

# U.S. CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD

## BUDGET JUSTIFICATION



**Fiscal Year 2000**

## GENERAL STATEMENT

### Brief Overview of the Agency's Role in Protecting Workers, Communities and the Environment

The Chemical Safety and Hazard Investigation Board (the CSB or the Agency) is an independent, nonpartisan, quasi-legislative agency that performs a unique role within and, domestically and internationally, on behalf of the federal government. Created as part of the Clean Air Act, 42 U.S.C. § 7412, the Agency began operations in Fiscal Year 1998. Since opening its doors on January 5, 1998, it has worked to establish a reputation for impartial, objective and scientifically sound fact finding, determinations and recommendations regarding causes and prevention of chemical-related incidents at United States commercial facilities. The Agency assists Congress with public policy analysis through its technical work, its evaluation of the performance and effectiveness of federal chemical safety programs, and its assessment of the cost and benefits of those programs to government and business.

The Agency's objective is to provide industries that manufacture, use or otherwise handle chemicals with technical information and assistance to enable identification, prevention and mitigation of operational conditions that compromise safety. These conditions and the incidents that result from them may be rooted in human, technological or procedural factors. Historically, incidents have been attributable to failure of safety systems to prevent unintentional and avoidable errors by management, workers or contractors in the course of normal job performance. Of growing national and international concern is the possibility that incidents may arise from intentional exploitation (industrial sabotage or political terrorism) of system vulnerabilities. Regardless of the nature and source of situations that compromise system safety, the Agency's mission is clear, focused and measurable: *reduce the occurrence of chemical incidents, thereby protecting workers, the public and the environment and lessening associated economic consequences.*

The Agency's major responsibilities include: (1) conducting chemical incident-related investigations under the Clean Air Act Amendments of 1990; (2) providing the Congress and the President with independent, expert fact finding and technical advice to assist in the development, implementation and evaluation of chemical safety policy and government-wide resource allocation decisions; (3) responding to requests for information from the Congress and the President on various matters affecting chemical safety; (4) providing technical information and assistance to business and industry on causes of and ways to prevent chemical incidents; and (5) performing other statutory responsibilities pertaining to chemical safety-related matters, ranging from special studies and analyses to quasi-legislative functions (e.g., oversight of the Occupational Safety and Health Administration and the Environmental Protection Agency). To carry out these responsibilities, and improve the current picture of chemical safety, the Agency must be run by professionals, maintain a high degree of expertise and readiness in its workforce, and have ready access to the best technical expertise available.

## The Agency's FY 2000 Budget Request

- The Agency's budget request for fiscal year (FY) 2000 is \$12,500,000. This represents a 92% increase over its FY 1999 appropriation of \$6,500,000. This amount represents the funding necessary to meet the significant workload increase the Agency anticipates undertaking as it moves forward in its formative stage from a startup in FY 1998 to a fully operational federal agency by FY 2002. Beyond investigations, which are only one way to bring about changes that lead to elimination of chemical incidents, the Agency has a full menu of mission-critical tasks to perform in order to build the basis on which to accomplish its objectives. The Agency's business plan, provided to Congress in August 1997, projected a three-year timeline for accomplishment of these tasks, but, based on experience and insight gained during its first full year of operation, the Agency has extended this plan to four years.
- The key components of the Agency's total budget are 33% for personnel (salary and benefits), 6% for rent, and 7% for support contracts. The total number of Agency managers (not including the Agency's CEO) remains at six. In its deliberate effort to limit the growth of its budget as much as possible, the Agency has outsourced the majority of its administrative activities. This results in streamlined internal business processes and allows the maximum number of staff positions to be allocated to technical and professional personnel. Whenever possible, it also buys, through support contracts, technical expertise (e.g., performance of laboratory tests on evidence from an incident scene; conduct of library research) in lieu of building capabilities already existing within the federal government. As a result, Agency staff is more productive since they have access to and can manage a wide range of resources, selecting among those that meet their immediate needs and discarding those whose performance is substandard or costs are excessive.
- Outsourcing functions (through use of "franchises" offered by other agencies) reduces costs the Agency might otherwise incur to obtain and stay abreast of evolving technologies (e.g., information; engineering). It can maximize and leverage technological improvements, and avoid the need for unnecessary technology investments and maintenance costs, by evaluating vendors' services and performance to ensure the vendors offer the latest capabilities and follow the "best practices" from the public and private sectors. This strategy also provides the Agency with a flexible "just in time" menu of services it can mix and match to meet evolving and changing business requirements to which the Agency must quickly respond and adapt.
- While the scope and nature of the Agency's workload is yet to be definitively determined, some facts are known.

First and foremost, no one can say with certainty what the demographics (e.g., size, characteristics, cost to the economy) are of the annual universe of United States chemical incidents. Therefore, any assertions as to these factors are suspect and cannot be relied upon with confidence. The Agency's preliminary findings from its 10-year study of incident data does reveal that the numbers, just for incidents resulting in one or more deaths, are far greater than the Agency could hope to investigate. Annually, an average of 127 incidents occur that result in at least one death. In FY 2000 the Agency will continue to examine a select number of incidents to continue to expand its first-hand knowledge about problems, but will devote at least equal attention to alternative strategies for bringing about change.

Second, the nation's problem of and federal government's role in preventing chemical incidents has not previously been managed from a holistic, strategic planning perspective. The United States' chemical safety system is a composite of laws, regulations, and programs pieced together and administered through numerous agencies. While each piece of this composite was intended to address a specific, necessary safety goal, components of the system were not created or developed in full consideration of one another. Previously each involved agency viewed the problem of chemical safety through the eyes of its own laws, programs and mission objectives. Although these same agencies have acknowledged the federal safety system is complex, costly and ripe for review and streamlining, no one has yet tried to figure out what pieces comprise the puzzle, how they fit together and whether they need to be repositioned to create a true picture of the dynamic problem. As a result, the system may be unnecessarily burdensome and confusing for government, industry, and the public, may not be as cost-effective as it could be, and may harbor inefficiencies and gaps within the various agency programs. In order to establish a baseline against which to plan its future work (e.g., studies, oversight, recommendations), the Agency, in FY 2000, will conduct an interagency study of chemical incident prevention programs. It will report results and recommendations to Congress and appropriate agencies as one means of enhancing the United States' chemical safety system.

Third, successful marketing of the benefits of chemical safety is key to getting commitment from those who can make improvements to the chemical safety system. Marketing takes many forms, from working closely with recipients of recommendations stemming from examinations of incidents, to educating through printed and direct presentations, to developing training materials and special publications and reports, to bringing tools and other forms of analytical and prevention assistance to people's attention. In FY 2000 the Agency, in close cooperation with stakeholders, will pursue marketing on many fronts to make the process of change and prevention as easy and convenient as possible.

## Brief Overview of the Agency's First 18 Months of Operation

### *Organization -*

The Agency's appropriation became effective as of November 1, 1997. Soon thereafter the Chairman/CEO and one Board Member resigned their former positions to assume their new ones. The first two employees joined the Agency in late December. On January 5, 1999, the Agency moved into temporary space, consisting of six small offices in a full-service business center, where it remained until the end of May. During its sojourn in its first home, Agency staff grew from two employees to five, and key administrative functions were established through agreements with the General Services Administration (GSA), the Federal Emergency Management Agency (FEMA) and the Department of Energy (DOE). Limited, preliminary programmatic work began. Development of the Agency's website began during this period, and an extensive search for what the Agency hoped would be a permanent home was undertaken.

On January 7, the Agency initiated its first investigation into an incident that happened that same day; on January 9 the CEO and an investigative team from two federal laboratories and Battelle Memorial Institute were at the site of the incident outside Reno, Nevada. On April 16, as part of the Agency's investigation, a public meeting was held in Reno to hear all available information about the incident from federal, state and local organizations. This first investigation report was released by the Agency in September 1998. This occurred following the first Board meeting (i.e., open gathering of the Agency's scientific advisors, or "Board Members", comprising the "Board"), on July 29, to hear a presentation on the incident by the investigative team and after the Board's approval of the final report. Additional field investigations, as well as incident reviews (i.e., examination of work done by others in instances when the Agency does not conduct an investigation), began almost immediately (see chart on page 27), although the Agency's first investigator was not hired until August (see chart on page 26).

In June the Agency moved into larger, albeit still temporary (two-year lease) offices, having failed to obtain financial support it needed in order to be able to sign a long-term lease. Furniture was leased, additional staff was hired (see charts on pages 23 and 24) and substantial work began on developing the Agency and on planning and executing key mission-related operations (see charts on pages 12 and 13).

### *Program Planning –*

On February 17, 1998, Agency staff met with representatives from a variety of offices within the Government Accounting Office (GAO) to request guidance on how to proceed in developing the Agency. While no one could recall the last time a new federal agency having no predecessor had been created, GAO was generous with advice based on its review of the Agency's business plan and GAO's experiences. The Agency incorporated this advice into its operating plan.

