

Statements of CSB Board Member William Wark and CSB Lead Investigator Don Holmstrom Updating the Public on the Fatal Accident at the BP Texas City Refinery on January 14, 2008

League City, Texas, February 7, 2008, 10 a.m. Central Time

CSB BOARD MEMBER WILLIAM WARK:

Thank you. I am William Wark, one of three board members of the United States Chemical Safety Board, the CSB. The CSB is an independent, non-regulatory federal agency, established in 1998 and headquartered in Washington, DC. Our mission is to investigate significant chemical accidents and prevent future accidents through safety recommendations and outreach.

Last year, on March 20, 2007, we issued a comprehensive report on the root causes of the explosion at the BP Texas City refinery in March 2005. That accident, which occurred during the startup of the isomerization unit, caused 15 deaths and 180 injuries when hydrocarbons were released from a blowdown vent. The hydrocarbons ignited and the resulting explosions and fires killed workers in nearby trailers.

We also investigated a serious hydrogen fire at the Texas City refinery in July 2005 that caused \$30 million in property damage in a hydrotreater unit. We issued our final report and recommendations in October 2006.

The findings and recommendations of the CSB reports are, we hope, leading to major changes in process safety at BP and at other oil and chemical companies. Some of our key recommendations dealt with trailer siting, the use of blowdown drums, mechanical integrity, operator fatigue, process safety indicators, corporate oversight, and federal regulatory enforcement.

In August 2005, the CSB made an urgent recommendation to BP to establish an independent panel to evaluate safety culture and management systems at the company's five U.S. refineries in Texas, Indiana, Ohio, Washington, and California. The panel, chaired by former Secretary of State James Baker, completed its report in January 2007 and made extensive recommendations to BP for improved safety leadership and oversight at the corporate level.

The CSB reports and recommendations, as well as the Baker panel report, are available from our website, CSB-dot-gov, under Completed Investigations.

On January 14, 2008, there was another tragic accident at the Texas City refinery. This was the third fatality at the refinery since the March 2005 explosion.

A BP supervisor, Mr. Joseph Gracia, was fatally injured when the top of a large steel filter housing suddenly blew off in the refinery's ultracracker unit.

This unit is across a roadway from the ISOM unit, where the 2005 accident occurred, and in fact many of the victims from 2005 were involved in projects in the ultracracker.

On behalf of all of us at the Chemical Safety Board, I extend my deepest condolences to Mrs. Gracia and his other survivors and loved ones.

Today the Chemical Safety Board is announcing that we are proceeding with a full investigation of the accident that caused the death of Mr. Gracia on January 14.

The goal of the investigation is to determine as precisely as possible what happened to cause this unfortunate event and to make recommendations to BP and others to prevent similar accidents in the future. Conducting this investigation will take a number of months.

In deciding to proceed with this investigation, we weighed a number of factors. These factors included the severity of the accident, the likelihood that hazardous chemicals were involved, and the learning potential for BP and other refiners that operate similar hazardous processes.

Consistent with the CSB's procedures, we also considered the serious history of accidents at the Texas City refinery. Over the past 32 years, a total of 41 people have died in workplace accidents at this site.

BP has cooperated with the investigation and has provided witnesses and information on a voluntary basis.

I will now ask CSB Lead Investigator Don Holmstrom to provide an update on the work of the CSB investigative team to date. Mr. Holmstrom?

CSB LEAD INVESTIGATOR DON HOLMSTROM:

Thank you, Mr. Wark.

First of all, let me join you in extending my condolences to all those affected by this accident.

The CSB investigative team arrived in Texas City during the week of January 14 and we have been actively working here since then. Up to four investigators from Washington, DC, have been at the refinery on an ongoing basis examining the scene, conducting witness interviews, identifying physical evidence, and gathering documents.

We have in place a three-way agreement among BP, OSHA, and ourselves ensuring preservation of the accident site for investigators and providing procedures for evidence testing.

I would particularly like to thank OSHA's inspection team from the South Houston office for the excellent coordination between our two ongoing federal investigations.

Over the past three weeks, the CSB team has interviewed approximately 35 witnesses, including several who were in the immediate area when the accident occurred.

