

PBBS Reaccreditation Application

Cambridge Center for Behavioral Studies

Section 1: Introduction

The Acetate Fibers Division (AFD) is a manufacturing division of Eastman Chemical Company located at the Kingsport, TN site.* The division employs 750 people with 650 employees directly involved in the manufacturing and maintenance operations. The main products produced in AFD are fiber grade cellulose acetate, acetate tow, and acetate yarn. AFD began implementing behavioral based safety processes in 1992 when OSHA-R rates were > 8.0. Over the subsequent years, numerous improvements to the original BBS Process have been implemented yielding OSHA-R rates for the last 5 years consistently below 0.8. In 2003, AFD pursued accreditation of its PBBS Process with the Cambridge Center for Behavioral Studies and was awarded the first ever accreditation in May of 2004. This accreditation will expire in May of 2006. AFD is submitting the following documentation to support a request for reaccreditation from the Cambridge Center.

* At the time of the initial application for accreditation, AFD was part of the Voridian Division of Eastman Chemical Company.

Section 2: Changes in Background Factors Since Initial Accreditation

Significant changes in business conditions have occurred in the last 2 years since accreditation was awarded that have presented new challenges toward reaching AFD's vision of an injury-free workplace. The 2 major changes have been 1) increased production volumes and 2) integration of new employees into the manufacturing and maintenance operations.

Chart 1 shows the increased production volume from year 2000 through the 2006 forecast based on indexing the production to year 2000 as 1.0. Also plotted on this chart is the OSHA-R rate for the same time period. As compared to the 2000 production rate, production grew by 13% in 2004, 27% in 2005 and is forecast to increase by 30% in 2006 while the OSHA-R rate has stayed stable at <0.8 after the breakthrough improvement in 2001.

Chart 2 shows the increase in the number of new employees entering the workplace from 2000 through the 2006 forecast along with the OSHA-R rate for this time period. Once again, the OSHA-R rate has remained stable even as significant numbers of new, inexperienced operators and mechanics have entered the workplace. In 2005, employees on the job < 1 year accounted for 35% of all injuries in AFD.

Chart 1
Acetate Fibers Division Production vs. OSHA-R Rate
 2000 Production Volume = 1.0

