



U.S. CHEMICAL SAFETY BOARD

An independent federal agency investigating chemical accidents to protect workers, the public, and the environment.

Chemical Safety Board and Qatar Proposed Chapter

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History and Background

- Authorized in 1990 by the Clean Air Act Amendments.
- First funded in 1998.
- The headquarter is located in Washington, D.C.
- Separate, “independent” agency
- Work with other agencies such as EPA and OSHA.
- Mission of CSB is to maintain the safety of people in chemical plant.

Structure of CSB

- Board members and the Board's professional staff.
- Members are appointed by the President and confirmed by the U.S Senate
- Currently five members.
- 35 professional staff.

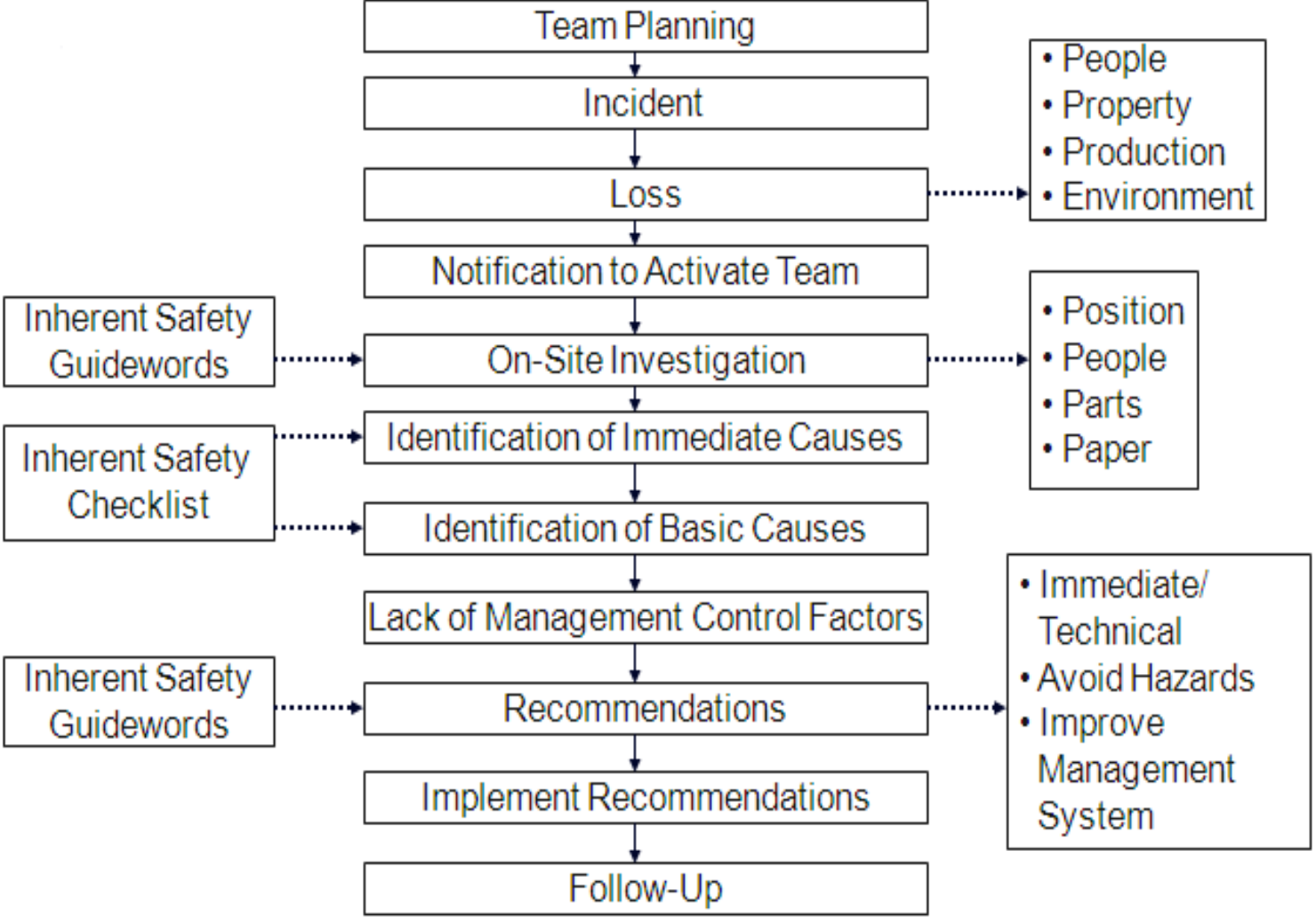
Structure of CSB

- Board's professional staff are responsible for the day-to-day activities and investigations.
- Prepare the draft reports that are presented to the Board members.
- All investigation reports, findings, and recommendations must be approved by the Board as a whole.

