Operational Sustainability®
Driving Operational Excellence™

Operational Safety Excellence

A Key Element in Achieving Sustainable Operations

Manage Risk.
Enhance Compliance.
Boost Profitability.

Operational excellence for the petrochemical, oil & gas, manufacturing, mining and utility industries.

www.DrivingOE.com

REV 013122

Operational Safety Overview

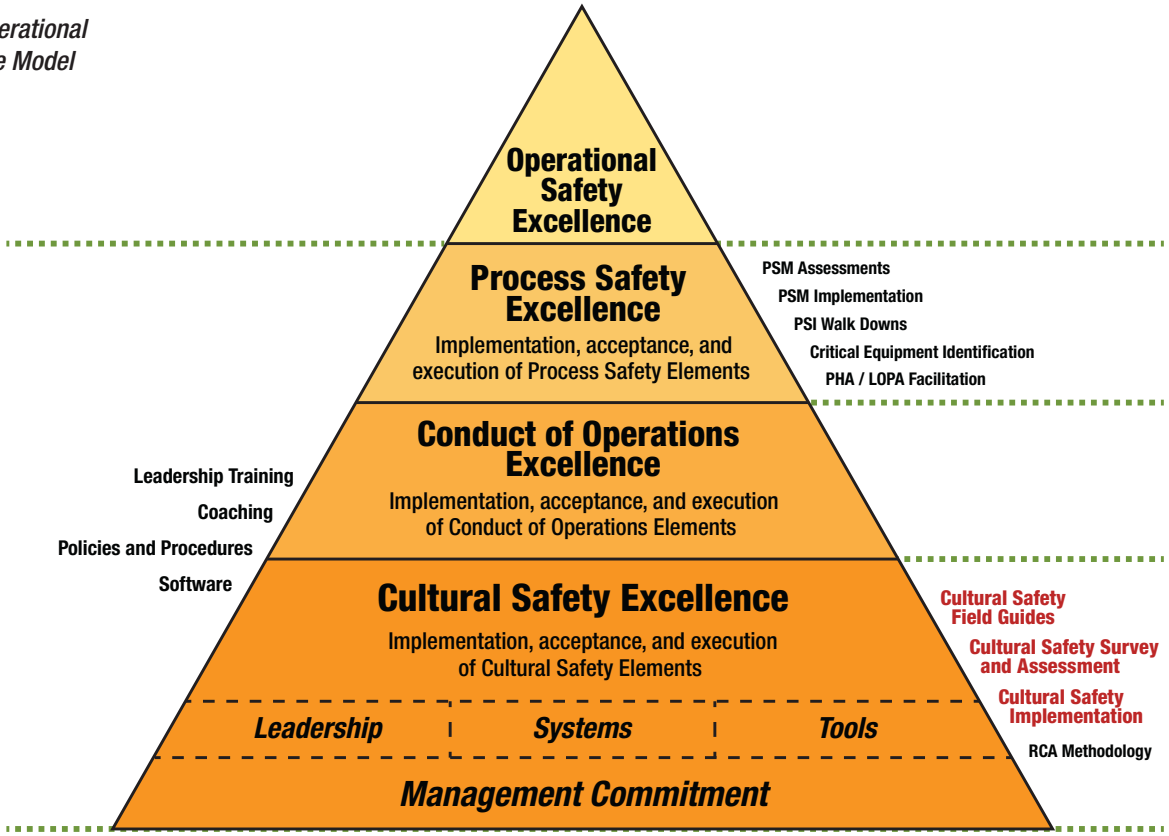
Operational Sustainability® (OS) offers a comprehensive Operational Safety Excellence methodology that integrates Cultural Safety and Conduct of Operations (CoO) with Process Safety. We offer an evolutionary program that enables organizations and individuals to understand their personal behaviors in the context of the greater EH&S culture along with a roadmap showing how improvements can be generated – and maintained – within the organization.

Implementation of EH&S management systems to date has tended to be mechanical – setting and meeting minimal requirements – but not going further. The result is performance plateaus, requiring radical new approaches to be developed in order to move forward. The question is always: How is further improvement possible? The answer is commitment by all of those involved to make improvements.

Simply having an EH&S management system does not guarantee personnel will do more than the minimum required to meet the standards. Outstanding performance and continuous improvement are only achieved when there is a culture where various elements of the management system can flourish, and exceeding minimum expectations is seen as the norm. The level of active involvement demonstrated by a fully-developed safety culture eliminates the need for a number of processes.

