Chevron Enhances Safety Culture with Enterprise-Wide Incident Analysis and Reporting System

Chevron, one of the world's largest integrated energy companies, is renowned for its leadership in protecting people and the environment. Its proven commitment to "getting results the right way" – The Chevron Way – is enabled through an Operational Excellence Management System that is utilized at every level of the organization. Operational Excellence (OE) at Chevron entails a culture of safety and environmental stewardship that strives to achieve world-class performance by operating responsibly and applying innovative technologies to track and measure performance.

In 2012, Chevron's performance in Days Away from Work injury rates (DAFWR) and Total Recordable Incident rates (TRIR) were among the best of its peers. Between 2004 and 2012, the company's DAFWR declined by 78 percent and TRIR rate dropped 53 percent.[1]

"In 2008, the upstream side of our business set out to find software that could help with a management of change process and the downstream business began looking for a system to support incident management and behavior-based safety programs. Both sides looked at the leading systems on the market and chose *IHS IMPACT ERM®*," said Bob Bollinger, HES Global Business Information Systems Manager for Chevron. "The needs of both groups were different so we implemented two instances of the IHS system. We knew that one solution would give us the chance to use incident data across the enterprise with a common language and standard work processes."

By 2011, IHS IMPACT was implemented throughout Chevron. Nearly 6,000 employees and contractors in the upstream business and all of the downstream business' 20,000 plus workers now use the system to log and track any incident that occurs at their facilities.

"We are on a journey," said Wilfred Beijers, IMPACT Team Lead at Chevron. "It began with compliance, of course. We had to assure compliance with regulations and standards. Beyond that, however, our goal is to be a learning organization. IMPACT is a critical enabler for us to learn from our incidents and near misses. We use it as the primary data source, feeding into a data warehouse that we call DART, the Data Analysis and Reporting Tool. DART mines top-quality incident data and workflows from IHS to provide corporate-level trend analysis and reporting. Together, *IMPACT* and DART are providing us with the HES business intelligence that we need to not only provide high-level summary views, but also look deeper into the data so we can draw conclusions and take action."

By creating a unified enterprise incident management system – with DART connecting two instances of *IHS IMPACT ERM* as well as legacy incident management

The Challenge

► Enhance corporate HES performance analysis and reporting

► Strengthen incident management workflow

► Enable incident response and prevention with data-supported analytics

The Solution

IHS Operational Risk Solution™ with *IHS IMPACT ERM®*

The Results

► Established enterprise-wide system with 26,000+ users to improve incident analysis/reporting workflow

► Enhanced HES business intelligence across the enterprise

► Provided HES KPIs for quarterly and annual corporate sustainability reporting based on GRI, API/IPIECA guidance

► Continually standardizing and driving efficiency – e.g. archiving 12 systems for Management of Change (MOC)

1 http://richmond.chevron.com/Libraries/Documents/Operational_Excellence.sflb.ashx

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applications – Chevron's HES IT team can now provide the rest of the company with:

- Quality Data – Chevron developed a global data dictionary and 30 master data lists to ensure consistency. Users can easily determine, for example, the number of head vs. back injuries, or refinery vs. depot fires, and take appropriate mitigation steps. Staff can easily spot quality issues and comprehend significance of data.

- Historical Trend Analysis – DART provides ready access to tens of thousands of incident records in legacy systems, dating back to 2002, and now standardized for comparison. DART utilizes flexible cube architecture that structures incident data to optimize reporting and analysis while standardizing, caching and enabling on-the-fly data roll up.

- Transparency/Accountability – Incident data is aggregated upward to provide company managers and executives with overviews of safety performance across the company. Decision-makers have the ability to drill down into the records to view who is involved in the investigation, the root causes of the incident as well as any actions taken to prevent recurrence.

"With *IMPACT*, we have engaged employees at all levels of our organization in the incident data reporting workflow," said Beijers. "We use it to show them how to properly investigate an incident, capture team leaders' responsibilities, get managers to sign off, conduct quality reviews and all of the other things we do to manage incidents and promote learning."

When the HES team built workflows into the downstream business line's IHS system, they based it on LPS® or Loss Prevention System®, a mature and well established process. The upstream business involved managers and subject matter experts to re-design the workflow in the IHS system to add additional rigor, accountability and ability to communicate learnings.

Chevron has established the DART warehouse as a trusted one-stop source for corporate HES information. For the HES team, it is a business intelligence engine – the tool that they use to review, analyze and report on HES performance to drive continuous improvement of core business operations. Advanced reporting from DART is essential for not only assuring compliance – with a host of government regulations (e.g., OSHA), industry standards (e.g., ISO) and even stricter Chevron corporate policies – but also tracking

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HES key performance indicators for monthly and annual corporate sustainability reporting.[2]

"Our ability to capture quality data and generate critical analysis and reporting helps us highlight the company's outstanding incident management metrics to the investor community, which holds us accountable for our safety performance," said Bollinger. "Chevron's documented leadership in operational excellence has given us a real competitive edge."

For Chevron's business units, DART is a central repository for facility-level incident data from across the company that has been collected through *IMPACT*, as well as corporate-level and historical data. HES analysts use live data in DART on a daily basis. The company is currently piloting a dashboard capability that provides summary views of HES performance with charts and graphics while also enabling managers to drill down into the data mined from IMPACT and analyzed in DART, to make immediate decisions.

"With *IMPACT* and DART, we spend more time on analytics and decisions instead of data preparation," Bollinger said. "That's what you need if you want true HES business intelligence."

"On our journey, we have continually standardized HES systems and processes and we are still doing it," agreed Beijers. "As part of a new Management of Change project, for example, we expect to archive another 12 systems so there will be efficiency gains in our effort to operate incident-free - that's the real ROI."

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2   Chevron reporting is informed by guidelines from the Global Reporting Initiative (GRI), International Petroleum Industry Environmental Conservation Association (IPIECA) and the American Petroleum Institute (API.