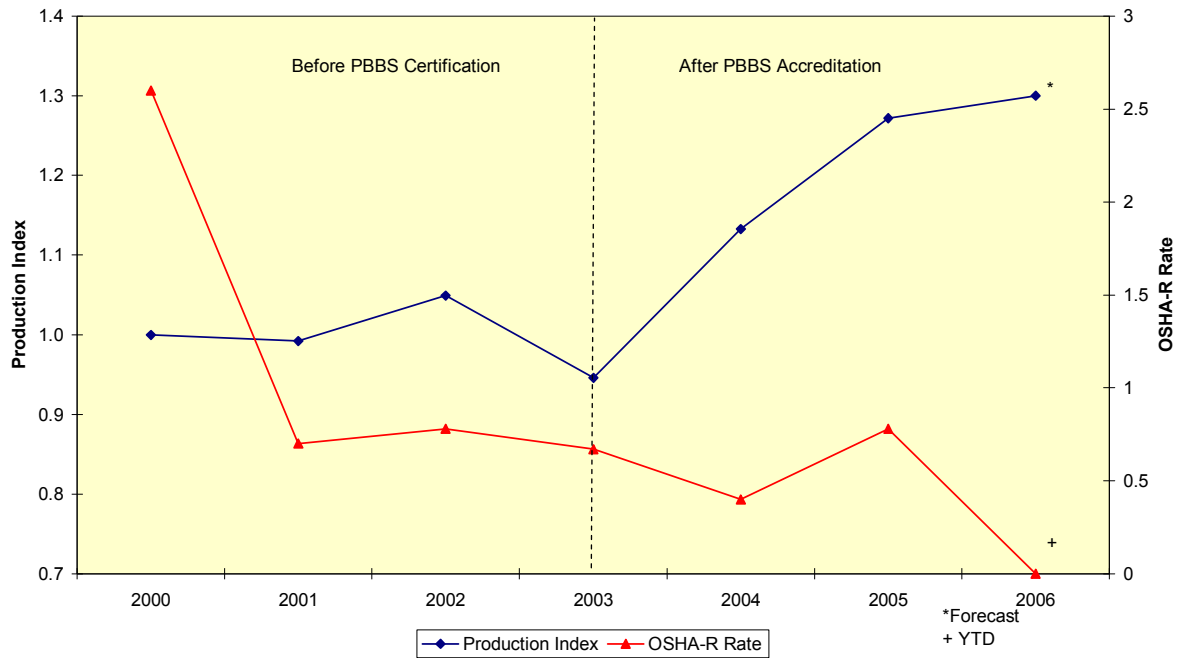
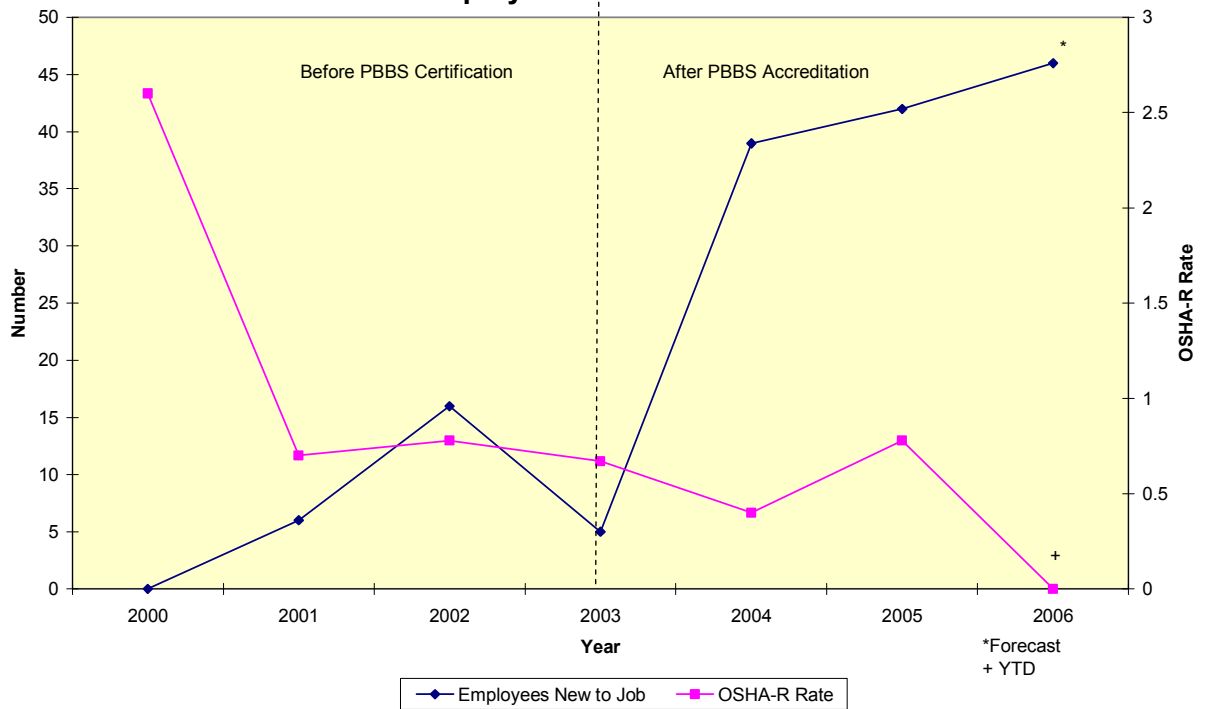


Chart 2
Acetate Fibers Division Employees New to the Job



Section 3: PBBS Enhancements Since Accreditation

- Observer Coaching Process

In the fall of 2004, a need to improve the quality of the behavioral observations was identified by the PBBS Steering Team. A formal process was developed for the first-line manager to train the members of their crew teams on making an observation, giving feedback, and recording the observation in the database. Thirty-four, first-level managers provided observer training to 586 operators/mechanics. A coaching check sheet was developed to aid the first level manager in delivering the training. (Table 1) The process began in the 2nd quarter of 2005, with the goal of completing the training delivery within 12 months. Progress in completing the training process was measured on a monthly basis and is shown in Chart 3. Through March, 2006, 100% of the operators/mechanics have completed this training.

Table 1

ESP Observer Coaching Sheet

Coach _____
Date _____

Observer _____
Department _____

1. Observation

- 1.1 Knowledge of Known ARB's for Task Observed
- 1.2 Quality of the Observation
- 1.3 New ARB Identified

COMMENTS R+ _____
IO _____

2. Feedback

- 2.1 Courteous/Pleasant Tone
- 2.2 Start with an R+
- 2.3 Engage Person Being Observed in Discussing Behaviors

COMMENTS R+ _____
IO _____

3. Data Entry

- 3.1 Knows How to Access ESP Database
- 3.2 Ability to Navigate Through Database
- 3.3 Ability to Accurately Enter Observation

