U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF INSPECTOR GENERAL

U.S. Chemical Safety and Hazard Investigation Board Should Improve Its Recommendations Process to Further Its Goal of Chemical Accident Prevention

Report No. 12-P-0724 **August 22, 2012**

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Abbreviations

CSB	U.S. Chemical Safety and Hazard Investigation Board
EPA	U.S. Environmental Protection Agency
FY	Fiscal year
GPRA	Government Performance and Results Act of 1993
NTSB	National Transportation Safety Board
OIG	Office of Inspector General
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
TRIM	Total Records and Information Management

Cover photo: Damage resulting from a runaway chemical reaction at the Bayer CropScience facility in Institute, West Virginia. (CSB photo)

U.S. Environmental Protection Agency
Office of Inspector General

12-P-0724
August 22, 2012

At a Glance

Why We Did This Review

We initiated this audit to determine what factors impede implementation of U.S. Chemical Safety and Hazard Investigation Board (CSB) safety recommendations. CSB was created under the Clean Air Act Amendments of 1990 to investigate industrial chemical accidents. CSB issues recommendation reports to government agencies, companies, trade associations, labor unions, and other groups. The reports contain specific, measurable safety recommendations designed to prevent future accidents. In 2004, CSB created the Office of Recommendations to work with recipients to pursue closure of safety recommendations by recipients' taking acceptable actions.

Furthering CSB's Goals

- *Improve safety and environmental protection by ensuring that CSB's recommendations are implemented and by broadly disseminating CSB's findings through advocacy and outreach.*

For further information, contact our Office of Congressional and Public Affairs at (202) 566-2391.

The full report is at:
www.epa.gov/oig/reports/2012/20120822-12-P-0724.pdf

U.S. Chemical Safety and Hazard Investigation Board Should Improve Its Recommendations Process to Further Its Goal of Chemical Accident Prevention

What We Found

CSB did not consistently achieve its goals and standards, as outlined in its current strategic plan, for timely implementation of its safety recommendations. As of December 2010, CSB had issued 588 safety recommendations, of which 218 (37 percent) were open while actions were in progress to resolve them. Of the 218 recommendations, 54 (nearly 25 percent) were open for more than 5 years. Although CSB does not have enforcement authority, and implementation of some of its recommendations may face lengthy regulatory processes, CSB has not established or maintained sufficient internal controls and processes for safety recommendations. Such internal controls could include updating board orders and making full use of CSB's information management system. Without effective controls and efficient processes, there is an increased likelihood that recipients will not timely implement CSB safety recommendations and chemical accidents may not be prevented to the greatest extent possible.

Recommendations and Planned Agency Corrective Actions

We recommend that the CSB Chairperson update board orders that establish policies for the Recommendation Program, timeliness of board votes, and coordination between Offices of Investigation and Recommendation. We also recommend that the Chairperson make full use of the TRIM (Total Records and Information Management) system and implement a formal advocacy program for safety recommendation implementation.

CSB concurred with all our recommendations except one involving calendaring notation items, and we consider that recommendation unresolved and are working toward a resolution. CSB has redrafted Board Order 022, to improve the data quality of its recommendation information. CSB plans to update Board Order 040 to enhance collaboration between investigations and recommendations personnel.

Noteworthy Achievements

CSB established Board Order 046 to develop a most-wanted program to advocate implementation of its safety recommendations. Also, CSB implemented TRIM, a commercial electronic data storage and management system, to enable CSB to track workflow activities related to recommendations as well as other organizational activities.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

THE INSPECTOR GENERAL

August 22, 2012

MEMORANDUM

SUBJECT: U.S. Chemical Safety and Hazard Investigation Board Should Improve Its Recommendations Process to Further Its Goal of Chemical Accident Prevention
Report No. 12-P-0724

FROM: Arthur A. Elkins, Jr.

TO: The Honorable Rafael Moure-Eraso, Ph.D.
Chairperson and Chief Executive Officer
U.S. Chemical Safety and Hazard Investigation Board

This is our report on the U.S. Chemical Safety and Hazard Investigation Board's (CSB's) recommendation process conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency. This report contains findings the OIG has identified and corrective actions the OIG recommends. This report represents the opinion of the OIG and does not necessarily represent the final CSB position on the subjects reported. CSB managers will make final determination on matters in this report in accordance with established audit resolution procedures.

Action Required

CSB disagreed with recommendation 1b, which is unresolved with resolution efforts in progress. CSB agreed with recommendation 1a, but we request that CSB confirm the date the Board approved revisions to Board Order 022. CSB provided an acceptable corrective action plan for the remaining recommendations, which are in an open status. Therefore, please provide a written response to recommendation 1, including a proposed corrective action plan, within 90 calendar days of the report date. In addition, in your 90-day response, you may update the OIG on the implementation status of the agreed-to corrective actions for the other recommendations. The response will be posted on the OIG's public website, along with our memorandum commenting on the response.

The response should be provided as an Adobe PDF file that complies with the accessibility requirements of Section 508 of the Rehabilitation Act of 1973, as amended. The final response

should not contain data that should not be released to the public; if the response contains such data, the data for redaction or removal should be identified. We have no objections to the further release of this report to the public. We will post this report on our website at http://www.epa.gov/oig.

If you or your staff have any questions regarding this report, please contact Michael Davis, Product Line Director, at (513) 487-2363 or davis.michaeld@epa.gov; or Gloria Taylor-Upshaw, Project Manager, at (404) 562-9842 or taylor-upshaw.gloria@epa.gov.

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Chapter 1
Introduction

Purpose

We initiated this audit to determine what factors impede implementation of the U.S. Chemical Safety and Hazard Investigation Board's (CSB's) safety recommendations. The U.S. Environmental Protection Agency's (EPA's) Office of Inspector General (OIG) is the Inspector General for CSB.

Background

CSB is an independent federal agency, authorized by the Clean Air Act Amendments of 1990. The Act directs CSB to (1) investigate and report on the cause or probable cause of any accidental chemical release resulting in a fatality, serious injury, or substantial property damage; (2) make safety recommendations to reduce the likelihood or consequences of accidental chemical releases and propose corrective measures; and (3) establish regulations for reporting accidental releases. CSB became operational in January 1998.

Congress directed that CSB's investigative function be completely independent of the rulemaking, inspection, and enforcement authorities of EPA and the Occupational Safety and Health Administration (OSHA). CSB states on its website, from Legislative History – Senate Report No. 101-228, that:

> . . . the investigations conducted by agencies with dual responsibilities tend to focus on violations of existing rules as the cause of the accident almost to the exclusion of other contributing factors for which no enforcement or compliance actions can be taken. The purpose of an accident investigation (as authorized here) is to determine the cause or causes of an accident whether or not those causes were in violation of any current or enforceable requirement.

CSB's authorizing statute provides for five board members, including a chairperson, all appointed by the President of the United States. As of December 2010, there were five appointed board members, including the chairperson, and a professional staff of 39. As of December 2011, professional staff was at the same level, and the board had three appointed members.