Organizational climate and culture is not a simple concept. *Culture* is a soft term used to describe an organization's commonly held values, norms, and beliefs. While values and beliefs may seem subjective in nature, objective descriptions can be defined for the various widely held elements and principles of cultural safety. Safety climate deals with the expectations and perceptions of the workforce.

Figure 1 – OS Operational Safety Excellence Model



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Characteristics of a Safety Culture

There are five stages of safety culture progression:

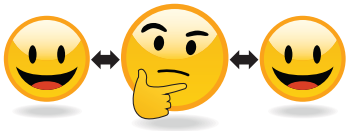
Resistive

- A safety element doesn't exist.
- Policies and procedures don't exist or are incomplete.
- Incidents are rarely reported or investigated.
- Very little safety training has been conducted.
- No leadership involvement in safety.

Basic

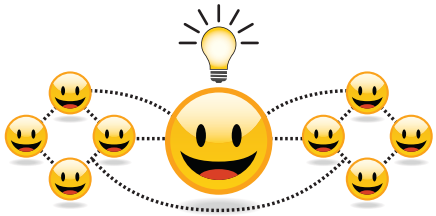
- A safety program exists, but most elements haven't been fully implemented.
- Policies and procedures are being documented and shared with the organization.
- Incidents are reported and investigated, although recommendations are not always completed quickly.
- Performance management tools are beginning to be deployed.
- Management receives some element training and drives improvement.

Learning



- All elements of the safety program are fully implemented at minimum requirements.
- Policies and procedures have documentation in place and are understood by all employees.
- An effective safety governance process is established, along with a fully functional incident investigation process.
- Skills needed for each program element are in place.
- Management is involved in each program element and drives plans to improve performance.

Advanced



- All elements of the safety program are exceeding requirements.
- Program goals and objectives and associated metrics are being monitored and reviewed, leading to continuous improvement.
- Established employee networks work effectively, having an advanced level of results.
- Each element has a designated leader who monitors, reviews, and maintains the health of the element.

World-Class

- All program elements are performing at the highest level of effectiveness.
- Results compare favorably with companies considered best in class.
- All decisions are made with safety given equal priority to cost, production, and quality.
- Employees have excellent housekeeping and organizational pride, and help each other to do the same.

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Going Further Toward Cultural Safety

Companies who achieve cultural safety exhibit five major characteristics:

1. Maintain a sense of vulnerability.
2. Informed and engaged at all levels.
3. Exhibit trust among all parties.
4. Feel leadership commitment and support.
5. Performance-driven and adaptable to changes in conditions.

These characteristics define an end-point, but do not indicate how to achieve such a culture. Developing an evolutionary roadmap makes the transition to cultural safety easier.