COMMENTS R+ _____
IO _____

Follow Up Action Plan

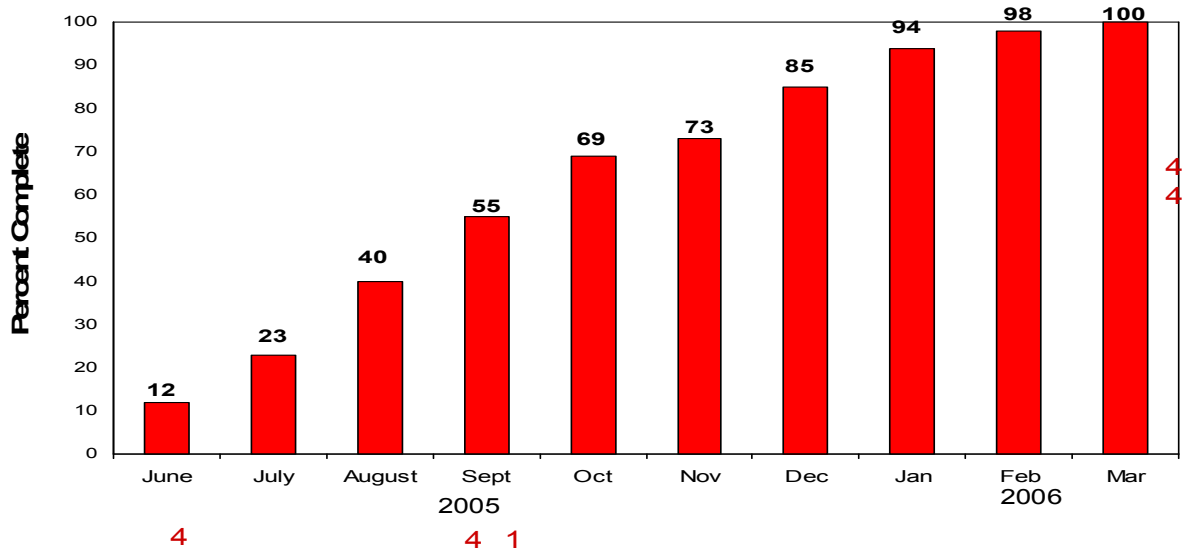
Follow Up Date

Table 1A

Definitions

- 1.1 Knowledge of known ARB's for task being observed:**
Comprehension of Job/Task specific At-Risk Behaviors identified from Job Hazard Analysis that appears in ESP Database.
- 1.2 Quality of observation**
Observing comprehensive listing of Job/Task specific ARB's in ESP Database identifying behavior to be Safe or At-Risk.
- 1.3 New ARB Identified**
Identified ARB that does not exist in ESP Database
- 2.1 Courteous/Pleasant Tone**
Giving considerate agreeable feedback to person being observed
- 2.2 Start with an R+**
Give positive reinforcement in opening statement to person being observed.
- 2.3 Engage person being observed in discussing behaviors**
Involve person being observed in discussing behaviors
- 3.1 Know how to access ESP Database**
Personal ability to access ESP Database from local desktop
- 3.2 Ability to navigate through Database**
Personal skill to effectively make their way through the ESP Database
- 3.3 Ability to accurately enter observation**
Personal skill to correctly enter observation in ESP Database.

Chart 3
Acetate Fibers Division
Observer Coaching Percent Complete
(578 out of 586)

