

STRATEGIC ASSET MANAGEMENT INTL. LLC

25 NEW BRITAIN AVENUE
UNIONVILLE, CT 06085
+1 (860) 675-0439
WWW.SAMICORP.COM
INFO@SAMICORP.COM



Getting to Operational Excellence Shell E&P Case Study

by S. Bradley Peterson

It is not enough to do your best; you must know WHAT to do, and THEN do your best.

--W. Edwards Deming

The results are excellent! Direct costs are down by nearly 20%, and cost leadership maintained. Deferred production has been reduced from 11% to less than 6% (including planned outages). The business case of nearly \$250 million (\$50 million per year) over five years was nearly doubled in the rate of improvement.

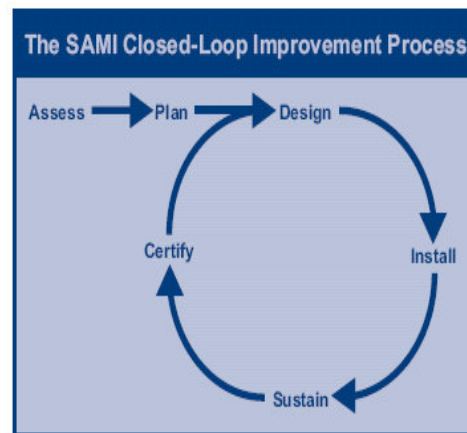
Shell's dilemma: how to assure asset integrity, spend less doing it, become predictable in production, and maximize production output. What drove their interest in early 2002 when we first met with them?

A new Vice President of Production had taken over the North American operations. Although Shell Exploration and Production was already first quartile in costs in the Gulf of Mexico, he wasn't satisfied: long-term integrity was a concern on some platforms, costs were higher than he thought possible, and deferrals (barrels available but not produced) suggested improvement. He charged his Manager Operations Services- EP Americas, with improving platform maintenance and production, once and for all.

This was a tough challenge. The Corporate Maintenance Manager told us he had tried several times in recent years to roll-out an improved maintenance process, to no avail. Having been assessed 7 times in the prior 5 years, with all results pointing out the same gaps, he knew the core issue was one of "optionality." Platform Operations Managers were busy, and had been confronted with a long list of "#1 priorities." Maintenance improvement was just one more important activity that would be hard to get to.

Deming would always ask his clients "By what method?" they would intend to accomplish a goal. It's surprising how often in business an idea becomes a goal without a resourced plan. "Just get it done!" is the exhortation by leadership. In fact, everywhere we go we find our prospects discussing how they would love to engage with us, but they have "initiative overload." Unless this overload situation can be resolved, there will be no progress!

Over many years of reviewing consulting successes and failures, we have been sharpening a model that is nearly always successful. We call it the SAMI closed-loop improvement process, illustrated below.



Assess and Plan. Getting people engaged for change is the first step, and we do this through the Assess and Plan step in the Closed-Loop Process. Among the outcomes of the step:

- Creates a strong emotional gap
- Engages operating management to plan the future
- Develops a functional operating vision of the future
- Creates a forum for agreement
- Creates a multiple year road map
- Identifies expected value of change
- Develops a detailed plan of delivery
- Develops detailed goals by BU
- Aligns leadership!

First we must understand something that is a bit of a mystery for most: change doesn't happen because of understanding or knowledge. Change happens because of PASSION!

The human is likened to an automobile. We steer with our minds, but the drive train is our emotions. If we want change, we must feel strongly about it. And what feelings might these be? The feeling of pride in what we do, and looking for praise is a positive way to approach things, and can lead to success. Caring about our co-workers, wanting the team to perform at a peak capability, loving the business we are in and wanting to perpetuate all the good that is inherent in it—these are excellent motivators for change.

In the Operational Strategic Planning phase, we create a forum for middle managers to review their common progress and gaps, and to decide collectively whether they will address the gaps. This is much more positive than a top-down directive. They develop an emotional bond to “go and get this fixed once and for all.”

In Shell's case, a limiting field factor was “initiative overload.” Just too many good things to do! We helped them look at what was on the table, what was real, and what could be combined. In the end several major initiatives were combined into a single implementation plan, and a single implementation team was set up to help them.

