



# **U.S. Chemical Safety and Hazard Investigation Board**

---

## **BUDGET JUSTIFICATION**

---

**Fiscal Year 2007**

**Budget Justification for Fiscal Year 2007**  
**U.S. Chemical Safety and Hazard Investigation Board (CSB)**  
**February 6, 2006**

**Summary**

For fiscal year (FY) 2007, the CSB requests a budget of \$9.50 million, an increase of \$440,000 above the FY 2006 enacted level of \$9.06 million. The increase will allow funding for two additional Board members while preserving current CSB staff and programs at existing FY 2006 levels. Full funding of this request is necessary for the agency to continue its mission activities that protect lives, property, and the environment from deadly chemical accidents.

**2005: A Year of Major Challenges and Achievements**

As the year began, the world observed the twentieth anniversary of the worst chemical accident in history, the toxic gas tragedy at a pesticide manufacturing plant in Bhopal, India, which killed thousands of members of the public. CSB Chairman Carolyn Merritt was a keynote speaker at an international event to commemorate the occasion. While praising the safety progress of the past two decades, Chairman Merritt called for further improvements to reduce hazards to workers, the public, and the environment. In the twentieth year after Bhopal, the CSB received reports of more than 600 chemical incidents at U.S. facilities.

In the United States, the year was marked by the worst chemical accident in more than a decade, the tragic explosion at the BP Texas City refinery on March 23, 2005. The accident took fifteen lives, injured more than 170 others, and caused economic losses in excess of \$1.5 billion.

CSB deployed its largest-ever team of investigators on the evening of March 23 and maintained a virtually continuous presence at the refinery through late July. The investigation has already proved to be the most expensive and complex in agency history, costing more than \$1.5 million during 2005.

On August 17, 2005, the Board issued the first recommendation designated “urgent” in its eight-year history, urging the BP Global Board of Directors to commission an independent panel to examine safety management systems, culture, and oversight at the company’s five North American refineries in Ohio, Washington, Indiana, and California as well as Texas.

The Board cited a series of safety lapses at the Texas City site, including a decision to proceed with a unit startup despite pre-existing problems with safety alarms and instrumentation. BP promptly accepted the recommendation, and BP Group chief executive John Browne commented: “Today’s recommendation from the CSB is a welcome development and we take it seriously. We will move speedily to appoint an independent panel and offer it every help to do its job. When it reports, we will act with equal speed to deal with its recommendations.” On October 24, 2005, BP announced the appointment of an 11-member independent safety review panel chaired by former U.S. Secretary of State James A. Baker III. The panel immediately set to work and has conducted two public hearings and begun work on a survey of BP refinery workers throughout North America.

The following day, October 25, the CSB issued its second-ever urgent recommendation. The Board called on the American Petroleum Institute (API), a leading trade organization, to establish a new recommended safety practice to prevent the placement of occupied trailers close to hazardous process equipment – a key safety issue uncovered in the Board’s BP investigation.

On October 27, the Board convened a public meeting in Texas City to release preliminary findings from the investigation. The meeting was attended by about 175 members of the public, members of the news media, and government officials, and included poignant statements about the human impact of the accident.

The Board’s investigation of the explosion at BP has received attention from around the world. Prompted by this case, the Board developed a collaboration with counterparts at the U.K. Health and Safety Executive (HSE), which then sent a representative to CSB headquarters for two weeks in November 2005. The Board has also entered into an agreement with a French counterpart, the Institut National Industriel et des Risques (INERIS), to send a French investigator to the CSB to participate in the BP investigation.

Other noteworthy events of the year included:

**January 25, 2005:** The CSB deployed investigators to an acetylene manufacturing and packaging site in Perth Amboy, New Jersey, where a powerful acetylene gas explosion killed three workers instantly. On January 26, 2006, the Board completed its investigation and issued a written safety bulletin and a safety video on acetylene hazards in an effort to prevent future accidents.

**February 15, 2005:** The CSB convened a large public meeting in London, Kentucky, to release its final report on the 2003 dust explosion at nearby CTA Acoustics, an accident which killed seven workers and injured 37 others. Two days after the CSB’s public meeting, the Kentucky State Fire Marshal agreed to establish a comprehensive statewide inspection program for combustible dust-producing facilities, responding to one of the Board’s recommendations.

**April 15, 2005:** CSB Chairman Merritt commended paper giant Georgia-Pacific for establishing a corporation-wide reactive chemical process safety program in response to a 2002 CSB safety recommendation.

