



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

FINAL BUDGET JUSTIFICATION

Fiscal Year 2012

Budget Justification for Fiscal Year 2012
Chemical Safety and Hazard Investigation Board
February 2011

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Budget Justification for Fiscal Year 2012
Chemical Safety and Hazard Investigation Board
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Summary

For fiscal year (FY) 2012, the Chemical Safety and Hazard Investigation Board (CSB) requests a budget of \$12.80 million, an increase of \$94,000 above the FY 2011 budget request of \$12.71 million. The proposed increase of funds supports staff for current CSB programs to conduct thorough safety investigations, develop effective safety recommendations, and release findings to the public. The CSB will need funding to hire an additional individual in FY 2012 to handle the CSB's increasing records management and open government responsibilities and to address a backlog of Freedom of Information Act (FOIA) requests. The proposed budget also adds two investigators to the existing teams in the Denver regional office, thus creating full five member teams to conduct major accident investigations.

2010 – Redefining Safety Investigations

In 2008, the GAO released a report that identified an “investigative gap” which was defined as “the difference between the number of accidents [the CSB] investigates and the accidents that meet statutory criteria triggering CSB’s responsibility to investigate.”¹ The GAO recommended that the CSB “develop a plan to address the investigative gap and request the necessary resources from Congress to meet [the] CSB’s statutory mandate,” i.e. to investigate “any accidental release resulting in a fatality, serious injury or substantial property damages.”

In order to implement GAO’s recommendation, the CSB has examined its existing approach to investigating serious chemical accidents and defined a new investigatory methodology to close the gap. The board’s traditional model focused exclusively on deployments to major chemical process accident sites resulting in full investigations lasting more than one year. In 2010, the CSB investigators began conducting assessments of smaller accidents with significant consequences to generate internal reports outlining the details of the accident. Using the assessment model, the CSB is collecting important data that can be used in future safety studies on a variety of topics, such as the dangers of ammonia releases.

The CSB has initiated a root cause investigation into the April 20 explosion aboard the Deepwater Horizon drilling rig that killed eleven workers, injured seventeen and resulted in one of the greatest environmental disasters in the current era. On June 8, 2010, the CSB received a request from the House Committee on Energy and Commerce to conduct a root cause investigation using its investigative experience and knowledge of BP’s safety history, culture, and organization gathered from the 2005 explosion at BP’s Texas City refinery. Upon receipt of this letter, former CSB Chairman John Bresland agreed to initiate an investigation. Investigators are examining a wide variety of factors including technical issues, safety system performance, organizational factors, safety culture, contractor management, and the effectiveness of laws, regulations and enforcement. The findings from this investigation have the potential to impact chemical safety on a national and international level.

Also in 2010, the board initiated three short, focused safety bulletins and case studies on critical issues facing the chemical and petrochemical industries: 1) explosions at oil and natural gas sites resulting in the deaths of teenagers and young adults, 2) explosions in university laboratories, and 3) worker injuries and fatalities resulting from hot work.² Using this model, the CSB is able to target high risk industries using data collected from assessments and data in the incident screening database. For example, in March 2010, the board released a safety bulletin entitled *Seven Key Lessons to Prevent Worker Deaths during Hot Work in and around Tanks*. The case study found 60 fatalities since 1990 due to explosions and fires from hot work activities on tanks and incorporated findings from eleven accidents – nine of which the agency investigated.

The CSB has increased its ability to collect data on chemical accidents by strengthening its incident screening program through hiring a full-time incident screener. A dedicated incident screener collects more accurate data on a larger number of high consequence chemical and

¹ U.S. Government Accountability Office Report GAO-08-864R.

² Hot work is defined as “work involving burning, welding, or similar operation that is capable of initiating fires or explosions.”

refinery accidents where CSB investigators do not launch full investigations. Incident screening information was used in several reports issued by the agency this year to better ascertain the scope of a particular safety hazard and to strengthen recommendations to regulatory and industry organizations and will be available for future safety studies.

This expanded range of accidents currently under investigation by the CSB has also broadened the number of stakeholders who will benefit from agency findings. Following investigations into explosions at three rural oil and natural gas sites that killed four young adults and critically injured another between October 2009 and April 2010, the CSB released an educational video and lesson plan designed for middle school and high school students to portray the dangers of socializing at oil and natural gas sites. As a result of the CSB's efforts around this issue, the Board of Supervisors of Forrest County, Mississippi, passed an ordinance requiring critical security measures, including fencing and signage, be placed around hazardous oil sites to protect members of the public from these widespread hazards. Similar actions are now underway at the state level in Mississippi.