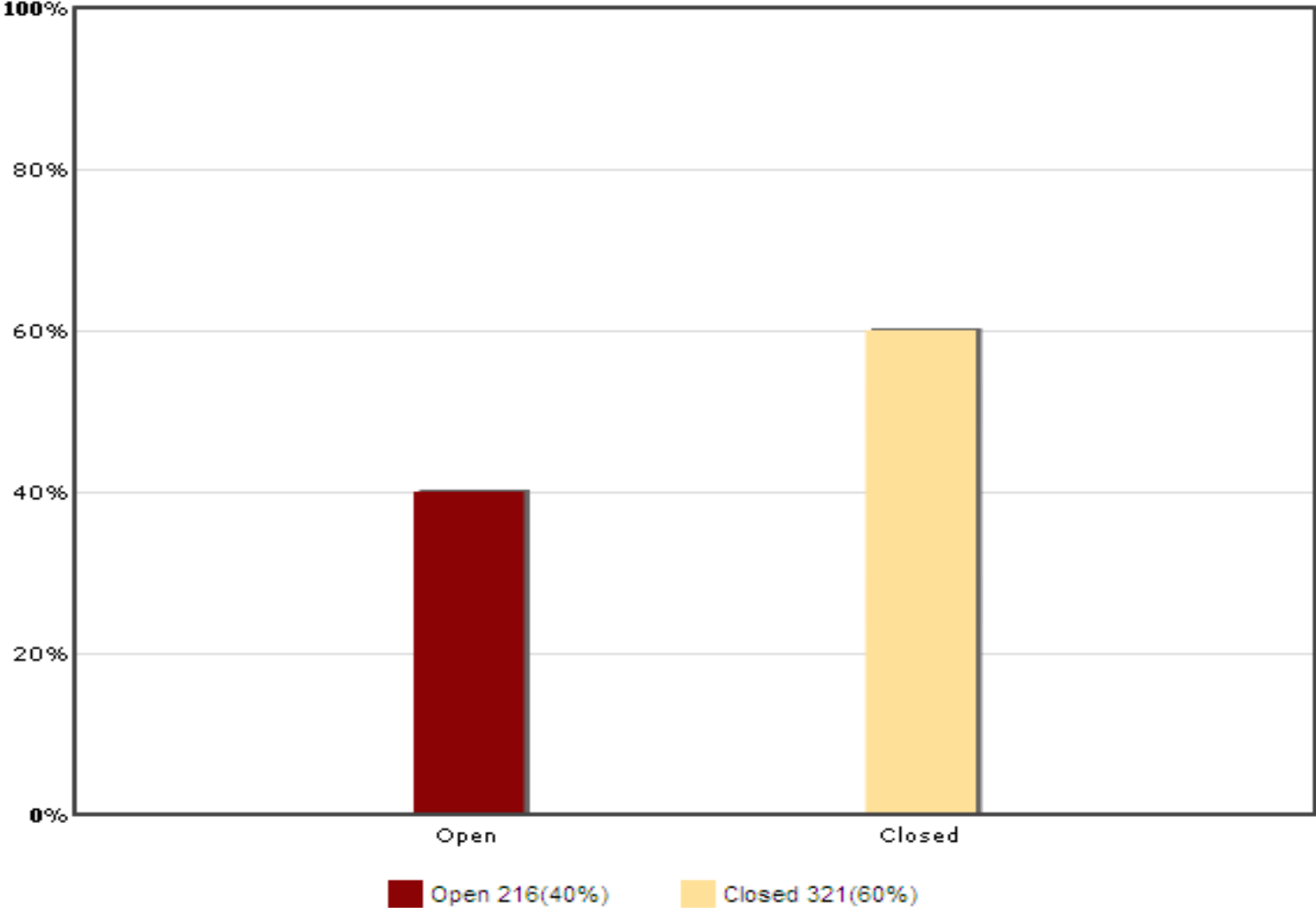
Standard Procedure of Investigations

- Criteria for evaluating process performance:
 - Process knowledge and documentation
 - Process risk management
 - Human factors
 - Training and performance
 - Incident investigation
 - Company standards, codes and regulations
 - Audits and corrective actions

Standard Procedure of Investigations



Standard Procedure of Investigations



Investigations

- CSB's website provides reports on all completed investigations that were carried out in the past, as well as some information on current investigations.