**April 27, 2005:** Testifying before the Senate Homeland Security and Governmental Affairs Committee, CSB Chairman Merritt cited serious shortcomings in community emergency response to recent chemical releases and called for a comprehensive national review of emergency preparedness. In December 2005, Senators Collins and Lieberman introduced new chemical security legislation that focuses substantial attention on the emergency preparedness issues raised by Chairman Merritt.

**June 22, 2005:** The Board convened a day-long public hearing on the hazards of combustible dust explosions at industrial sites. At the public meeting, a North Carolina official described how the state will now require mandatory safety permits for dust-producing operations in response to a CSB recommendation from the investigation of the massive dust explosion at West Pharmaceutical Services in Kinston in 2003. The Kentucky State Fire Marshal detailed the state's new plan for inspecting businesses with dust explosion hazards, the result of CSB's investigation of the catastrophic accident at CTA Acoustics in Corbin.

**June 24, 2005:** An investigative team from the CSB deployed to the site of an acetylene gas repackaging facility in St. Louis, Missouri, where a cascade of explosions hurled dozens of metal cylinders into a surrounding residential neighborhood, destroying vehicles and damaging homes and other buildings.

**August 10, 2005:** The CSB released its final report on a July 2003 chlorine release from a stationary rail car at the Honeywell refrigerant plant in Baton Rouge. Remarkably the very next day, August 11, there was another chlorine release from a rail car at the facility, but this time – owing to new safety equipment recommended during the CSB investigation – the release was halted within 45 seconds, compared to a release of more than three hours' duration in July 2003.

**September 8, 2005:** The Board issued a special safety bulletin outlining precautions for restarting oil and chemical facilities damaged by Hurricane Katrina. The bulletin was immediately disseminated by the American Chemistry Council, the American Petroleum Institute, the Synthetic Organic Chemical Manufacturers Association, the Chlorine Institute, the National Petrochemical and Refiners Association, and other organizations.

**September 30, 2005:** With the conclusion of the fiscal year, the CSB marked a record closure rate for its safety recommendations. During FY 2005, some 54 safety recommendations were successfully closed based on acceptable actions by government agencies, companies, trade associations, labor groups, or other recipients. By comparison, 11 safety recommendations were successfully closed in FY 2004.

**October 5, 2005:** At a news conference in Huntington, Indiana, the Board released its final report on the fatal aluminum dust explosion at automotive parts maker Hayes Lemmerz, calling on the State of Indiana to increase training for fire safety inspectors and educate state businesses about dust explosion hazards.

**October 6, 2005:** About thirteen workers were injured at the Formosa Plastics complex in Point Comfort, Texas, when a forklift collided with a line containing highly flammable liquid propylene, resulting in a vapor cloud explosion. CSB investigators deployed to the site and are preparing a case study report on the incident, which caused as much as \$100 million in economic losses.

**October 26, 2005:** At a news conference in Albuquerque, New Mexico, the CSB issued a case study report on the hydrocarbon explosion at the Giant Industries refinery near Gallup, which injured six workers in April 2004. The report emphasized the importance of effective mechanical integrity programs and safe maintenance procedures in refineries and chemical plants.

**November 5, 2005:** Two workers were killed at the Valero Delaware City Refinery when they were overcome by nitrogen gas while performing maintenance on equipment. CSB investigators deployed to the site, and the Board decided to conduct a full investigation of the incident. The Board noted that nitrogen asphyxiation is a serious industrial hazard that, according to a 2003 CSB study, caused 80 deaths and 50 injuries in the U.S. over a ten-year period.

**December 21, 2005:** The CSB released three new safety videos, including a computer depiction of the accident at BP Texas City, available for downloading or live viewing through the Board's popular website, CSB.gov. During the first month, there were more than 200,000 viewings of the videos over the Internet.

**January 11, 2006:** Two municipal workers were fatally injured when methanol exploded inside a large storage tank at a city-owned water treatment facility in Daytona Beach, Florida. Workers were removing a hurricane-damaged roof above the tank of flammable liquid when sparks from a cutting torch evidently caused an explosion. The CSB launched a full investigation, focusing on whether the lack of federal or state safety regulations covering municipal facilities was a factor in the accident. The investigation will also examine the suitability of using aluminum flame arresters in corrosive marine environments.

### **Need for Federal Safety Investigations Remains High**

In July 2004, the CSB instituted a rigorous program for screening chemical incidents reported to the Board and for documenting the basis for deployment decisions. According to data accumulated during the first year of the screening program, from July 2004 to June 2005, the agency received notification of 645 chemical incidents from sources including the National Response Center, media reports, and other federal agencies including the NTSB. While the great majority of the 645 incidents were relatively minor and did not warrant federal root-cause investigations, there were 18 incidents that scored medium, medium/high, or high according to the agency's selection criteria. Most of these involved fatalities, serious injuries, or large-scale public evacuations.

