



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

BUDGET JUSTIFICATION

FY 2019

**FY 2019 Budget Justification
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I. Introduction

As an independent, non-regulatory agency, the U.S. Chemical Safety and Hazard Investigation Board's (CSB) mission is to drive chemical safety change through independent investigations to protect people and the environment. To that end, the CSB conducts comprehensive, root cause investigations of serious chemical incidents, which are often preventable with robust safety programs. The agency then makes recommendations aimed at preventing similar incidents from recurring. CSB investigations have collectively identified gaps in regulatory requirements, industry standards and guidance, workforce training and operations, and emergency planning and response that caused or exacerbated the human and environmental consequences of incidents.

Throughout its twenty year history, the CSB has initiated more than 130 deployments and issued more than 800 recommendations related to chemical incidents. Incidents investigated by the CSB have resulted in more than 200 fatalities, over 1,200 injuries, and significant environmental damage. The agency educates regulators, industry personnel, standards setting organizations, academia, and the American people to help make the industries that use hazardous chemicals safer while maintaining economic prosperity.

The CSB's vision is a "nation safe from chemical disasters." The agency shares its findings and lessons learned to protect workers and the environment and to prevent costly chemical disasters. With a budget of \$11 million and a staff of 42 in FY 2017, both of which have remained relatively flat for nearly a decade, the CSB consistently worked to advance chemical safety.

The impact of the CSB's investigations and recommendations has resulted in significant safety improvements throughout the country in a wide variety of industries. The following examples of safety improvements were a direct result of CSB safety recommendations.

- The Federal Emergency Management Agency (FEMA) awarded two grants to develop training programs for first responders related to the hazards of fertilizer grade ammonium nitrate.
- The American Chemical Society (ACS) developed guidance to identify, assess and control hazards in research laboratories. The Accreditation Board for Engineering and Technology (ABET), Inc. added a requirement for chemical process safety education in university curricula for a broad range of engineering disciplines.
- BP formed an independent review panel, led by former Secretary James A. Baker III, to conduct a thorough review of the company's corporate safety culture and safety management systems. The lessons learned from the final report have been shared in the refining industry and led to specific safety improvements.
- The Occupational Safety and Health Administration (OSHA) implemented a national Special Emphasis Program to mitigate the hazards of combustible dust.
- The California Department of Industrial Relations approved new safeguards for refineries to consider safer designs to the greatest extent feasible to increase the safety of refinery equipment.

The costs of chemical disasters total in the hundreds of billions of dollars. To make the safety of Americans our primary priority, it is critical that chemical safety lessons are learned and shared among diverse stakeholders that use hazardous chemicals. The CSB has investigated numerous high consequence incidents that have resulted in millions of dollars in damage and a disruption to the regional and local economies.

- Flooding from Hurricane Harvey in August 2017 disabled the refrigeration system at a chemical plant near Houston. As the temperature of chemicals stored at the facility rose, the trailers containing them began to catch fire, and emergency responders issued a six-day evacuation of residents within a 1.5 mile radius of the plant.
- A 2016 explosion at one of the country's four nitrous oxide production facilities led to a chemical shortage that affected hospitals, dentists, universities, food producers, and other industrial facilities across the country.
- A 2013 explosion at a fertilizer facility resulted in 15 fatalities and more than 260 injuries; \$230 million in insurance-related losses; and \$16 million in Federal disaster assistance; however, the company held only a \$1 million insurance policy.
- A 2012 explosion at a refinery resulted in medical treatment for 15,000 residents; \$2 million in fines and restitution; and \$447 million in increased gas prices for California consumers.¹
- A 2010 explosion at an offshore drilling rig in the Gulf of Mexico resulted in \$21 billion in settlements; \$13 billion in economic and medical claims from local businesses and residents;² 11 workers killed and 17 injured; and four million barrels of oil spilled into the Gulf of Mexico.

If the CSB's many safety lessons prevent at least one catastrophic incident, the costs avoided from damage to facilities and the surrounding communities, legal settlements, and the loss of human lives far outweigh the agency's annual budget. Safety and prosperity are compatible. Strong safety programs are critical for the economic success of the many industries that use hazardous chemicals. If we do not learn from previous incidents, Americans will continue to spend billions of dollars responding to new ones, jeopardizing the prosperity of the affected industries. Through its independent investigations, the CSB plays a unique role in fostering collaboration with industry, regulators, standards setting bodies and professional organizations, thus emphasizing the CSB's vital role in driving critical chemical safety change in the United States.