**Focusing on Results** – “Encourage the CSHIB to focus on the results it was established to achieve. Congress and the President established the board to enhance industrial safety. . . . rather than focus on the number of accidents CSHIB plans to investigate, or the number of reports it plans to review, suggest focusing on the results of doing this work, such as preventing or eliminating accidents shown by the analysis of data trends. . . . it will take time to see some of the results of these actions and the board needs to begin by establishing a baseline.”

“Our June 1997 report discusses the barriers to focusing on results that regulatory agencies identified . . . . The CSHIB may face some of these barriers when it attempts to identify and address the factors contributing to industrial chemical accidents.”

“ . . . to enable it to build on success, the Board should prioritize by focusing first on what Congress has required it to do – on the results of its key efforts.”

**Building on Existing Data** – “CSHIB's plans to use data from databases already developed by other agencies. . . seems like an efficient use of government resources. . . . Because the CSHIB plans to use data from different sources, it is important . . . to recognize that both data comparability and data reliability are key issues to address.”

**Orchestrating Crosscutting Efforts** – “CSHIB's business plan states that there are 14 other federal agencies with ongoing efforts to prevent industrial chemical accidents. . . . One important step is for the board to clearly articulate up front its unique contribution in its mission statement. OMB and Congress will soon be forming teams to look at the questions of possible areas of duplication or program overlap.”

In addition to its business plan, which also is serving as the Agency's strategic plan during its early years, the Agency has developed a strategic plan for its information technology function, in compliance with requirements in the Clinger-Cohen Act of 1996.

*Problem Definition –*

In late summer a 10-year baseline study (1987 – 1996) of chemical incidents was initiated in order to identify the scope, characteristics and trends of incidents within the United States. Five federal databases acknowledged to comprise the “best” compilation of reported incidents were merged to conduct this study, resulting in the federal government’s first comprehensive picture and central repository of chemical incident information. The process of analyzing the individual databases also yielded insight into and raised questions about data quality and value and about the cost-benefit of program operations that rely on the data. These matters are addressed in the study’s report, and will be examined in more depth in a FY 2000 report resulting from a separate study undertaken in support of the Agency’s single rulemaking requirement dealing with reporting chemical incidents.

*Acquisition of Government Resources -*

Congress encouraged the Agency to seek and obtain resources available within other federal agencies as a way to provide “big government” services without becoming “big government.” The Agency has done this to support both administrative and programmatic operations. Examples of its extensive reliance on others’ expertise and capacity, typically at significant savings to the taxpayer when compared to other alternatives, include: acquiring surplus equipment from the Navy and FEMA; utilizing the communication (24-hour communications center) and information technology infrastructure (hosting of website) systems at FEMA at a fraction of the cost of building that infrastructure; using personnel from the DOE’s federal laboratories as members of the Agency’s investigation teams; borrowing, on non-reimbursable details, staff from the Navy and the Federal Aviation Administration; and having the National Aeronautical and Space Administration (NASA) perform analytical tests on evidence from incident sites.

8  
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## Impact of Prior Agency Budget Levels

### *Office Space -*

Insufficient funds to acquire a long-term lease impacts the Agency financially and operationally, forcing it to regularly relocate. The Agency incurs build-out costs to ready the space each time it must move. Since both space and staff must grow incrementally from year to year, the Agency is regularly in one of two phases: it either is paying for excess space in anticipation of hiring staff to fill the space, or it is bulging with people in space it has outgrown. It cannot engage in orderly and predictable growth, but rather must coordinate hiring and project initiation with moves to larger facilities. Office space becomes the pacing item controlling Agency development. The situation is akin to a family that cannot purchase a house with sufficient space for future children but, instead, must move each time there is an actual or expected addition to the family.

### *Personnel -*

The majority of the Agency's staff have been with the Agency approximately six months, although the Agency has existed approximately one and one-half years. The magnitude of the infrastructure-related work involved in establishing a new federal agency, coupled with stakeholders' expectations the Agency should have a presence at a great majority of the chemical incidents that occur, have combined to consume the majority of prior appropriations. The amount of work accomplished in such a short period of time and with such a small staff has been possible only because the staff works, on average, 12 - 14 hours a day and regularly on weekends. That cannot be expected to continue. The staff's determination to accomplish the work, at the cost of their own physical well-being, has given stakeholders a false impression of reality and is undermining the Agency's ability to demonstrate its need for resources.

### *Work Priorities -*

Funds and personnel are regularly diverted to high profile investigation-related activities, because of stakeholder pressure applied in expectation that an incident will trigger an Agency response. Choosing between short-term accomplishments, such as another investigation, or long-term efforts with significant and wide-ranging value, such as spending scarce funds on establishment of baseline data, is a tradeoff decision made daily. Work initiated prior to the Agency having its own investigators resulted in a ready-made backlog of work for newly hired investigators, even while the Agency continued undertaking new work (see chart on page 26). As the staff is one person deep (no "backups"), and as a single person may be the linchpin for a particular work category (e.g., all incident reports must be reviewed by the individuals responsible for framing recommendations), bottlenecks are inevitable. A self-defeating



cycle is created when new incidents are added to an ever-mounting backlog; however, when the Agency decides it can no longer continue to add work to an ever-lengthening pipeline, stakeholders balk. Similarly, to release a staff member to conduct an investigation generally means that person must put down the work he is doing, further delaying completion of that work.

#### *Full Operational Capacity -*

The Agency's business plan projected a three-year period to develop the knowledge, infrastructure and programs that would permit the Agency to function as a mature organization. This schedule assumed rapid hiring of staff during the first year, operational stability (not the downtime and disruptions due to the now-inevitable need to move two and possibly three times), and availability of certain resources on which to base key decisions and take critical actions (e.g., baseline incident data, appropriate technical training, cause-driven investigative protocols). However, reality proved differently. Almost three-fourths of a year passed before the Agency was able to hire significant numbers of personnel. No significant administrative or technical support was available to the Agency at its birth; even resources having some relevance, such as existing databases, are either flawed, insufficient or otherwise need modification. Planned accomplishments were delayed due to shifting priorities and uncontrollable events (e.g., last minute submission by corporate attorneys of information pertinent to an investigation). Due to these factors, the Agency has extended by one year its timeline for becoming fully operational, expecting to be so by the end of FY 2001.

#### **Initial Observations and Lessons Learned**

##### *Cost of the Problem -*

The United States' chemical safety program is a loose confederation of independent operations within numerous agencies. It is not clear whether or how those operations complement each other, or whether they are having any positive impact on the occurrence of chemical incidents. For example, OSHA and EPA enforce regulations designed to improve safety at facilities involved with chemicals. The question is whether those regulations are having the desired results. Initial statistics flowing from the Agency's 10-year study of chemical incidents show no significant change in the incident rate over time. The question of the federal government's impact on preventing chemical incidents cannot now be answered because the data on chemical incidents is incomplete and inaccurate. Lack of valid and reliable data causes all actions based on that data to be suspect. Moreover, the current data is poorly designed to help the Agency identify causes of incidents. In view of the data's limitations, some key questions the Agency will work to answer for itself and Congress in FY 2000 are: how are the agencies which are collecting the data using it?; what is the cost of collecting and maintaining the data, is that cost justified, and are there other alternatives to the present schema that should be

considered?; how valid are policy decisions based on the data, and what are the measurable benefits realized from those decisions?; is business being burdened by requirements based on specious data?

### *Correcting the Problem -*

Tens of thousands of chemical incidents occur within the United States each year, far more than the Agency could ever investigate itself or examine by reviewing others' reports. Given the multiplicity of industries involved with chemicals, it is impossible for Agency personnel to know each intimately. Rather than become experts in industry sectors, Agency personnel need to attack the problem of chemical safety on a more manageable system component basis, addressing those generic problems to which all industries can relate (e.g., use of contract personnel; design of pressure relief systems). In addition to the Agency, many parties in both the private and public sectors have roles in accomplishing the goal of eliminating chemical incidents. Those parties must work together, accept the need for change, have the process of changing made as easy as possible, and be provided reasonable and effective recommendations for effecting change. While these parties today perform their own respective roles, centralized and focused leadership has been lacking in this prevention effort. The Agency, and the United States on the international level, has the opportunity to fill that leadership role and has found the various stakeholder groups supportive of that idea. The first set of recommendations made by the Agency as a result of its first investigation were well-received by the recipients of the recommendations: the Department of Defense, state of Nevada, and the Institute of Makers of Explosives. The International Association of Fire Fighters has used the report of that investigation to build a training course for its members. The early evidence points to eager acceptance of an organization that can consolidate the best learning about and tools for preventing chemical incidents and make that composite information easily and readily accessible.

### **The Agency's Contribution to National Priorities (Domestic Preparedness for Acts of Terrorism)**

The Congress and the Administration are taking steps to strengthen the nation's defenses against emerging unconventional threats to the United States. It is well recognized that such threats might be aimed at industrial facilities, including those involved with chemicals. The Agency, because of its unique non-regulatory relationship with industry and in concert with the Department of the Army's National Ground Intelligence Center (NGIC), is making a contribution to this enhanced domestic preparedness effort. A multi-year project, initiated in FY 1998 by the Agency, seeks to develop a civilian version of software currently designed to support military intelligence operations. Reuse of this software is consistent with Congress' direction to the Agency to identify, acquire and build on resources existing within the federal government. The functionalities of the military's software, although used for different purposes, have direct application to industry and to the furtherance of the goal of chemical safety.