CSB Investigates Chemical Accidents and Issues Recommendations

CSB investigations consider all aspects of chemical accidents, including physical causes such as equipment failures, inadequacies in regulations, industry standards, and safety management systems. CSB's written products contain specific, measurable safety recommendations designed to prevent future accidents. Recommendations are suggestions for actions made to specific parties, and they are based on the lessons derived from each investigation or study. The board makes safety recommendations to government agencies, companies, trade associations, labor unions, and other groups.

CSB does not have authority to enforce implementation of its safety recommendations. According to the Clean Air Act Amendments of 1990, one of CSB's roles is "recommending measures to reduce the likelihood or the consequences of accidental releases and proposing corrective steps to make chemical production, processing, handling and storage as safe and free from risk of injury as is possible." CSB employs various strategies to secure implementation of its safety recommendations but does not have a formal advocacy program, and information technology is not used to its maximum extent to improve operations. CSB closes its safety recommendations for various reasons, such as when recipients take acceptable action.

CSB Created an Office of Recommendations

CSB's Board Order 022, *CSB Recommendation Program*, was adopted in December 2001. According to CSB, recommendations activities were secondary to investigative work for CSB's first several years, with very limited resources devoted to recommendation tracking, advocacy, and closure. In 2004, CSB established a permanent Office of Recommendations, and staffed the office from mid-2004 to 2005. The priorities in the first years were to follow up and close a backlog of open recommendations. CSB noted that it began using an electronic database for investigation records in 2005, and beginning in 2006 existing recommendations records were scanned into the database. As of December 2011, the office had four staff members, representing approximately 10 percent of the agency's staff. One of the staff members dedicates 20 percent of his time to functions other than those of the Office of Recommendations.

Noteworthy Achievements

Despite not having enforcement authority, CSB has been relatively successful in encouraging implementation of its recommendations. CSB met with the National Transportation Safety Board (NTSB), another

agency that makes recommendations to industries and regulatory agencies, to gain an understanding of NTSB's advocacy program. NTSB's advocacy program includes a "most-wanted list" that highlights safety issues identified from accident investigations. NTSB uses the list to increase industry, congressional, and public awareness about these priority issues and recommended safety solutions. As a result of meeting with NTSB, CSB began developing, but has not yet implemented, a most-wanted list program to advocate for safety recommendation implementation. CSB noted, in its response to our draft report, the approval of Board Order 046, *Most Wanted Chemical Safety Improvements Program*, and indicated it plans to select the most wanted issues in July 2012.

CSB implemented TRIM (Total Records and Information Management), a commercial electronic data storage and management system, to enable CSB to track workflow activities related to recommendations as well as other organizational activities.

Scope and Methodology

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

We performed our audit work from January 2011 through May 2012. The scope of the audit included all safety recommendations issued from September 1998 to December 2010.

We analyzed CSB's recommendations data to determine whether data quality and internal controls may have an impact on CSB's ability to get recommendations implemented. We found that CSB has not established sufficient internal controls to promote effective and efficient program operations. We tested and assessed CSB's internal control structure related to ensuring effective and efficient operations and compliance with applicable laws and regulations.

We interviewed CSB's managing director, office directors, and Office of Recommendations staff members to identify and discuss the factors that have hindered implementation of CSB's safety recommendations. We obtained and reviewed CSB's board orders and standard operating procedures that govern and affect safety recommendations. We assessed their efficiency and effectiveness. Board orders are CSB's policies and procedures.

We developed 13 questions that we provided to CSB recommendation recipients with open recommendations to ascertain why they have not implemented the safety recommendations. We conducted a benchmark analysis with NTSB to identify best practices that could assist CSB in gaining implementation of safety recommendations. We also attended, as observers, a meeting between CSB and OSHA to gain an understanding of OSHA's rulemaking and standards development process.

For additional details on our scope and methodology, see appendix A.

Prior EPA OIG Audit

The EPA OIG assumed OIG oversight responsibility for CSB in fiscal year (FY) 2004. Previously, the Federal Emergency Management Agency and U.S. Department of Homeland Security OIGs had performed OIG oversight for CSB. In EPA OIG Report No. 11-P-0115, *Chemical Safety and Hazard Investigation Board Did Not Take Effective Corrective Actions on Prior Audit Recommendations,* issued February 15, 2011, we sought to determine whether CSB had implemented audit recommendations made by those three OIGs and the U.S. Government Accountability Office. We found that CSB did not take timely corrective actions to address audit recommendations. Also, CSB had not established and implemented a management control program to evaluate and report on the effectiveness of controls related to its program operations.

Chapter 2
CSB Should Improve Internal Controls and Recommendations Processes

CSB did not consistently achieve its goals and standards, as outlined in its current strategic plan, for timely implementation of its safety recommendations. As of December 2010, CSB had issued 588 safety recommendations, of which 218 (37 percent) were open while efforts were in progress to resolve them. Of the 218 recommendations, 54 (nearly 25 percent) were open for more than 5 years. The Government Performance and Results Act of 1993 (GPRA) requires federal agencies to have strategic plans, and Office of Management and Budget (OMB) Circular A-123, *Management's Responsibility for Internal Controls*, requires policies and procedures to ensure effective and efficient internal controls. Although CSB does not have enforcement authority, and implementation of some of its recommendations may face lengthy regulatory processes, CSB has not established or maintained sufficient internal controls. Such internal control activities could include updating board orders and processes related to safety recommendations. Without effective controls and efficient processes, there is an increased likelihood that recipients will not timely implement CSB safety recommendations and chemical accidents may not be prevented to the greatest extent possible.

Laws, Guidance, and Policy Require Timely Implementation of Safety Recommendations

Federal laws, including the Clean Air Act Amendments of 1990 under which CSB was created, GPRA, OMB Circular A-123, and OMB Memorandum M-10-24, require that CSB be effective in achieving results.

Section 2 of GPRA includes, as purposes of the Act, to improve:

- Federal program effectiveness and public accountability by promoting a new focus on results, service quality, and customer satisfaction
- Internal management of the federal government

GPRA requires that federal agencies' strategic plans include a description of how goals and objectives are to be achieved, including a description of the operational processes, information, and other resources required to achieve those goals and objectives.

OMB guidance and memoranda outline approaches for meeting the intent of GPRA. OMB Circular A-123, *Management's Responsibility for Internal Controls*, issued December 2004, identifies management as being responsible for establishing and maintaining internal controls to achieve the objective of effective and efficient operations. OMB Memorandum M-10-24, *Performance Improvement Guidance: Management Responsibilities and Government Performance and Results Act Documents,* issued June 25, 2010, explains that managers should analyze performance and measure progress in achieving desired results, and requires management to identify more effective and efficient approaches when needed.

