

# Case Study

**SECTOR OIL & GAS**

**LEAN SIX SIGMA**

A decorative graphic element in the bottom right corner consisting of a blue triangle pointing upwards and an orange triangle pointing downwards, meeting at a point.

# Pinnacle Refinery

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## Lean Six Sigma

YEAR  
2006

SECTOR  
Oil & Gas

REGION  
India, Asia

SERVICES  
Oil Marketing

Pinnacle Refinery (name changed), a leading Public Sector OMC (Oil Marketing Company) in India, was struggling with business process inefficiencies and wanted to introduce company-wide change management interventions. In early 2006, Pinnacle Refinery embarked on a Six Sigma deployment journey with an ambitious charter to arrest these profit leakages due to operational inefficiencies as well as to achieve First Time Right (FTR) quality performance. The deployment also aimed at creating a culture of continuous improvement across the organization.

They adopted the Lean Six Sigma Methodology to arrest profit leakages. SSA Business Solutions partnered with Pinnacle to address the challenges and to bring in a greater degree of employee engagement at all levels.



### INDUSTRY OVERVIEW

It is a well established fact that State-run Oil & Gas companies in India are facing heavy losses due to growing input costs and high operational inefficiencies. In FY 2010-11 alone, the industry faced a cumulated loss of over INR 78,000 crores. Pinnacle refinery was also grappling with the same set of challenges.

### BUSINESS CHALLENGES

Strategic and tactical interventions were not new at Pinnacle; they had successfully adopted the Malcolm Baldrige Business Excellence Framework, and had already embarked on various other tactical interventions such as Quality Circles, TPM, 5S, and Daily Work Management. It was felt that, though these interventions delivered islands of improvement, the larger strategic linkage seemed to be missing. Also, the focus on the corporation's bottom-line improvement was only limited.



## SSA's APPROACH

SSA Business Solutions did a thorough scoping exercise to find out all the areas of improvement and applied Lean Six Sigma Methodology. Lean Six Sigma aimed at bridging some of these gaps; it promised greater employee engagement across the organization, alignment with strategy, greater focus on operational efficiency, and internalization of problem solving skills.

## PILOT WAVE

The deployment model, as proposed by SSA, was achieved in 3 stages. The first stage was to proof test the methodology. In this phase, a project repository was created through a robust dialog process among the leadership team. This was followed by a demonstrator Six Sigma green belt wave in which 20 green belts from various departments were chosen to undertake training and complete projects. The results from these projects were very encouraging and the news soon spread across the organization, which led to a tremendous buzz about Six Sigma and a great deal of interest in the program was created across the company. Subsequently, many more waves were undertaken and today it is a massive movement across the organization.

## PROJECT SELECTION

The Six Sigma initiative at Pinnacle was not only aimed at culture building but also achieving bottom line savings on a war footing. Thus, the projects were chosen very carefully with an aim to achieve both these objectives. Pinnacle followed a top-down approach to project selection. The paramount focus was on: leadership involvement, balanced focus, realistic expectations, and alignment with existing scorecards. The projects were drilled from the refinery vision down to objectives and goals, and finally each theme was drilled down to several high-impact Six Sigma projects.

### 3 PHASES OF SSA'S DEPLOYMENT MODEL

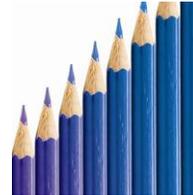


#### PILOT PHASE

6 months



- PROJECT REPOSITORY
- LEADERSHIP BUY-IN
- CREATE BUZZ
- PEOPLE ENROLLMENT



#### SCALE UP PHASE

1 year



- COMPANY WIDE ROLLOUT
- SUPPORT FUNCTIONS
- FINANCIAL FOCUS
- KRA LINKAGES



#### SUSTAIN PHASE

3 years



- INTEGRATE WITH STRATEGY PLANNING
- ALIGN WITH BSC
- INTERNAL MBBS

#### MISSION

**A great place to work**

#### REFINERY VISION

**Role Model for EHS I Consistently most Profitable & Reliable Refinery I Market Responsiveness**

ENVIRONMENT & SAFETY PERFORMANCE	MARKET RESPONSIVE/ CUSTOMER FOCUS	RESOURCE OPTIMIZATION	GREAT PLACE TO WORK
Improve reliability of fire extinguishers	Bitumen lorry TAT < 2hrs	Maintain FO line sample viscosity between 150-180	Reduce wastage in canteen
Bring down the number of fires	Product availability for MMPL	Increase power reliability	Minimize complaints in estate
	Biturox production (all 3 grades availability)	Minimize variation in LPG filling	Increase no of Suggestions
	Minimize fill weight variation	Sustain yield as per VDU column	Minimize electricity consumption in estate
	Minimize losses during ATF production	Reducing tankage TAT	Optimize overtime in canteen
		Minimizing crude loss	

## BUSINESS BENEFITS

Pinnacle has been successfully driving Six Sigma for almost 5 years. Over a 100 green belts and 40 black belts are churning out several high impact project every year. To date, they have achieved validated annual financial benefits of well over 2 billion Indian Rupees and growing. Pinnacle has been one of the case studies of successful Six Sigma application in a process industry. They have managed to steer clear of some of the common deployment pitfalls.

The sponsors were engaged right from the kick-off and provided adequate support and review to the projects. Projects were meticulously selected and a balanced approach was maintained to ensure short-term business benefits as well as long-term capability building of the organization. They also strictly adhered to timelines and always maintained realistic expectations from the program.

"The entire process (Business Excellence Initiative) was well supported by SSA coming in and hand holding our team at the refinery, making sure that we go through the process of project selection and realize the benefits.

The process improvement efforts achieved through Six Sigma brought in tangible benefits running into several crores in addition to a number of intangible benefits."

- Executive Director, Pinnacle Refinery, Mumbai



## ABOUT SSA

SSA is a leading Business Excellence Solutions provider specializing in offerings like Lean, Six Sigma, BPMS, Strategy Deployment and many more. SSA provides customized business consulting and training solutions across countries and has helped its clients make a cumulative savings of over Rs. 1000 crores and growing. SSA is the first and only authorized provider of IACET CEUs in India.

For more information about SSA, visit [www.ssa-solutions.com](http://www.ssa-solutions.com)