¹ Gonzales, Dan, Timothy Gulden, Aaron Strong and William Hoyle. Cost-Benefit Analysis of Proposed California Oil and Gas Refinery Regulations. Santa Monica, CA: RAND Corporation, 2016.
http://www.rand.org/pubs/research_reports/RR1421.html.

² Data current at the publication of the CSB's final report. Litigation continued beyond the CSB's investigation.

II. Vision, Mission and Strategic Goals

Vision

A nation safe from chemical disasters.

Mission

Drive chemical safety change through independent investigations to protect people and the environment.

Strategic Goals

Goal 1 – Prevent recurrence of significant chemical incidents through independent investigations.

- 1.1. Select for investigations those incidents and hazards that are most likely to generate recommendations or findings with broad preventive impact.
- 1.2. Complete timely, high-quality investigations that determine the causes of incidents.
- 1.3. Develop and issue recommendations with broad preventive impact.

Goal 2 – Advocate safety and achieve change through recommendations, outreach, and education.

- 2.1. Pursue the implementation of recommendations, with focused effort on those designated as high-impact.
- 2.2. Identify and strategically promote key chemical safety issues.
- 2.3. Disseminate chemical safety information using a variety of high-visibility tools and products.

Goal 3 – Create and maintain an engaged, high-performing workforce.

- 3.1. Implement effective recruiting, targeted retention, and skills-based training and mentorship.
- 3.2. Encourage management development and leadership at all levels.
- 3.3. Strategically allocate resources across the organization.
- 3.4. Strengthen operational performance and project management efforts.

III. Budget Request

Budget Request Summary

The CSB requests a budget of \$12.104 million in FY 2019 to accomplish its unique safety mission. This is an increase of \$1.104 million, or 10.04%, above the \$11 million recommended in *H. Rep. 115-238, Department of the Interior, Environment, and Related Agencies Appropriations Bill, 2018*. This modest growth will allow the CSB to maintain its current investigation and safety outreach capacity in FY 2019 and implement the President's initiatives for information technology (IT) modernization, preservation of Government records, transitioning to an all-electronic environment for records preservation, and increasing the accessibility of Federal information to the American public. To successfully achieve its mission and meet the President's objectives for FY 2019 and beyond, the CSB will require additional funding in several areas that are described in the object classification detail.

The requested increase in FY 2019 is partially related to full year funding for positions to be filled in FY 2018. At the time of the 2019 Budget Justification submission, the CSB has vacancies in critical positions, including one Presidentially-Appointed, Senate-Confirmed (PAS) Board Member, the General Counsel, and the Executive Director. The agency anticipates filling both the General Counsel and Executive Director positions in FY 2018.

Finally, the additional funds requested for FY 2019 will be used to make investments in the agency's IT and records management infrastructure. The shift to an all-electronic environment for records retention and an increase in the accessibility of CSB products and events to the American public will require a significant investment to upgrade the agency's current IT equipment, software and internet service capabilities.

CSB Accomplishments

Investigations

The CSB's first strategic goal is to prevent recurrence of significant chemical incidents through independent investigations. The CSB completed five investigations in FY 2017 and released two additional products in FY 2018.

- **Refinery Fire (Delaware City, DE):** On November 29, 2015, an operator at the Delaware City Refining Company's (DCRC) Kellogg Alkylation Unit suffered second degree burns to his face and neck while performing de-inventorying activities on a vessel in preparation for the removal of a pipe spool from a connected process. This incident followed two previous incidents at the same facility in August 2015. The CSB's investigation report focused on the adequacy of written procedures and safety processes. **The final report was approved on April 11, 2017, and released at a news conference on May 18, 2017, in Wilmington, Delaware.**
- **Chemical Release and Disruption of Drinking Water Supply (Charleston, WV):** On January 9, 2014, an estimated 10,000 gallons of crude methylcyclohexanemethanol (MCHM) mixed with propylene glycol phenyl ethers (PPH Stripped) were released into the Elk River when a 46,000-gallon storage tank located at the Freedom Industries site in Charleston, West Virginia, failed, disrupting the drinking water supply for approximately 300,000 residents in nine counties. The CSB's report called on aboveground storage tank facilities, government officials, drinking water utilities and public health agencies across the country to follow recommended best practices to prevent similar incidents. **The final investigation report was released on May 11, 2017.**
- **Refinery Explosion and Catalyst Release (Torrance, CA):** On February 18, 2015, at the ExxonMobil refinery in Torrance, California, an explosion resulted in four minor injuries and extensive property damage, releasing spent catalyst material into the surrounding community. The CSB's investigation focused on equipment failure, organizational factors, process hazard analyses and mechanical integrity at the refinery, and regulatory analysis. **The final report was approved on March 28, 2017, and released at a news conference on May 3, 2017, in Torrance, California.**
- **Nitrous Oxide Explosion (Cantonment, FL):** On August 28, 2016, a nitrous oxide trailer truck exploded at the Airgas manufacturing facility near Pensacola, Florida. The explosion killed the only Airgas employee present and heavily damaged the facility, halting nitrous oxide manufacturing at the Cantonment plant and leading to shortages for the medical, university, and food manufacturing industries. The plant has been inoperable since the incident. **The final report was approved on March 16, 2017, and released at a news conference on April 20, 2017, in Pensacola, Florida.**
- **Refinery Chemical Release and Fire (Baton Rouge, LA):** On November 22, 2016, an isobutane release and fire seriously injured four workers in the sulfuric acid alkylation unit at the ExxonMobil Refinery in Baton Rouge, Louisiana. During the removal of an inoperable gearbox, isobutane was released into the unit, forming a flammable vapor

