



Creating a Company's Environmental Culture to Improve Performance in the Energy Industry

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Over the past two decades safety has become a core value within most sectors of the oil and gas industry. With increased understanding that, in many cases, safety and the environment go hand in hand, environmental training courses are now being developed just as safety programs were in the past. Many energy companies now have both a dedicated Safety and an Environmental Compliance Directors. Moreover, environmental performance recognition and awards now are being given as industry seeks new ways to encourage better protection of the environment. However, “Environmental Culture” is not where it should be in most companies. The reasons vary, but perhaps the three biggest obstacles are: **(1)** the lack of understanding what environmental culture means or should look like, **(2)** senior management of many companies have not bought into, or do not recognize the critical role they play in creating such a culture; and **(3)** a full recognition that having a safe and environmentally responsible operation is good business – it impacts the bottom line.

Unfortunately, policy makers and the public do not always speak the same language as the O&G industry. We are poor at interacting and engaging the public and even worse at guiding public policy in the right direction.

What are the bottom line issues; what tools are needed; and what barriers must be overcome to create an effective corporate environmental culture?

This presentation will address these questions through the lens of the Environmentally Friendly Drilling Program, a multi-disciplinary team dedicated to improving environmental performance and public awareness. Recommendations will include ideas and tools needed for management teams to build a strong culture of environmental awareness, which is critical for organizations developing energy resources in environmentally sensitive areas.

The **Environmentally Friendly Drilling Systems** (EFD) Program began in 2005 and has been collaborating with industry, government (DOE and RPSEA) and environmental organizations to identify, integrate and demonstrate current and new technology into land-based drilling systems for compatibility with environmentally sensitive or off-limits areas.

Why create something called “Environmentally Friendly Drilling?” We did it because we believe new technology will help meet the U.S. energy needs for the next century and, at the same time, reduce the environmental “footprint” of oil and gas operations. Beyond the new technology, this program has recognized the importance of public perception and has been involved in a variety of outreach efforts. EFD is managed by independent, non-vested organizations that are perceived by stakeholders as source of objective and accurate information; as we have observed the industry has a terrible credibility problem.

The EFD Program has taken a systems approach to the integration of currently known but unproven or novel technology in order to develop cost-effective systems that enable drilling and production operations and activities to reduce the overall environmental impact. The next phase of EFD starting in 2012 is the **Technology Integration Program (TIP)**. This program focuses on demonstration, documenting and reporting the results and also recognizes the need to include the development of a successful corporate culture for environmental performance.

The goals are:

1. **Speed the commercial development** of technology developed through RPSEA programs.
2. Create an **organizational structure** that includes a network of regional centers that facilitate and coordinate field deployment of such technologies and document effectiveness of field operations.
3. **Perform field trials** so that results could be evaluated efficiently as to benefit both the industry, the organizations with the technology, and the public sector.
4. **Document and provide the results** of technology field trials so that promising processes, systems and products could be utilized in a wider range of unconventional natural gas plays.
5. **Emphasize programs that reduce cost and improve performance**, lessen the environmental impacts, or address the societal issues associated with unconventional natural gas development.
6. **Include and report on safety improvements in the planning/demonstration of technologies**, emphasizing technologies that foster a culture of health/safety/environmental protection.

In 2012, we are also initiating the EFD **Coastal Impacts Technology Program, EFD-CITP**. The EFD-CITP funded through the State of Texas and the US Fish and Wildlife Department. The CITP is a comprehensive program that identifies environmentally friendly technologies, implements the technologies along the Gulf Coast, measures the effectiveness of the technologies to conserve, protect or restore the natural coastal environment, and educates the workforce. The goal is to provide a program of research and demonstration that may lead to commercial application of technologies that will reduce the environmental impacts of unconventional

natural gas and other petroleum exploration and production activities along the Texas Gulf Coast.

Data collected in a number of EFD-sponsored key informant and general population studies have documented that we must *earn* the right to develop oil and gas resources from landowners, the public, elected government officials, and regulatory agency personnel. Findings from such studies indicate that the public will accept and support responsible development. However, the public will not accept excessive traffic, dust, noise, pollution of the land and water, destroying public roads, poor choices in well sites, roads, compressor stations, tank batteries, drilling locations and from “visitors” who do not respect their community.

Opponents of developing natural gas resources, even in an environmentally responsible manner are vocal, organized and well-funded. They come, in most cases, from predisposed positions by government officials, extreme environmental organizations and citizen organizations.

The failure of oil and gas industry associations to adequately inform and engage all stakeholders is because of poor public perception of the oil and gas industry and because we have learned that a small percentage of companies do not practice proper environmental safeguards in their operations. The “license to operate” is thus compromised.

Most companies are aware that minimizing their environmental footprint is crucial to reducing environmental liabilities, controlling operational costs, and encouraging public acceptance for the sustainable development of the U.S. natural resources. This effort should go well beyond just complying with regulations.

No doubt your employees or co-workers today understand why safety is important – if your company and employees do not practice a good safety culture, someone will screw up, and they will get hurt or die; industry has done a good job of educating their workers to operate in a safe manner; but odds are they do not understand the same thing about the environment. Do they understand the impact? Or do they think what they do (this can be a culmination of little things - give examples) may only possibly impact some other person they do not know.