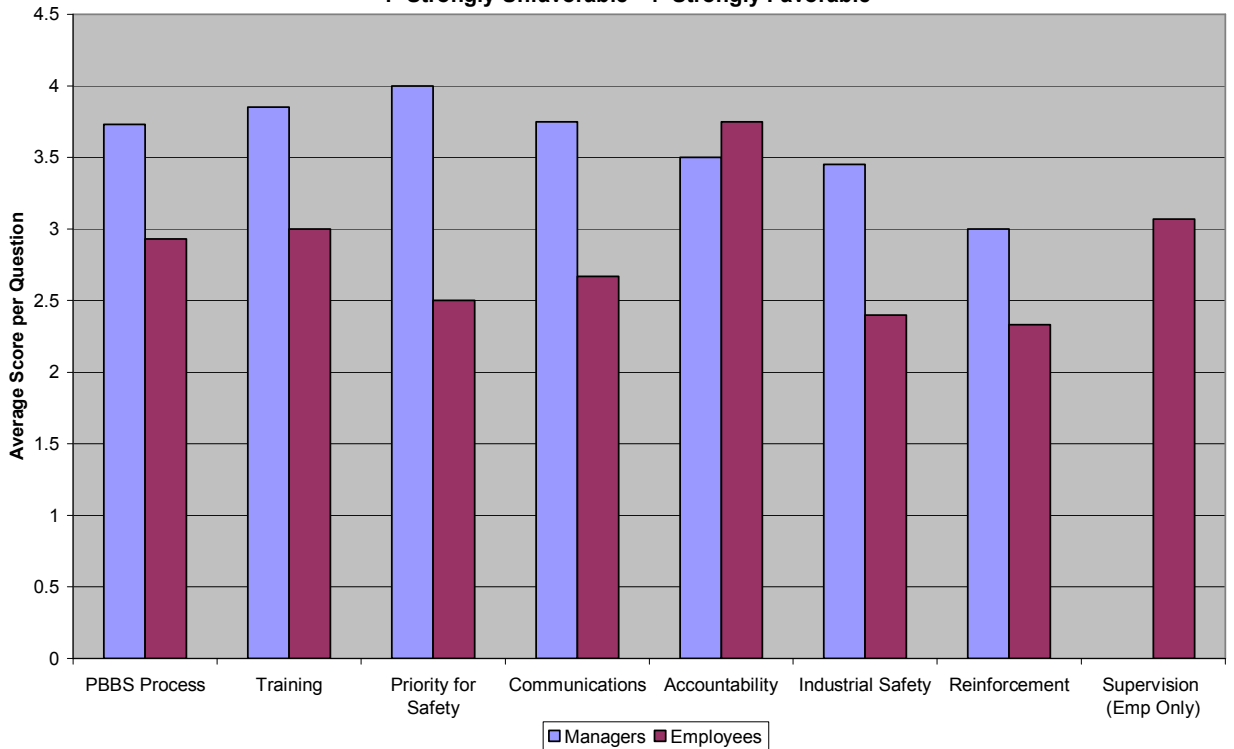


- Employee Safety Culture Survey

In 2004, AFD partnered with the Kingsport site Plant Protection group to pilot a safety culture assessment tool. A list of statements covering a wide range of safety issues was developed for both managers and operators/mechanics. Respondents marked each statement on a scale of 1 to 4 with strongly disagree as a 1 to strongly agree as a 4. This provided a basis for assessing managers' beliefs and values on safety as compared to operator/mechanics' beliefs and values as shown in Chart 4. Where there were important differences between the groups, action items were identified and implemented. In addition, the assessment tool is being used to evaluate the safety culture on individual crews as compared to the division culture to identify improvement opportunities. A more detailed review of this process can be done during the site visit.

Sixty-five (65) managers and 483 operators/mechanics completed the assessment questionnaire during their monthly safety meeting during November of 2004. This represented about 75% participation rate for both groups.

Chart 4
Acetate Fibers Division Safety Culture Assessment
 1=Strongly Unfavorable 4=Strongly Favorable



- Annual PBBS Process Audit

AFD Health, Safety Leadership Team developed and implemented a comprehensive PBBS Process Audit in 2005. The PBBS Process Audit evaluates sixteen functional areas for each crew team throughout AFD and determines if they are effective, somewhat effective or need improvement. This allows each Department Health, Safety and Environmental Coordinator in conjunction with the Department Leadership Team to develop and implement reasonable improvement plans for each crew team. For example, one department discovered they had not been performing formal Task Safety Audits so they began using this process as a result of the audit. The matrix used to conduct the audit is shown below:

Acetate Fibers Division Safety Processes Audit

PROCESS	APD		AYD		ATD		ASD		AMD		AFD	
	Y/N	EFF	Y/N	EFF	Y/N	EFF	Y/N	EFF	Y/N	EFF	Y/N	EFF
Observations - ID New ARBs	Y	S	Y	E	Y	E	Y	E	Y	E	Y	E
Problem Solving New ARBs	Y	E	Y	S	Y	S	Y	E	Y	E	Y	S
Reporting Near Misses	Y	E	Y	S	Y	E	Y	E	Y	E	Y	E
Pre-planning Agenda Crew Team Meetings	Y	E	Y	S	Y	E	Y/N	NI	Y	E	Y	S
Crew Team Meetings (Models, Games, Discussion of ARBs)	Y	E	Y	S	Y	S	Y	S	Y	S	Y	S
Safety Minute at Start of Shift	N	NI	Y	E	Y	S	N		Y	S	Y/N	S
Formal Task Safety Audits	Y/N	S	Y	E	Y	S	Y	E	N		Y/N	S
Department Leadership Team Meetings/ Upward Reporting	Y	S	Y	E	Y	S	Y	S	N		Y	S
Using Accountability Worksheets	Y	S	Y	S	Y	NI	Y	E	Y	NI	Y	NI
Coaching Employees w/ Multiple Incidents	Y	E	Y	E	Y	S	Y/N	NI	Y	E	Y	S
Use of Safety Improvement Plans	Y	E	Y	E	Y	S	Y	E	Y	E	Y	E
New Employee Training and Follow Up	Y	E	Y	E	Y	E	Y	S	Y	E	Y	E
Communication of Incidents to all Depts.	Y	S	Y	E	Y	E	Y	E	Y	E	Y	E
Lead by Example / Safety Balanced with Production	Y	E	Y	E	Y	E	Y	E	Y	E	Y	E
Daily Coaching on the Floor	Y	E	Y	E	Y	E	Y	E	Y	E	Y	E
Team Manager Network Being Utilized	Y	S	N		Y	S	N		Y	E	Y/N	S
Quarterly AFDLT Safety Meetings											Y	E
One Hour / Month Safety Topic for AFDLT											Y	E
AFD/PP/Medical Partnership Meeting											Y	E