The original objectives of the initiative are two-fold. The first objective is to provide industry with a secure and confidential way to assess vulnerability to and consequences of a chemical incident at a facility. The Agency subscribes to the belief that once a facility understands where and how incidents might occur, and if that knowledge can be easily and readily acquired, the facility will be motivated to correct its weaknesses. The second objective is to provide the Agency with information needed in the conduct of investigations and research into the causes of chemical incidents. As a result of collecting voluntarily-supplied and, hence, protected, industry information, the Agency will be able to develop reports and guidance that help focus attention on chemical safety problems without identifying facilities evidencing those problems.

As work on the initiative progressed, it became apparent that controlled availability of industry information offered benefits to additional parties, specifically those concerned with acquisition of intelligence needed for military planning, national security and counterterrorism, as well as emergency response agencies (e.g., fire fighters) called to the scene of an incident regardless of the cause. In FY 2000 the Agency and NGIC will have a prototype of the software to share with industry and a presentation explaining how the information is to be maintained within a secure system, how it will be collected, who will have access to facility-specific information and under what circumstances, and how the repository of information will be used to produce "deidentified" documents of value to a wide range of audiences.

CSB faces major challenges ahead. Adequate resourcing is the foundation for the Agency to have a positive impact on chemical safety!

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**FY 2000 BUDGET APPROPRIATION LANGUAGE**

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

**General and Special Funds**

**SALARIES AND EXPENSES**

For necessary expenses of the Chemical Safety and Hazard Investigation Board in carrying out activities pursuant to section 112(r)(6) of the Clean Air Act, 42 U.S.C. § 7412, including hire of passenger vehicles and for services as 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, and for uniforms, or allowances therefor, as authorized by law (5 U.S.C. § 5901 - 5902), \$12,500,000 to remain available until expended.

## ACCOMPLISHMENTS BY FUNCTION

Function	Projected thru FY 1999	Planned for FY 2000
<b>1 - Incident Prevention</b>	<ul style="list-style-type: none"> <li>• Incident Investigations (9) and Reviews (16)</li> <li>• Recommendations Accepted/Acted Upon (15)</li> <li>• Outline of Investigation Protocol</li> <li>• Investigation Directive (Report Preparation Process)</li> <li>• Intergovernmental Policy on Investigation-Coordination</li> </ul>	<ul style="list-style-type: none"> <li>• Finalize Investigation Protocol</li> <li>• Incident Investigations (14) and Reviews (21)</li> <li>• Safety Alerts</li> <li>• Near Real-Time Chemical Incident Reports</li> </ul>
<b>2 - Technical Information and Assistance</b>	<ul style="list-style-type: none"> <li>• CSB Website</li> <li>• International Network for Datasharing</li> <li>• Significant Website Subscriber List Representing at least 4,000 individuals</li> <li>• Incident Operations Center</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced Website Information</li> </ul>
<b>3 - Special Safety Studies and Technical Guidance</b>	<ul style="list-style-type: none"> <li>• Investigation Training for CSB Staff (Department of Energy and Nuclear Regulatory Commission Courses)</li> </ul>	<ul style="list-style-type: none"> <li>• Training Programs (2)-- Human Factors; Pressure Relief Systems</li> <li>• Oversight Study on Incident Reporting Programs in 5 Agencies</li> <li>• Oversight Study on Federal Chemical Incident Prevention Programs</li> <li>• Study on the Economic Impact of Chemical Incidents</li> <li>• Facility Vulnerability Analysis Tool</li> </ul>
<b>4 - Recurring Reports and Services</b>	<ul style="list-style-type: none"> <li>• First Annual Report</li> <li>• FY 1998 Financial Statements</li> </ul>	<ul style="list-style-type: none"> <li>• Second Annual Report</li> <li>• FY 1999 Financial Statements</li> </ul>

**ACCOMPLISHMENTS BY FUNCTION**  
(Continued)

Function	Projected thru FY 1999	Planned for FY 2000
<b>5 - Assembling and Analyzing Incident and Technical Information</b>	<ul style="list-style-type: none"> <li>• Ten-Year Incident Study</li> <li>• Database of Reported Incidents (1987 to 1996)</li> </ul>	<ul style="list-style-type: none"> <li>• Preliminary CSB Data Information Center</li> </ul>
<b>6 - Executive Direction</b>	<ul style="list-style-type: none"> <li>• Business Plan</li> <li>• Administrative/Programmatic Directives</li> <li>• Information Technology Strategic Plan</li> <li>• Signed MOU with OSHA</li> <li>• Draft MOU's with NTSB, EPA, and GSA</li> <li>• Interagency Coordination with BATF, DOE, NASA, DOD, FEMA, ATSDR, NIOSH, USFA, USCG, FAA, and GAO</li> </ul>	<ul style="list-style-type: none"> <li>• Final Directives</li> <li>• Signed MOU's</li> <li>• Rule on Incident Reporting (Promulgated)</li> </ul>
<b>7 - Scientific Advisory Board (i.e., Board Members)</b>	<ul style="list-style-type: none"> <li>• Y2K Report to Congress</li> <li>• Approval of Investigation Report on Sierra Chemical Company</li> </ul>	<ul style="list-style-type: none"> <li>• Approval of Investigation Reports and Recommendations</li> </ul>

**SALARIES AND EXPENSES**  
(in thousands of dollars)

Object Classification	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate
Personnel compensation	\$ 648	\$ 2,177	\$ 3,330
Personnel benefits	144	496	761
Travel and transportation of persons	71	130	450
Transportation of things	7	41	76
Space Rental	226	395	795
Communications, utilities and miscellaneous charges	39	202	424
Printing and reproduction	5	60	225
Other services <sup>1</sup>	2,336	1,620	2,868
Supplies and materials	142	162	280
Equipment <sup>1</sup>	355	1,217	2,391
Land and structures	-	-	900
<b>Total obligations</b>	<b>\$ 3,973</b>	<b>\$ 6,500</b>	<b>\$ 12,500</b>

<sup>1</sup> Adjusted FY 1999 and FY 2000 costs to move certain information technology services costs from Other Services to Equipment.

**ANALYSIS OF CHANGE**  
(in thousands of dollars)

FY 1999 Appropriation.....	\$ 6,500
 <b>Summary of Adjustments to Base and Built-In Changes:</b>	
<i>Personnel Cost Increases<sup>1</sup></i>	
Additional funds for the new FTE positions .....	1,170
Annualization of January 1999 pay increase.....	37
Estimated cost of January 2000 pay increase <sup>2</sup> .....	127
Within-grade increases and promotions .....	84
<b>Total Increase to Personnel Costs .....</b>	<b>\$ 1,418</b>
 <i>Nonpersonnel Cost Increases</i>	
Space Rental .....	400
Travel and transportation of persons .....	320
Transportation of things .....	35
Communications, utilities and miscellaneous charges .....	222
Printing and reproduction .....	165
Other services: consulting (\$5); information systems contractual services (\$160) administrative systems contractual services: human resources, budget and finance, contracting and procurement (\$5); training (\$112); audit and review (\$15); purchases from government accounts (\$951) .....	1,248
Supplies and materials.....	118
Equipment: computer equipment (\$312); information systems software (\$193); information systems contractual services (\$669) .....	1,174
Land and structures .....	900
<b>Total Increase to Nonpersonnel Costs .....</b>	<b>\$ 4,582</b>
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<b>Total Adjustments to Base.....</b>	<b>\$ 6,000</b>
 <b>FY 2000 Appropriation Request .....</b>	 <b>\$ 12,500</b>

<sup>1</sup> Benefits are assumed at 22-percent of base pay.  
<sup>2</sup> FY 2000 pay raise estimated at 4-percent of base pay.



17  
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## EXPLANATION OF ANALYSIS OF CHANGE (Significant Adjustments)

**Personnel Costs:** The Agency anticipates a significant workload increase as it moves forward in its formative stage from startup to fully operational federal agency. Staffing levels will increase from 30 to 60 full time positions to achieve the planned accomplishments for FY 2000. An increase of \$1,170,000 will be required to pay the compensation and benefits for the new employees. Additional funding of \$164,000 is required to pay costs of the FY 1999 pay increase and an estimated 4-percent pay increase in January 2000. Finally, we estimate an increase of \$84,000 will be needed to fund within-grade pay increases and promotions.

**Space Rental:** The Agency has estimated a \$400K increase in space rental for FY 2000. This increase is based on the review of the Agency's current rental costs and projected costs.

As the Agency increases the number of investigations, the requirement to rent space also increases. The Agency has a requirement and authorization for on-site investigation teams to rent space when launched to an investigation. This space can range from construction trailers to office or hotel space. During the early stages of an investigation, an external relations/public affairs team may also be launched to an investigation to coordinate and disseminate media events. Depending on the location of the incident, the media team may also have a requirement to rent space.

Upon completion of an investigation report, the Agency may hold a Board Meeting, which is open to the public. The small office space the Agency currently occupies precludes its use for this purpose, necessitating rental of a separate space.

