

Refinery Example – Lack of Work Flow

The Challenge:

Refinery had a lack of work flow. It was as if the work was being completed in disconnected spurts of activity. The facility had a negative cash flow and alarmingly shrinking profit margins. The loss of availability was so staggering that Reliability Center, Inc (RCI) was asked to investigate the problem.

The RCI assessment team concluded four major issues that must be overcome to restore confidence and financial health to the facility. The areas of concern were:

- Lack of accountability at all levels
- Lack of system thinking
- A need to focus on reliability and the opportunity it presents for cost reduction and limiting capital expenditures
- Lack of implementation speed
- Boilers were allowed to deteriorate in order to preserve a census in the operating unit.
- Predictive maintenance tasks were not routinely performed
- High amount of corrosion problems
- High parts usage

The Solution:

- Rigidly enforced all safety policies and procedures at all times
- Had the site manager write the letter to all employees that this was taking place
- Developed criteria for behavior that is recognized and rewarded
 - Like interactions between producing areas
 - Communication between shifts
 - Proactive interaction between departments
- Newly developed improvement systems tested
 - Process description
 - Inputs needed
 - Where inputs come from
 - List of what could go wrong
 - What are the outputs
 - Output destination
 - What adverse affects can occur
- Implemented interval based predictive maintenance program with dedicated technicians
- Dedicated oversight to insure recommendations are implemented in a timely manner
- Established reliability as the focus of the site

- Implemented in-house advertising program promoting Proaction and Focus
 - Educated refinery personnel on reliability concepts
- Selected and trained 10 site Root Cause Analysis lead investigators
- Operators a part of the development of operating procedure review and verification process
- Created a steam trap program to reduce steam losses and maintain minimum leak status

The Results:

- The unscheduled downtime was reduced 10%
- Predictive maintenance on-time inspections increased 35%
- Accidents down by 5% due the enforcement of safety policies
- Unscheduled equipment downtime from corrosion problems were reduced dramatically due to on time preventive maintenance activities
- Parts usage fell proportionately with the reduction of unscheduled downtime