E = Effective

S = Somewhat Effective

NI = Needs Improvement

Indicates Division Level F

Possible Action Items

1. Periodic Refresher Training for TM and employees
2. Improve Quality Reporting System
3. Quarterly or Semi-annual Audit of ESP
4. In-house Yearly ESP Conference sharing best practices and identifying weak areas
5. Response from all Departments on an Incident

- 2005 Injury Data Analysis

A detailed analysis of the OSHA-R and minor injuries which occurred in 2005 was performed to determine if there were common factors among the injuries.

The factors investigated were 1) operator experience on the task being performed, 2) operator response to an upset condition, 3) impact of working overtime, 4) day of the week the injury occurred, and 5) frequency the task is performed per month.

The analysis revealed that the major factors impacting these injuries were employees responding to upset conditions and the employee being in the assignment for <1 year. As a result, plans are being developed to begin a safety mentoring process for new employees and to evaluate the way employees respond to upset conditions.

Improving methods to integrate new employees safely into the workplace is especially important due the increasing number of new employees who will be replacing the baby boomers who are retiring over the next 5 years.

- Observation Interaction Models

The PBBS Process in AFD is based on the principles of Behavioral Based Safety thus operator crew teams have choices as to how at-risk behaviors are surfaced and how employees become engaged in the observation interaction process. When the PBBS Process in AFD was accredited there were eighteen "models" in the observation interaction process. Since that time, seven more "models" have been added. These models were developed by crew teams and then shared with all the other crews within AFD. A detailed review of these models will be covered during the site visit.

- AFD New Employee Safety Cultural Assessment Survey

As noted above, the data demonstrate that employees who have been on a new assignment for less than 1 year are more likely to suffer an injury than experienced employees. 35% of AFD's 2005 injuries were to new employees even though new employees only represented 7.2% of the workforce. One of the factors impacting this result is the prior learning, beliefs and perceptions new employees have about safety based on cultural factors. Usually, these beliefs are developed in previous work assignments.

AFD Health, Safety Leadership Team developed and implemented a 29 statement survey to assess a new employee's beliefs and perceptions concerning safety before they begin training. The survey is administered during the first week of the new employees' orientation. Results of each new employee survey are then communicated to the supervisor as a tool for coaching and development discussions during their first year of employment.

- New Employee Mentoring Process

In 2005, AFD added 45 new operators/mechanics to the workforce. A detailed data analysis of the injuries during this time period revealed that these new employees accounted for 35% of the total injuries even though they only represented 7.2% of the workforce. In response to this finding, AFD is developing a Safety Mentoring Process for all new employees. A specially selected mentor will be assigned to each new employee following the initial training period to mentor that employee to recognize at-risk behaviors, hazards of the job, and be able to take steps to reduce exposure to the hazards. The mentor will also provide reinforcement for safe behaviors performed by the new employee. The safety mentor will be a co-worker who works in the same area as the new employee. It's anticipated that the mentor will work with the new employee for 1 year. A phased implementation of this process will begin in the 2nd quarter of 2006. A more detailed explanation of this process will be covered during the site visit.

Section 4: Actions Taken to Address Recommendations from Site Visit Report of October 2004

A. WORK TOWARD THE OBJECTIVE OF ACHIEVING A ZERO RATE OF OSHA RECORDABLE INJURIES.

- The vision of AFD remains to have an injury-free workplace. The enhancements outlined in the preceding sections of this application demonstrate the commitment of AFD employees to moving toward that vision.

B. DISSEMINATE THE AFD PBBS PROGRAMS TO OTHER PARTS OF THE COMPANY IN WHICH SAFETY CAN BE IMPROVED.

AFD has been very active in responding to this recommendation. Some examples include:

Within Eastman Chemical Company

- After several meetings by AFD with the management of the Polyethylene Division at the Texas Eastman site, they implemented a BBS Process using the AFD's PBBS Process. TEX PE Division achieved a best ever OSHA-R rate of < 1.0 in 2005.
- Numerous meetings have been held with the management of the Columbia, SC site reviewing AFD's PBBS Process including presentations by Division Superintendent Lee McConnell to the site senior management and B.H. Collins working with their BBS Steering Team. As a result, they will begin using the principles of AFD's PBBS Process to improve their current BBS Process during 2006.