Because of resource commitments and constraints, CSB investigators were deployed to six of the 18 events scoring medium or above.<sup>1</sup> The major accident at the BP Texas City refinery -- which required the lengthy field deployment of more than half of CSB's staff investigators and as well as the costliest equipment testing program in agency history -- placed a further drain on CSB's limited resources.

During FY 2005, there were a number of serious chemical incidents to which the agency did not deploy investigators due to a lack of available personnel or resources. Among the more noteworthy examples are:

---

<sup>1</sup> A detailed report on the agency's incident screening data is being provided to Congress and OMB along with this Budget Justification.

**December 16, 2004, East Point, Georgia:** Thousands of residents were evacuated from their homes when an acetic acid vapor plume was released due to a chemical reaction inside a large acid storage tank.

**December 28, 2004, Muskogee, Oklahoma:** Two employees died when a fire and explosion occurred at a metal reprocessing plant.

**January 15, 2005, Anderson, Indiana:** An industrial magnesium fire forced the evacuation of over 5,000 residents.

**April 6, 2005, Fort Wayne, Indiana:** A combustible dust fire involving magnesium killed one worker and seriously injured three others.

**July 28, 2005, Fort Worth, Texas.** A series of explosions and fires at a solvent distributor destroyed the facility, injured four workers, and formed a smoke plume visible for 30 miles.

**August 9, 2005, Romulus, Michigan:** A massive explosion and fire at a Detroit-area hazardous materials recycling plant created a 500-foot high mushroom cloud and forced the evacuation of 1,100 homes within a one-mile radius. Twelve residents sought hospital treatment.

**August 25, 2005, North Perkin, Illinois:** A series of explosions at a propane distribution facility resulted in severe injuries to two workers and moderate injuries to another. Emergency responders closed down a major roadway and evacuated a half-mile radius area around the plant.

The Board believes that the public interest would be served by conducting root-cause investigations of a greater proportion of such serious accidents. To that end, the Board has continuously sought to improve the efficiency of its investigative process, has developed a comprehensive human capital plan, and in future years may request additional investigative positions.

### **Human Capital Plan Developed**

Consistent with federal guidance, the agency has worked throughout FY 2005 to develop a long-term human capital plan and vision. A committee of senior staff created the plan and presented it to the CSB chairman and board members. Principal elements of the plan include:

- reducing bureaucracy by eliminating the SES position of chief operating officer (COO) and expanding delegations to individual offices;
- restructuring and expanding the Office of Investigations to meet the agency's strategic goals, by creating four self-sufficient investigative teams, each headed by a designated Lead Investigator;

- emphasizing hiring at the entry-level (GS-7/9), particularly through the federal career intern program;
- establishing a future goal of a separate Office of Safety Studies with distinct skill sets to take over the conduct of broader studies, surveys, and data analyses from the Office of Investigations.

Many aspects of the plan are already being implemented. Following the departure of the former COO in November 2004, no replacement was hired and administrative authorities were vested in a staff leadership team overseen by the CSB chairman. Eight highly talented recent college graduates have been hired at the GS-7 level as investigators, recommendations specialists, or public affairs specialists through the federal career intern program.

### **FY 2007 Request**

The Board recognizes the extraordinary pressure on the federal budget during the coming fiscal year due to the costs of the disaster relief and war efforts. The Board has therefore deferred requesting any of the new programs or personnel that were contemplated in the agency's preliminary budget request in September 2005.

The CSB request for FY 2007 has similar assumptions to those in the President's FY 2007 budget request. However, we believe that slightly higher amounts are required in order to maintain current staff and programs, and thus we request a total of \$9.5 million, compared to \$9.1 million in the President's request, and \$9.06 million in the current year budget.

The CSB currently has 41 federal employees, including three Board members. The agency also has a number of on-site contractors. Included among these contractors are two (an information technology specialist and a financial assistant) whose positions have been slated for conversion to federal employee status within the next quarter, for operational as well as budgetary reasons. In effect, the CSB already has 43 employees *without* the filling of the two vacant Board seats, and when those seats are filled the agency will have 45 employees. The President's request, however, is based upon 43 employees in FY 2007, including five Board members. Accordingly, if the President's request of \$9.1 million is enacted and the vacant Board seats are filled before or during FY 2007, the agency would need to eliminate current staff positions.