cloud. The isobutane reached an ignition source within 30 seconds of the release, causing a fire and severely burning four workers who were unable to exit the vapor cloud before it ignited. **The CSB's final investigation report was released on September 18, 2017.**

- **Chemical Fire and Facility Flooding (Crosby, TX):** On August 29, 2017, flooding from Hurricane Harvey disabled the refrigeration system at the Arkema plant in Crosby, TX, which manufactures organic peroxides. The following day people within a 1.5 mile radius were evacuated for six days. During the refrigeration outage, trailers increased in temperature and the peroxides spontaneously combusted on August 31. Officials ignited the remaining unstable chemicals on September 3, 2017. The CSB's investigative report will provide guidance for the shutdown and startup of chemical facilities in response to extreme weather. **The CSB released a computer-generated animation of the events on November 15, 2017 and anticipates the release of a final report in the spring of 2018.**
- **Chlorine Release and Community Shelter-in-Place (Atchison, KS):** On April 12, 2017, the CSB released preliminary findings from its ongoing investigation of the toxic chlorine release from the MGPI Processing plant in Atchison, Kansas. On October 21, 2016, sulfuric acid was inadvertently unloaded from a tanker truck into a fixed sodium hypochlorite tank at the plant. The two materials combined to produce a mixture of chlorine gas that sent over 140 individuals, both workers and members of the public, to area hospitals and resulted in shelter-in-place and evacuation orders for thousands of local residents. **The final investigation report was released on January 3, 2018.**

In addition to the six chemical incident investigations completed since 2017, the CSB continues to conduct field work and analysis on several major open investigations. The CSB deployed to six new incidents and made significant progress in the completion of open investigation reports in FY 2017. The agency has continued to focus on the completion of more timely investigation reports to ensure that critical safety recommendations can be released earlier to prevent catastrophic incidents.

- **Toxic Chemical Release (LaPorte, TX):** On November 15, 2014, nearly 24,000 pounds of methyl mercaptan were released at the DuPont Chemical manufacturing facility in LaPorte, Texas. The release resulted in the deaths of three operators and a shift supervisor inside an enclosed manufacturing building. Additionally, three other workers were injured from their exposure to methyl mercaptan and at least three more workers experienced methyl mercaptan exposure symptoms. **The final investigation report is anticipated for release in winter of 2018.**
- **Hot Work Explosion (DeRidder, LA):** On February 8, 2017, three contractors were killed and seven contractors sustained injuries in an explosion at the Packaging Corporation of America facility in DeRidder, Louisiana. The fatally-injured contractors were conducting hot work activities near a 100,000-gallon storage tank that contained a flammable atmosphere and ultimately exploded. **The CSB's final report is anticipated for release in the winter of 2018.**
- **Gas Plant Explosion and Fire (Moss Point, MS):** A flammable gas release with

subsequent fire and explosions occurred at the Enterprise Products Gas Plant, near Pascagoula, Mississippi, on June 27, 2016. The incident resulted in the evacuation of the local community. **The final investigation report is anticipated for release in spring of 2018.**