- Mike Ballard has made numerous presentations on various components of AFD's PBBS Process to the Eastman Corporate BBS Networking Team which includes representatives from all world-wide sites. Mike also serves as a member of the team.
- At the 2006 Eastman BBS Conference, Lee McConnell, Mike Ballard, and B.H. Collins each made presentations on the elements of AFD's PBBS Process to the 200 attendees from all Eastman Chemical Company domestic and selected global sites. AFD's PBBS Steering Team provided logistic support for the conference.
- Mike Ballard and B.H. Collins have worked closely with 2 other divisions at the Kingsport site making presentations to management groups and working one on one to share AFD's PBBS Process.

External to Eastman Chemical Company

- Lee McConnell, Mike Ballard, B.H. Collins, and Chuck Pennington presented the AFD PBBS Process at the 2004 BSN Conference.
- Mike Ballard, B.H. Collins, and Chuck Pennington presented enhancements to the AFD PBBS Process at the 2005 BSN Conference.
- Lee McConnell will present a keynote address at the 2006 BSN Conference.
- Mike Ballard and B.H. Collins have presented elements of the AFD PBBS Process at the annual Kingsport Area Safety Council Safety Seminar each year since 2004.
- B.H. Collins is working closely with AFD's site contractor for operations support to implement a PBBS Process in their company.

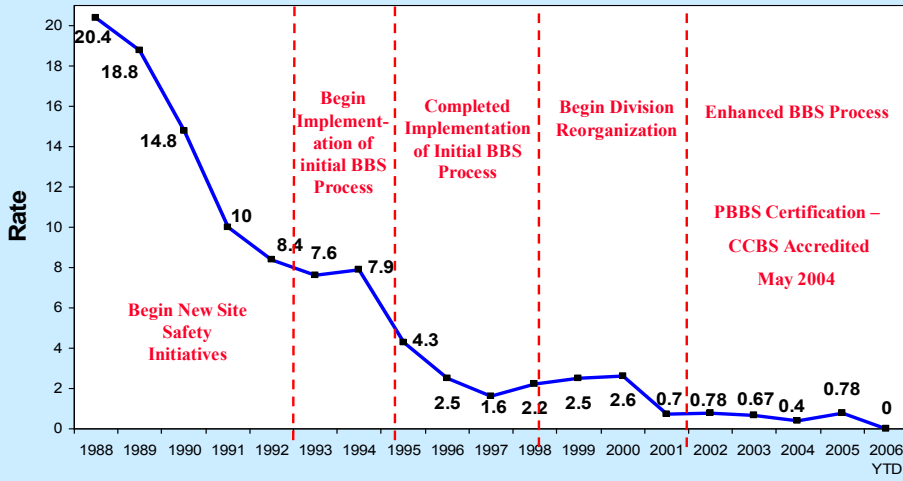
Section 5: Safety Performance Data

As a result of the enhancements outlined in Section 3 above plus the continued application of AFD's PBBS Process, safety performance has remained stable since the initial accreditation was awarded in 2004.

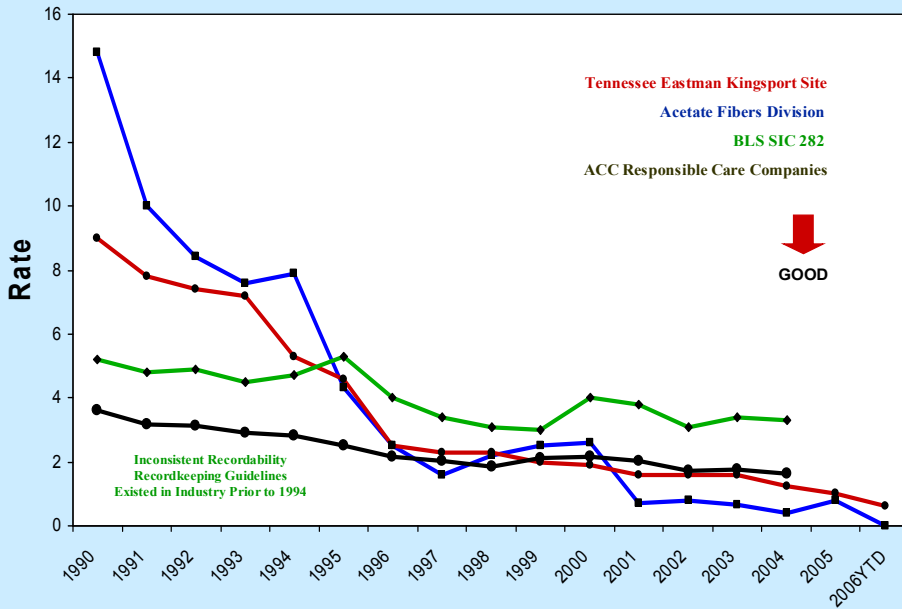
The safety performance charts shown below have been updated since the accreditation was awarded.