A net increase of \$164,000 is required to fully fund the two vacant Board seats.<sup>2</sup> A total of \$92,000 is required to offset an expected 2.2% cost-of-living increase for federal employees in January 2007. In addition, the agency has been notified of increases to its fixed costs including rent, procurement, and personnel services that total \$44,000. Finally, variable costs (contracts) are projected to increase by a total of \$136,000, including \$41,000 for core skills training of investigators. A chart below presents a more detailed analysis of change in the budget.

---

<sup>2</sup> The annual cost of two Board members, who by statute are paid at the EX-4 level, is \$380,000 including compensation and benefits. The CSB requests a net increase of only \$164,000 because the agency's FY 2006 budget included part-year funding for the two vacant seats, and compensation and benefits for other positions was reduced by \$66,000 after revising the FY 2007 staffing plan.

## **Status of Emergency Fund**

The agency currently has a no-year emergency fund for investigations totaling \$847,000. The agency is not currently requesting any change to this fund. Thus far, the CSB has been able to fund the extraordinary costs associated with its BP Texas City investigation through reprogramming of existing funds without drawing down the emergency fund. The bulk of BP-related costs were incurred in FY 2005, and the costs projected for FY 2006 are lower than initial estimates.

However, the agency notes that its investigative contract budget for FY 2006 is relatively small at \$237,000, of which \$152,000 has already been spent (including \$142,000 for BP-related contracts). Depending upon the cost of new investigations launched during the remainder of FY 2006, the investigative contract budget may well be exhausted, in which case the agency intends to draw upon the emergency fund. Should this need arise, the Board will immediately inform the Committees and the Office of Management and Budget.

## **Conclusion**

The CSB performs essential services to the nation by investigating major chemical accidents, issuing and closing safety recommendations, and broadly disseminating the lessons learned in the hope of preventing future tragedies. The cost of even a single major accident can be measured in billions of dollars: the March 2005 accident at BP Texas City, for example, has reportedly cost \$700 million for compensation of victims, \$200 million in damage to equipment, and \$900 million in lost profit from the related shutdown of the refinery.<sup>3</sup> By comparison, the CSB's budget request is a modest and prudent investment in preventing these disasters.

---

<sup>3</sup> The Texas City refinery was shut down in September as Hurricane Rita approached, following additional process accidents in July and August 2005. The refinery, which supplied 3% of the nation's gasoline, has remained shuttered while safety improvements and storm repairs are underway.

## Recommended Appropriations Language

### CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD *Federal Funds*

#### General and special funds

### CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD

#### SALARIES AND EXPENSES

For necessary expenses in carrying out activities pursuant to section 112(r)(6) of the Clean Air Act, as amended, including hire of passenger vehicles, uniforms or allowances therefore, as authorized by 5 U.S.C. 5901-5902, and for services authorized by 5 U.S.C. 3109 but at rates for individuals not to exceed the per diem equivalent to the maximum rate payable for senior level positions under 5 U.S.C. 5376, [~~\$9,200,000~~] \$9,500,000: Provided, That the Chemical Safety and Hazard Investigation Board [~~(Board)~~] shall have not more than three career Senior Executive Service positions[~~: Provided further, That notwithstanding any other provision of law, the individual appointed to the position of Inspector General of the Environmental Protection Agency (EPA) shall, by virtue of such appointment, also hold the position of Inspector General of the Board: Provided further, That notwithstanding any other provision of law, the Inspector General of the Board shall utilize personnel of the Office of Inspector General of EPA in performing the duties of the Inspector General of the Board, and shall not appoint any individuals to positions within the Board~~].

**CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD**

**FISCAL YEAR SALARIES & EXPENSES**

(in thousands of dollars)

	<b>FY 2005 Actual</b>	<b>FY 2006 Budget</b>	<b>FY 2007 Request</b>
<b>Personnel Compensation &amp; Benefits</b>	<b>\$ 5,008</b>	<b>\$ 5,826</b>	<b>\$ 6,082</b>
<b>Contract Employees</b>	<b>799</b>	<b>707</b>	<b>707</b>
<b>Fixed Costs</b>			
Rent, Communications, & Utilities	715	755	772
Interagency Services	629	467	493
Maintenance	28	54	55
<b>Total Fixed Costs</b>	<b>1,372</b>	<b>1,276</b>	<b>1,320</b>
<b>Variable Costs</b>			
Travel & Transportation	326	310	334
Rent, Communications, & Utilities	68	74	75
Printing	30	29	29
Other Services	1,263	687	792
Supplies	104	142	148
Equipment	30	13	13
<b>Total Variable Costs</b>	<b>1,821</b>	<b>1,255</b>	<b>1,391</b>
<b>Total Costs</b>	<b>\$ 9,000</b>	<b>\$ 9,064</b>	<b>\$ 9,500</b>

