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Session Number: 72 Session C: Safety in Action, EHS Management System Implementation

“Implementing a Health, Environment and Safety Management System”

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i. Introduction and Background

This paper details the journey Chevron has undertaken to implement a health, environment and safety management system. It will illustrate, based on experience, the critical elements of a management system and present a case study pertinent to all industries. Lessons learned along the way will be highlighted in the hope that others may learn from Chevron’s experiences.

Operational Excellence

Operational excellence is the systematic management of safety, health, environment, reliability and efficiency to achieve world-class performance. Chevron, as a corporation, strives to be recognized and admired by industry and the communities in which we operate as world-class.

Our OE objectives are clear -- zero incidents and zero injuries in all operations in every part of the world where we do business:

- Achieve an injury-free work place
- Promote a healthy workplace and mitigate significant health risks
- Eliminate spills and environmental incidents and identify and mitigate key environmental risks
- Operate incident free with industry-leading asset reliability, and
- Maximize the efficient use of resources and assets

These objectives help define the desired "world-class" state in each of the five focus areas, and provide strategic direction to our business units. At a local level, these objectives are used as a guide for business units to develop their own OE Objectives.

ii. Chevron's Implementation Journey

Chevron has been working to develop and implement a HES Management System over the last 6 years. Table 1 describes key milestones on this journey.

Additionally, Chevron has sought independent external review and validation of our OEMS. We engaged Lloyd's Register Quality Assurance, Inc. (LRQA) to review our OEMS against the requirements of ISO 14001 (the International Standard for Environmental Management Systems) and OHSAS 18001 (the internationally recognized specification for Occupational Health and Safety Management Systems).

The objectives of the review were to confirm that Chevron's OEMS meets the intent of the requirements of these standards, and to evaluate the extent to which the OEMS has been implemented across the Chevron enterprise.

LRQA began their review in 2004. In 2005 LRQA confirmed that the design of OEMS was aligned with ISO 14001 and OSHA 18001, and that OEMS addresses all of the critical management system elements. From 2006 through 2008, LRQA monitored the status of Chevron's OEMS implementation progress by:

- Interviewing Chevron's corporate and operating company OE leaders to understand OEMS implementation status and review future implementation plans,
- Participating in corporate OE audits of ten business units covering a broad cross section of Chevron's global operations, and
- Auditing Chevron's product stewardship process across multiple operating companies.

Table 1: Chevron’s Journey to Implement a HES Management System

2002	Operational Excellence Management System developed
April 2003	<p>Inaugural Chevron OE Forum, an internal conference for leaders. The objectives of this conference were to:</p> <ol style="list-style-type: none"> 1. Introduce tools to improve OE focus in four areas: <ol style="list-style-type: none"> (1) contractor safety management (2) motor vehicle safety (3) repetitive stress injury prevention (4) reliability 2. Have leaders already for creating successful “OE cultures” share examples and best practices 3. Introduce OE Knowledge Management networking tools

	4. Enable networking and learning across the organization
January 2004	Chevron International Upstream plan for developing standardized OE processes.
March 2004	OEMS Overview Version I released
November 2004	Global Downstream plan for developing standardized OE processes.
June 2005	OE Certification and educational modules released to improve knowledge and fluency of OEMS. Required of all line leaders
December 2005	LRQA design attestation vs. ISO 14001 and OHSA's 18001
March 2007	OEMS Overview Version 2 released
April 2009	LRQA Attestation of OEMS implementation, "We conclude that the Chevron Operational Excellence Management System meets all requirements of ISO 14001 and OHSA's 18001 and is implemented throughout the Corporation."