For example, while there are certain restrictions for habitat protection, and in some cases complete prohibitions that prevent drilling in many sensitive areas in the United States, some companies have developed best practices that exceed what is required and have created innovative ways to use pad drilling, central water handling facilities, “disappearing roads”, waste minimization, and noise and site barriers. These innovations need to be reported and replicated. This will lead to added access, more production, improved public perception and **cost savings.**

The idea of the need to develop an environmental culture plan gelled for us when Rich Haut and I attended an IADC HS&E conference a couple of years ago. Most of the talks were on improving safety through improved hiring practices, training and processes. Safety Leadership was a pronounced theme. Clearly management has made a commitment to instill a culture of safety in their companies. These companies have made investments and the results have been telling. We also observed that reporting, bench marking and peer review were important. We saw a presentation based on a book “Safety 24/7 Building an Incident-Free Culture” by Gregory Anderson and Robert Lorber. We recognized this is the type of tool that is successfully being used for improving safety performance. We believe it could be adapted and used to develop the same successful environmental culture – an easy to read and understand “get everyone on the same page” book, define the terms, and tell a story that would initiate and reinforce the process. This provides a foundation for coupling safety and environmental training. So our objective is to develop the sequel, Environmental 24/7 – developing a culture of environmental responsibility and accountability. The target audience includes Executive Teams, Supervisory personal, the person on the rig floor including the entire well construction subcontractor team; in other words everyone who wants to understand how behavior impacts at the IADC HS&E Conference last May in Trinidad and it is evident many companies are moving in the right direction.

Environmental 24/7 will be the sequel to **Safety 24/7—Building an Incident-Free Culture**, which is a fictional story of a manager in an organization plagued with injuries and fatalities who is given 120 days to create a culture of safety.

Environmental 24/7 takes the fictional story to the next level by demonstrating many of the principles used to successfully change people’s behavior toward safety are key to developing a culture of environmental responsibility and accountability.

The second leg is to develop a measuring stick. “What gets measured gets done.” Organizations in other industries have done this with success. The EFD program has since developed “an initial” version of a scorecard based on the U.S. Green Building Council process. We recognize that it must vary depending upon the ecosystem and it will evolve after being “field tested” which we plan to do this summer (2012) in different regions of the U.S. with different operators. This scorecard will measure environmental tradeoffs associated with implementing low impact drilling technologies, ensuring the development of reserves in a safe and environmentally friendly manner. The scorecard assesses drilling operations and technologies with respect to air, site, water, waste management, biodiversity and societal issues. The scorecard is a foundation tool for companies to evaluate their own operations and also to compare them to industry best management practices.

Our motto -- “What can be measured, can be changed and what can be changed will benefit the bottom line measurements of cost effectiveness, environmental accommodation, and societal acceptance”.

The third item we identified is for a company to identify and develop a set of best management practices (BMP) that they can use for their own operations, employees and importantly for their subcontractors. The EFD program has invested in the development of a regional BMP project (i.e., the Intermountain Oil and Gas BMP Project) at the University of Colorado Natural Resources Law School, and we have initiated another effort in the Eastern U.S. Marcellus and Utica Play region. All documents will be web-based and publicly available. These BMPs could be adapted by any company.

Don't wait on the E&P Company

While sustainable development of petroleum resources requires careful planning and monitoring of operations over the life cycle of a development, from the initial planning through drilling and decommissioning, unless the service provider is invested and committed, the planning and good intentions may never be implemented. It is easy to say the operator is responsible; we should not say that service companies/contractors cannot or should not “drive the train” when it comes to protecting the environment and to foster their clients environmental performance. (give example - when I worked for Noble Corporation, led by Jim Day, the company did just that. They developed an annual sustainability report (accountability - what gets measured gets done), equipment vendor specifications exceeding EPA emissions requirements, a no waste discharge policy, a program to reduce fuel use and an environmental culture that ranged from recycling, giving back to the community and leaving the world better than before. This type of corporate culture is also seen first-hand you visit the Noble Foundation in Ardmore, Oklahoma where hundreds of millions in industry profits have been invested in one the most outstanding land management and restoration research organizations in the world. This epitomizes a culture of environmental responsibility.

To assure the operator, contractors, and subcontractors comply with BMPs, companies can work together to consider modifying contracts to make sure that their practices are followed and that there are adequate incentives and penalties. A scorecard and corporate BMPs could be used as a template for such an agreement. The good guys will want to hire the contractors who comply and those companies will be most profitable.

Land-use policies of federal, state, and local governments have not always kept pace with technological advances that allow for exploration and production while protecting environmentally sensitive areas. Technical advances have reduced the number and size of onshore drilling sites and production facilities. The federal government has continued to set

federal lands off-limits to development through legislation, executive orders, and regulatory and administrative decisions without acknowledging these advances.

Having a collective effort that has the potential to “lighten the impact” of oil and gas drilling in environmentally sensitive areas such as coastal margins, National Forests and Parks and other public lands is extremely important. Only by setting environmentally responsible standards which *should be identified and proven by industry* can managers protect the environment while providing access to these resources.

While there may be technologies available to accomplish environmentally acceptable drilling and production, they have to be proven to be accepted. But we also believe they will never be fully applied unless a company has committed to the development of an environmental culture.

Our initiative is one of many and we are faced with managing the effort with limited budgets and resources, and with more challenges than solutions:

How do we measure risk of environmental practices?

How do we develop a chart like the IADC safety record that shows a measure of our improvement?

What are the tools necessary for developing the culture and how do we convince your CEO this is the best investment he has ever made?

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