Cultural Safety Leads to Operational Safety Excellence

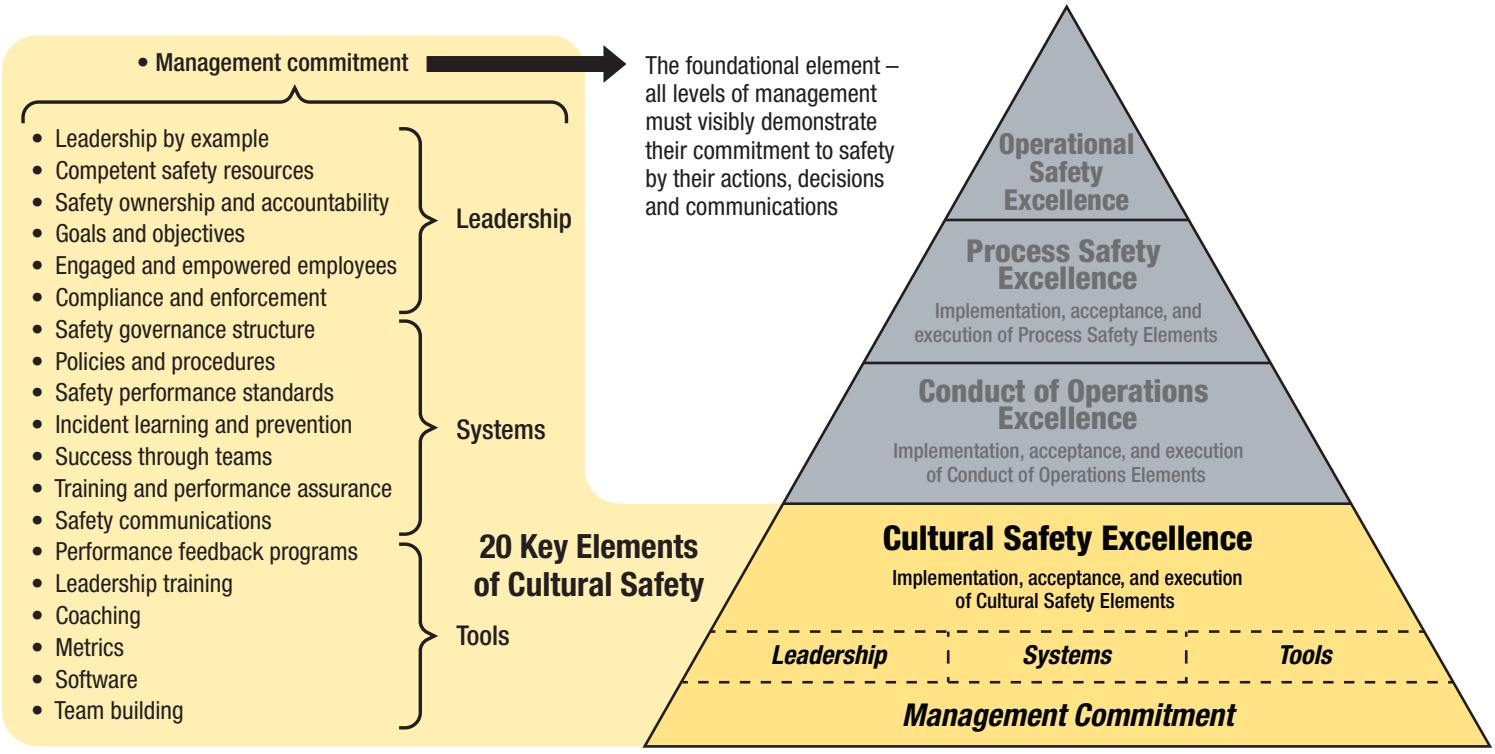

Figure 2 – OS Cultural Safety Elements