Investigations – Examples

- Completed investigations
 - Sugar Dust and Explosion Fire
 - T2 Laboratories, Inc. Runaway Reactions
- Current investigations
 - ConAgra Natural Gas Explosion and Ammonia Release
 - Silver Eagle Refinery Flash Fire and Explosion

Sugar Dust and Explosion Fire

- February 7, 2008 in Port Wentworth, Georgia
- 14 worker fatalities and 36 severe injured
- An unknown source ignited the massive concentrations of sugar dust accumulated under a steel belt conveyor
- Led to secondary explosions

Sugar Dust and Explosion Fire

- The equipment was not designed to minimize the amount of sugar released to work space
- Overheating in the steel belt conveyor was most likely the source of ignition
- The sugar dust accumulation was above the minimum explosive concentration
- The evacuation plans in the buildings were below the required standards
 - 2-way radios
 - cell phones
 - face-to-face alerts

Sugar Dust and Explosion Fire



T2 Laboratories, Inc. Runaway Reactions

- December 19th, 2007 in Jackson Ville, Florida
- four fatalities and 32 injured
- A cooling problem occurred while T2 was producing a batch of methylcyclopentadienyl manganese tricarbonyl (MCMT)

T2 Laboratories, Inc. Runaway Reactions

- An exothermic reaction were being run and not enough cooling was supplied
- The relief system was incapable of relieving the pressure from a runaway reaction

T2 Laboratories, Inc. Runaway Reactions



ConAgra Natural Gas Explosion and Ammonia Release

- June 9, 2009 in Garner, North Carolina
- 3 fatalities and dozens of injured
- Around 100,000 ft² of the plant affected

ConAgra Natural Gas Explosion and Ammonia Release

- A new gas-fired water heater was installed a week before the accident took place. Gas is supplied to the heater via a gas line installed between the gas main on the roof and the pump room where the heater was placed.
- The line was purged to remove the air inside it on the day of the explosion
- CSB suspects that the gases inside the line might have vented into the pump room, leading to a high concentration of flammable gases

ConAgra Natural Gas Explosion and Ammonia Release



Silver Eagle Refinery Flash Fire and Explosion

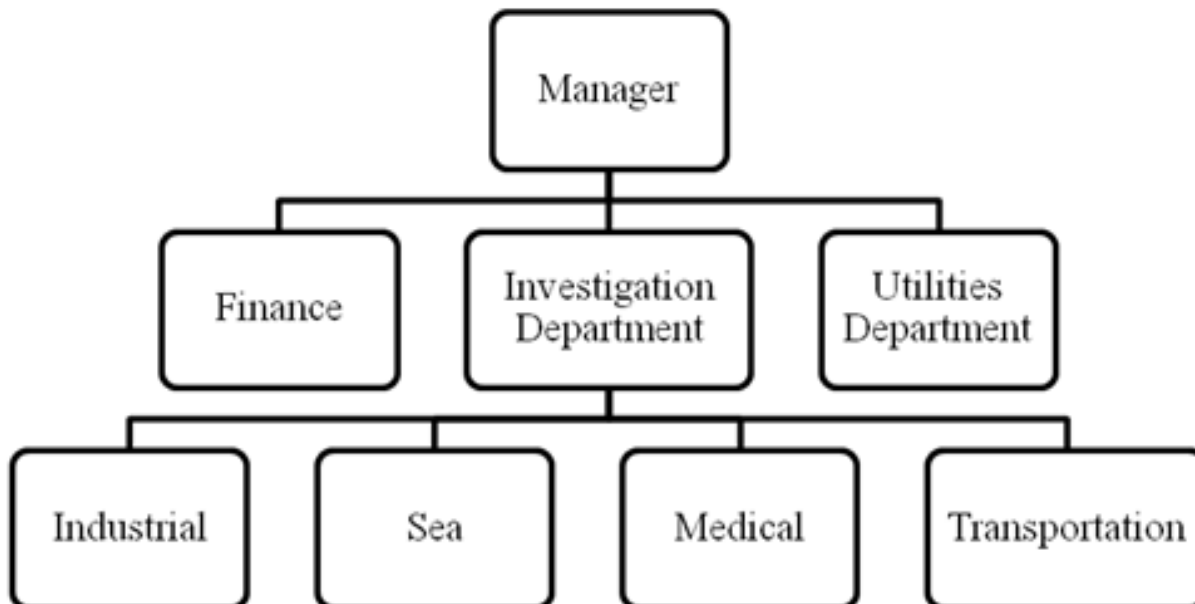
- January 12, 2009 in Woods Cross, Utah
- 4 people severely burned
- A large vapor cloud was released from an atmospheric tank containing 440,000 gallons of light naphtha
- An undetermined yet ignition source led to a fire