According to the Clean Air Act Amendments of 1990, one of CSB's roles is to recommend measures to reduce the likelihood or the consequences of accidental chemical releases and propose corrective steps to make chemical production, processing, handling and storage as safe and free from risk of injury as is possible. CSB established policy in the form of a board order to achieve this purpose. CSB developed Board Order 022, *CSB Recommendation Program*, in December 2001, to establish procedures for the development, issuance, follow-up, and closing of CSB's recommendations. CSB's 2007–2012 strategic plan explains that safety recommendations are designed to prevent future accidents and to accomplish its mission. In the strategic plan, CSB's goal #3 is to "Reduce the likelihood of similar accidents in the future by securing implementation of CSB safety recommendations." The strategic plan lists a number of key strategies to accomplish this goal:

> (1) Maintain an efficient system for rapidly communicating with recommendations recipients, tracking the status of all open safety recommendations, and evaluating the adequacy of recipient actions; (2) Publicize up-to-date status information on all safety recommendations through the CSB website and other public communication channels, with an emphasis on most-wanted safety; (3) Conduct focused advocacy programs for significant, challenging safety recommendations through ongoing dialogue with relevant government and other stakeholders, testimony, and other public communications; and (4) Publicly recognize recommendations recipients that implement significant safety actions based on CSB safety recommendations.

CSB Recommendations Not Always Closed Within Prescribed Time

Not all safety recommendations are implemented timely. As of December 31, 2010, CSB had issued 588 recommendations, of which 218 were still open (table 1). The likelihood that a similar accident may occur in the future increases if a recommendation remains open.

Table 1: CSB recommendations by category as of December 31, 2010

Recommendation categories	Number of recommendations	Universe percentage	Category explanation
Open—Acceptable Response or Alternate Response	62	10.5%	Response from recipient indicates a planned action that would satisfy the objective of the recommendation when implemented.
Open—Awaiting Response or Evaluation/Approval of Response	152	25.9%	Recipient has not submitted a substantive response, evaluation of response by CSB staff is pending, or the board has not yet acted on staff recommendation.
Open—Unacceptable Response	4	0.7%	Recipient response disagrees with the need outlined in the recommendation; the board believes there is enough supporting evidence to ask the recipient to reconsider.
Subtotal open recommendations	218	37.1%	
Closed—Acceptable Action	320	54.4%	Recipient's completed action on the recommendation meets the board's objectives.
Closed—Exceeds Recommended Action	8	1.4%	Action on the recommendation meets and surpasses the board's objectives.
Closed—Unacceptable Action/No Response Received	6	1.0%	Recipient response disagrees with the need outlined in the recommendation; the board concludes that further effort would not change the recipient's position.
Closed—No Longer Applicable	30	5.1%	Due to subsequent events, the recommendation action no longer applies.
Closed—Reconsidered/ Superseded	6	1.0%	Recipient rejects the recommendation and supports the rejection with a rationale with which the board concurs (e.g., the concerns expressed in the recommendation were actually addressed prior to the incident or a recommendation is superseded by a new, more appropriate recommendation).
Subtotal closed recommendations	370	62.9%	
Total recommendations	588	100%	

Source: Data provided by CSB as of December 31, 2010. Categories defined by CSB in Board Order 022.

Board Order 022 requires that final action on recommendations, other than those that do not require urgent attention, should generally be completed as soon as possible, but not later than 3 to 5 years after issuance of the recommendation. According to the board order, only in rare cases will recommendations be carried past the 5-year period. However, of the 218

open recommendations, 54, or nearly 25 percent, were more than 5 years old (table 2).

Table 2: Status of CSB open safety recommendations more than 5 years old

Recommendation category status	Number of recommendations
Open—Awaiting Response or Evaluation/Approval of Response	35
Open—Acceptable Response or Alternate Response	17
Open—Unacceptable Response	2
Total	**54**

Source: CSB TRIM system as of December 31, 2010.

CSB Needs Effective and Efficient Internal Controls

CSB's internal controls related to safety recommendations do not promote effective and efficient operations. Weaknesses in control activities—such as those that govern updating and consistently implementing policies and procedures, promote adherence to board orders, and ensure data quality—have negatively affected CSB's recommendations program. Further, CSB could be more effective if it took advantage of its information technology tools and created a formal advocacy program. Internal controls are a major part of managing an organization and are necessary for CSB to achieve its mission and program results. According to OMB Memorandum M-11-17, *Delivering on the Accountable Government Initiative and Implementing the GPRA Modernization Act of 2010,* "[a]gencies measure, analyze, and communicate performance information to identify successful practices to spread and problematic practices to prevent or correct." CSB's weak internal control over the recommendations program activities impedes its effectiveness in securing recommendation closure.

CSB Should Update Board Orders

CSB has not updated or assessed policies and procedures established in its board orders that govern or affect its recommendations program. In OIG Report No. 11-P-0115, *Chemical Safety and Hazard Investigation Board Did Not Take Effective Corrective Actions on Prior Audit Recommendations,* February 15, 2011, we identified outdated board orders and recommended that CSB strengthen its control activities.

In this current audit, we identified three board orders in need of updates for which two are a repeat from the previous audit mentioned above. The updates will assist CSB's efforts to secure safety recommendation implementation:

- Board Order 022, *CSB Recommendation Program*
- Board Order 001, *Board Quorum and Voting*
- Board Order 040, *Investigation Protocol*

Board Order 022, *CSB Recommendation Program*

Board Order 022 does not require data quality reviews for the recommendations data entered in TRIM or analysis of key milestones concerning the recommendations processes. We recommended in our prior audit report that CSB update Board Order 022 to include new practices for following up on safety recommendations. The recommendation called for a quality review program to ensure timely follow-up on safety recommendations. CSB concurred with the recommendation and responded that Board Order 022 was currently under review and that CSB would consider including a quality review program to ensure timely follow-up on safety recommendations. CSB noted in its response to our draft report that Board Order 22 has been redrafted and is expected to be voted on by the board by the end of June 2012.

At the start of our review, we found that CSB did not have updated e-mail or telephone contact information for 11 of the 92 recipients (nearly 12 percent) of the 218 open recommendations. However, by June 20, 2011, CSB provided us with contact information for all 92 recipients. CSB indicated that its staff search for the last correspondence documented in TRIM when they need to send follow-up correspondence. According to a recommendations specialist, CSB does perform a data quality review of TRIM folders for completion and accuracy as they conduct follow-up activities. However, there is no formal process in place.

We could not determine the average time it takes CSB to respond to recommendation recipients regarding their proposed corrective action plans due to CSB's inconsistent data entry in TRIM. However, recipients' responses to our survey identified concern with the timeliness of CSB's reply to its proposed corrective action plans. Seven recommendation recipients that responded to our survey noted that CSB did not provide timely feedback on proposed corrective actions. In addition, one respondent noted that CSB does not communicate whether planned actions meet their expectations.

In response to the 13 questions we sent to 79 recipients of recommendations that were open as of December 2010, we received responses from 34 recipients. Recipients provided some favorable responses. For example, 75 percent stated they believe CSB's recommendations will improve the safety of similar chemical facilities. Also, a few responses indicated areas where CSB could improve.