**Salaries and Expenses**  
**Analysis of Change**  
*(in thousands of dollars)*

*FY 2006 Appropriation (Salaries & Expenses) .....\$ 9,064*

*Summary of Adjustments to Base and Built-In Changes*

**Personnel Cost Increases**<sup>1</sup>

Cost of FY 2006 Hires .....164  
 Estimated Cost of January 2007 Pay Increase<sup>2</sup> .....92  
***TOTAL INCREASE.....256***

**Fixed Cost Increases**

Rent, Communications, & Utilities.....17  
 Interagency Services .....26  
 Maintenance .....1  
***TOTAL INCREASE.....44***

**Variable Cost Increases**

Travel & Transportation .....24  
 Rent, Communications, & Utilities.....1  
 Printing and reproduction .....0  
 Other services.....105  
 Supplies.....6  
 Equipment .....0  
***TOTAL INCREASE.....136***

***Total Adjustments to FY 2006 Salaries & Expenses .....436***

---

***Total FY 2007 Appropriation Request .....\$ 9,500***

---

<sup>1</sup> Benefits are calculated at 27 percent of base pay.  
<sup>2</sup> FY 2007 pay increase estimated at 2.2 percent of base pay.

## **Analysis of Change** (Significant Adjustments)

**Personnel costs:** The FY 2007 budget for personnel costs reflects increases to fully fund positions which will be filled in FY 2006, and for the projected January 2007 pay increase. An increase of \$230,000 is needed to fully fund Board Member positions that were vacant at the start of FY 2006. The CSB also reviewed and revised the staffing plan and as a result, decreased staffing cost by \$66,000. As a result, the net cost of the FY 2006 hires is \$164,000. In addition, an increase of \$92,000 is required to fund a projected January 2007 pay increase.

**Rent:** An increase of \$17,000 is required to fund annual rent and operating expense increase.

**Interagency Services:** An increase of \$26,000 is required to fund planned cost increases from the Bureau of Public Debt (This is the third year of a five year cost adjustment).

**Travel:** An increase of \$24,000 is needed to cover escalating transportation costs.

**Other Services:** An increase of \$41,000 is requested for required investigator training. In FY 2006 a core training curriculum is under development and additional funding is requested to fund courses within the curriculum. An increase of \$61,000 is projected for web video hosting, producing animations and safety videos, and public affairs services formerly done by a federal employee. The remaining \$3,000 is to fund expected small increases in a variety of areas.

**CSB APPROPRIATIONS BY FISCAL YEAR  
(DOLLARS IN MILLIONS)**

**Salaries and Expenses**

<b>Fiscal Year</b>	<b>One-Year Funds</b>	<b>Two-Year Funds</b>	<b>Total Funds</b>
1998	\$4.00	\$0.00	\$4.00
1999	6.50	0.00	6.50
2000	7.97	0.00	7.97
2001	4.99	2.49	7.48
2002	5.34	2.50	7.84
2003	7.31	0.50	7.81
2004	8.20	0.00	8.20
2005	9.03	0.00	9.03
2006	9.06	0.00	9.06
2007*	9.50	0.00	9.50

\* Request

**Emergency Fund\*\***

<b>Fiscal Year</b>	<b>New Funding</b>	<b>Amount Spent to Date</b>	<b>Total Available</b>
2004	\$0.44	\$0.00	\$0.44
2005	0.40	0.00	0.84

\*\* The Emergency Fund was established in FY 2004. It provides a funding mechanism so periodic accident investigation cost fluctuations can be met without delaying critical phases of the investigations. It is no-year funding, meaning it is available until expended.

**U.S. CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD  
PERSONNEL DATA**

<b>Grade</b>	<b>On Board 9/30/2004</b>	<b>On Board 9/30/2005</b>	<b>On Board 1/31/2006</b>	<b>Projected 9/30/2006</b>
GS-7	4	8	8	7 <sup>a</sup>
GS-8	-	-	-	-
GS-9	2	2	2	2
GS-11	1	1	1	1
GS-12	1	1	2	5 <sup>a</sup>
GS-13	5	4	3	3
GS-14	15	16	13 <sup>b</sup>	13
GS-15	5	5	8 <sup>b</sup>	8
Executive	4	3	3	5
Schedule C	1	-	-	-
SES	2	1	1	1
<b>Totals</b>	<b>40</b>	<b>41</b>	<b>41</b>	<b>45</b>

**Notes:**

<sup>a</sup> One position at this grade level is planned to be converted from a contractor to an employee during fiscal year 2006.

<sup>b</sup> Reclassified three GS-14 positions to GS-15 positions in October 2005.