Total Petrochemicals & Refining USA Enhances Management System Audits and Risk Assessments for Integration with Incident Reporting

A decade ago, Total Petrochemicals & Refining USA (TPRI) established itself as a global leader in risk management. The Houston-based company deployed market-leading environmental, health and safety (EHS) incident management and reporting software – *IHS IMPACT ERM*® – at all 17 Total Petrochemicals facilities worldwide to drive operational excellence and ensure compliance with industry regulations and standards. Nearly 5,000 licensed users work in the system to generate state-of-the-art reporting that helps EHS managers track incidents and response actions while proactively reducing hazards and improving work processes. The company's injury rates and costs have declined over the years and yet its leadership was not satisfied.

"We are committed to a management system approach that promotes continuous improvement," said Karen Jones, CIH, Manager of Occupational Health, Crisis Management, and HSSE IS Applications for TPRI. "We are always looking at our operations to see how we can make our business work better. That's why we also made a commitment to consolidating information systems across the company, picking the best ones and phasing out the rest. In this case, it became apparent that one small, outdated application that was supposed to facilitate the auditing protocol for our management system was actually holding us back."

The Challenges

► Simplify compliance to environmental, health and safety regulations and ISO protocols

► Overcome limitations to management system auditing and risk assessments

► Monitor the level of risk in relationships with value chain partners

The Solution

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

The Results

► Established fully enabled management system audits and assessments, from questionnaires to complex scoring algorithms for risk scoring

► Replaced outdated legacy application and initiated integration of multiple systems

► Gained ability to update management system auditing protocol questions without waiting for – or paying – a third-party vendor

► Reduced time required each month to manually transfer findings from 1,500 audit questions – from 3-5 days to a few hours

► Positioned new system as framework for future risk-ranking of value-chain partners as required for ACC Responsible Care compliance

The legacy software's auditing protocol included more than 1,500 questions but, because it was a proprietary product from a third-party vendor, the TPRI team could only add, edit or delete questions by submitting the change to their vendor so the vendor could make the changes (for an hourly fee) and return the database afterwards.

"It was such an ordeal that we almost never made changes over the years, despite the fact that our management system continued to evolve," explained Jones. "Even when we did not want to make changes and everything was 'working,' the whole process was inefficient. We had to cut and paste audit findings from the legacy system into *IMPACT*, and then do extra quality control on that manual data entry, before we could assign and track our corrective actions or proactive risk reduction measures to completion."

In 2010, the problems increased when the entire company upgraded its IT infrastructure, by switching to a different operating system. The legacy auditing tool developed a series of functionality problems and the team decided it was time for a new strategy.

"We wanted to be in control of our destiny," said Jones. "We wanted to be able to make changes to our audit protocol questions ourselves and get the audit results into *IMPACT* automatically. We talked about doing serious customization inside of *IMPACT ERM* but it looked like that was going to be difficult. Then we got a call from IHS. They had checked to see if we could get the capabilities we needed in another product called *IHS Stature*®. When they showed it to us, it was beautiful – I got goose bumps! The only question was how we could get the results into *IMPACT*."

TPRI: Audits, Risk Assessments and Incident Reporting

Jones and the IHS experts came up with a plan. First they would use *IHS Stature* to support her company's management system auditing needs as well as improving their risk assessment capabilities by providing a central knowledge base where lessons learned and best practices are stored and shared. Later, when the next version of *IHS IMPACT ERM* was released, they would streamline the process of making the information actionable by integrating *IHS Stature* and *IMPACT*.

The TPRI team's interest in integrating *IHS IMPACT ERM* with *IHS Stature* fit well with new guidance from the newly formed Total Refining & Chemicals Branch. The leadership in Paris/Brussels had recently launched a major initiative called MAESTRO that is intended to converge multiple HSE business processes, procedures and programs into one management system. When Jones proposed integrating the IHS systems, they approved the project and watched as it moved forward.

"We have configured *Stature* for our management system audits, and validated that the configuration will work for the new MAESTRO management system. We are also moving our process safety studies – which we previously did with another IHS tool [*IHS PHA-Pro®*] into *Stature* because that's what it's made for," Jones said. "Additionally, our goal is to be able to track anomalies – for example, near-miss incidents such as a hose hanging over a curb that we discover during a housekeeping audit or perhaps a finding in a process hazard analysis, or even just a document that is out of date – we want to track anything that, without controls in place, could become an incident. I need to get all of those into one system, IMPACT, so we can develop action plans and generate the reports that are required for compliance and corporate sustainability."

By working together closely on this project, Jones believes that the IHS and TPRI team is making good progress on the system integration.

"Later this year we expect to be importing everything into *IMPACT* automatically. It will be so much faster, easier, more efficient and more accurate when we can get everything all in one place without this extra burden of transferring information," Jones said.

The TPRI team expects to achieve major efficiency gains as the integration proceeds. They have already eliminated the need to wait for the vendor to update questions in the legacy system's auditing protocol. And Jones believes that the team will no longer be required to spend an estimated 4 hours to 2 days

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depending on the quantity and complexity of audit findings) manually cutting and pasting answers from one system to another in order to compile data needed for weekly and monthly reports, since that entire process will now be automated and should only take a few hours. Equally important, because it is only entered once, data integrity will increase while time previously required for additional quality control steps will decrease.

In the next phase of their enterprise risk management system integration project, the TPRI team plans to support auditing of the company's "value chain" partners, as required by the American Chemistry Council's Responsible Care program. With IHS audit capabilities, TPRI team will be able to monitor their partner relationships and risk-rank each partner based on audit findings. They also plan to look at the possibility of addressing another category of risks by enabling the IHS system to support Security Vulnerability Analyses (SVAs).

The TPRI vision for its risk management systems and continuous improvement of its business operations has also been informed by the role that Jones and others have played in the ground-breaking IHS CERA Operational Excellence Forum. By participating in its pilot study, which collected and analyzed data from 14 companies – including millions of records managed in the IHS Operational Risk Solution – the team has been able to start benchmarking TPRI risk management performance in relation to industry peers.

"This project will help us simplify our risk management processes so we can be more efficient about ensuring compliance and continuously improve our operations. We knew that using an integrated IHS risk management information system was a step in the right direction and that it is right in line with the Refining & Chemicals Branch's strategy for convergence," Jones concluded. "We wanted to be in control of our destiny and now we're on our way."