



# The Chemical Safety Board's View of Safety Culture

## NRC Internal Safety Culture Task Force

Nuclear Regulatory Commission Headquarters

December 4, 2008

John Bresland  
Chairman

United States Chemical Safety Board



# Disclaimer

The PowerPoint presentation given by John Bresland, Chairman, the United States Chemical Safety and Hazard Investigation Board to NRC Internal Safety Culture Task Force is for general informational purposes only. The presentation represents the individual views of the Chairman and all references, conclusions or other statements regarding current ongoing CSB investigations are preliminary in nature and do not represent a formal adopted product of the Board. Users of this presentation should also note that the contents were compiled solely for this presentation. For specific and accurate information on completed investigations, please refer to the final printed version by going to the CSB website at [www.csb.gov](http://www.csb.gov) and clicking on the specific report desired under completed investigations



## My agenda today

- **What is the Chemical Safety Board?**
- **Some CSB investigations**
- **Culture in organizations**
- **Safety culture at BP Texas City**
- **Developing a strong safety culture**



# What is the CSB?

- The CSB is an ***independent*** U.S. federal agency charged with investigating chemical accidents
- Authorized by United States Congress in 1990
- Modeled after the National Transportation Safety Board
- Five Board members nominated by the President and confirmed by the Senate
- Professional investigation staff
- Located in Washington, DC



## In a typical year

- Incidents screened by the CSB – **800 to 900**
- CSB Investigations – **8 to 12**



# The CSB Investigation Process

- We decide to investigate, the team deploys
- Interviews, document requests
- Findings, conclusions, written report
- CBI review by company, communication of recommendations
- Preparation of a video
- Public meeting and Board approval
- Follow-up on recommendations



- **Some CSB Investigations**

# WEST PHARMACEUTICAL INVESTIGATION - 1/29/2003











## Imperial Sugar Company Refinery, Port Wentworth, Georgia February 7, 2008







## T2 Laboratories Jacksonville, Florida December 19, 2007














**Associated Press Photograph – Valero Refinery Sunray, Texas**



# Culture in organizations

- **Service culture – hotel industry**
- **Customer focused culture – airline industry**
- **Financial results culture – Wall Street**
- **Safety culture – airline industry, nuclear power**
- **Safety culture – chemicals manufacturing, oil refining**

A vertical photograph of a tall, cylindrical industrial distillation column or tower. It has multiple levels of metal walkways and railings. The tower is set against a light, hazy background.

# **BP Texas City refinery explosion March 23, 2005**



**BP Texas City - 3/23/2005**





U.S. Chemical Safety and  
Hazard Investigation Board





# The BP Texas City Explosion and Fire

- **March 23, 2005 – explosion and fire killed 15 workers**
- **July 28, 2005 – process related hydrogen fire**
- **August 10, 2005 – gas oil hydrotreater incident**





# CSB recommendations in the BP Texas City investigation

## BP Board of Directors:

- urgent recommendation -- form a **safety culture** review panel





## Issues in the CSB's Urgent Recommendation to BP

- Effectiveness of the BP Texas City safety management system
- Effectiveness of BP's corporate safety oversight
- A corporate **safety culture** that tolerated deviations from good safety practice



# The BP Independent Safety Review Panel – the Baker Panel

- Led by former Secretary of State James Baker III
- Members from industry, academia, government, trade unions
- Published its report in January, 2007



## Baker panel findings on BP's safety culture

- BP had not provided effective process safety leadership
- BP had not established an open trusting relationship between management and the workplace
- Adequate resources were not applied to process safety
- Managers not held responsible for process safety
- Lack of a unifying process **safety culture**



## Other Baker Panel Findings

- Emphasis on **personnel safety** over **process safety**
- BP had not defined the level of process safety competency required of executive management
- BP's Board of Directors had not ensured that there was an effective process safety management system in place



# Baker Panel Recommendations

- Senior management must provide process safety leadership
- Executive management should have an appropriate level of process safety knowledge
- Develop a positive, trusting and open process **safety culture**
- Clear expectations for process safety performance
- Develop leading and lagging indicators



## Elements of a strong safety culture

- Management commitment to safety
- Priority of safety over production
- Employee involvement and empowerment
- Regular communication between management and the work force
- Assignment of responsibility for safety





- Examples of organizations with a **strong** safety culture
- Examples of organizations with a **weak** safety culture



Visit our web page [www.csb.gov](http://www.csb.gov)