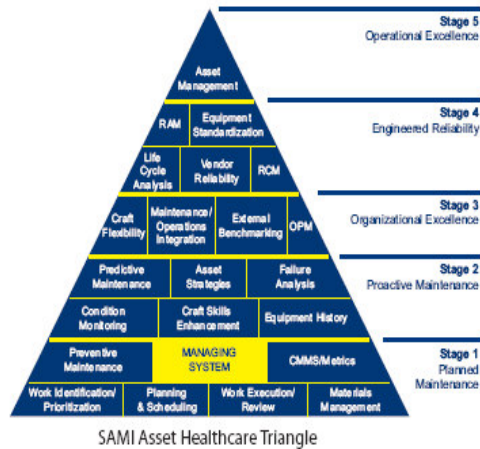
In addition to the maintenance improvement initiative, Shell had engaged Celarent Consulting to work on production improvements. While SAMI and Shell were completing our Strategic Plan, the Celarent effort was finishing their pilot program. These elements were combined to make STARS. It can be somewhat unnatural for two consulting firms to work together; this was assisted by having exactly the same measures on our scorecard, and an incentive contract that was paid on the same basis. Shell did an outstanding job of helping us all work as a team, and the STARS benefits were a result of all three parties' best efforts.

Finally, we constructed a compelling business case. It was detailed and owned by the middle managers who had to deliver it. The CEO of Shell E&P US Region said to his team, “There isn't anywhere in Shell where we can invest \$10 million and get a return of \$250 million [increased cash flow over 5 years]. If you have any questions about your support for this initiative, please come see me.” Needless to say, everyone understood the importance of this effort.

Design. What were we going to design? How do we organize our efforts?

One of the most valuable aspects to Shell, from what SAMI contributed, was the logic and simplicity of our model for Asset Healthcare (maintenance). The Asset Healthcare Triangle (renamed for the STARS [SEPCo Total Asset Reliability Solutions] project as the Shell AHC Triangle)

helped them see where they had gone wrong in the past. Too much emphasis was placed on higher level activities without having the enabling base of the triangle in place. So the design objective was clear: Stage 1 activities, driving change. In most major companies we visit, there is a “Book of Maintenance Processes.” This was true of Shell too. But by bringing a team of strong field leaders to an 8-week design and validation project, they added to and modified for an outstanding system that would really work in the field. The team of maintenance planners and supervisors was chartered to decompose and reconstruct “the Shell process.” At the end of the Design phase, the team was absolutely convinced of the necessity to implement the new work processes in the field. They were on fire, with passion! We set up the next step, “Install,” so that these passionate team members could become the Champions to deliver the training and coaching.



A quote from Margaret Thatcher might reinforce the point: “Look at a day when you are supremely satisfied at the end. It's not a day when you lounge around doing nothing; it's when you've had everything to do and you've done it.” This was the constructive view of the design team for the new processes. Outcomes of the Design included:

- Work process details, including training, SAP revisions, roles and responsibilities, etc.
- Multifunctional team, 1st/2nd line engagement and empowerment
- Integration of all inputs into a workable system
- A scorecard with key performance indicators and targets
- PASSION about the system and the need to change
- Team members become Coaches

Install. We find that some companies think implementation is complete when the training is completed. For us, implementation means when the desired behavior has been firmly established, and the renewal processes have been developed. Install is only the first step in implementation. One must Sustain and Certify to achieve a lasting result.

The Shell installation began with training on process and tool revisions developed by the Design team. This training was the easy part, the real work begins with coaching the “20 year veterans” on this new and better way of working. The success of Stage 1 improvement always hinges on the ability to plan and schedule with discipline. Many hours were spent, on- and off-shift, individually coaching schedulers to embed the techniques and the disciplined behaviors required to better manage the platform resources.

After the endless retorts of “but we’ve been doing it this way forever,” the operators and maintainers were coached on the new expectations and behaviors required not only to execute the work, but also to document their actions. The Shell Champions were diligent in their explanations of why the changes were required and communicated the need for patience to see results.

The STARS Owners Group (SOG) was another critical part of the implementation activity, providing active direction during the entire course of the work. The SOG had line managers, including senior managers, who committed ½ day every two weeks to project review and management. This level of commitment, along with the reporting systems, assured complete visibility to schedule, performance, and behavioral indicators.