In addition, the Agency staffing levels will be increasing approximately 100% in FY 2000, as will the concomitant need for space for new staff members. The space required will consist of office space, common work area space, additional storage and filing space, and additional local area network space.

**Other Services:** (Information Systems Contractual Services) The Agency plans to double the number of FTE's in FY 2000. It also plans significant work on its website to ensure useful, chemical safety information is readily available to the public and other CSB stakeholders. This work will add major levels of complexity to CSB's technology infrastructure. The information systems contractual services will be needed to support both this significant increase in personnel and the added complexity of the local area network. The \$160,000 increase includes service increases for helpdesk support and local area network support.

(Purchases From Government Accounts) Due to the wide variation in its technical requirements, and consistent with Congressional direction to capitalize on resources available within other federal organizations, the Agency relies extensively on those organizations for much of the infrastructure needed to perform its work. It has turned to the federal laboratories for help in training its investigators. In FY 2000 it will continue development of a suite of technical training/investigative guidance programs to familiarize its personnel with the industries in which the majority of incidents occur, so that learning time in the event of an incident will be minimized. Each part of the process system (e.g., vessels, piping) will be addressed from the perspective of governing industry standards, government regulations, best operational practices, and other matters with which investigators need to be aware in order to conduct a thorough investigation. The Agency has acquired services to support investigations. In FY 2000 we will continue to use federal investigative capabilities, such as those already provided by NASA and DOE. This support has taken various forms: performance of laboratory analyses on materials, review of technical literature, development of models and diagrams to test and/or illustrate aspects of an investigation, and/or direct participation in an investigation as a team member. The Agency has purchased administrative services (e.g., financial, personnel, procurement, communications, information technology) from GSA and FEMA, and expects to continue many of the same services in FY 2000. Beginning in FY 2000, the Agency will require access to a full and flexible research department to conduct such special projects as a planned baseline study of the economic costs of chemical incidents to government. To maintain its reputation as a professional, objective, scientific organization, the Agency plans to work with the Library of Congress, from which a complete menu of "just in time" research services can and will be obtained. With the projected issuance in FY 2000 of its incident reporting regulation, the Agency expects to have to reimburse the National Response Center (or other agency to which it might assign responsibility for receiving incident reports) for this work, as other agencies do who are serviced by the Center.

**Equipment:** (Computer Equipment and Information Systems Software) The Agency will increase in size by approximately 100%. In order to support the thirty new employees, additional personal computers, printers, office automation software and peripherals will be needed. The Agency absorbed the costs for its original thirty employees over a two-year period; however, increasing personnel by 100% results in a steep increase in information technology (IT) infrastructure costs in FY 2000. A further impact on the increase in equipment (\$312,000) and software (\$193,000) is the FY 2000 planned improvement of the Agency website capability to expand its communication capability to provide more comprehensive information on chemical safety to the general public. This improvement requires more robust computers (servers) to be used for development work and to host the website. This Agency website enhancement is part of the blueprint in the Agency's FY99-01 IT Strategic Plan which targets how IT can support the Agency's business plan objective "to be a nationally recognized organization the public and industry come to for chemical safety information."

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(Information Systems Contractual Services) Three key factors influence the \$669,000 increase in information systems contractual services.

1. FY 2000 web development contract costs are higher than FY 1999 costs (which only included a 10-month contract period), and the level of effort for FY 2000 web development will be higher due to the major website improvements identified in the IT Strategic Plan. In FY 1999 the website was moved from FEMA and maintained "as is" based on the Agency's limited resources.
2. Execution of the IT Strategic Plan modules that focus on the Agency's business plan objective "to conduct investigations and special studies and provide recommendations aimed at preventing or reducing the severity of chemical incidents". Work to be performed with contractor support includes development of an investigation database that electronically records all critical information related to an investigation and then feeds an electronic public docket available via the Agency's website. This electronic investigation information will support the Agency's Freedom of Information Act responsibilities. The database will also capture important information investigators can use during the generation of their reports and recommendations.
3. The second phase will commence in the effort to develop a civilian version of military intelligence software that will help a facility determine where its safety systems are prone to failure, the cost associated with such failure and how to best address the problems. The software (Facility Vulnerability Analysis Tool) allows a facility to perform a vulnerability and a consequence analysis for a chemical incident, (re)construct the facility in the face of limited data, and (re)design the facility to accommodate process and product changes. The intent is to make available to industry a software program that will permit a company to conduct a confidential evaluation of operations in order to identify weaknesses that could lead to chemical incidents, while simultaneously yielding intelligence information the Agency may use for multiple purposes and the military may use for improved planning.

**Land and Structures:** The Agency will be moving to permanent space, which will need to accommodate the full complement of staff the Agency projects it will have once it is mature. The Agency estimates there will be 100 FTE's and, at any one time, 25 intermittent staff, contractors, and interns who will need to be housed in the permanent office space. According to GSA, when acquiring space an agency should aim for a goal of 125 square feet per person, which, however, is only for office space. A total of 153 square feet per person (an additional 22 percent) is used to calculate office space and office support areas. The 153 square feet does not include such special needs as local area network rooms; conference facilities; operations/ command center; public docket facility; Board meeting

rooms and adjoining media rooms; unique storage facilities; kitchen facilities for regularly occurring 24-hour Agency operations; unique common work areas; routine and special (e.g., satellite transmission and receiving antennas) communication requirements.

The Agency has estimated the build-out costs to prepare the permanent space to be approximately \$900,000. This is based on the Agency review of its mission, supporting operations, and specific technical programs. Build-out costs include standard expenses incurred by the government in preparing space for occupancy (demolition, architectural design services, construction). It also includes creation of such technology infrastructure to support the Agency as fiber optic network wiring, primary uninterruptible power supply (UPS) installation, air conditioning, and specialized electrical wiring to support the infrastructure.

The location of permanent office space is a crucial consideration, given the late hours, during the weekday and often on the weekends, that the staff works during the field phase of investigations. The Agency has determined that permanent office space must be located adjacent to the metro in a low crime area. The preferred metro lines are the orange and blue lines, as these are the primary lines used to reach the Agency's stakeholder groups and other federal agencies. Availability of reserved and unreserved parking, in the building, is also an important factor in selecting an office location.

**TOTAL WORKYEAR AND COST REQUIREMENTS**  
(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Estimate		FY 2000 Estimate	
	Workyears <sup>3</sup>	Dollars	Workyears <sup>3</sup>	Dollars	Workyears <sup>3</sup>	Dollars
<b>Direct Costs</b>						
Personnel <sup>1</sup>	5.7	\$ 690	23.0	\$ 2,395	43.5	\$ 3,594
NonPersonnel <sup>2</sup>		2,504		3,118		6,867
Subtotals	5.7	3,194	23.0	5,513	43.5	10,461
<b>Indirect Costs</b>						
Personnel	1.4	102	3.8	278	8.5	497
NonPersonnel <sup>2</sup>		677		709		1,542
Subtotals	1.4	779	3.8	987	8.5	2,039
<b>Total Workyear and Cost Requirements<sup>3</sup></b>	<b>7.1</b>	<b>\$ 3,973</b>	<b>26.8</b>	<b>\$ 6,500</b>	<b>52.0</b>	<b>\$ 12,500</b>

<sup>1</sup> Direct personnel costs include the salaries, which are set by law, for the 5 Board members. With the exception of the Board Chairman who serves as CEO, Board Members have no management or staff responsibilities within the.

<sup>2</sup> Allocated nonpersonnel costs assuming 80-percent were direct costs and 20-percent were indirect costs.

<sup>3</sup> Total workyears are less than the end of year employment level because we hire employees through out the fiscal year.

**TOTAL DIRECT COSTS<sup>1</sup> BY FUNCTION**  
(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Estimate		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
<b>1 - Incident Prevention</b> A. Investigations B. Reviews C. Safety Alerts	2.2	\$ 1,212	10.7	\$ 2,421	24.2	\$ 5,493
<b>2 - Technical Information and Assistance</b> A. Legislative Branch B. Executive Branch C. Industry and the Public	1.3	731	2.7	695	5.8	1,484
<b>3 - Special Safety Studies and Technical Guidance</b> A. Federal Chemical Safety Program Studies B. Safety Training C. Investigation Performance Tools D. Other Safety Products	-	2	1.0	211	1.9	417
<b>4 - Recurring Reports and Services</b> A. Incident Monitoring B. Summaries of Incident Information C. Other Recurring Reports and Services	0.3	163	1.5	334	2.3	532
<b>5 - Assembling and Analyzing Incident and Technical Information</b> A. Information Resource Management B. Professional Assembly and Analysis of Information	0.2	110	1.4	313	3.0	707
<b>6 - Executive Direction</b>	1.1	626	2.1	537	1.8	503
<b>7 - Scientific Advisory Board (i.e., Board Members)</b>	0.6	350	3.6	1,002	4.5	1,325
<b>TOTALS</b>	<b>5.7</b>	<b>\$ 3,194</b>	<b>23.0</b>	<b>\$ 5,513</b>	<b>43.5</b>	<b>\$ 10,461</b>

<sup>1</sup> Direct costs include personnel costs and nonpersonnel costs (e.g. investigative travel, printing, information technology, and contractual services) that can be attributed to specific functions.