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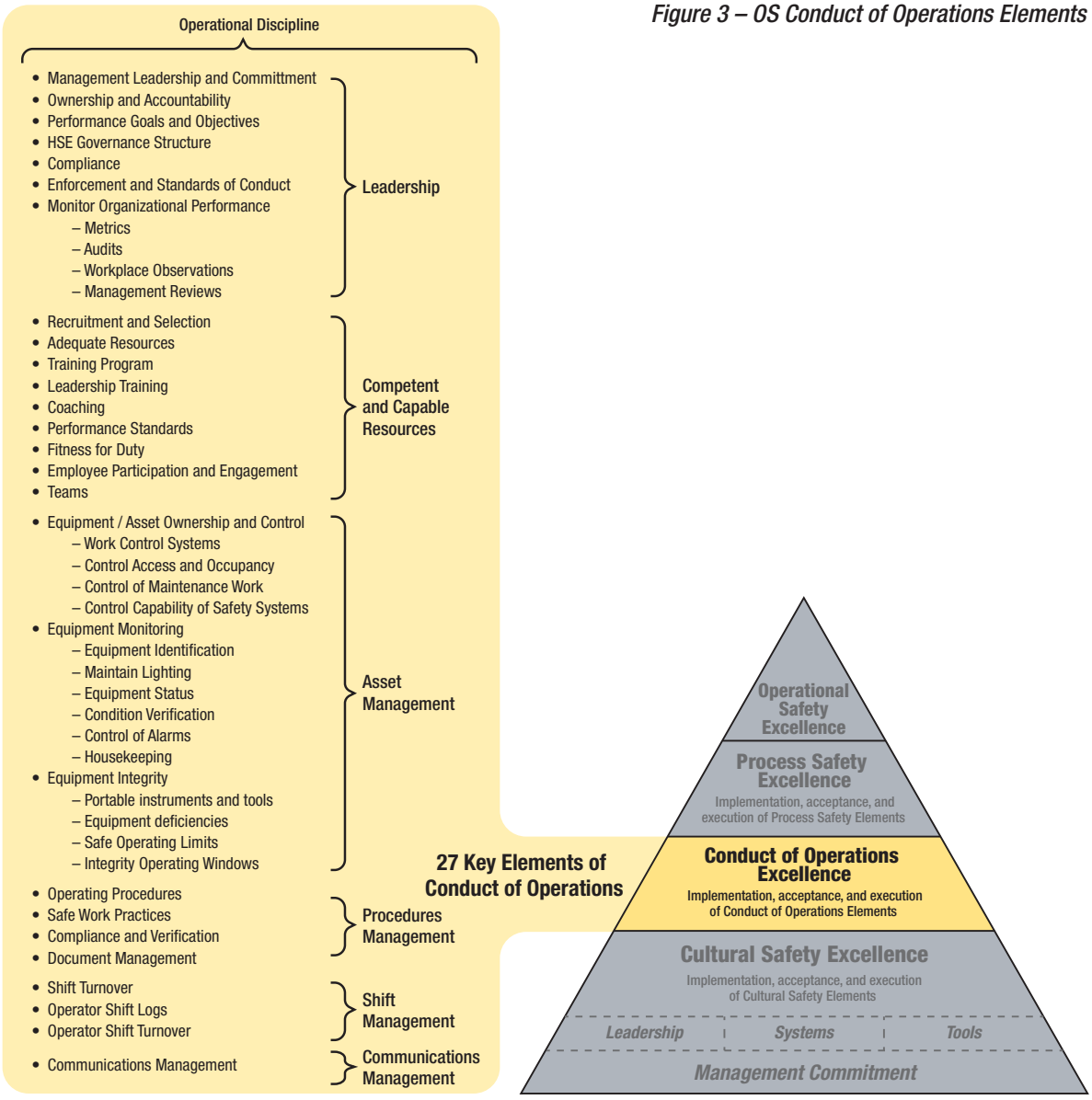
Cultural Safety Excellence Compliments Conduct of Operations