- **Catastrophic Pressure Vessel Rupture (St. Louis, MO):** On April 3, 2017, an overpressure within a steam condensate storage tank at the Loy-Lange Box Company launched the vessel into a neighboring dry cleaning facility and fatally injured one worker at the box company and three members of the public at the adjacent facility. **The final investigation report is anticipated for release in the spring of 2018.**
- **Hot Work Explosion and Fire (Nederland, TX):** On August 12, 2016, seven workers were injured at the Sunoco Logistics Partners natural gas terminal in Nederland, Texas. The incident involved a flash fire during welding activities. **The final investigation report is anticipated for release in the spring of 2018.**
- **Combustible Dust Explosion (Cambria, WI):** On May 31, 2017, an explosion occurred at the Didion Milling facility in Cambria, Wisconsin, where sixteen employees were working the night shift. Thirteen people were injured, five fatally. If this incident had occurred twelve hours earlier during the day shift, up to fifty people would have been working in the damaged buildings and the number of injured and killed could have been considerably higher. The packing facility where some employees had been working completely collapsed as a result of the explosion. **The final investigation report is anticipated for release in the summer of 2018.**
- **Tank Explosions (Barbour County, WV):** On May 24, 2017, an out-of-service tank exploded at the Midland Resource Recovery facility in Philippi, West Virginia, killing two workers and severely injuring another. A few weeks later, on June 20, 2017, another vessel exploded and killed one contractor working at the site. The explosions happened in pressure vessels that were being decommissioned and cleaned, following use in natural gas service to add odorant to natural gas pipelines.

Recommendations Successes

The CSB's second strategic goal is to pursue safety change through safety recommendations, outreach, and education. The implementation of CSB recommendations resulted in several significant safety improvements in FY 2017. Since its creation, the CSB has issued a total of 809 recommendations to industry, trade associations, standards setting bodies, and State and Federal agencies to advance chemical safety practices. Of those 809 recommendations, 646 (or 80%) have been closed. In FY 2017, the CSB closed 43 recommendations and advanced 74 others from 23 completed investigations.

Of the recommendations closed in FY17, three responses exceeded the actions recommended by the CSB to reduce future safety risks and hazards. Following the CSB investigation into the 2013 fertilizer explosion in West, Texas, which resulted in the deaths of twelve emergency responders and three members of the public, the CSB issued a recommendation to the Federal Emergency Management Agency (FEMA) to create and implement a competitive funding mechanism to provide training to regional, state, and local career and volunteer fire departments

that respond to fire and explosion incidents involving fertilizer grade ammonium nitrate (FGAN). In less than ten months, FEMA awarded two grants of one million dollars each to the Georgia Tech Research Institute and the International Association of Fire Fighters to develop and deliver HAZMAT training focused on FGAN hazards.

The CSB issued recommendations following an incident at the former Valero facility in Delaware City, Delaware, in which two contractors were overcome and killed by nitrogen gas that displaced the oxygen in a confined space where they were working. In August 2016, the American Society of Safety Engineers (ASSE) approved a new edition of its confined space standard, entitled *Safety Requirements for Entering Confined Spaces*. The revised standard addressed critical safety gaps, including the existence of oxygen-depleted atmospheres near the openings of confined spaces; the rapid overwhelming nature and lack of warning signs when exposed to acute oxygen deprivation; the need to use personal protection equipment when entering oxygen depleted atmospheres, regardless of the duration of exposure; and incorporated lessons learned from other CSB investigations involving confined spaces. The 2016 edition also added explanatory material and wording changes to incorporate important lessons learned from subsequent CSB investigations involving confined spaces; namely the 2007 Xcel Energy Hydroelectric Plan Penstock Fire and the 2008 Packaging Corporation of America Storage Tank Explosion, which were not part of the original recommendation. The revised standard found that oxygen deficiency was the leading atmospheric hazard resulting in fatalities inside confined spaces.

The actions of both FEMA and ASSE exemplify the success of the CSB's recommendation process to advance chemical safety change for a broad range of stakeholders. Volunteer fire fighters work in every state and must be prepared to respond to countless situations in which hazardous environments may be present. The efforts undertaken by FEMA will provide additional resources for these men and women responding to chemical emergencies. Voluntary safety standards, such as the ASSE *Safety Requirements for Confined Spaces*, provide critical guidance to all workers, contractors, and emergency personnel who face continual risks from chemical hazards. The CSB's efforts to communicate the existence of safety gaps and recommend necessary changes advance the safety of workers across the country and prevent future tragic incidents.

Safety Outreach and Collaboration

Throughout FY 2017, the CSB has targeted its outreach to advance strategic safety topics described in the *Drivers of Critical Chemical Safety Change Program*. This program identifies the most critical chemical safety improvements needed to protect both people and the environment. CSB staff use this program to direct outreach initiatives and ensure that the agency's limited resources are optimized to address the most critical chemical hazards facing the nation. In December 2016, the CSB added Safe Hot Work Practices to its Critical Drivers List.