Board Order 001, *Board Quorum and Voting*

Office of Recommendations' efforts to obtain timely implementation of safety recommendations could be affected by the practice of "calendaring" notation items. A notation item consists of a transmittal memorandum, the draft document proposed for adoption, and pertinent attachments necessary for a full understanding of the document. Board members are empowered to calendar votes on recommendations, which means they can postpone decision making until they receive more information. Neither Board Order 022 nor Board Order 001 contains specific guidelines regarding the length of time that a recommendation may remain suspended before a vote must be taken.

Indefinite calendaring can affect the adoption of investigation reports and their recommendations as well as prevent the occurrence of chemical accidents to the greatest extent possible. An analysis that we completed in July 2011 identified 11 investigation reports with 37 recommendations that had been calendared.

Other notation items, such as the adoption of board orders, can also be calendared. CSB developed Board Order 046, *Board Members Roles and Responsibilities,* to strengthen advocacy efforts and define roles and responsibilities. However, the vote to approve and implement this board order was calendared in November 2011; as of May 2012, this notation item remained unresolved. CSB noted in its response to our draft report that it approved Board Order 046 as the *Most Wanted Chemical Safety Improvements Program*. CSB noted during our exit conference that the Board's roles and responsibilities are an administrative issue and some responsibilities are in other board order documents.

Board Order 040, *Investigation Protocol*

Parameters regarding collaboration between CSB's Office of Investigations and the Office of Recommendations are unclear. Board Order 040 does not outline procedures concerning the involvement of the Office of Recommendations or recommendation recipients during the investigation and the recommendations-development process. According to the U.S. Government Accountability Office *Standards for Internal Control in the Federal Government*, "[f]or an entity to run and control its operations, it must have relevant, reliable, and timely communications relating to internal as well as external events."

Board Order 040 does mention that the investigation manager is responsible for "[c]oordinating discussions with CSB [Office of] Recommendations [;]" however, the order does not describe the details and timing of such discussions. Further, Board Order 040 does not

specify any recipient involvement during the investigation or the development of safety recommendations.

Six of the seven CSB staff members we interviewed during the audit stated that it is not clear whether the Office of Investigations or the Office of Recommendations is responsible for identifying the recommendation recipient within an organization. As a result, sometimes recipients could be identified too late, causing issues with the way recommendations are written and to whom they are directed. Nearly 60 percent of the recommendations recipients who responded to our 13 questions claimed they had no input or involvement in the development of recommendations affecting them.

The director of the Western Regional Office of Investigations stated that he fully supports integration of the recommendations and investigations teams. He believes that it is valuable to have a team member from the Office of Recommendations involved in the investigation process early. He stated that Office of Recommendations staff could more effectively advocate or track recommendations when they have had prior involvement in the case.

When follow-up on unimplemented recommendations is inconsistent, CSB is not doing all it can to prevent accidents with the same root causes from occurring. Examples of investigations with recommendations that identified root causes of serious, and even fatal, accidents that lacked consistent follow-up and were unimplemented for 5 or more years include the following:

Uncontrolled Chemical Reactions: In 2002, CSB issued a safety study that identified 167 serious accidents from January 1980 to June 2001 that were caused from poorly-understood and uncontrolled chemical reactions. Forty-eight of these incidents resulted in 108 fatalities. CSB found that, during the period under review, an average of six injuries and five fatalities occurred annually as a result of uncontrolled chemical reactions.

Inadequate safety inspections: CSB identified a refinery that failed to perform safety inspections. A corroded sulfuric acid tank at the plant exploded when repair work was performed over the tank. The accident resulted in one fatality and eight injuries. A significant volume of sulfuric acid was released into the environment.

Deficient management protocols: CSB identified a chemical plant that experienced three accidents within a 1-month period due to deficient management protocols. The accidents injured workers and triggered a shelter-in-place advisory to community residents.

CSB Should Use Information Technology to Track Key Milestones

Although CSB has developed and implemented TRIM for tracking safety recommendations and related activities, the Office of Recommendations is not optimally using information technology to improve operations. CSB's key strategies state they will "[m]aintain an efficient system for rapidly communicating with recommendations recipients, track the status of all open safety recommendations, and evaluate the adequacy of recipient actions." Maximizing the use of TRIM and ensuring that the data therein are complete and accurate will help CSB communicate with recommendation recipients, track the status of all open safety recommendations, and evaluate the adequacy of recipients' actions.

As of December 2010, the four staff members of the Office of Recommendations had 218 open recommendations to track and follow up on without the benefit of data that have undergone data quality review and automated key milestones reminders. A federal government entity responding to our 13 questions commented that CSB's follow-up on recommendations has often been slow. Although CSB's Chief Information Officer stated that TRIM could be programmed to notify recommendation specialists that follow-up dates are approaching, this TRIM function was not programmed and utilized during our audit.

We found that 31 of the 41 (over 75 percent) open recommendations in our sample[1] did not show follow-up activity at least every 6 months. Of those 31, 13 (42 percent) were open for more than 5 years. The Office of Recommendations stated that higher priorities and staff changes kept it from following up on some of the older unimplemented recommendations. Untimely follow-up can lead to untimely implementation, which could prevent the occurrence of similar chemical accidents causing injuries and fatalities.

Further, in reviewing three case files for reports with recommendations in a "Closed—No Longer Applicable" status, we found that all were missing some form of documentation. For example, one of the files documented in TRIM contained no information for the recipient's initial response to the recommendations, no recommendation response evaluation form, no documentation to indicate that CSB followed up with the recipient, and no notations as to whether the recipient's responses were ever received or follow-up was necessary.

CSB Has Not Implemented a Formal Advocacy Program for Safety Recommendation Implementation

Although CSB recognizes that advocacy techniques, when employed, have successfully contributed to its ability to secure implementation of its safety recommendations, it does not have a formal advocacy program. However, CSB's strategic plan for 2007–2012 calls for CSB to "Publicize up-to-date status information on all safety recommendations through the CSB website and other public communication channels, with an emphasis on most-wanted safety actions," and state its intention to "Conduct focused advocacy programs for significant, challenging safety recommendations." The Office of Recommendations stated that it would need additional staff to handle advocacy responsibilities. Meeting its strategic plan strategies related to advocacy would increase the likelihood that CSB safety recommendations will be implemented.

[1] As explained in appendix A, we sampled 44 of 218 open recommendations from the data provided by CSB as of December 31, 2010, but 3 of the 44 were less than 6 months old.

Although it does not have a formal program, CSB has used advocacy techniques in certain instances. CSB explained that success in gaining implementation could be attributed to advocacy techniques, including:

- Strong media coverage, including public meetings on issues.
- Direct advocacy by board members.
- Keeping issues before the community and, in some cases, Congress.
- Building relationships with influential people in recipients' or other pertinent organizations.

The goal of NTSB's advocacy program is to implement safety recommendations. According to testimony given by NTSB's former acting chairperson in 2005, prior to having an advocacy program in place, NTSB lost significant time engaging only through the written process with recipients to arrive at a mutual understanding and agreement on recommendations. Among a number of advocacy techniques, NTSB established a most-wanted list in 1990 to increase public awareness of, and support for, recommendations with the greatest potential to prevent accidents and save lives.