- Historical OSHA-R Rate
- OSHA-R Rate with Benchmark Data
- Day Away from Work Cases
- Minor Injury Rate
- Total Injury Rate
- New At-Risk Behaviors Identified
- Reported Near Misses

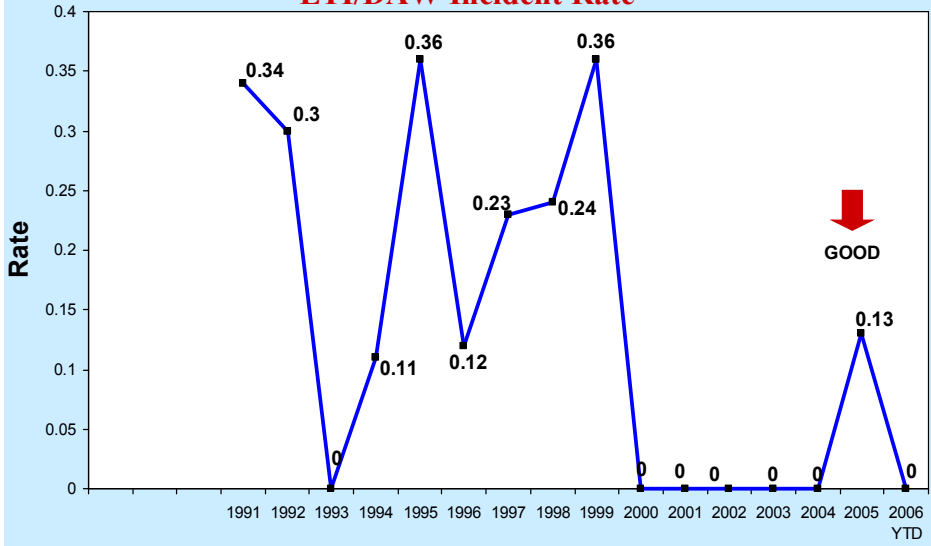
Acetate Fibers Division OSHA Recordable Rate