In addition to the CSB's educational video on oil and natural gas site safety, the board released three computer-animated safety videos based on CSB investigative findings and recommendations. Among these was a 15-minute video on the hazards of confined spaces based on the findings from the board's investigation into the Xcel Cabin Creek Hydroelectric Plant accident outside of Georgetown, Colorado, that fatally injured five contract workers. The CSB safety videos, which have been viewed millions of times and distributed worldwide on DVD's, received the prestigious European Process Safety Award in 2010, the first time a U.S. based organization was honored with the award.

The CSB will continue to increase its outreach to communities surrounding large chemical and petrochemical facilities affected by chemical accidents throughout 2011. In the Department of Interior, Environment and Related Agencies Appropriation Act of 2010, the CSB was directed to conduct a study by the National Academy of Sciences (NAS) to examine the use and storage of methyl isocyanate and the feasibility of implementing alternative chemical processes at the Bayer CropScience facility in Institute, West Virginia. The study was initiated in September 2010, following an extensive public comment process, and will be conducted over the next 12 months. The CSB hopes the study will provide an important benchmark for industry on evaluating the benefits and costs of inherently safer chemical manufacturing technologies.

Although the CSB has increased its efforts to produce shorter and more thematic investigations, the board has continued to fulfill its statutory mission by deploying investigators to major chemical process accident sites, preparing comprehensive investigation reports, presenting testimony in congressional hearings, convening public meetings throughout the country, and effecting positive change in regulations, standards, and industry practices – all with the goal of preventing future deaths, injuries, economic losses, and environmental damage resulting from chemical accidents.

During 2010, the Board's investigations and recommendations continued to have positive national and global impacts, raising the awareness of hazards and preventing accidents. The CSB testified at an investigative hearing of the House Committee on Education and Labor in

June concerning the Board's investigation into the explosion at the Kleen Energy Power Plant in Middletown, Connecticut. In the CSB's testimony, the dangers of gas blows and gaps in existing standards were discussed. As a result of the Congressional hearing and specific safety recommendations from the CSB, the Occupational Safety and Health Administration (OSHA) has been asked by Congress to take immediate regulatory steps to address workplace safety in the fuel gas industry. In addition, the Governor of Connecticut banned gas blows by executive order.

Facing a record high case load, in 2010 the CSB completed four accident investigations, issued one safety bulletin on the dangers of hot work, conducted two public meetings in North Carolina and Connecticut, and held one community outreach initiative in Mississippi. The CSB issued significant recommendations in 2010 that will help protect workers and communities by preventing the use of hazardous natural gas blows during pipe cleaning activities, requiring companies to purge fuel gases directly into safe spaces outdoors, and revising siting guidelines for facilities using flammable liquids. In addition to completing these projects, CSB personnel deployed to 15 accident sites in 11 different U.S. states and territories and the Gulf of Mexico during fiscal year 2010.

Finally, the CSB has fulfilled several requirements for the president's Open Government Initiative as part of an ongoing effort to increase transparency and promote public understanding of the agency's work. The CSB has released board voting records dating from November 2009 to present, CSB board orders, and two sets of public comments on proposed agency actions on its website www.csb.gov.

Proposed Funding for FY 2012

Records/FOIA Officer

The CSB requests funding to hire an additional individual in FY 2012 to handle its increasing records management and open government responsibilities. As the scope of its investigations has increased, the CSB has accumulated an ever increasing volume of records that must be maintained and to the extent appropriate, made available to the public and to other requesters. At the same time, the CSB has committed itself to provide greater transparency in its operations, including posting significant information on its website and responding more timely to requests for information from the public. For example, CSB investigation files – the most common subject of FOIA and other requests – contain thousands of individual records, each of which must be reviewed to ensure that trade secrets/confidential business information, and privileged information is not improperly released. Additionally, it is anticipated that the increased interest in CSB investigations will result in a higher volume of FOIA requests in the future.