A formal advocacy program with required efforts established through board order or other policy framework could mitigate external forces such as CSB's lack of enforcement authority and the lengthy regulatory process. CSB's strategic plan acknowledges that time-consuming advocacy efforts are required to secure implementation of significant recommendations.

Other Impediments to Timely Implementation

CSB has external impediments in addition to its internal control and procedural deficiencies that delay implementation of its safety recommendations. CSB has no legal authority to force federal agencies, states, or industries to implement its recommendations. The long process that regulatory agencies must go through to implement safety recommendations is another external impediment over which CSB has no control. For example, an OSHA representative explained that the OSHA rulemaking process could take 10 years for adequate research, including risk assessments, and another 2.5 years to go from a proposal to publication of a final rule.

Conclusion

Without effective and efficient internal controls and processes, CSB's Office of Recommendations is not timely in carrying out its functions to encourage the timely implementation of its recommendations and achieve

its goal of chemical accident prevention. Although we cannot say with certainty that untimely implementation has caused similar accidents, we believe that untimely implementation increases the risk of accidents that harm the environment, workers, businesses, and communities.

Recommendations

We recommend that the Chairperson, U.S. Chemical and Hazard Safety Investigation Board:

1. Update board orders to ensure that CSB achieves its mission of chemical accident prevention through improved recommendations processes, to include:

    a. Board Order 022, *CSB Recommendation Program*,

        i. To establish and implement data quality reviews to verify the accuracy, completeness, and reliability of recommendations data entered in TRIM, such as error checks and inclusion of required supporting documentation.

        ii. To require that the Office of Recommendations director periodically analyze and assess the recommendations process to identify potential process improvements.

    b. Board Order 001, *Board Quorum and Voting*, to establish and implement guidelines that define the length of time notation items can be calendared before a vote must be taken.

    c. Board Order 040, *Investigation Protocol*, to clearly outline roles and responsibilities of the Office of Recommendations and Office of Investigations with respect to the recommendations process, including a requirement that Office of Recommendations staff participate in accident investigations, and identification of the office responsible for identifying potential recommendation recipients.

2. Make full use of TRIM's capabilities, to include:

    a. Incorporating formal scheduling components in TRIM to track the recommendations process and alert staff to impending milestones to ensure timely follow-up.

    b. Highlighting the absence of required supporting documentation.

3. Implement a formal advocacy program to advocate for safety recommendation implementation, to include adoption of a most-wanted list of safety actions.

CSB Comments and OIG Evaluation

CSB agreed with recommendations 1a, 1c, 2, and 3. CSB noted the following corrective actions in its response to our draft report:

- Board Order 022 has been redrafted and is being reviewed by the Board. We request CSB confirm the date the Board approved revisions to Board Order 022 and provide a copy of the completed corrective action with its 90 day response. *(Recommendation 1a)*

- Updates to Board Order 040 by the end of 2012. *(Recommendation 1c)*

- The Board approved and issued Board Order 046, *Most Wanted Chemical Safety Improvements Program* on June 12, 2012. The selection of the first two most wanted issues is expected by the end of July 2012. *(Recommendation 3)*

In response to recommendation 2, CSB implemented a tagging system for identifying missing key documents in TRIM. CSB had a contractor program TRIM to send automatic reminders to staff to help ensure timely follow-up.

CSB disagreed with recommendation 1b. CSB noted the following in its response.

> The OIG findings underlying this recommendation are erroneous. Moreover this recommendation contains a flawed conclusion with which we strongly disagree – that calendaring of votes "… can contribute to the occurrence of similar chemical accidents." [Draft report at p. 9] Finally, this recommendation simply misses the purpose for establishment of a collegial voting body like the Board. Forcing votes when there is no consensus is a poor practice. The draft report fails to recognize that this is not an operational issue. Rather, the voting process, whether it applies to CSB reports or board orders, is an iterative process that relies on consensus building and ultimately on policy judgments. Forcing votes to occur in the manner suggested and imposing "deadlines" for policy decisions is

> neither productive nor consensus-oriented, which are necessary for the effective operation of a collegial body.
>
> The OIG's approach would apply a simplistic deadline to difficult problems and attempt to force votes upon the Board, when the Board has not been able to reach a consensus. While consensus cannot always be achieved, this is our goal, and we believe the OIG's recommended approach would not serve this goal. Ultimately, consensus is best achieved when board members have the inclination and desire to resolve issues, rather than when an issue is forced upon them because of the passage of an arbitrary period of time.

The OIG agrees that CSB should not force votes. However, we reaffirm that CSB should develop and implement internal controls to ensure that the calendaring process does not impede a resolution in the interest of public health and safety. We suggest that CSB identify internal controls to timely move items from the calendared status. Further, CSB's Board Order 001 refers frequently and consistently to the adoption or disapproval of an item by a "majority" vote. There is no mention of a requirement for a "consensus."

We made wording changes in response to CSB's concerns with our draft report regarding tone and accuracy. We acknowledge that CSB created a baseline for future data quality reviews and believe that documenting signatures, finding missing records, and updating the electronic system are all important controls to data quality. We support CSB's commitment to maintaining reliable data as an internal control that promotes accurate reporting, timely follow-up, and informed decision making.

CSB's complete response to our draft report is in appendix B.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in $000s)	
Rec. No.	Page No.	Subject	Status[1]	Action Official	Planned Completion Date	Claimed Amount	Agreed-To Amount
1	14	Update board orders to ensure that CSB achieves its mission of chemical accident prevention through improved recommendations processes, to include:		Chairperson, U.S. Chemical Safety and Hazard Investigation Board			
		a. Board Order 022, *CSB Recommendation Program*,	U				
		i. To establish and implement data quality reviews to verify the accuracy, completeness, and reliability of recommendations data entered in TRIM, such as error checks and inclusion of required supporting documentation.					
		ii. To require that the Office of Recommendations director periodically analyze and assess the recommendations process to identify potential process improvements.					
		b. Board Order 001, *Board Quorum and Voting*, to establish and implement guidelines that define the length of time notation items can be calendared before a vote must be taken.	U				
		c. Board Order 040, *Investigation Protocol*, to clearly cutline roles and responsibilities of the Office of Recommendations and Office of Investigations with respect to the recommendations process, including a requirement that Office of Recommendations staff participate in accident investigations, and identification of the office responsible for identifying potential recommendation recipients.	O		December 2012		
2	14	Make full use of TRIM's capabilities, to include:		Chairperson, U.S. Chemical Safety and Hazard Investigation Board	March 2013		
		a. Incorporating formal scheduling components in TRIM to track the recommendations process and alert staff to impending milestones to ensure timely follow-up.	O				
		b. Highlighting the absence of required supporting documentation.	O		March 2013		
3	15	Implement a formal advocacy program to advocate for safety recommendation implementation, to include adoption of a most-wanted list of safety actions.	O	Chairperson, U.S. Chemical Safety and Hazard Investigation Board	March 2013		

[1] O = recommendation is open with agreed-to corrective actions pending
C = recommendation is closed with all agreed-to actions completed
U = recommendation is unresolved with resolution efforts in progress

Appendix A

Details on Scope and Methodology

We performed our audit work from January 2011 through May 2012. Our initial objective was to determine what factors impede implementation of CSB's open safety recommendations. Following preliminary research, we broadened the scope of the review to include a review of all CSB safety recommendations. We reviewed recommendations from September 1998 to December 2010. We analyzed CSB's recommendations data to determine whether data quality and other internal controls may have affected the ability of CSB to get its recommendations implemented.