Hot work incidents occur throughout many industries in the United States, including food processing, pulp and paper manufacturing, oil production, fuel storage, and waste treatment. Most hot work incidents result in the ignition of combustible materials or the ignition of structures or debris near the hot work. The CSB found that hot work is one of the most common causes of worker deaths among incidents it investigates. Many of these incidents involve a tank or

container at high hazard facilities, like refineries and chemical plants. These incidents often result in injuries and fatalities and have the potential to be catastrophic. The CSB has two open investigations related to hot work that involved three fatalities and ten injuries to workers in Louisiana and Texas. Through increased outreach and education efforts guided by this program, the CSB continues to disseminate key lessons and best practices to prevent worker deaths during hot work in and around storage tanks containing flammable materials.

In an additional effort to optimize the use of its limited resources to advance chemical safety, the CSB has collaborated with other Federal agencies and safety organizations to advance shared safety goals. In June 2017, the CSB participated in the nationwide Safe + Sound Week, partnering with OSHA, the National Institute for Occupational Safety and Health (NIOSH), the National Safety Council, the American Society of Safety Engineers and the American Industrial Hygiene Association to raise awareness and understanding of the value of safety and health programs. The CSB will continue to identify opportunities to collaborate with other Federal agencies and safety organizations in FY 2018 and FY 2019.

Finally, the CSB released a variety of safety video products to view and download, free of charge, on its website and on YouTube. The video products released since January 2017 include two full-length safety videos detailing the findings from an olefins plant explosion in Baton Rouge, Louisiana, and a chlorine release in Atchison, Kansas; three computer-generated animations of incidents at refineries in Torrance, California, and Baton Rouge, Louisiana and at a chemical facility in Crosby, Texas; and two additional video products that depicted a nitrous oxide explosion near Pensacola, Florida, and a chlorine release in Atchison, Kansas. CSB videos have been viewed more than 8.2 million times on YouTube, and the agency's YouTube channel has more than 27,000 followers.

Organizational Excellence

The CSB's third strategic goal is to create and maintain an engaged, high-performing workforce. The Board's *FY 2017-2021 Strategic Plan* serves as a guide for CSB work to examine emerging chemical safety hazards and help drive chemical safety improvements. With this plan, the agency will judiciously allocate limited resources to achieve the strategic goals and to promote accountability for its safety mission. Through the successful implementation of the Strategic Plan, the agency will increase its flexibility to reach broader audiences, deliver innovative and persuasive safety products, and become a premier Federal resource for chemical safety knowledge.

In FY 2018, the CSB will focus on the development of a new Human Capital Plan and a Succession Plan that will go into effect in FY 2019. With an average age of 43 for career staff members, planning for the agency's future is critical. Within the next five years, ten members of the agency's career workforce, or 26.3%, will be eligible for retirement; and within ten years, that number increases to twenty individuals, or 52.6% of the workforce. As a microagency, the CSB must have the resources to train and develop future investigators and support staff. The loss of one employee to retirement or attrition has a significant impact on the agency. The implementation of these plans in 2019 will help CSB maintain organizational continuity for the future.

Over the past two years, the CSB has placed a special emphasis on organizational efficiency and health, building trust internally and externally, and increasing productivity within the organization. Results from the 2017 Office of Personnel Management's (OPM) Federal Employee Viewpoint Survey (FEVS) show that the CSB has experienced a significant improvement in employee engagement in the last year. Overall employee engagement increased from 58% in 2016 to 79% in 2017. This 21% increase in employee engagement reflects CSB leadership's dedication to the creation and retention of an engaged, high-performing workforce and to the pursuit of operational excellence.

The CSB's focus on organizational efficiency includes a review of the agency's structure and workforce to achieve its statutory mission as well as increased productivity. The agency has undertaken several internal reviews to realign responsibilities to reduce the number of direct reports to the Chair and to empower senior staff to take greater responsibility in the management of the agency's investigations. One of the challenges identified by the agency has been the classification of certain positions within the investigative workforce.

Federal agencies are responsible for classifying their General Schedule (GS) positions consistent with position classification standards issued by OPM. Properly classified positions and job grades are based on the duties and responsibilities assigned to the position and the qualifications required to perform that work. The CSB identified the position of Attorney-Investigator as one of the positions that was not properly classified. The currently-classified Attorney-Advisors (Investigations) are required to perform investigative duties that are laid out in the Chemical Incident Investigator position description. In the course of their employment, management has occasionally tasked the incumbents to perform some legal-type activities, such as reviewing agency jurisdictional issues, securing rights of entry, providing legal interpretations, researching and analyzing federal statutes, regulations and policies, and assisting in the preparation of subpoenas and interrogatories. The primary focus of their duties, however, has been chemical incident investigations. After a thorough review of relevant position descriptions, duties, and benchmarking with other investigative agencies, the CSB determined that the Attorney-Investigators should have been hired as Chemical Incident Investigators.