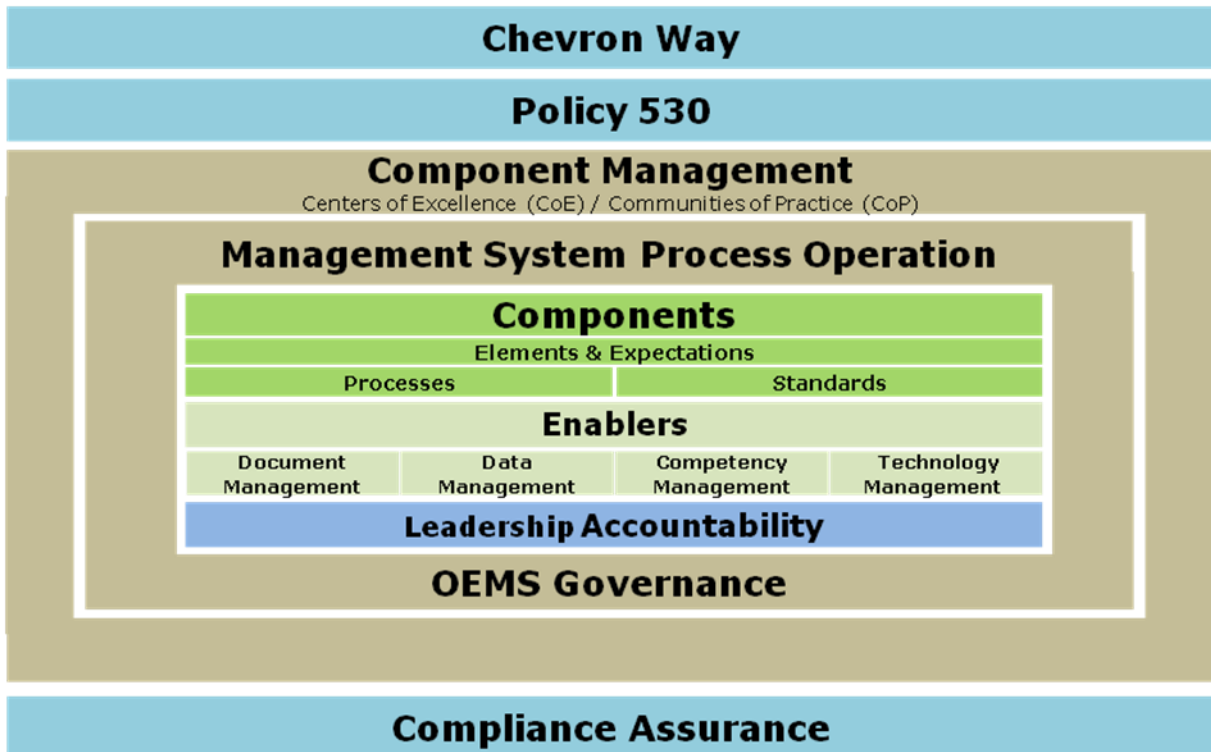
iii. Chevron's OE Framework

Chevron recently developed an OE Framework which provides a roadmap for governing OEMS at various levels of the enterprise, as shown in Illustration 1. The OE Framework is flexible and will mature over time. It helps define:

- Criteria for establishing required processes and standards
- Linkages among various levels of the organization including Corporate, Operating Company and Business Unit levels
- Decision rights for governance

- Roles and deliverables of Communities of Practice (CoP’s) and Centers of Excellence (COE’s)

Illustration 1 depicts Chevron’s Framework design.



Key elements of the OE Framework are described in the following sections.

OE Framework: Corporate Components

Chevron’s OEMS has 46 Expectations organized into 13 Elements. The OE Expectations describe “aspirational” states and set some specific requirements under each OE Element. OEMS then requires reporting units to develop OE Processes which define in detail how they will meet the requirements of the OE Expectations.

The OE Processes identify key inputs, procedures and outputs to be managed. They also incorporate relevant technical standards and references as either guidelines or requirements.

OE Framework: Enablers

Chevron has identified four key Enablers which are critical to effective operation of the OE MSP:

- Information Management - storage, management and control of OE documentation
- Data Management - data definitions and procedures to capture, manage and communicate OE performance data
- Competency Management - identification, recruitment and development of personnel to build and maintain OE knowledge and skills
- Technology Management – tracking emerging issues and developing technology to help meet OE objectives.

OE Framework: Leadership Accountability

Leadership Accountability is a critical success factor for implementing and sustaining OEMS. Leadership behaviors reinforce OE Culture and drive compliance with OE requirements. Chevron has defined leadership roles in running the OEMS:

- Executives lead, align and cascade OE messages
- Managers lead the OE MSP
- Supervisors drive the execution of OE Processes.

OE Framework: Governance

At the Corporate level, Chevron has established an OEMS Governance Board (OEGB) which is responsible for setting OEMS policy, vision, objectives and strategies; and providing oversight to the Management System Process. Under the OEGB, we have established an HES Steering Committee and a Reliability and Efficiency Steering Committee to help operationalize the OE MSP.

Our Operating Companies and Business Units have also established OE Leadership Teams to drive OE implementation and performance throughout the enterprise.

OE Framework: Management System Process Operation

Chevron's Management System Process (MSP) consists of five steps as shown in Illustration 2.

Illustration 2: Chevron's OE Management System Process



The steps of the OE MSP are aligned with our business planning process. Although the OE MSP generally runs on an annual cycle, we have found that the steps are typically not discrete activities. The Assessment, Planning, Implementation and Review steps often overlap, and some aspects of each step occur throughout the year.

iv. A Case Study – Risk Management

When companies lack a standardized approach to HES risk assessment, their understanding of risk varies. Sometimes, good tools are available but used inconsistently. This results in some risks being overstated, while others are not identified, or are understated and not adequately mitigated. This makes it difficult to manage risk across the enterprise, and may even lead to increased liability.

Chevron elected to develop a standard, enterprise wide Corporate process for HES Risk Management. This process includes standardized risk assessment procedures, but provides implementation flexibility for individual business units. It also includes governance to ensure closure of action items identified during risk assessments.