To assure a smooth and complete installation of the system, we divided the start dates of several waves of implementation by three to six months.

To assure proper training of enough staff to implement the system in all locations and support knowledge transfer between locations, we designated staff from Wave 2 to help with Wave 1 installations. In this way, they were able to learn the system completely when they lead Wave 2 work. Likewise with Wave 3 and beyond, expediting implementation and reducing total costs.

Outcomes from the Install step include:

- Install trains, sets expectations, establishes roles, responsibilities
- Owner’s Group initiated. OG watches, steers, owns implementation plan
- Line Management owns change and results
- Waved Implementation, not big bang
- Wave 2 work on wave 1, wave 3 on 2, etc.
- CCC—Champions, coaches, consultants deliver behavior change with the worker

Sustain. Outcomes of the Sustain step include:

- KPI’s, System Implementation Schedule measured weekly
- CCC’s show how to change
- Owner’s Group reviews progress, shifts resources, solves problems.
- Line Management reviews results daily, weekly. Challenges for change, sets example

- Behavior and attitude measured monthly
- Goal—“I prefer to work this way!”

Our coaching model was to have full time coverage on major platforms. SAMI’s consultants worked back to back hitches, overlapping Shell crew changes to ensure consistency. This model of real time, “trench” coaching, inspired confidence in the Shell team that “the consultants are in this with me” and “they understand our challenges.” From a tactical perspective, this coverage allows early detection and correction of behaviors that would not sustain performance improvement. Just as important, it allows for positive reinforcement when the behaviors are appropriate and maintains the enthusiasm for continued change.

Of course, without measures we wouldn’t know the composite effects of the new behaviors. When measures are made public and given attention by leadership, there is often a strong drive to meet or exceed targets. Sometimes we find the actual behavior is one to show good KPI’s without actually following the process. This is another reason coaches, champions and consultants are critical to the REAL success of the project. Beating the numbers can be easy unless someone is watching closely just how that’s happening.

At the same time the Owners Group operates, results are reviewed at the highest level of the company in weekly performance meetings. Line managers were held accountable for schedule and KPI compliance, and had to explain variances on a weekly basis. This level of review and governance made the outcome and assured full success.

Follow-ups that sustain change. The final step, Certify, answers the question, “How do we know when we are done?” Too often the answer to that question is, “When the time or money runs out!”

Certify does the following:

- Sets performance standards
- Periodically reviews KPI’s & behavior
- Recognizes achievement
- Enables unit to move to next stage of development
(See SAMI Pyramid— www.samicorp.com)

Certify differs from an audit in subtle, but important ways. It is completed by others who have done the implementation and have been certified. Through peer evaluation, best practices can spread in a very natural fashion, as variations of a like system. The purpose is to improve, rather than an audit which has negative connotations, like a report card. Certify evaluates whether behaviors are in place and continuing or improving from the prior state, assuring that the reporting isn’t simply to show good numbers, but is actually rooted in new behavior.

Shell has held certification reviews of nearly all the platforms. The reaction has been somewhat mixed, although very

successful. Too much preparation required is the reason given. We can make things simpler in the future, and further improve on the health checks by increasing peer participation. Based on passing the current standard (we use a flexible tool we call CARAT to help automate the reviews), each of the platforms is now ready for Asset Healthcare Stage 2, Proactive Maintenance, which will be implemented in 2005 and 2006. Our expectation is to capture much of the remaining facility (planned and unplanned) downtime.

Illusions of Change to Avoid.

- You can fool the numbers. You must look at behaviors, see the system compliance and the hearts of the people, before you know if the system has taken root
- Stand-alone training can be destructive. It sets up a new expectation of behavior, but as one reenters the real world, nothing is different. This sets up a conflict, and the conflict is often resolved by resistance and criticism of the new process
- Implementing without creating an emotional gap seems faster, but always dies out. Taking the time up front to gain alignment and passion may seem the slow way to get things done. But in fact such actions assure success. We all wish to be consulted and have a part in designing our future fate.

Closing. Often our clients wonder if our efforts are going to be effective and achieve desired results. The reality is that the methods described above work consistently. The variable is the quality of attention our clients place on the project. Shell placed serious management time and quality attention to assure the program worked. They received all the benefits and more, because they are a very capable organization.