The CSB considered a number of options to redress this issue, including: grandfathering the current incumbents in their current classification, assigning them to the CSB Office of the General Counsel, assigning them to the Office of General Counsel but detailing them to the Office of Investigations, and reclassifying the current positions as chemical incident investigators.

After careful consideration of these options and the needs of the agency, the CSB will reclassify the Attorney-Investigator positions as Chemical Incident Investigator positions. The Attorney-Investigator incumbents were hired under the Excepted Service hiring authority, whereas the Chemical Incident Investigator position is classified in the competitive service. Current Attorney-Investigator incumbents are eligible to apply for and compete for the newly-classified Chemical Incident Investigator position. If successful in competing for the newly classified position, the incumbents would not experience any detriment to their current pay and grade, including retaining all leave earned. They would also gain the benefits of competitive service employment that they do not currently enjoy, such as reinstatement eligibility after leaving federal service and greater mobility within the federal government.

FY 2019 Budget Request

The CSB is requesting a budget of \$12.104 million in FY 2019 to execute its unique safety mission. Over 91% of the funds requested in FY 2019 will be distributed into four main budget categories: personnel compensation, personnel benefits, rent, and other services. Of the requested \$12.104 million, compensation costs, including fringe benefits, account for \$8.463 million – or 70.0% of the total agency budget. To procure mandatory services provided by other government agencies, such as payroll, personnel management, accounting, and occupational health services, and other non-governmental contractors, the CSB requests \$1.873 million – or 15.5% of the agency's budget request. Finally, \$710,000 – or 5.9% – is requested for rent, which includes office space in Washington, DC, and Denver, Colorado.

The requested funding will allow the CSB to increase programmatic activities that support its three strategic objectives.

- **Investigations.** The CSB evaluates three to five chemical incidents that occur every day across the country and initiates investigations where there is a significant chemical safety issue with high potential for learning. To complete these investigations, the agency identifies the root causes of chemical incidents, issues recommendations to eliminate safety gaps and shares findings broadly across industries that use hazardous chemicals. CSB investigations are transparent. The agency conducts on-scene press briefings and public hearings to share findings, obtain additional facts and address concerns from members of the community. Investigative materials are available on the agency's website.
- **Safety Outreach.** The agency continues to collaborate with stakeholder groups and work with recommendations recipients – including government entities, safety organizations, trade associations, corporations, labor organizations, emergency response organizations, and educational institutions – to implement the Board's safety recommendations. The CSB continues to release safety videos and other products, in both English and Spanish, to ensure that valuable safety lessons are available to broad audiences to maximize their preventive impact.
- **Operational Excellence.** Finally, the CSB strives for continual improvement to promote organizational efficiency. In FY 2019, the CSB will continue efforts to improve management metrics and accountability to ensure that investigations are completed in a timely manner and resources are strategically allocated to advance chemical safety change. The agency will also implement revised human capital management and succession plans developed in FY 2018.

The CSB will invest in technological advances to improve operational excellence and accessibility of CSB products to the American public. In order to implement recent executive orders and OMB guidance on IT development, modernization and enhancement (DME), the CSB must upgrade equipment and software to accommodate the significant increases in the number of electronic records created and maintained. In order to comply with the Administration's initiatives for IT modernization, the CSB must make several improvements to its IT infrastructure, including the replacement of aging and end-of-life hardware; migration from physical hardware to servers in a

virtualized environment in both its Washington, DC and Denver, Colorado, offices. These improvements are required to maintain IT system security and integrity.

The CSB must also address the significant increase in the volume of data transmitted across the agency. In FY 2019, the CSB will enhance its existing cloud-based workspace solution functionality through improvements to navigation; integration with the agency's records management system; improved search and retrieval capabilities; enhanced information capture and control; and increased office automation to increase productivity. These upgrades will require significant investments in software and ongoing systems maintenance, and a one-time investment to implement a plan for systems development.

The CSB will increase the accessibility of its safety products to the American people by making public events available through live streaming. In order to live stream news conferences and public meetings, the CSB must make a significant one-time investment in audio-visual equipment. Finally, the CSB will have a recurring cost for increased internet bandwidth in both its Washington, DC, and Denver, Colorado, offices. The increased internet bandwidth is critical to support the growing electronic environment and provide faster connections to cloud-based applications and systems.