Scope of Chevron Risk Management Process

The scope of our Risk Management process covers:

- Facility design
- Facility construction, installation and decommissioning
- Operational aspects of new and existing facilities
- Facility shut-downs/start-ups
- Major modifications and maintenance programs
- Transportation and distribution of products (and people)

Areas covered in other processes and considered out of the scope of our Risk Management process include: Non Operated Joint Ventures, Security, Reliability, Efficiency and non-OE risks such as financial, project execution, political, reservoir performance and supply chain management.

The Risk Management process, like all Chevron OE Processes, includes five core components:

- (1) Purpose, objectives and scope
- (2) Procedures
- (3) Resources, roles and responsibilities
- (4) Measurement and verification
- (5) Continual improvement

In summary, Chevron's Risk Management Process requires that all existing facilities and capital projects undertake a periodic HES risk assessment using qualified evaluators and other competent personnel at least once every 5 years. It requires risk reduction plans based on these assessments which include tracking mechanisms to ensure closure of action items, with emphasis on high or intolerable risks. Risk assessment documentation is submitted to our corporate Risk Management Center of Excellence, where it is subject to a quality assurance review. Each Chevron operating company is required to submit an annual report outlining their risk management plans.

Risk Management Center of Excellence

The Risk Management center of excellence (CoE) plays an important role. The CoE has become our hub for OE/HES risk technology and organizational capability. Roles of this group include:

- Implementation support for the field
- Facilitator training, qualification, mentoring and resource coordination
- Coordination of key personnel (Advisors, Legal, Facilitators)
- Support for Opco/SBU Communities of Practice

- Tool review, updates and sustainability
- Quality Assurance of performance (facilitators, reports, metrics etc.)

v. Implementation – What does it really take?

Four aspects of implementation stand out.

First, governance must be clear. Companies must decide how decisions will be made up front. Failure to do so can result in mixed messaging to employees, and lead to unnecessary work. A framework that outlines governance and maps the components of the system is helpful as it depicts the relationships and interdependencies involved.

Second, information management needs to be addressed up front. It is critical to understand how and where documents will be stored and accessed, and to ensure the most up-to-date versions are being used.

Third, have a well thought out strategy to determine what “world class” looks like, and how good you want to be in each area. This can include benchmarking - not just within your industry, but also with other companies that are leaders in the HES field. Internal benchmarking is also important. Pockets of excellence can often be found within your own company.

Fourth, is compliance assurance. Some mechanism to ensure it gets done.

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OEMS Implementation Lessons Learned

1. **Leadership Commitment...** Much of Chevron's success is due to the unwavering support we got directly from the CEO himself. His support of OEMS and the OE MSP are now part of his legacy. Our new CEO has already committed to staying the course.
2. **Patience with a sense of urgency, recognize that it takes time...** Don't underestimate the change management piece. It takes longer than you think to build fluency and to change the organizational culture. This might be a time when you have to go slow to go fast. It's not an initiative it is cultural change.
3. **Consider your Framework...** Begin with the end in mind as best you can. It's important to have a plan and to work the plan. Think about what your organization needs to be successful. What are your highest risks? How do you know this? What are the supports necessary to build fluency?
4. **Focus on your critical few based on risk...** It is important to prioritize. This can be difficult and overwhelming at the same time. People will often champion what they believe in and what is important to their cause, so how do you ensure, at the organization level that you are focusing on truly the critical few. Risk profiles can help with this.
5. **Benchmark – internal and external...** As discussed earlier, benchmarking is a critical step that should not be overlooked. We have found value in

benchmarking internally and externally. We have also found pockets of excellence in unlikely places.

6. Be cognizant that management systems target leaders and managers...

Take care to consider what parts make sense for the employee. It's important to craft the roles and responsibilities carefully to improve the likelihood of success.

One size does not fit all in your organizational structure.

7. Stay the Course; it's a long term strategy... Organizational change takes time.

You will find yourself being challenged to react and change course when incidents occur. Having a clear vision, objectives and strategies and key performance indicators will help to reinforce progress over time. You should be prepared to defend challenges to your management system.

8. Develop, Deploy, Stabilize, and then Optimize... Allow sufficient time to

develop and deploy. Then allow run time so that the system can stabilize so you can evaluate what is working and what is not. Also, don't be surprised if performance dips, actually expect this as you raise awareness and competency in the organization. Manage the expectations of your leaders upfront and continue to reinforce these messages.

9. Factor in the Human Response to Change...We all react to and manage

change differently and at different rates. Some individuals can move quickly through the various stages of the human response to change model. It is important to build change management plans that pay attention to this and incorporate a communication plan. I have learned to expect denial, anger,

bargaining, fear and depression, which ultimately lead to exploration and acceptance.

10. **Pay attention to words...** Define the key terms upfront and be consistent. Pay attention to what the words mean so that your organization builds fluency based on a common language.