are continually revised and an overall culture of safety and reliability develops. A culture of genuine trust and shared values must exist which, in turn, promotes open data-driven discussion and delivers improvements that support risk mitigation. A goal of an HRO is to create a culture that reduces failures or variation and effectively responds when failures or loss occurs.

HIGH RELIABILITY THINKING

High-reliability principles are tools that will help organizations achieve performance and efficiency goals. They are more than improvement methodologies; they are insights into how to think about and respond to issues faced on a minute-by-minute basis, when the difference between a good result and a great result is needed.

THE FIVE CORE HRO PRINCIPLES

1. MONITOR SMALL FAILURES

Long periods of time with successful outcomes for management can breed complacency. HROs search to uncover lapses and treat these as future failure indicators. Any error or deviation is considered a warning of future danger, requiring actions to avert the trigger to a pending reduction in production, near miss, etc.

2. AVOID SIMPLIFICATION

HROs take deliberate steps to hold a more complete, detailed picture of their business and make this available for full analysis. People are primed to notice and collect more granular information. They are given accountability to explore and validate claims of success, look for correlations and causal relationships, and not discard data through statistical processing. HROs are structured to ensure time to learn and develop, which is included in the workday and reported as part of the feedback programs for staff.

TWO APPROACHES ARE OFTEN SEEN: ORGANIZATIONS THAT TAKE A CONSIDERED APPROACH DRIVEN BY THE NEED TO IMPROVE KEY PERFORMANCE MEASURES, AND THOSE THAT ARE DELIVERED A WAKE-UP CALL OR COMPELLING EVENT THAT DEMANDS IMMEDIATE ATTENTION.

3. OPERATIONAL SENSITIVITY

Frontline personnel are the connectors to the performance of the operations. HROs place equal importance on statistical and operator feedback to anticipate and predict future incidents that will affect reliability. Managers know their staff members are highly experienced in understanding how the business reacts, and operators are highly informed of the consequences that usually result from a predetermined set of circumstances.

4. STRONG COMMITMENT TO RESILIENCE

HROs have a level of resilience and redundancy so they are not functionally disabled by incidents. They are equipped to mobilize when certain parameters are reached, so they keep functioning and minimize impact. They are flexible and design their systems to be self-correcting and fail-safe. The priority is to learn from every event and improve the overall ability to respond better next time.

5. DEFERENCE TO EXPERTISE

When the HRO detects a pending event, decisions are forced to migrate to those with the highest appropriate expertise irrespective of rank and levels of approval. This ensures the best minds with the most appropriate experience are immediately applied. Once the organization returns to normal operations, decision making resumes at the formal organizational level.

APPLYING HIGH RELIABILITY ORGANIZATION PRINCIPLES

All of these principles are important, and organizations can adopt them as appropriate for their level of maturity. Organizations must develop their own definition of HRO work practices and the right operating model before undertaking a transformation to become an HRO.

Applying HRO principles should not require a major campaign or large resource investment. In most cases, high-risk areas of the business are the first to adopt HRO principles because of the intrinsic need to avoid high-impact failures. Reliability that leads to predictable outcomes dramatically reduces risk in these cases.

Another starting point for HRO transformation is the need to comply with legislative requirements or significant cost pressures caused by reliability concerns. Some organizations recognize the need to adopt HRO principles and begin in a selected area as a trial or showcase; then transfer it organically to the rest of the business.

However, to sustain HRO activity and behaviors requires an organization-wide lens to protect the plan for improvement and to ensure full integration.

THE PATH TOWARD HRO

Building a High Reliability Organization is not a one-time change; it is an ongoing method of conducting operations that requires continual reinforcement. The path toward becoming an HRO begins with a series of small steps taken by the leading members of the organization. Changing the way business is conducted requires people at all levels to lead by personal example.

INITIAL STEPS:

- Start with top management
- Conduct training and discussions
- Seek external inspiration
- Establish network/forum meetings

These steps are taken as the organization undertakes four distinct phases:

- Current state assessment
- Transition road map
- Deploy processes
- Embed processes

An organization seeking more reliable operations usually starts by considering its present work practices and undertaking an assessment.

During the current state assessment, a review of the organization's operational maturity should be conducted to establish a solid baseline

The outcome usually indicates that changes are required across:

- Organization
- People
- Reliability processes
- Operations
- Systems
- Asset management
- Supply chain

Two approaches are often seen: organizations that take a considered approach driven by the need to improve key performance measures, and those that are delivered a wake-up call or compelling event that demands immediate attention.

Building an HRO is not a one-time change; rather, it is an ongoing method of conducting operations that requires continued reinforcement. The path toward becoming an HRO begins with a series of small steps taken by the leading members of the organization. Changing the way business is conducted requires people at all levels to lead by example.

ABOUT NORTH HIGHLAND

North Highland is a global management consulting firm that delivers unique value, relevant big ideas and strategic business capabilities to clients around the world. The firm solves complex business problems for clients in multiple industries through an integrated approach and offers specialty services via its Data and Analytics, Managed Services, and Sparks Grove divisions. North Highland is an employee-owned firm that has been named as a "Best Firm to Work For" every year since 2007 by Consulting Magazine. The firm is a member of Cordence Worldwide (www.cordenceworldwide.com), a global management consulting alliance. For more information, visit northhighland.com and connect with us on [LinkedIn](#), [Twitter](#) and [Facebook](#).

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