Conclusion

The CSB's FY 2019 budget request for \$12.104 million allows the CSB to execute its unique safety mission and strengthen its capacity to conduct root cause investigations of catastrophic chemical incidents. By sharing the safety lessons from its incident investigations with industry, workers, and the public, the CSB maintains its role as a premier resource for chemical safety lessons learned in FY 2019. The resources developed by the CSB will be used nationwide to prevent the loss of life, injuries, and damage to surrounding communities that result from these preventable chemical incidents. This investment in the CSB allows the agency to become more effective in completing and distributing its critical life-saving work. As the agency continues to investigate chemical incidents, the Board's recommendations will draw on its robust history of chemical safety knowledge so that new and emerging industries will benefit from the best practices and safety advancements implemented by their predecessors to achieve greater prosperity. The CSB is a modest Federal investment with a large potential return: improved safety practices and long term economic sustainability for all types of industries that use hazardous chemicals, which in turn better protects the environment and saves more lives.

IV. Budget by Object Classification Category

The U.S. Chemical Safety and Hazard Investigation Board (CSB) requests \$12.104 million for FY 2019. The funding requested will enable the CSB to achieve its core mission, as required by the Clean Air Act Amendments of 1990. The proposed budget for FY 2019 is shown in the table below by budget object classification with a comparison to the FY 2018 estimated costs. The table is supported with a narrative explanation of the amount requested for each budget object classification.

Budget Object Classification Table
Fiscal Years 2018 and 2019

Budget Object Classifications		Projected FY 2018*	Requested FY 2019	Change FY 2018-2019	
				\$	%
11	Personnel Compensation	\$5,980,647	\$6,396,000	\$415,353	6.94%
12	Personnel Benefits	1,915,180	2,067,000	151,820	7.93%
	Subtotal Personnel Costs	7,895,827	8,463,000	567,173	7.18%
21	Travel	409,084	485,000	75,916	18.56%
22	Transportation of Things	0	0	0	0.00%
23.2	Space Rental Payments	795,250	710,000	-85,250	-10.72%
23.3	Communications, Utilities and Misc.	166,850	238,000	71,150	42.64%
24	Printing and Reproduction	23,100	24,000	900	3.90%
25	Other Services	1,529,338	1,873,000	343,662	22.47%
26	Supplies and Materials	180,551	190,000	9,449	5.23%
31	Equipment	0	121,000	121,000	>100%
	Totals	\$11,000,000	\$12,104,000	\$1,104,000	10.04%
	FTEs	46	46	0	0.00%

* H.R. 3354.

Budget Object Classification Detail

11.0 Personnel Compensation

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$5,980,647	\$6,396,000	\$415,353	6.94

The budget request for FY 2019 includes \$6,396,000 to fund direct payroll costs for five board members and 41 staff members. This object class includes promotions and step increases to retain and advance entry and intermediate level employees.

12.0 Personnel Benefits

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$1,915,180	\$2,067,000	\$151,820	7.93

CSB personnel benefits include the Government's contributions to the CSRS and FERS retirement programs; life and health insurance programs; the student loan repayment program; the Transit Subsidy Program; and the Thrift Savings Plan. The FY 2019 request reflects benefits for five board members and 41 staff members.

21.0 Travel

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$409,084	\$485,000	\$75,916	18.56

In FY 2018, the CSB had to significantly reduce the budgets for interoffice travel between Washington, DC and Denver, Colorado (\$32,916, FY 2019) and for travel to training (\$30,000, FY 2019) due to increased personnel costs in FY 2018. The CSB requests to restore the previously-reduced travel budgets and increase the travel budget for public meetings and news conferences (\$11,000) in FY 2019.

22.0 Transportation of Things

The CSB does not anticipate employee relocation shipment costs in FY 2019.

23.2 Space Rental Payments

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$795,250	\$710,000	-\$85,250	-10.72

This request includes \$574,000 for office space rental for the headquarters office in Washington, D.C., a cost savings of \$100,000 from the FY 2018 cost, and \$99,000 for the rental of office space in the Denver Federal Center. These projected rent costs are based on FY 2019 estimates provided by the General Services Administration (GSA) and the lessor of the headquarters office building in Washington, DC, and reflects discounts negotiated into the lease for the headquarters office. This budget object class also includes the costs for meeting room space rental for investigation and outreach activities (\$37,000).