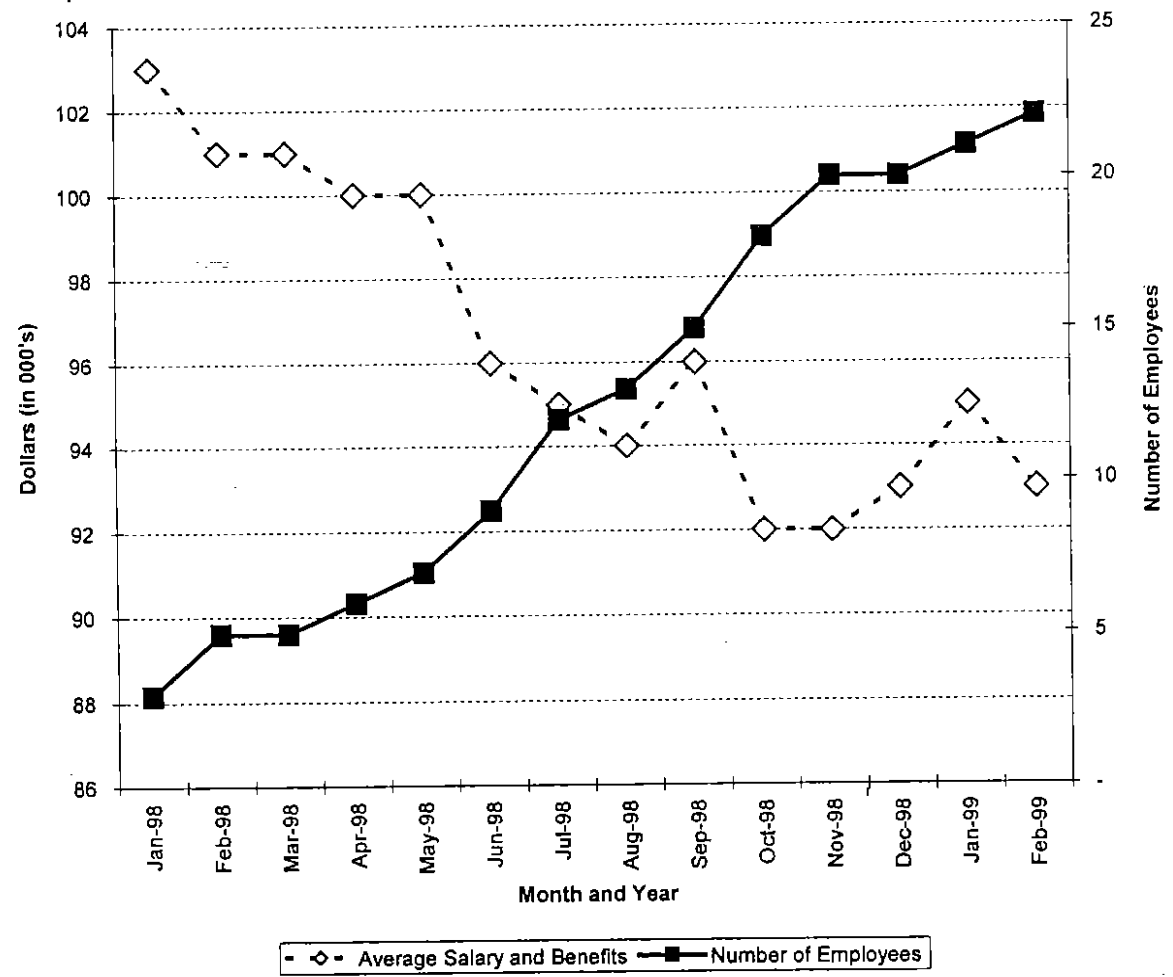
**TOTAL INDIRECT COSTS<sup>1</sup>**  
(in thousands of dollars)

Categories	FY 1998 Actual		FY 1999 Estimate		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
<b>1 - Personnel Costs</b>	<b>1.4</b>	<b>\$ 102</b>	<b>3.8</b>	<b>\$ 278</b>	<b>8.5</b>	<b>\$ 497</b>
A. Board Member Support						
B. Information Technology Infrastructure						
C. General Support to Staff						
D. Other Administrative Operations						
<b>2 - Nonpersonnel Costs</b>		<b>\$ 677</b>		<b>\$ 709</b>		<b>\$ 1,542</b>
A. Travel		7		18		62
B. Transportation of Things		-		-		-
C. Space Rental		45		79		160
D. Communications, Utilities and Miscellaneous Charges		16		81		170
E. Printing and Reproduction		-		6		22
F. Other Services <sup>2</sup>		467		324		572
G. Supplies and Materials		72		80		140
H. Equipment <sup>2</sup>		70		121		237
I. Land and Structures		-		-		179
<b>TOTALS</b>	<b>1.4</b>	<b>\$ 779</b>	<b>3.8</b>	<b>\$ 987</b>	<b>8.5</b>	<b>\$ 2,039</b>

<sup>1</sup> Indirect costs are those that cannot be attributed to a specific function.

<sup>2</sup> Adjusted FY 1999 and FY 2000 costs to move certain information technology services costs from Other Services to Equipment.

**COMPARISON OF THE NUMBER OF EMPLOYEES TO THE AVERAGE SALARY<sup>1</sup>**  
 January 1998 to February 1999



<sup>1</sup> The number of employees and average salaries shown on the chart does not include 4 of the 5 Board Members. All Board Members' salaries are set by law. With the exception of the Board Chairman, Board Members have no management or staff responsibilities within the Agency. As the Board Chairman also serves as the Agency's CEO, his salary is the only Board Member salary included in the chart.



**AVERAGE MONTHLY STAFF COSTS<sup>1</sup>**  
October 1997 through February 1999

<b>Fiscal Year</b>	<b>Month &amp; Year</b>	<b>No. Agency Staff<sup>2</sup></b>	<b>Average Salary</b>	<b>Benefits<sup>3</sup></b>	<b>Average Staff Salary &amp; Benefits<sup>3</sup></b>	<b>CEO's Salary &amp; Benefits<sup>3</sup></b>	<b>Average Staff &amp; CEO's Salary &amp; Benefits<sup>3</sup></b>
<b>1998</b>	Oct-97	-	-	-	-	-	-
	Nov-97	-	-	-	-	144,448	144,448
	Dec-97	2	65,019	14,304	79,323	144,448	101,031
	Jan-98	3	73,601	16,192	89,793	144,448	103,457
	Feb-98	5	76,038	16,728	92,766	144,448	101,380
	Mar-98	5	76,038	16,728	92,766	144,448	101,380
	Apr-98	6	76,331	16,793	93,124	144,448	100,456
	May-98	7	76,450	16,819	93,269	144,448	99,666
	Jun-98	9	73,857	16,249	90,106	144,448	95,540
	Jul-98	12	74,617	16,416	91,033	144,448	95,142
Aug-98	13	73,965	16,272	90,237	144,448	94,109	
Sep-98	15	76,055	16,732	92,787	144,448	96,016	
<b>1999</b>	Oct-98	18	72,814	16,019	88,833	144,448	91,760
	Nov-98	20	73,119	16,086	89,205	144,448	91,835
	Dec-98	20	73,754	16,226	89,980	144,448	92,574
	Jan-99	21	76,010	16,722	92,732	144,448	95,083
	Feb-99	22	74,406	16,369	90,775	144,448	93,109

<sup>1</sup> Does not include 4 of 5 Presidential appointees whose base salaries are set by law at \$118,400; with exception of the Board Chairman, who serves as the Agency's CEO and whose salary is reflected in the calculations beginning in Nov. 1997, Board Members have no management or staff responsibilities within the Agency.

<sup>2</sup> Cumulative onboard staff as of end of month.

<sup>3</sup> Calculated at 22% of salary.

## SUMMARY OF INCIDENT INVESTIGATIONS AND REVIEWS INITIATED

Function	FY 1998 Actual	FY 1999 Actual To Date <sup>6</sup>	FY 2000 Estimate
<b>CAA §112(r)(6)(C)(i) Investigations<sup>1</sup></b>	<b>5</b>	<b>4</b>	<b>14</b>
Number of incidents at fixed facilities	5	4	
Number of incidents during transport	0	0	
Total number of deaths	11	20	
Total number of injuries <sup>3</sup>	23	5	
Number of incidents with major property loss <sup>4</sup>	4	4	
Number of incidents with public impact <sup>5</sup>	1	1	
<b>CAA §112(r)(6)(C)(i) Reviews<sup>2</sup></b>	<b>14</b>	<b>8</b>	<b>21</b>
Number of incidents at fixed facilities	14	8	
Number of incidents during transport	0	0	
Total number of deaths	20	6	
Total number of injuries <sup>3</sup>	25	134	
Number of incidents with major property loss <sup>4</sup>	2	3	
Number of incidents with public impact <sup>5</sup>	0	3	
<b>TOTAL INCIDENTS EXAMINED<sup>7</sup></b>	<b>19</b>	<b>12</b>	<b>35</b>

<sup>1</sup> An investigation is a field examination of an incident performed by CSB staff.