Silver Eagle Refinery Flash Fire and Explosion



Qatar Proposed Chapter

- Qatar Safety Board (QSB) will serve as an independent organization that assesses and investigates accidents in the Qatari market.



Medical Department

- Prioritize the patient's health and safety
- Treat everyone equally and ethically
- Maintain clean and hygienic equipment and tools
- Maintain a cooperative and supportive working environment
- In case of misconduct, notify responsible authorities and groups involved

Medical Department

- Common Formats.
- Include:
 - Incidents — events in which patient safety has been reached, whether or not there was harm
 - Near misses — patient safety events almost reached the patient
 - Unsafe conditions — circumstances of an event that increases the probability of harming patient safety

Industrial Sector Department

- Objectives
 - Investigate and identify causes behind all accidents in the industrial sector in Qatar
 - Write a detailed report on each accident that gives advice on how to avoid such accidents
 - Raise awareness by publicizing the reports and making them available for everyone free of charge

Industrial Sector Department

- Guidelines
 - The department will be in contact with all the companies in the industrial sector in Qatar
 - 3-5 members that will examine each accident
 - The members responsible for a certain accident will file a report that includes its causes and ways to avoid them
 - The report will be written as soon as all the information is available and distributed to all the companies in the industry in order to avoid similar accidents

Sea Department

- Concerned with people's safety and reducing sea accidents.
- Objectives:
 - Provide all people in sea with information about the weather at all times
 - Reduce the probability of polluting the sea, either from industries waste or fuel ships explosion
 - Improve the communication between the sea patrol and all people in sea
 - Increase the knowledge and skill of sea workers and fishermen about the safety and life saving equipments

Sea Department

- How to achieve objectives:
 - The department will provide recommendation and standards for the safety equipments.
 - Provide solutions and plans to put in action when fuel spills happen, or to prevent them from happening in the first place.
 - Building stations for telecommunication in sea.
 - Approval is needed to set regulation and laws regarding the safety of people in sea.

Transportation Department

- Concerned with people's safety and reducing road accidents.
- Statistics shows an increase in car accidents.
- In 2008:
 - Number of cases = 4816
 - Number of death = 199
 - Vital injuries = 419
 - Minor injuries = 1009
- Objectives:
 - Reduce the road fatalities per 100,000 inhabitants for the State of Qatar.
 - Improve the road construction plans in order to keep the workers and drivers safe.
 - Increase the awareness of people on the proper way of driving.

Transportation Department

- How to achieve objectives:
 - The department will provide recommendations on how to construct roads that will reduce car accidents.
 - Conduct research on how to reach the accident place faster.
 - Enforce strict laws and regulations about the following:
 - Using mobile phone while driving.
 - Wearing a seatbelt.
 - Speeding.
 - Increase awareness of people
 - Trucks should have their own roads outside the city, especially the crowded places.

Utilities Department

- Provide all the other departments of the chapter with the necessary equipment for the best performance and practices.
- Objectives:
 - Develop a comfortable workplace environment for the staff
 - Handle any matter with technology related aspects
 - Provide all staff and their families with health insurance and make sure they are applicable for it
 - Provide translation services

Finance Department

- Deal with all money related aspect in the organization.
- Income:

Income source	Amount
workshop	500,000 \$
Selling merchandise	500,000 \$
Registration fee	500,000 \$
Investments	6,000,000 \$
Government	10,000,000 \$
Other sources	4,000,000 \$
Total	21,500,000 \$

Finance Department

- Expenses:

Expenses source	Amount
Salary	9,000,000 \$
Equipment cost	8,000,000 \$
Programs cost	750,000 \$
Office furniture and equipment cost	630,000 \$
Other expenses	1,000,000 \$
Total	19,380,000 \$



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Thank you for Listening

Any Questions ?!