23.3 Communications, Utilities and Miscellaneous Charges

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$166,850	\$238,000	\$71,150	42.64

Communication and postage costs are projected to be \$238,000 in FY 2019. There is a significant increase in this BOC reflecting the agency's need to upgrade the bandwidth in both its headquarters and regional office in Denver, Colorado. In order to support IT modernization, an electronic records environment and increased accessibility to public events, the CSB anticipates a price increase of approximately \$65,000 to upgrade its internet bandwidth. This upgrade will bring the total internet cost to approximately \$134,000 in the Washington, DC, and Denver, Colorado offices. Additional communications and utilities costs include \$51,000 for cell phones and wireless broadband usage; \$31,000 for telephone services in the Washington, DC and Denver, Colorado offices; and \$11,000 for postage and express mail. Other costs are related to building security and continuity of operations.

24.0 Printing and Reproduction

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$23,100	\$24,000	\$900	3.90

The CSB anticipates a slight increase in printing and reproduction costs in FY 2019 as part of the agency's increased outreach efforts.

25.0 Other Services

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$1,529,338	\$1,873,000	\$343,662	22.47

A total of \$1,873,000 is requested for services in FY 2019. Requirements in this BOC fall into two basic categories: interagency agreements for services provided by other Federal agencies and contractual services provided by non-Federal sources. Additional information on each category is provided in the following paragraphs.

Services Provided by Other Federal Agencies. A total of \$590,000 is requested for services provided by other Federal agencies. These services include \$163,000 for personnel and payroll services provided by the Interior Business Center (IBC) in the Department of the Interior; and \$365,000 for financial, travel, and procurement services provided by the Bureau of the Fiscal Service (BFS) in the Department of the Treasury. The remaining funds will be used for other interagency agreements with Federal Occupational Health for investigator physical examinations and respirator fit testing, incident notification services provided by the United States Coast Guard's National Response Center (NRC), HSPD-12 compliance, Employee Assistance Program (EAP) support and other government-provided services.

Other Contractual Services. The CSB procures a variety of services to support its mission, including expert consultants for investigations and testing (\$500,000), support for the public affairs and safety video production function (\$300,000), information technology software maintenance (\$95,000), website hosting (\$20,000), court reporting and transcription services for witness interviews (\$25,000), and training (\$75,000). The increase in costs in this BOC reflects a restoration of FY 2017 funding levels following a reduction in FY 2018 required to pay for personnel costs and an investment in software maintenance to meet the President's initiative for IT modernization and electronic records management.

26.0 Supplies and Materials

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$180,551	\$190,000	\$9,449	5.23

The amount of \$190,000 is requested for supplies and materials in FY 2019, including books and reference materials (\$59,000), subscriptions (\$77,000), general office supplies (\$10,000), information technology supplies and software (\$28,000), and other supplies.

31.0 Equipment

Change FY 2018-FY 2019

<u>FY 2018</u>	<u>FY 2019</u>	<u>Amount</u>	<u>%</u>
\$0	\$121,000	\$121,000	>100%

The CSB will require a significant investment in IT Capital (\$121,000) in FY 2019 to meet the President’s initiatives for IT modernization, electronic records management and increased accessibility to public events. The agency’s specific IT Capital investments anticipated for FY 2019 include three new servers and related software (\$96,000) and a variety of upgrades to existing records management, file storage and cloud-based collaboration software.

V. Additional Tables

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	10.78	0.00	10.78
2012	11.13	0.00	11.13
2013	11.20	0.00	11.20
2014	11.00	0.00	11.00
2015	11.00	0.00	11.00
2016	11.00	0.00	11.00
2017	11.00	0.00	11.00
2018 ^a	11.00	0.00	11.00
2019 ^b	12.10	0.00	12.10

^a H.R. 3354.

^b Requested.

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 incident investigation cost fluctuations can be met without delaying critical phases of the investigations. It is no-year funding, meaning it is available until expended.

CSB Personnel Data

Grade	On Board 9/30/2015	On Board 9/30/2016	On Board 9/30/2017	Projected FY 2018	Requested FY 2019
GS-4	0	0	0	0	0
GS-5	0	0	0	0	0
GS-7	2	0	0	0	0
GS-8	0	0	0	0	0
GS-9	2	2	3	0	0
GS-11	0	1	0	3	3
GS-12	4	5	5	4	4
GS-13	8	5	5	6	6
GS-14	10	14	15	12	12
GS-15	12	10	9	13	13
Executive	4	4	4	5	5
SES	1	0	1	3	3
Totals	43	41	42	46	46

Recommended Appropriations Language

CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD

Federal Funds

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, \$12,104,000. Provided, 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.

U.S. Chemical Safety and Hazard Investigation Board

September 30, 2017