<sup>2</sup> A review is a CSB office examination of an incident based on the work of external investigating agencies.

<sup>3</sup> Injuries is the number of individuals who required medical treatment at a medical facility.

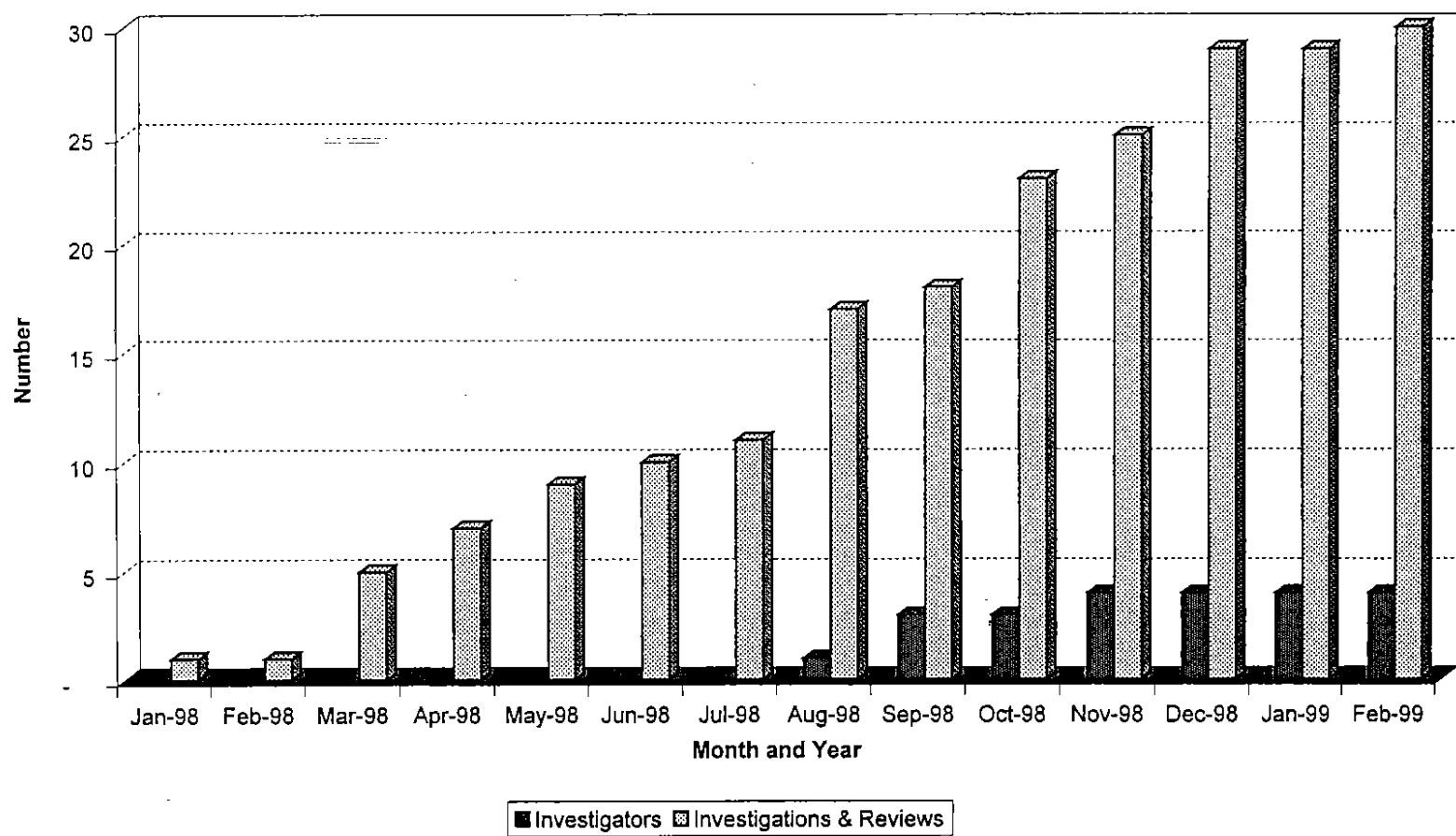
<sup>4</sup> The number of incidents with major property loss is based on available information. In many cases incident reports did not contain sufficient information to determine the severity of property loss.

<sup>5</sup> An example of an incident with public impact is an incident which results in the surrounding community being evacuated.

<sup>6</sup> The "actual to date" column shows the number of incident investigations and reviews which were started between October 1, 1998 and January 31, 1999.

<sup>7</sup> In FY 1998, 485 incidents at fixed facilities and in transport qualified for investigation by CSB. These incidents were brought to CSB's attention through a variety of means, including the National Response Center (NRC). NRC screens and reports incidents to CSB using criteria set by CSB that reflect Congressional direction contained in the statute.

### NUMBER OF INVESTIGATORS COMPARED TO THE NUMBER OF INVESTIGATIONS AND REVIEWS January 1998 to February 1999



**COMPARISON OF CUMULATIVE NUMBER OF INCIDENTS ANALYZED  
AND NUMBER OF INVESTIGATORS HIRED**

<b>Month</b>	<b>Investigations<sup>1</sup> Started</b>	<b>Reviews<sup>2</sup> Started</b>	<b>Investigations &amp; Reviews Started</b>	<b>Number of Investigators On-Board</b>
Jan-98	1	-	1	-
Feb-98	1	-	1	-
Mar-98	3	2	5	-
Apr-98	5	2	7	-
May-98	5	4	9	-
Jun-98	5	5	10	-
Jul-98	5	6	11	-
Aug-98	5	12	17	1
Sep-98	5	14	19	3
Oct-98	7	17	24	3
Nov-98	8	18	26	4
Dec-98	9	21	30	4
Jan-99	9	21	30	4
Feb-99	9	22	31	4

<sup>1</sup> An investigation is a field examination of an incident performed by CSB staff.

<sup>2</sup> A review is a CSB office examination of an incident based on the work of external investigating agencies.

## FUNCTION 1 – INCIDENT PREVENTION

(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Available Funding		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
A. Investigations						
B. Reviews						
C. Safety Alerts						
<b>TOTAL INCIDENT PREVENTION</b>	<b>2.2</b>	<b>\$1,212</b>	<b>10.7</b>	<b>\$2,421</b>	<b>24.2</b>	<b>\$5,493</b>

This function encompasses activities that support examination of chemical incidents, production of reports addressing the nature, causes and recommendations for prevention of such incidents, and gaining and assisting in the implementation of safety recommendations by those to whom the recommendations are directed. Incident examinations may take the form of field investigations or reviews of work done by others, which are conducted pursuant to Section 112(r)(6)(C)(i) of the Clean Air Act Amendments of 1990. Each incident is unique. Extensive time must be devoted to researching and verifying all aspects of the incident, waiting for production of documents by the company and other investigative authorities, and conducting analyses of evidence. Depending upon the complexity of the incident, availability of documents, and other matters that may impede progress, a report typically may take nine months to complete.

As the Agency learned in its first year of conducting examinations, personnel used on a field investigation or incident review team vary from attorneys involved with legal issues (e.g., claims of confidential business information), to technical experts concerned with the feasibility and preciseness of recommendations, to technical writers and graphics specialists involved with producing a readable final product. When the Agency conducts an investigation, personnel are needed at the location of an incident to establish and operate the field command center, assist the investigators by obtaining documents, schedule witness and media interviews and otherwise support the Agency's work. Information specialists are needed to compile business and technical details about the company involved in the incident, previous incidents within the same industry or involving similar circumstances.

It is necessary, but not sufficient, for recommendations to be based on a comprehensive evaluation of what caused the incident and the best scientific solutions to prevent a reoccurrence. If recommendations are to be effective, that is accepted and implemented, the Agency has learned it must provide "service after the sale". Getting support for recommendations involves many meetings with stakeholders, and may also require preparations of journal articles, delivery of speeches and other communications to ensure the rationale and intent of the recommendations are clear and compelling. As recommendations have the potential to reach a wide audience (e.g., one or more industries; domestic and international) and have a greater impact than regulatory and company-specific recommendations, it is critical that the selling of recommendations start even before a report is complete. During the preparation of the report and recommendations, staff identify appropriate organizations to receive recommendations; assist investigators in identifying sources of reference and other materials relevant to the work in progress; arrange for briefings and meetings between investigators, lawyers, key Agency managers and those knowledgeable about elements of the investigation or recommendations. Once reports and recommendations have been adopted by the Board, staff identify organizations (governmental and non-governmental) who should be informed of the Board's conclusions; arrange for the broadest possible dissemination of report conclusions; arrange for articles, op-ed pieces; editorials and other publications in support of acting on Board findings; respond to questions about Board actions; monitor communications media for evidence of action in response to Board actions; make presentations (or support presentations by others) about Board conclusions and recommendations.

The Agency does not control the workload associated with incidents, whether measured in terms of the quantity of potential investigations or reviews or in terms of the number of inquiries that follow as a result of a report. Both categories of work generate significant amounts of paper, with an investigation file generally filling three or four cartons. In FY 2000 the Agency will create a digital library of investigation and other files as a way of reducing costs, increasing efficiency and productivity, responding rapidly to Freedom of Information requests, and making the Agency's workpapers more widely accessible to researchers, the general public and other interested stakeholders.