CoO is the execution of operational and management tasks in a deliberate and structured manner to reduce human error. It is a management system to ensure the effectiveness of Process Safety Management (PSM) elements by establishing standards, procedures, and methods to address human factors that lead to human error. It is sometimes called **Operational Discipline** and is closely tied to the organization's culture.

As you can see, many of the cultural safety elements are needed for effective CoO. However, CoO goes beyond cultural safety and provides additional elements to reduce human error. Together they establish the foundation for reliable, consistent, and correct execution of the policies, procedures, and practices that make up the facility's risk management system.

Figure 3 – OS Conduct of Operations Elements



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Why Cultural Safety, Conduct of Operations, and Process Safety Together?

Without executing both cultural safety and CoO, companies will struggle to implement an effective PSM system.

Process Safety requirements are only effective when the organization's safety culture is at a level where employees are fully engaged, aligned with the leadership, and are performance driven, coupled with effective CoO to further reduce human error.

Process Safety consists of the 14 elements required by OSHA. In addition, OS embraces Risk-Based Process Safety as advocated by the Center for Chemical Process Safety (CCPS).

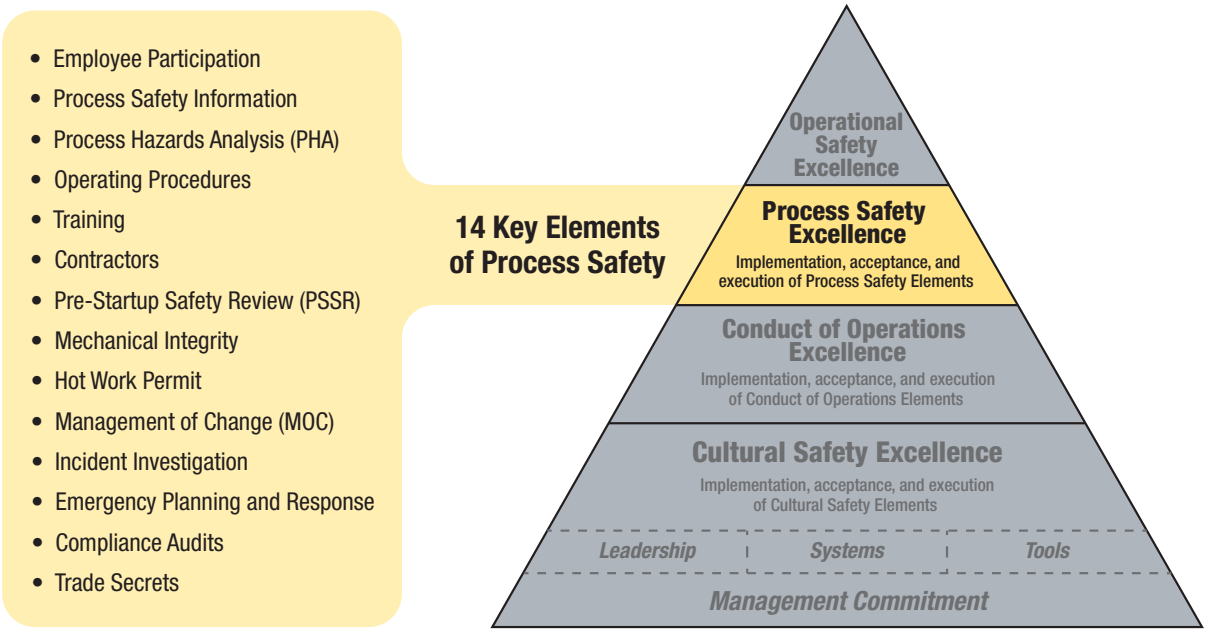

Figure 4 – OS Process Safety Elements

Companies continue to invest in safety, only to reach glass ceilings due to cultural and resource constraints. As the Total Recordable Incident Rate (TRIR) approaches 0.17 to 0.22 in world-class safety organizations, the severity of these incidents is starting to spike. This is especially troubling since safety management systems commonly used in the quest for zero incidents are widely believed to reduce both the frequency and severity of incidents. Couple this with the recent downturn in the energy sector and the retiring workforce, and companies are faced with the challenge of sustaining the low TRIR rate.

Congress recently passed a budget agreement containing a provision allowing OSHA to increase fines by more than 80% starting August 2016.* The law permits an increase of up to 82% because fines have not been raised since 1990. The rise in fines is being described as a "catch up" amount in order to account for the inflation rate from 1990 to 2015.

With the fines in place, serious citations would increase from $7,000 to $12,740, and repeat and willful citations would increase from $5,000-$70,000 to $9,100-$127,400. Based on these federal increases, state plans will also be rising in accordance.

** PL 114-74 – H.R. 1314 – Bipartisan Budget Act of 2015*

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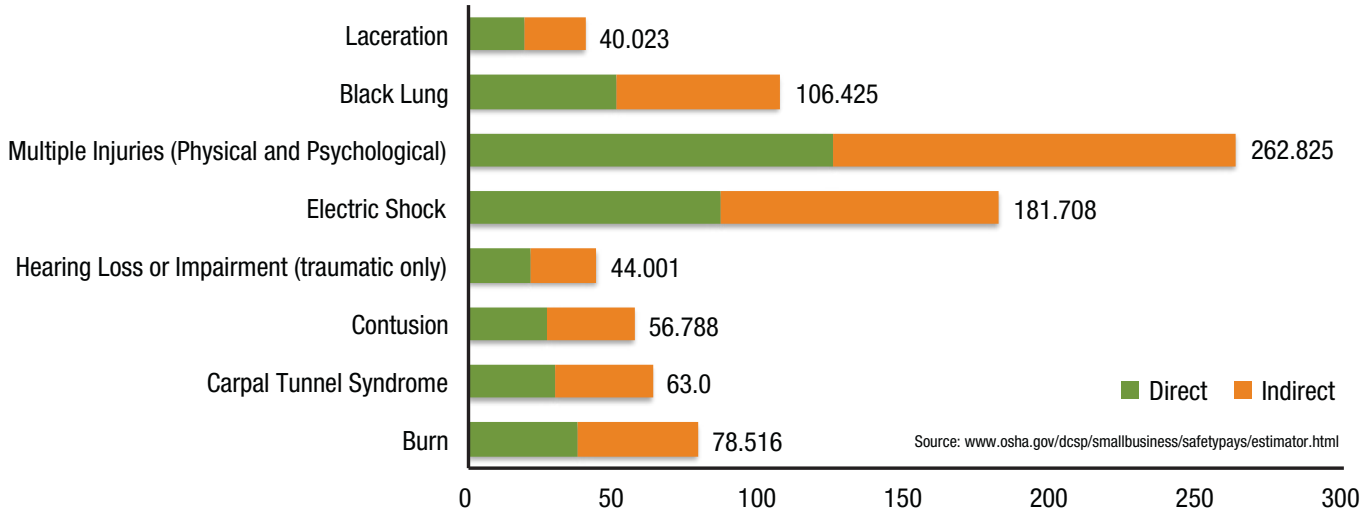
In addition to rising fines, the average direct and indirect costs for a single instance continues to rise.