The information I will describe today is based on a variety of sources, including witness interviews. I strongly emphasize that all information is preliminary and is subject to modification and refinement as the investigation proceeds. Findings, root causes, and recommendations are only final after a vote by the board members.

The accident that killed Mr. Gracia, an experienced BP supervisor, occurred just before 4 p.m. on Monday, January 14, in a section of the ultracracker unit that was in the beginning stages of a start up after a prolonged shutdown.

The ultracracker uses high pressure hydrogen gas, which is highly flammable, to break apart or “crack” petroleum molecules, similar to diesel fuel. The hydrogen gas used in this section of the ultracracker is not pure but instead is a byproduct of the refining process.

Before this hydrogen is used in the ultracracker, it is cleaned or “scrubbed” with water in a tower to remove impurities such as hydrocarbons, hydrogen sulfide, and chlorides.

Wash water from the tower is filtered to remove solid impurities. The accident occurred in the filtration system, visible in the two photographs here at the front.

At the time of the January 14 accident, the victim was standing right here in the ultracracker unit, next to this large metal filter housing. Shortly before 4 p.m., the heavy metal lid was suddenly and violently blown from the top of the filter housing. You can see the lid here in the photograph, where it came to rest after the accident.

The filter housing, shown here, was normally filled with process water and operated under a moderate pressure. It was secured in place by 24 large steel bolts. When the accident occurred most of the bolts were either sheared off or stripped. Bolt fragments were propelled a large distance away.

To blow the filter lid off in this manner required a very significant force, likely well in excess of the normal operating pressure.

As you can see from the photographs, there is limited physical damage other than the catastrophic failure of the lid, and no indication of any sustained fire in the area.

The victim likely died of blunt force trauma and also suffered thermal injuries, consistent with steam burns.

There are various possible scenarios to explain the sudden build up of pressure inside the filter housing. A possible scenario we are investigating is an internal explosion inside the filter.

This filter was being returned to service after a filter element change and had recently been refilled with process water, as specified by the startup procedure. Witnesses told that the CSB this process water sometimes contained hydrogen, flammable light hydrocarbons, and hydrogen sulfide, a toxic and flammable gas.

These substances are a possible fuel for an explosion, in the presence of oxygen and an ignition source. Fuel, oxygen, and an ignition source form the so-called “fire triangle.”

We therefore plan to test the process water to determine its composition and flammable characteristics, and also to examine historical data about the presence of hazardous materials in this process water.

Typically in refinery service, when flammables may be present, it is critically important to remove oxygen to avoid possible fires and explosions. We are examining BP’s procedures and practices to understand if air may have in fact remained in the filtration system.

In addition, we plan to test the filter housing for any residues of pyrophoric materials. These are substances that can combust spontaneously on contact with air, and can form in the presence of hydrogen sulfide.

Other scenarios have not been ruled out, and the investigation is in a very early stage. These include a sudden pressure increase of undetermined origin within the unit equipment, causing the failure of the lid.

Our investigation is focusing on better understanding exactly what happened on January 14 and determining what the existing good practices are in the refining industry for managing these kinds of hazards.

We are requesting a variety of documents from BP such as operating and maintenance procedures. We are also examining how process design changes were managed in this unit and researching previous incidents involving similar hazards, here and at other facilities.

Typically these are lengthy investigations requiring many months to complete, leading to a written report with safety recommendations.

Thank you. Mr. Wark?

MR. WARK:

Thank you, Mr. Holmstrom, and I thank all the investigators for their efforts here over the past three weeks.

The CSB team anticipates completing its initial field work this week and continuing the investigation from other locations around the country. We will provide further updates to the public and the industry as warranted.

Thank you all for attending this morning, and now Mr. Holmstrom and I would be pleased to answer your questions.

We would first like to take questions from the reporters here in the room, and then proceed later to take any questions from the telephone audience.

Please state your name and affiliation as you begin.

[For more information, please contact CSB Director of Public Affairs Daniel Horowitz at (202) 441-6074 cell or Public Affairs Specialist Jennifer Jones at (202) 261-3603.]