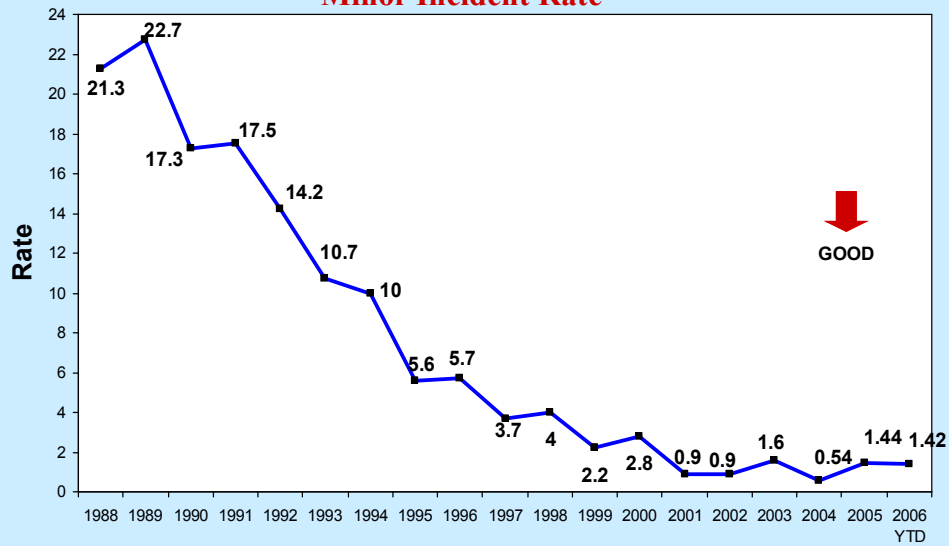
OSHA Recordable Rate Comparison



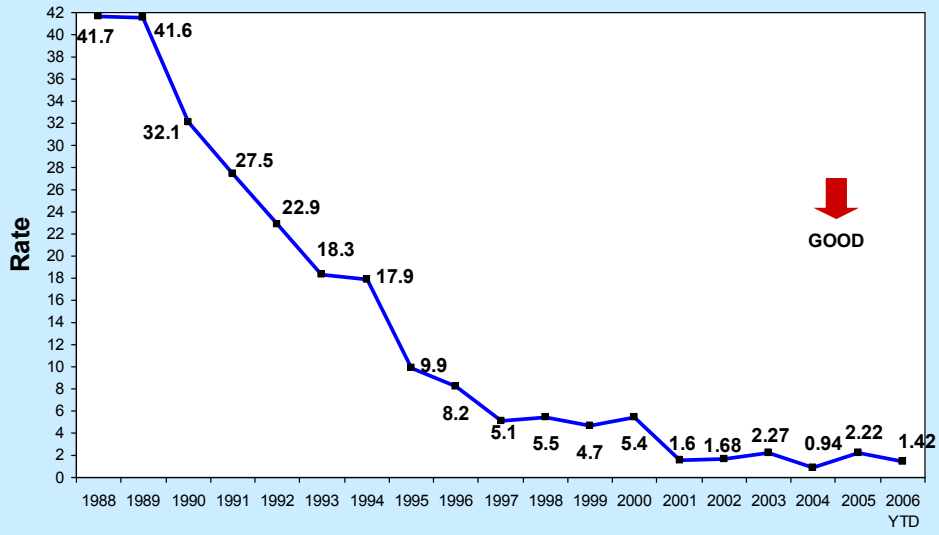
**Acetate Fibers Division
LTI/DAW Incident Rate**



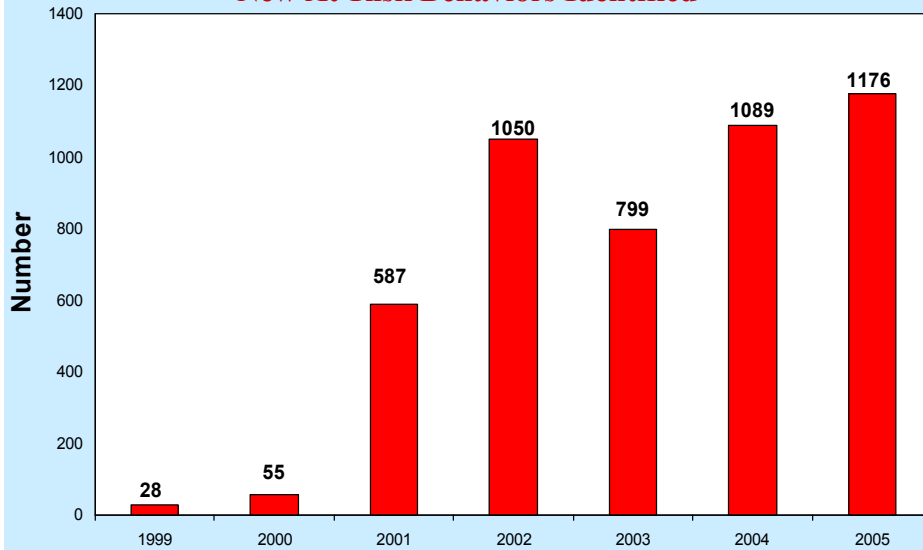
**Acetate Fibers Division
Minor Incident Rate**



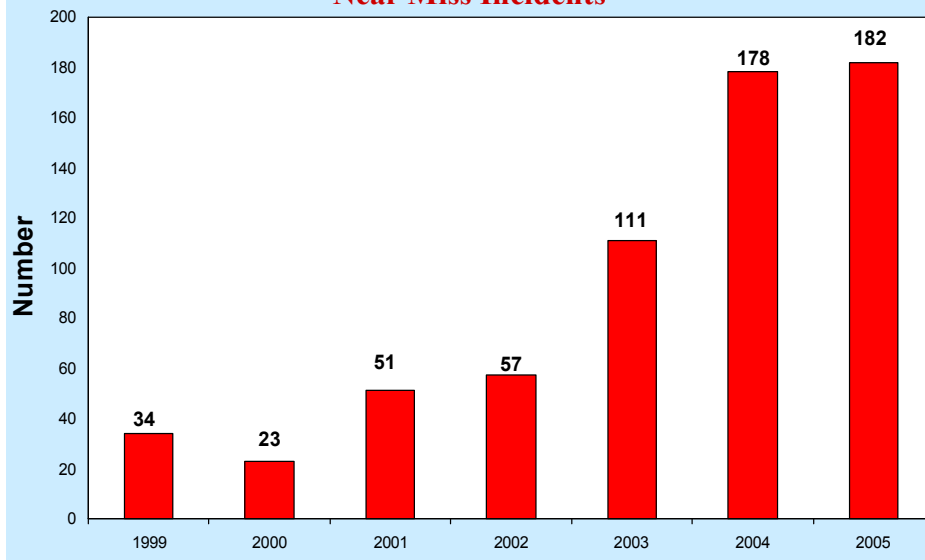
Acetate Fibers Division Total Incident Rate



Acetate Fibers Division New At-Risk Behaviors Identified



Acetate Fibers Division Near Miss Incidents



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