Given its current resources, the CSB is increasingly unable to meet its FOIA obligations, especially in light of the ever increasing need to carefully handle potentially sensitive information, including trade secrets and personally identifiable information. There is not a full

time Records or FOIA officer at the CSB. Rather, these functions are handled by a variety of personnel as collateral duties. As measured by FOIA processing statistics, that approach to information management and disclosure is proving to be inadequate and unsustainable. For example, between FY 2008 and FY 2009, the average number of days required to complete the processing of a complex request (such as for an investigation case file) jumped from an already long 391 days to 471 days. In the same time period, the average number of days that backlogged (i.e., uncompleted) complex requests had been pending increased by 50 days, to 357 days.

Without additional, full-time resources dedicated to information management and disclosure, it is likely the CSB will fall further behind.

Accordingly, the 2012 budget request includes a new full time employee to focus exclusively on records management, FOIA issues, and other open government initiatives. The new hire would become the CSB's full time Records and FOIA Officer. The FY 2012 cost of this new hire is estimated to be \$140,000.

Status of Emergency Fund

The CSB currently has a no-year emergency fund for investigations totaling \$844,000. The agency is not currently requesting any change to this fund. Thus far, the CSB has been able to fund investigation costs through reprogramming of existing funds without drawing down the emergency fund. Should the need arise for the Board to use the fund for an emergency circumstance, the agency will immediately inform Congress and the Office of Management and Budget. Depending upon the timing and the amount of the agency's final 2011 budget, the Board considers it reasonably likely it would need to tap the emergency fund to defray certain expenses related to our investigation of the Deepwater Horizon fire in the Gulf of Mexico.

Appendix A: 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, \$12,804,000: 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.

Appendix B: Fatal Chemical Incidents the CSB Was Unable to Deploy Investigators to in 2010

1. **January 6, 2010, Seminole, Oklahoma:** One man was killed in an explosion as he used a propane torch to thaw a frozen valve on a tanker truck.
2. **January 7, 2010, Portage, Indiana:** Workers were pouring molten steel from an electric furnace into steel ladles leading to an explosion that killed one worker.
3. **January 7, 2010, Bossier Parish, Louisiana:** One employee was killed in a natural gas explosion at a gas-gathering facility.
4. **January 9, 2010, Longview, Texas:** An hydrogen sulfide release at a natural gas processing facility killed one worker and injured a second.
5. **January 9, 2010, Summerville, South Carolina:** An explosion killed one worker as he was transporting propane to a storage tank.
6. **January 11, 2010, Big Spring, Texas:** One person was killed and three others were injured while cleaning a tank at an oil production site.
7. **January 13, 2010, Gulf of Mexico:** A fire aboard an oil and natural gas platform in the Gulf of Mexico left one contract worker dead.
8. **January 14, 2010, Mason City, Iowa:** A 15 year old employee died following a chemical spill in a hospital laundry facility.
9. **January 15, 2010, Stone Mountain, Georgia:** One person was killed after an underground explosion at an abandoned gas station.
10. **January 19, 2010, Payson, Utah:** One man became seriously ill and died after inhaling toxic selenium dust.
11. **February 2, 2010, Nashville, Tennessee:** One man was found dead at the bottom of a tank previously containing toxic solvent at a chemical distribution company.
12. **February 9, 2010, Schofield, Wisconsin:** Excess heat triggered a chemical explosion killing one worker who was stripping paint in the facility.
13. **March 3, 2010, Artesia, New Mexico:** Two employees were killed and two others were severely injured at an oil refinery when a storage tank burst into flames.
14. **March 3, 2010, Chicago, Illinois:** One worker was killed when a pipe at a natural gas utility station exploded during maintenance procedures.
15. **April 1, 2010, Lawrence, Kansas:** Two workers were killed and another injured when overcome by fumes in a tank previously containing chemical fertilizers.