Preliminary Research

During our preliminary research phase, CSB provided us data on the universe of all safety recommendations, which was retrieved from TRIM on December 17, 2010. On January 7, 2011, CSB provided updated data on the status of open recommendations as of December 31, 2010. We reconciled the updated data to the universe received from TRIM. The universe was a total of 588 recommendations as of December 31, 2010, which included 218 open and 370 closed recommendations.

Using IDEA®-Data Analysis Software, we randomly selected 7 (3 percent) of the 218 open recommendations. We used those seven to review the accuracy and reliability of data maintained in TRIM.

In a separate exercise, we judgmentally selected 11 (5 percent) of the 218 open recommendations. For those 11, we reviewed whether follow-up occurred in accordance with Board Order 022, and whether correspondence, communication, and other relevant information pertaining to recommendations and responses were documented in TRIM. We summarized and documented our observations and compiled interview questions for CSB staff and supervisors relative to our findings and for validation purposes.

Field Work

During field work, we used IDEA® to select a random sample that incorporated a population of all recipient types (government-federal, industry, government-state, standards development organization, industry corporate, trade association, academia/training institution, and professional organization). The sample plan included 44 (20 percent) of the 218 open recommendations. We tested CSB's internal controls and the quality of recommendations data maintained in TRIM and identified potential opportunities for improvement in the recommendations processes.

We employed various methodologies to select our samples from the universe of 370 closed recommendations as of December 31, 2010, to assess the data quality and internal controls over CSB's closed recommendations:

- For Closed—No Longer Applicable recommendations, we selected a non-statistical sample to include three investigation cases—Sierra (1998), Hayes-Lemmerz (2004), and ASCO (2006)—and their 20 corresponding recommendations.

- For Closed—Acceptable Action and Closed—Exceeds Recommended Action recommendations, we first eliminated all closed recommendations older than 3 years and arrived at a population of 108 recommendations closed in the last 3 years. From the 108, we extracted a random sample of 22 (20 percent) using IDEA®.

- For Closed—Unacceptable Action/No Response Received and Closed—Reconsidered/Superseded recommendations, we reviewed nearly 92 percent (11 of the 12). This group included 12 recommendations, 2 percent of the entire safety recommendations universe of 588.

Thirteen Questions Provided to Certain Recipients of CSB Recommendations

We developed 13 questions that we provided for response to CSB recommendation recipients with open recommendations [2] to determine the factors that hindered recipients of CSB investigative reports from implementing the recommended safety recommendations. Although we planned to provide these questions to all 92 recipients of the 218 open recommendations, some of the e-mail contact information for the 92 recipients was duplicative. We were able to discern 79 unique e-mail addresses, and we provided the questions to those 79 CSB safety recommendation recipients on June 23, 2011. A total of 34 (43 percent) of the 79 recipients responded to the questions.

[2] Zoomerang survey software was used to provide the questions and receive responses.

Appendix B

CSB Response to Draft Report

U.S. Chemical Safety and Hazard Investigation Board

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Office of the Chair

June 13, 2012

Ms. Melissa Heist
Assistant Inspector General for Audit
Office of the Inspector General
U.S. Environmental Protection Agency
Washington, DC 20460

Dear Ms. Heist:

Thank you for the opportunity to comment on the draft report entitled, "CSB Should Improve Recommendations Process to Further its Goal of Accident Prevention." We continue to appreciate the professionalism and courtesy of the Office of Inspector General (OIG) staff who were involved in the evaluation.

As noted below, the CSB has serious concerns about the accuracy and the tone of the draft report. However, the CSB agrees with all but one of the proposed recommendations, and has already taken a variety of measures to implement them.

These comments are in addition to the concerns raised in my letter to Inspector General Elkins dated May 21, 2012. In particular, the CSB believes that the audit report should make clear that the most important obstacle to the implementation of CSB recommendations is the reluctance of recipients to implement them in certain cases – especially because of the lack of any enforcement power on the part of the CSB. We do not believe the OIG demonstrated that any weaknesses within the CSB's four-person Recommendations Office contributed significantly to the failure of any recipient to implement CSB recommendations.

SUMMARY OF RESPONSE:

The CSB agrees with all but one of the recommendations in the draft audit report, and the agency has already, or will soon complete implementation of these recommendations. A revised Board Order 22 (OIG Recommendation 1a) is expected to be considered by the Board before the end of June. The CSB disagrees with OIG Recommendation 1b, regarding calendaring of notation votes, as explained more fully below. Updates to Board Order 40, Investigation Protocol, are expected to be completed and approved by the Board by the end of 2012, including those issues addressed in OIG Recommendation 1c. Regarding the fuller use of our current electronic records database (TRIM), a tagging system for identifying missing key documents is already in operation and a contractor is programming the system to send automatic reminders to staff to ensure follow-up every six months. The latter function is expected to be fully tested and operational by the end of 2012. The Board just approved Board Order 46, Most Wanted Chemical Safety Improvements Program, and will be selecting the first two most wanted issues by July 2012, consistent with OIG Recommendation 3.