Due to the complexity of chemical processes, the technical and legal issues involved in unraveling every incident, and the sheer quantity of chemical incidents that occur annually, there is a calculable limit to the number of incident-related work products the Agency can produce in any year. Based on data compiled to date by the Agency on the time required for and cost of typical incident investigations and reviews, the Agency expects to initiate 14 field investigations and 21 incident reviews in FY 2000. Incidents occur in diverse manufacturing operations that use dissimilar equipment and proprietary technologies. A yet-to-be-identified cause determination and incident prevention strategy must evolve based on an extensive, complete investigative process grounded in sound science. The effort is challenging and requires knowledge and resources well beyond those generally used for the performance of traditional public and private incident investigations. Although these factors can affect the Agency's ability to rapidly complete an

31  
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investigation or review, the Agency was able to release its first report in nine months, even while other investigative agencies typically have taken two years to issue reports of similar complexity.

The Agency is in the spotlight to demonstrate a good investigative process and deliver high quality investigation reports. As a result, all findings and recommendations must be supported with state-of-the-art scientific assessment and thorough validation of all facts. To ensure investigators are able to meet stakeholders' expectations, both in terms of time needed to complete their work and the quality of the final product, tools (e.g., technical training, operational guidance documents, a federal resource database of available personnel, technical support facilities, and profiles of companies which might have incidents falling within the Agency's jurisdiction) for their use will be developed in FY 2000. In this area some preliminary work is in progress (e.g., delineating products to be developed dealing with investigation procedures, pressure relief systems, and human factors). However, the need to divert resources in FY 1998 and FY 1999 to the conduct of investigations has severely impacted what was intended to be a more aggressive initiative.

As the Agency moves toward the use of intermittent employees (projected for FY 2001) to supplement full-time Agency investigators, there is a need for an infrastructure that allows the Agency to: document individuals' capabilities, identify any potential conflicts of interest, process people rapidly onto and off of the Agency's roles, and take all other legally and operationally required steps to acquire personnel services when and as needed, at the lowest price possible and with the least potential for encountering any unforeseen problems. In FY 2000 the Agency will consult with other federal organizations that use intermittent staff (e.g., IRS, Department of Agriculture, FEMA) as it establishes the necessary personnel and programmatic systems.

In FY 1999 the Agency initiated work, to continue in FY 2000, on development of the federal government's first comprehensive national database of chemical incidents. As the Government Accounting Office emphasized to the Agency during discussions in February 1998, absent this resource and the baseline it establishes, there is no objective way of determining the scope, nature or change in the chemical incident picture within the United States. There is no objective way to determine how best and at what level of effort to apply the Agency's (and the totality of the federal government's) resources to address the problem posed by chemical incidents, or how to devise and implement meaningful prevention strategies. Consequently, there is no way of establishing and reporting on performance measures required by Congress under the Government Performance and Results Act.

For this function the Agency projects the use of 24.2 workyears and \$5,493,000 in direct costs in FY 2000, compared to 10.7 workyears and \$2,421,000 in FY 1999.

**FUNCTION 2 – TECHNICAL INFORMATION AND ASSISTANCE**  
(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Available Funding		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
A. Legislative Branch						
B. Executive Branch						
C. Industry and the Public						
<b>TOTAL TECHNICAL INFORMATION AND ASSISTANCE</b>	<b>1.3</b>	<b>\$731</b>	<b>2.7</b>	<b>\$695</b>	<b>5.8</b>	<b>\$1,484</b>

This function comprises activities intended to deliver technical information and educational material to members of the Legislative and Executive branches, industry, labor, environmental advocates, emergency responders, and the general public. Means used may be electronic, print or direct in the form of presentations and meetings involving Agency personnel. It includes on-scene liaison with and provision of information about investigative activities to local, state and federal elected officials and government agencies (in the field and at Headquarters); informing the public, often via the news media, about investigative activities and Agency background; gathering and forwarding still photo and video images, and text, to Headquarters for release and distribution via the Internet and other media; in the field, and at Headquarters, informing key stakeholders about Agency investigative activities.

Information dissemination is intended to comply with several mandates common to all government agencies; e.g., to inform legislators and those in the Executive Branch, and the taxpayers about both the routine and non-routine activities of the Agency. A critical communications function of the Agency is also to: (1) inform the public, Congress, and key stakeholders about the number, range, and characteristics of chemical incidents occurring in the United States and elsewhere; (2) inform stakeholders, the public and others about the findings of probable cause(s) of chemical incidents; and (3) educate recipients of safety recommendations, and others who may benefit from knowledge of them, about the safety recommendations adopted by the Board, and where appropriate, motivate them to implement the recommendation in whole or in part.



In FY 2000 the focus of work under this function will be on expanding the availability of electronic information via the Internet and broadening the depth and breadth of Agency interactions and communications with external audiences. The Agency will for the first time devote one full-time equivalent position to supporting the content development tasks associated with the Agency's World Wide Web site. Content development in FY 1998 and FY 1999 was handled solely as additional duties by other staff. As the CSB has developed significantly more original materials and has engaged in significantly more interaction with external parties, the content development workload has exceeded the ability of staff to keep pace. In addition, the development of large databases, investigation reports and recommendations, and special studies requires corresponding Internet-specific platforms.

In FY 2000 the focus of work under this function will be on expanding the availability of electronic information via the Internet and broadening the depth and breadth of Agency interactions and communications with external audiences. The Agency also will add two workyears to expand the Agency's ability to work with federal, state and local legislators; trade, technical, general circulation press and scientific journals; and an expanding array of industry, environmental, labor and community organizations.

For this function the Agency projects the use of 5.8 workyears and \$1,484,000 in direct costs in FY 2000, compared to 2.7 workyears and \$695,000 in FY 1999.

**FUNCTION 3 – SPECIAL SAFETY STUDIES AND TECHNICAL GUIDANCE**  
(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Available Funding		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
A. Federal Chemical Safety Program Studies						
B. Safety Training						
C. Investigation Performance Tools						
D. Other Safety Products						
<b>TOTAL SPECIAL SAFETY STUDIES AND TECHNICAL GUIDANCE</b>	-	\$2	1.0	\$211	1.9	\$417

This function encompasses discrete activities to support specific program operations within the Agency or develop products and services for stakeholders to assist them in improving chemical safety. In FY 2000 the focus of the work under this function will be on technical training for Agency staff and assessment of the effectiveness of the federal government chemical safety programs that contribute to attainment of the government's goal of elimination of chemical incidents.

Currently, available technical training dealing with investigation of chemical incidents does not address matters within the purview of the Agency, specifically how to identify root causes of incidents and design recommendations to correct those causes. The vast number of industries and their varied operations complicate the process of conducting investigations and make it imperative that Agency investigators have available to them the training and references needed to understand the facility at which an incident has occurred. By developing training for Agency staff, materials also become available for industry use, which may assist in identification of problems before they lead to incidents. Agency training materials are multi-dimensional and multi-purpose, designed for use both in the office as an educational tool and at an incident site as a reference tool. These materials provide technical treatment of pertinent laws, regulations, industry standards and current safety research, and checklists and other aids to guide and assist in the conduct of an investigation. In FY 2000 the Agency intends to continue developing a suite of training for its staff, focusing both on the process of conducting an investigation and writing reports and on particular technical issues. It intends to develop training on human factors, as

the Congress noted in the legislative history the Agency should do: "...special emphasis should be put on expertise in "human factors" and the role that operator failures play in causing accidents. In other fields, the United States has fallen behind the international community in the use of operator training and the development of operating and emergency procedures to prevent accidents and minimize their consequences." [Senate Report No. 101-228 (1989); Page 229]

The Agency is required by law to provide Congress and the President with an annual report that addresses, among other matters, recommendations for legislation or regulatory changes. Congress further suggested the Agency "...may issue more general reports to the Congress and make recommendations to other Federal or State or local agencies and to owners and operators of facilities engaged in chemical production or handling to suggest measures that might be taken to improve the safety of operations." [Senate Report No. 101-228 (1989); Page 235] In addition to issuing formal reports, Congress suggested in the legislative history that the Agency "...may also serve as a point of communication among the various Federal agencies to improve the effectiveness of accident prevention programs and reduce the burden of duplicative requirements on regulated entities." [Senate Report No. 101-228 (1989); Page 208] In order to offer sound recommendations for improving the performance, streamlining the operation and reducing the cost of the federal government chemical safety programs, the Agency first needs an in-depth understanding of the various programs. To gain this understanding in FY 2000 the Agency will perform a comprehensive, multi-phase study of the federal government's chemical safety system. The Agency will issue reports to Congress and other appropriate parties that contain findings and any recommendations for improving the system and the coordination between the federal agencies involved with chemical safety. The Agency also intends to undertake a study of the economic cost of chemical incidents to industry, state and federal government, and other definable entities.

For this function the Agency projects the use of 1.9 workyears and \$417,000 in direct costs in FY 2000, compared to 1.0 workyears and \$211,000 in FY 1999.