16. **April 19, 2010, Westmont, Illinois:** Chemical vapors were ignited by welding activities and killed one worker at an auto service station.
17. **May 5, 2010, Huntsville, Alabama:** Two workers died and two others were injured following an explosion while removing a propellant from rockets.
18. **May 7, 2010, Middletown, Ohio:** One worker died of nitrogen asphyxiation during a check of a sanitary sewer line.
19. **May 14, 2010, Knoxville, Tennessee:** An explosion during pipe welding activities at a cement plant killed one man and injured another.
20. **May 14, 2010, Colebrook, New Hampshire:** Multiple explosions at a gun and ammunition manufacturing plant killed two workers.
21. **May 26, 2010, Liberty Township, Indiana:** One man was killed when overcome by acid fumes in a well, and four others were injured during a rescue attempt.
22. **June 22, 2010, Broxdale, New York:** A propane tank exploded in a parking lot of a health services building killing one worker and injuring another.
23. **July 8, 2010, Englewood, Colorado:** A welder was killed when vapors from a fuel tank exploded at an environmental remediation company.
24. **July 23, 2010, Indiana Township, Pennsylvania:** A gas well explosion left two workers dead while conducting welding work.
25. **July 29, 2010, Sewickley Borough, Pennsylvania:** One person was killed after being overcome by fumes at a wastewater treatment plant, and three others were injured during a rescue attempt.
26. **July 30, 2010, Norfolk, Massachusetts:** A propane explosion during construction activities killed one worker and injured seven.
27. **August 20, 2010, Wilson, Kansas:** One man was fatally injured as a result of an oil tank explosion.
28. **September 6, 2010, Tarrytown, New York:** A sewer worker and a fireman were overcome by hazardous gases in a manhole and died.
29. **October 6, 2010, Chalmette, Louisiana:** A worker at a refinery died while trying to repair a pipe that was leaking hydrogen sulfide gas.
30. **November 23, 2010, Ghent, Kentucky:** An explosion resulting from hot work at a steel facility fatally injured one man and injured four other people who had been working nearby.

31. **December 10, 2010, Shelocta, Pennsylvania:** One worker was killed and another severely injured when a truck exploded outside the offices of a gas and oil well support services company.
32. **December 14, 2010, South Bend, Indiana:** One worker was fatally injured after an explosion at a recycling center.

Appendix C: Fiscal Year 2010 to FY 2012 Salaries & Expenses

(Dollars in Thousands)

| | FY 2010 Actual | FY 2011 Budget | FY 2012 Projection |
|--|---------------------------|---------------------------|-------------------------------|
| Personnel Compensation & Benefits | \$ 5,974 | \$ 7,105 | \$ 8,002 |
| Contractors | 416 | 342 | 436 |
| Fixed Costs | | | |
| Rent, Communications, & Utilities | 995 | 852 | 1,083 |
| Interagency Services | 612 | 604 | 630 |
| Maintenance | 17 | 53 | 66 |
| Total Fixed Costs | 1,624 | 1,509 | 1,779 |
| Variable Costs | | | |
| Travel & Transportation | 510 | 755 | 821 |
| Freight | 8 | - | - |
| Rent, Communications, & Utilities | 77 | 98 | 106 |
| Printing | 19 | 40 | 32 |
| Other Services | 1,906 | 1,114 | 1,194 |
| Supplies | 126 | 135 | 153 |
| Equipment | 95 | 49 | 281 |
| Total Variable Costs | 2,741 | 2,191 | 2,587 |
| Total Costs | \$ 10,755 | \$ 11,147 | \$ 12,804 |

Appendix D: Analysis of Change FY 2011 to FY 2012

Salaries & Expenses
(Dollars in Thousands)

FY 2011 Continuing Appropriation (Salaries & Expenses).....\$ 11,147

Summary of Adjustments to Base and Built-In Changes

Personnel Cost Increases¹

| | |
|---|------------|
| Full Year Cost of Positions Filled During FY 2011 | 118 |
| Cost for New FY 2012 Positions | 533 |
| Position Adjustments | 140 |
| Retention Programs | 84 |
| Recruitment and Metro Benefits..... | 22 |
| TOTAL INCREASE | 897 |

Contractors Cost Increases

| | |
|--------------------------------|-----------|
| Public Affairs | 49 |
| Administrative Contracts | 45 |
| TOTAL INCREASE | 94 |

Fixed Cost Increases

| | |
|--|------------|
| Rent, Communications, & Utilities..... | 231 |
| Interagency Services | 26 |
| Maintenance | 13 |
| TOTAL INCREASE | 270 |

Variable Cost Increases

| | |
|--|------------|
| Travel & Transportation | 66 |
| Rent, Communications, & Utilities..... | 8 |
| Printing..... | (8) |
| Other services..... | 80 |
| Supplies..... | 18 |
| Equipment | 232 |
| TOTAL INCREASE | 396 |

Total Adjustments to FY 2011 Salaries & Expenses1,657

Total FY 2012 Appropriation Request \$ 12,804

¹ Benefits are calculated at 29.53 percent of base pay.