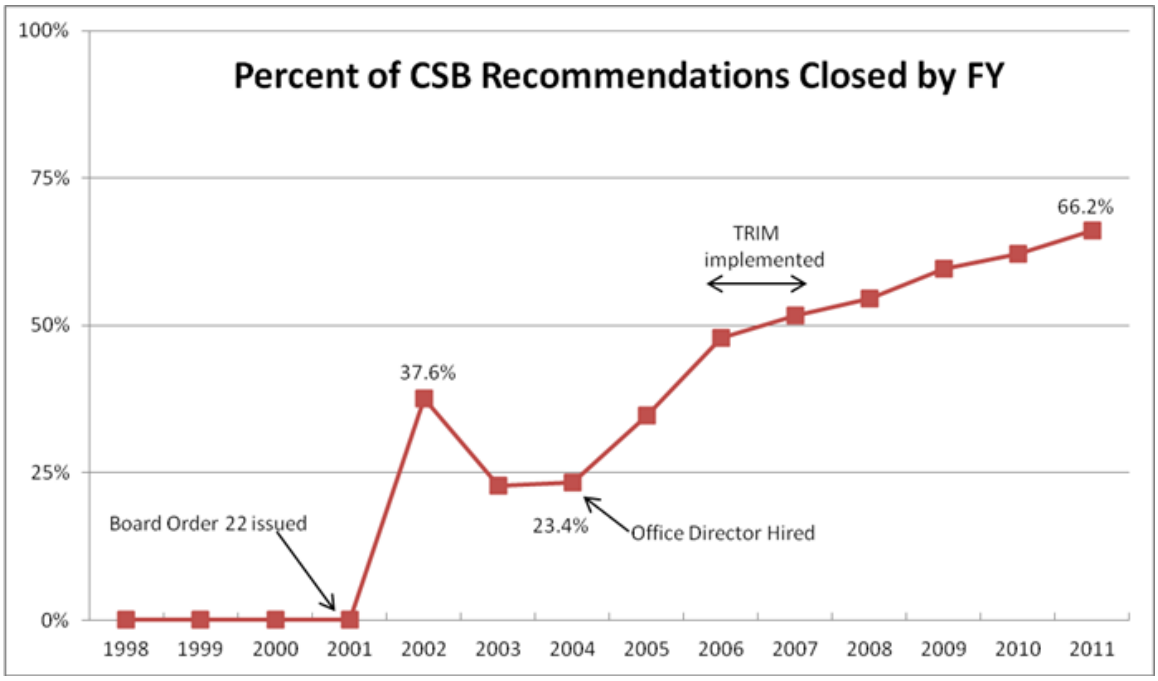
The draft report gives an overall impression that there are widespread data quality problems with the recommendations data. Therefore, CSB recommendations staff conducted a baseline data quality review to better quantify and understand the concerns of the OIG. Our findings indicate that the data identified as "missing" by the OIG do not materially affect the agency's efficiency or effectiveness in its pursuit of recommendations implementation. In summary, our review found that only about 6% of a total of more than 600 recommendations were missing one of three key documents. More importantly, more than 60% of these "missing" documents were not missing at all - rather they were digital copies of the letters in the database that were only missing physical signatures. The majority involved recommendations that are already closed, and most also date back to the period before 2004-05, when the present Recommendations Office was established. These missing data do not materially impede our growing efforts to follow-up and advocate for the implementation of recommendations. Our internal review also located about one fifth of the "missing" data, as well as numerous other follow-up related documents for many investigations, especially older ones. Lastly, this internal review found that for all investigations completed since 2006, our electronic database is practically 100% complete, which indicates that the quality of recommendations-related records has substantially improved.

BACKGROUND:

While the draft report notes that the CSB established a dedicated Recommendations Office in 2004, an expanded history and evolution of the Recommendations Office, as well as its primary responsibilities, would be helpful to put our comments in their proper context. We suggest that a similar summary be a part of the audit report itself. The agency was first funded in 1998, and Recommendations Board Order 22 was adopted in December 2001. Recommendations activities were secondary to investigative work for the first several years, with very limited resources devoted to recommendation tracking, advocacy, and closure. A Recommendations Office was not permanently created until

2004 and not staffed until mid-2004 to 2005. The overwhelming priorities during the first years of the new office were to follow-up and close a growing backlog of open recommendations. CSB began using an electronic database for investigation records in 2005, and then existing and somewhat disorganized recommendations records were scanned into the database beginning in 2006.

The combination of establishing a Recommendations Office and using an electronic database for recommendations records has been very successful. As illustrated in the graph below, the percentage of CSB recommendations that were closed in 2004, when the office was created, stood at 24%. That figure now stands at 71% (mid-2012), and we are systematically pursuing the remaining open recommendations, as well as the new ones that are issued. Our electronic database is well in place and our essential records are nearly 100% complete for investigations since 2006. The office is every day more effectively contributing to the development of recommendations, a long-sought CSB goal, and the evaluation of responses has consistently become more thorough and comprehensive. As the remainder of this response indicates, we anticipate operating the office under a revised Board Order 22, and we expect to have a functioning Most Wanted Chemical Safety Improvements Program by the end of 2012.



RESPONSES TO OIG RECOMMENDATIONS

OIG Recommendation 1(a): *Update board orders to ensure that CSB achieves its mission of chemical accident prevention through improved recommendations processes, to include:*

- *Board Order 022, CSB Recommendation Program*

  (i) To establish and implement data quality reviews to verify the accuracy, completeness, and reliability of recommendations data entered in TRIM, such as error checks and inclusion of required supporting documentation.

  (ii) To require that the Office of Recommendations director periodically analyze and assess the recommendations process to identify potential process improvements.

CSB Response:

The CSB agrees with this recommendation. Board Order 22 has been redrafted and is expected to be voted on by the Board by the end of June 2012. Among many other changes and improvements, the revised draft includes two new sections that specifically address the two items in the above-referenced OIG recommendation.

The revisions also address a broad range of other issues that will specifically improve the development, follow-up and closure of recommendations, including improved collaboration between investigative and recommendations staff.

With regard to data quality, the Recommendations Office recently carried out a comprehensive baseline data quality review, the results of which are described in Attachment A. In summary, the review established that any recordkeeping quality issues were relatively minor and mostly dated from the period prior to the use of an electronic database. This finding is in sharp contrast with the impression of widespread data quality problems conveyed by the OIG audit report.

OIG Recommendation 1(b): *Update board orders to ensure that CSB achieves its mission of chemical accident prevention through improved recommendations processes, to include:*

Board Order 01, Board Quorum and Voting, to establish and implement guidelines that define the length of time notation items can be calendared before a vote must be taken.

CSB Response:

The CSB disagrees with this recommendation. The OIG findings underlying this recommendation are erroneous. Moreover this recommendation contains a flawed conclusion with which we strongly disagree – that calendaring of votes "… can contribute to the occurrence of similar chemical accidents." [Draft report at p. 9] Finally, this recommendation simply misses the purpose for establishment of a collegial voting body like the Board. Forcing votes when there is no consensus is a poor practice. The draft report fails to recognize that this is not an operational issue. Rather, the voting process, whether it is applies to CSB reports or board orders, is an iterative process that

relies on consensus building and ultimately on policy judgments. Forcing votes to occur in the manner suggested and imposing "deadlines" for policy decisions is neither productive nor consensus-oriented, which are necessary for the effective operation of a collegial body.

The specific cited example of a "calendared" investigation reported in the draft OIG report, which allegedly led to a nearly five-month delay in issuance, is in serious error. The facts are that this notation item (NI 846) – Adoption of an Investigation Report and Recommendations for an Incident Occurring at the DuPont Plant in Belle, WV. – was circulated on April 27, 2011. It was calendared by two board members on April 28 and May 9, respectively. Subsequent to this calendaring, notation item 852 was circulated on May 20, 2011, to address some of the issues underlying the calendaring of NI 846. This NI was disapproved by the Board on June 1, 2011. It was not calendared as stated in the draft OIG report. Subsequent to this disapproval, NI 862 was circulated on June 8, 2011, and approved by the full Board on June 22, 2011 – less than two months after the very first vote on the issue (and arguably just as quickly as if a public meeting had been called to consider the report). This NI approved public issuance of the draft report and recommendations and provided a 45-day comment period for receipt of public input. The comment period ran from July 7 – August 22, 2011, and resulted in over 13 separate public comments received totaling 43 pages, many of which were very useful to the Board. Following completion of the comment period and a staff analysis of the comments received, NI 880 was circulated on September 7, 2011, and approved on September 20, 2011, leading to the report's issuance. Most of these key facts are omitted from the draft report.