Figure 5 – Average Injury Cost for Single Instance ($000)
Direct and Indirect Cost Estimates from OSHA's $afety Pays Program



Potential indirect costs not included in Figure 4 estimates:

- OSHA fines and any associated legal action
- Third-party liability and legal costs
- Worker pain and suffering
- Equipment repair and cleanup
- Lost production
- Loss of good will from bad publicity and community relationships

How to Get Started

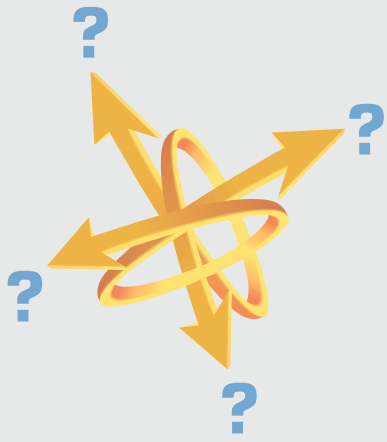
The journey to Cultural Safety Excellence begins with a Safety Perception Survey and Safety Assessment.

Safety Perception Survey

Discover your employees' true attitudes, beliefs, perceptions and values around safety

Safety Assessment

Tool to set direction and begin the journey to Operational Safety Excellence



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Safety Perception Survey:

- Ask questions
- Understand what employees think about safety
- Responses are grouped by
  - Location (for multiple sites)
  - Job classification
  - Years service
- Allows comments
- Anonymous
- Report with understanding of strengths and weaknesses and rating relative to world-class organizations
- Provides a baseline for measuring improvement
- Option to include PSM in the survey

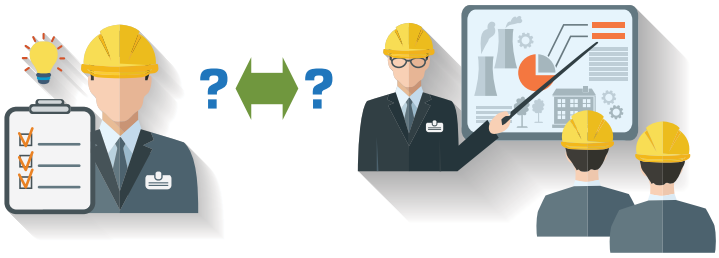
Safety Assessment:

- Onsite assessment
- Requirements
  - Provide facility safety performance data in advance
  - Consultants interact / interview employees and managers
  - Review current safety processes at the facility
  - Review high level findings with leadership
- Review and conduct an Assessment Workshop
  - Detailed review of the 20 elements
  - Review SPS survey results
  - Review assessment results showing strengths and opportunities
  - Recommend actions and programs needed to close the gaps for each opportunity
  - Option to include PSM Assessment

What is the Next Step?

Once you know what programs or actions are needed

- Begin the journey led by your own resources
- Bring in consultants to guide you
- Begin implementing cultural safety in your organization



Put Our Experience to Work

OS Can:

- Conduct the Safety Perception Survey and the Safety Assessment / Workshop
- Recommend actions and programs needed to achieve Cultural Safety Excellence
- Help you complete the implementation

OS offers its OESuite® solutions to address your cultural safety needs. The software provides your organization with tools that save time, increase management effectiveness, reduce risks, and ensure regulatory compliance.

Essential Components Included in OESuite®:

- Corrective Action / Preventive Action (CAPA) management
- Competency
- Compliance management
- Incident management
- Procedure management
- Document management
- Training management
- Audit
- Observations
- Assessment
- Survey
- Performance management

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OESuite® Modules and Applications by Framework