Appendix E: Significant Adjustments to Analysis of Change FY 2011-2012

Personnel Costs: The FY 2012 budget for personnel costs reflects an increase of \$897,000 in order to:

- Fully fund one investigative position and two administrative positions which are partly funded by the FY 2011 continuing appropriation. These positions were vacant as of February 1, 2011. The full year FY 2012 cost for these positions is \$118,000 more than the partial year funding budgeted for FY 2011.
- Provide funding for current position adjustments, such as promotions and step increases; funding for programs to retain and advance entry level employees; and recruitment and metro benefits. The FY 2012 cost of these is \$246,000.
- Fund two new positions for FY 2012, specifically, the vacant Public Affairs Director³ and a FOIA Officer. The FY 2012 cost of these positions is \$285,000.
- Fund two new investigative positions that will enable the CSB to fully staff two five-member investigative teams in the Western Regional Office in Denver. The FY 2012 cost of these positions is \$248,000.

Rent, Communications, & Utilities: The CSB will have a planned \$187,000 increase in office rental space in Washington, DC, and a planned \$44,000 increase in the Western Regional Office in FY 2012.

Interagency Services: There will be an increase of \$26,000 for interagency agreements for basic support services such as accounting, procurement, travel, personnel, and payroll.

Travel: The increase of \$66,000 includes an increase of \$42,000 for investigative travel and additional travel requirements for investigation support personnel.

Other Services: The increase of \$80,000 is composed of an increase of \$38,000 for investigative consultants and an increase of \$34,000 for safety video production and other public affairs support.

Equipment: The increase of \$232,000 will fund the CSB's IT Capital Plan. In FY 2012, the CSB Information Resources Management Plan forecasts renewed investments in the latest investigative technologies (\$48,000), improved electronic records systems infrastructure (\$46,000), upgrades to the agency network infrastructure (\$65,000), and an assortment of other smaller investments to facilitate communications and advance the agency mission. In addition to these upgrades, this funding also establishes monies to maintain the current IT infrastructure, including the agency inventory of laptop and desktop computers (\$54,000) and servers (\$14,000).

³ Funding for the Public Affairs Director is currently used for the Managing Director position. The Public Affairs Director position is currently vacant.

Appendix F: CSB Appropriations by Fiscal Year

(Dollars in Millions)

Salaries & Expenses

| Fiscal Year | One-Year Funds | Two-Year Funds | Total Funds |
|-------------------|----------------|----------------|-------------|
| 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 | 9.11 | 0.00 | 9.11 |
| 2008 | 9.26 | 0.00 | 9.26 |
| 2009 | 10.20 | 0.00 | 10.20 |
| 2010 | 11.15 | 0.00 | 11.15 |
| 2011 ^a | 12.71 | 0.00 | 12.71 |
| 2012 ^b | 12.80 | 0.00 | 12.80 |

^a FY 2011 Budget Justification, Submitted February 2010

^b Request

Emergency Fund^c

| Fiscal Year | New Funding | Amount Spent to Date | Total Available |
|-------------|-------------|----------------------|-----------------|
| 2004 | \$0.44 | \$0.00 | \$0.44 |
| 2005 | 0.40 | 0.00 | 0.84 |

^c 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.

Appendix G: CSB Personnel Data

| Grade | On Board 9/30/2008 | On Board 9/30/2009 | On Board 9/30/2010 | On Board 2/1/2011 | Projected 9/30/2011 | Request FY 2012 |
|---------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|--------------------------------|----------------------------|
| GS-4 | 0 | 0 | 0 | 0 | 1 | 0 |
| GS-5 | 0 | 0 | 0 | 0 | 0 | 1 |
| GS-7 | 3 | 4 | 2 | 3 | 2 | 0 |
| GS-8 | 0 | 0 | 1 | 1 | 1 | 1 |
| GS-9 | 4 | 1 | 6 | 6 | 4 | 2 |
| GS-11 | 4 | 6 | 1 | 1 | 5 | 5 |
| GS-12 | 1 | 2 | 6 | 5 | 5 | 10 |
| GS-13 | 3 | 3 | 3 | 4 | 4 | 4 |
| GS-14 | 8 | 10 | 9 | 9 | 11 | 14 |
| GS-15 | 10 | 9 | 10 | 10 | 10 | 10 |
| Executive | 4 | 4 | 5 | 5 | 5 | 5 |
| SES | 1 | 1 | 1 | 1 | 1 | 1 |
| Totals | 38 | 40 | 44 | 45 | 49 | 53 |