**FUNCTION 4 – RECURRING REPORTS AND SERVICES**  
(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Available Funding		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
A. Incident Monitoring						
B. Summaries of Incident Information						
C. Other Recurring Reports and Services						
<b>TOTAL RECURRING REPORTS AND SERVICES</b>	<b>0.3</b>	<b>\$163</b>	<b>1.5</b>	<b>\$334</b>	<b>2.3</b>	<b>\$532</b>

This function encompasses operation of the Agency's incident operations center which receives and analyzes incident information, monitors the progress of incidents in their early stages while the agency is determining its appropriate response, and serves as the contact point for information exchange with external parties (e.g., media, Congress) about an incident the agency is following. Rather than establishing a stand-alone center requiring extensive personnel and equipment resources, the agency currently relies on the National Response Center (NRC) for initial screening and official notification of incidents. Since the NRC regularly averages 2,000 notices of incidents per month, the screening it does against the agency's criteria relieves the agency of the burden of sifting through vast quantities of incident information. Notice of incidents also is regularly provided by such other groups as the media, labor, and state and federal agencies, and through an electronic, real-time media monitoring service. The incident operations center is the central point around which information is compiled, interested parties are notified and agency staff are kept informed about unfolding events, even as the staff plans its actions.

In FY 2000 the agency plans to produce, for publication on its web site and inclusion in its incident database, short briefs on incidents based on information collected and analyzed at the command center. In this way the agency expects to compile incident details that may be searched for insight into causes of those incidents the agency cannot investigate due to resource constraints. As the agency's statutorily mandated reporting regulation is scheduled to be promulgated in FY 2000, and as the agency expects to develop in FY 2000

a voluntary, confidential reporting program on "near miss" events so these events can be analyzed, the number of reports and commensurate workload will rise significantly.

Staff also charges time to this function for work performed in preparing administrative reports, such as the agency's Annual Report and budget materials submitted to Congress.

For this function the Agency projects the use of 2.3 workyears and \$532,000 in direct costs in FY 2000, compared to 1.5 workyears and \$334,000 in FY 1999.

**FUNCTION 5 – ASSEMBLING AND ANALYZING INCIDENT AND TECHNICAL INFORMATION**  
(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Available Funding		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
A. Information Resources Management						
B. Professional Assembly and Analysis of Information						
<b>TOTAL ASSEMBLING AND ANALYZING INCIDENT AND TECHNICAL INFORMATION</b>	<b>0.2</b>	<b>\$110</b>	<b>1.4</b>	<b>\$313</b>	<b>3.0</b>	<b>\$707</b>

This function encompasses all information resource management activities, which include data source identification, data acquisition, data management and analysis, and investigation report support to the primary functional areas of the Agency. In addition to the work of employees assigned full-time to information management duties, other employees may charge staff time to this function for Agency-wide data and analysis matters, such as gathering background data to support specific Agency recommendations or specific safety studies.

In FY 2000 the Agency plans to establish a virtual information center which Agency staff will use from their desktops to access chemical incident data and analysis tools. This information center will capture information generated by investigations, a web-based voluntary reporting system and other external data sources.

For this function the Agency projects the use of 3.0 workyears and \$707,000 in direct costs in FY 2000, compared to 1.4 workyears and \$313,000 in FY 1999. The increase is due primarily to the hiring of additional computer analysts to support this information center and multiple production data systems.

**FUNCTION 6 – EXECUTIVE DIRECTION**  
(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Available Funding		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
<b>TOTAL EXECUTIVE DIRECTION</b>	1.1	\$626	2.1	\$537	1.8	\$503

This function encompasses general management activities (e.g., planning and evaluating Agency-wide operations) performed by the Agency’s Chief Executive Officer (CEO), the Chief Operating Officer, the Executive Officer (responsible for execution of administrative functions), and those individuals responsible for directing the work of the Agency’s program offices.

This function also includes work benefiting the entire Agency that is performed by some other employees, such as provision of legal guidance on ethics matters and advisory services extended to Board Members unfamiliar with federal requirements. In particular, it includes work undertaken by that person serving as the Agency’s Inspector General, with responsibility for directing and carrying out financial and management audits of the Agency’s operations, and for reviewing and commenting on proposed procedures and other documents regarding their economy, efficiency, and effectiveness. In FY 1999 financial statements for the Agency’s first year of operations (FY 1998) were produced, and it is anticipated that in FY 2000 this work will be expanded to address the Agency’s system of records, internal control procedures, policies for marking and controlling sensitive data, and the ability to report on performance measurement goals.

Although previously it was not possible to do so, it is anticipated the FY 2000 staffing level will allow one full-time permanent position to be allocated to the CEO’s office to assist in carrying out the required administrative duties of the Agency. These administrative duties increase the workload in that office because sole responsibility for the administrative function of the Agency is assigned, by law, to the CEO. As Board Members (with the exception of the Board Chairman who also serves as the Agency CEO) do not have a role in the day-to-day substantive or administrative work of the Agency, the cost of their offices is not included in this function.

For this function the Agency projects the use of 1.8 workyears and \$503,000 in direct costs in FY 2000, compared to 2.1 workyears and \$537,000 in FY 1999. The reduction is due primarily to the increased time the CEO will be spending on Board business related to Agency-prepared incident reports requiring Board Member approval prior to their release.



**FUNCTION 7- SCIENTIFIC ADVISORY BOARD**

(in thousands of dollars)

Function	FY 1998 Actual		FY 1999 Available Funding		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
<b>TOTAL SCIENTIFIC ADVISORY BOARD (BOARD MEMBERS)</b>	<b>0.6</b>	<b>\$350</b>	<b>3.6</b>	<b>\$1,002</b>	<b>4.5</b>	<b>\$1,325</b>

This function encompasses the work of those individuals serving as Members of the five-person scientific advisory Board established by law to perform a technical review and vote on the release of investigation reports and recommendations prepared by Agency staff. Board Members may also pursue personal projects of interest to them in the field of incident prevention, may be called upon by Agency staff for expert assistance in addressing specific Agency concerns, and may perform outreach services on behalf of the Agency at the CEO's request.

The statute provides for personal assistants for each of the Board Members, but projected staffing levels do not allow for assignment of full-time permanent positions to the Members. Instead, Agency staff assists the Board Members when and as necessary. The only exception involves the Board Chairman, who also serves as the Agency's Chief Executive Officer.

For this function the Agency projects the use of 4.5 workyears and \$1,325,000 in direct costs in FY 2000, compared to 3.6 workyears and \$1,002,000 in FY 1999. The increase is due to the expectation that the remaining Board Member vacancy will be filled, and the fact that the Board Chairman will be devoting a greater proportion of his time to matters coming before the Board and, with the hiring of the Agency Chief Operating Officer, a lower proportion to Agency matters.

**INDIRECT COSTS**  
(in thousands of dollars)

Categories	FY 1998 Actual		FY 1999 Estimate		FY 2000 Estimate	
	Workyears	Dollars	Workyears	Dollars	Workyears	Dollars
<b>1 - Personnel Costs</b>	1.4	\$ 102	3.8	\$ 278	8.5	\$ 497
A. Board Member Support						
B. Information Technology Infrastructure						
C. General Support to Staff						
D. Other Administrative Operations						
<b>2 - Nonpersonnel Costs</b>		\$ 677		\$ 709		\$ 1,542
A. Travel		7		18		62
B. Transportation of Things		-		-		-
C. Space Rental		45		79		160
D. Communications, Utilities and Miscellaneous Charges		16		81		170
E. Printing and Reproduction		-		6		22
F. Other Services		467		324		572
G. Supplies and Materials		72		80		140
H. Equipment		70		121		237
I. Land and Structures		-		-		179
<b>TOTALS</b>	1.4	\$ 779	3.8	\$ 987	8.5	\$ 2,039

This category encompasses all administrative operations (human resources, finance and budget, management services) whether performed by agency staff or under their direction by vendors with whom the Agency contracts in both the public and private sector, and all activities pertaining to installation and maintenance of the Agency's information technology infrastructure. In addition to the work of employees assigned full-time to administrative duties, other employees may charge staff time to this function for work involving Agency-wide administrative matters, such as participating in regularly scheduled briefings for Board Members to keep them aware of the work of the Agency.

In FY 1999 an internal communication system (intranet) was established, personnel policies were drafted, and an automated financial recordkeeping system was built and entry began of every Agency expenditure since the first day of operation. During FY 2000 the Agency will be locating, designing, building out and executing a lease on new space, since its current lease expires in September 2000 and it will need to move. A personnel system will be designed to manage intermittent employees hired to supplement full-time investigation staff.

For this category the Agency projects the use of 8.5 workyears and \$2,039,000 in FY 2000, compared to 3.8 workyears and \$987,000 in FY 1999. The increase is primarily due to hiring five administrative assistants, one for each Agency program office. All administrative support all been acquired under contract since the Agency first began operation, but the size and requirements of the Agency now make it more cost-effective to hire permanent personnel. Another reason for the cost increase is that the Agency will hire a full-time budget and finance specialist, which experience has shown is needed because of the variety and quantity of expenditures incurred by the Agency, and an administrative assistant to provide help to staff in the CEO's office as well as to the Board Members.