	CAPEX Framework	Compliance / Risk Framework	EAM / APM Framework	Ops & Prod. Framework	Process Safety Framework	PSI Framework	MI Framework	Workforce Framework	Culture Framework
Air Emissions	●	●							
Alarm / IOW Management	●	●	●	●	●	●	●	●	
Asset Analysis			●				●		
Asset Health			●						
Asset Strategy Management			●						
Audit Management **+ Mobile**	●	●			●	●	●	●	●
CAPA / Action Item Management	●	●	●	●	●	●	●	●	●
Competency Management	●				●			●	
Condition Assessment **+ Mobile**	●								
Document Management	●	●			●	●	●	●	●
Enterprise Risk Management	●	●			●				
Incident / Event Management **+ Mobile**	●	●	●	●	●	●		●	●
Inspection Management **+ Mobile**	●	●	●	●	●	●	●	●	
Inventory Management	●	●				●			
Management of Change **+ Mobile**	●	●	●	●	●	●		●	
Operator Logs	●		●	●				●	
Operator Rounds **+ Mobile**	●	●	●	●				●	
Organizational / Personnel Change	●				●			●	
Performance Management		●		●	●		●	●	●
Pre-Startup Safety Review **+ Mobile**	●	●		●	●	●		●	
Procedure Mgmt / Work Instructions **+ Mobile**	●			●	●	●		●	●
Process Risk / Risk Assessment	●	●	●		●	●		●	
Reliability	●		●						
Relief Device Management	●	●	●		●	●	●		
Risk-Based Inspection	●		●		●		●		
Safety Data Sheet **+ Mobile**	●	●				●			
Safety Instrumented Systems **+ Mobile**	●	●	●		●	●		●	
Spares Optimization			●						
Task / Compliance Management	●	●		●	●	●		●	
Training Management / LMS **+ Mobile**	●	●			●			●	●
Waste Management **+ Mobile**	●	●							
Water / Wastewater Management	●	●							
Work Management / CMMS **+ Mobile**	●		●	●			●	●	
Work Permitting **+ Mobile**	●	●		●	●			●	●

Figure 6 – OESuite® Modules grouped by Framework

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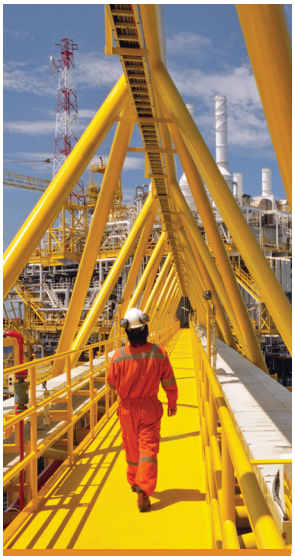
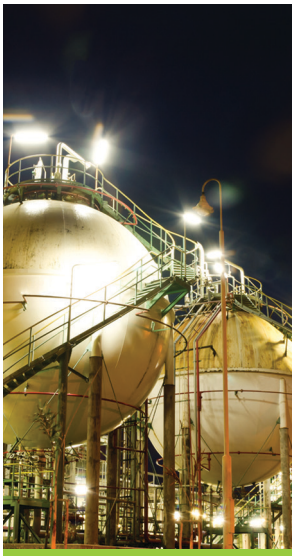
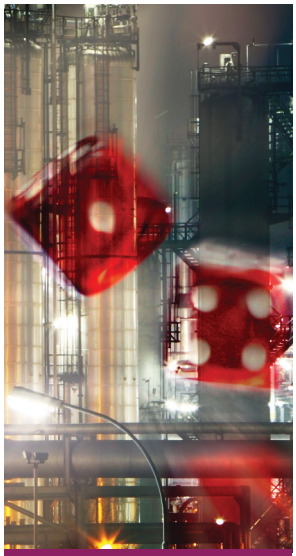

Workforce


Assets

Operations

Compliance


Risk

Operational Sustainability® makes operational excellence simple.

Succeeding in today's complex, highly-regulated industries depends on how well your company manages **operational risk** and enables **operational discipline**. Our world-class advisory services and our industry-leading cloud-based, highly configurable software work together to enable your company to achieve **operational excellence**, including OE 4.0 tenets, and sustained **operational integrity**. We identify and help you solve any issues to move to a real-time, mobilized risk-aware culture. With an average of more than 30 years of industry experience each, our advisors can design a solution tailored to your company's culture and needs.

Learn how Operational Sustainability can advise your workforce through our consulting services and support your journey to operational excellence through our OESuite® software platform. See our full slate of free webinars, white papers, detailed module information, and scheduled workshops online at **www.DrivingOE.com**.

Schedule your free consultation and demo today.

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11490 Westheimer | Suite 280 | Houston, TX 77077 | **info@DrivingOE.com**

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