Contrary to the draft OIG report's characterization, the DuPont Belle Investigation was not subject to a long calendaring process. Rather, several different votes were taken (only one of which resulted in a short period of calendaring), and in the end, both public input and a superior report resulted from the Board's actions.

The other example cited in the draft OIG report relates to the calendaring of proposed Board Order 46 entitled "Board Members Roles and Responsibilities," which is outside the scope of an evaluation of CSB recommendations activities. While it is true, as reported by the OIG, that this item has remained calendared since November 2011, the CSB disagrees that a document involving changes in board member roles should be subject to an arbitrary deadline for issuance. Obviously, some board orders and notation items involve sensitive topics requiring the development of consensus among members. This is not always easily achieved as members represent different points of view and bring different experiences to bear upon the issues faced by the Board.

The OIG's approach would apply a simplistic deadline to difficult problems and attempt to force votes upon the Board, when the Board has not been able to reach a consensus. While consensus cannot always be achieved, this is our goal, and we believe the OIG's recommended approach would not serve this goal. Ultimately, consensus is best achieved when board members have the inclination and desire to resolve issues, rather

than when an issue is forced upon them because of the passage of an arbitrary period of time.

OIG Recommendation 1(c): *Update board orders to ensure that CSB achieves its mission of chemical accident prevention through improved recommendations processes, to include:*

- *Board Order 040, Investigation Protocol, to clearly outline roles and responsibilities of the Office of Recommendations and Office of Investigations with respect to the recommendations process, including a requirement that Office of Recommendations staff participate in accident investigations, and identification of the office responsible for identifying potential recommendation recipients.*

CSB Response:

The CSB agrees with this recommendation. The CSB is revising Board Order 40, addressing a broad range of enhancements for collaboration among the Investigative and Recommendations Offices, including the two specific areas mentioned in the recommendation. The revision includes a provision that the Office of Recommendations staff participate in accident investigations and a clear identification of the office responsible for identifying recommendation recipients. The CSB is continually revising Board Order 40, a complex order that encompasses the Agency's entire investigative protocol. However, the CSB will focus on completing sections related to the OIG's recommendations and expects they will be ready for a Board vote by the end of 2012.

Of particular relevance to this recommendation is the ongoing work of a staff task force from the Offices of Investigations, Recommendations, and Administration to develop three new or revised chapters of the protocols entitled "Causal Analysis," "Product Development and Review," and "Recommendations." The section on Causal Analysis has already been approved by the Board.

OIG Recommendation 2a: *Make full use of TRIM's capabilities, to include:*

- *Incorporating formal scheduling components in TRIM to track the recommendations process and alert staff to impending milestones to ensure timely follow-up.*

OIG Recommendation 2b: *Make full use of TRIM's capabilities, to include:*

- *Highlighting the absence of required supporting documentation.*

CSB Response:

The CSB agrees with these recommendations. The CSB's chief information officer has contracted with an expert to program TRIM to:

- Automatically prompt assigned recommendations specialists to review each open recommendation file at least once every six months. We expect this system of reminders to be available for testing by the end of FY 2012, and fully operational in the first quarter of FY13.

In addition, TRIM has been modified to include a tagging system for the three key document types that must be associated with recommendations: notification letters, board action reports/recommendation response evaluations, and status change letters. All existing documentation and all incoming documentation will be marked with these tags as appropriate, to ensure that all documents are present and to alert staff if they are absent. CSB recommendations staff also have logged all Board actions relevant to a recommendation on the "Action Summary" tab associated with each recommendation. This now permits staff to use the "Action Summary" page to identify the documentation that should be in any investigation folder and fill gaps as appropriate.

Some additional comments are in order regarding TRIM:

1. TRIM is a commercially available electronic data storage and management system, which is used by the entire agency, not only the Recommendations Office. It may be replaced by another software system with similar or improved functions in the future. We suggest this be made clear in the final OIG report.

2. A statement on page 8 of the draft report states incorrectly that CSB staff "did not use the contact field in the TRIM database." We request that it be corrected. The TRIM database did not have a field for a recipient point of contact. The CSB's chief information officer created this field in the database when IG audit staff requested contact information for all recommendation recipients in order to conduct their planned survey. Recommendations staff then reviewed all open recommendations and made sure that an updated point of contact was listed. Contacts are also now updated routinely, as needed, whenever follow-up occurs for any recommendation.

3. A statement on page 11 of the draft is incorrect and we request that it be corrected. The statement asserts that "Although CSB's Chief Information Officer stated that TRIM can be programmed to notify recommendations specialists that follow-up dates are approaching, this TRIM function is not being utilized." It is inaccurate to state that this functionality was "not being utilized," because it does not yet exist in the software. The contractor is now programming it to automatically send reminders to staff.

4. A second assertion on page 11 is also incorrect, and we request that it be corrected. The second paragraph incorrectly states that 13 recommendations in the OIG's sample of 44 "showed no follow-up activity for more than 5 years." A review of these files by CSB staff found that eight of them (61%) had *not* gone five years without follow-up. Indeed, many of them had repeated follow-up activity, some in the recent past. Moreover, five of those eight (63%) were closed between May 2011 and April 2012, and nearly all the others have now received active follow-up.

OIG Recommendation 3: *Implement a formal advocacy program to advocate for safety recommendation implementation, to include adoption of most-wanted safety actions.*

CSB Response:

The CSB agrees with this recommendation. The Board just approved Board Order 46, Most Wanted Chemical Safety Improvements Program. A copy of the Board Order can be found in Attachment B. In addition, the Board is now considering two initial "most wanted" issues, and is expected to select them officially by the end of July 2012. The new program is projected to be put in place during the last quarter of FY 2012 and to become fully operational in the first quarter of FY 2013.

Thank you again for the opportunity to comment on the draft evaluation report. If you or your staff have any questions regarding the CSB's comments and concerns, please contact Daniel Horowitz, Managing Director, CSB, at 260-7613 (Daniel.Horowitz@csb.gov)

Sincerely,

Rafael Moure-Eraso, Ph.D., CIH
Chairperson

Attachments

ATTACHMENT A. Baseline Data Quality Review

The Office of Recommendations conducted a systematic, comprehensive review of its current electronic database records. This review will serve as a baseline for future data quality reviews. The review findings indicate that the number of missing data points is small, and will not materially affect the CSB's closure of recommendations. In summary, most of the missing data occurred in the early years of the agency's existence, before an electronic database management tool was utilized. The majority of missing records are signed copies of letters (the files contain copies of letters without signatures); most involve recommendations that are already closed, so their absence is irrelevant. Lastly, the review was able to identify and locate approximately one-fifth of the missing records the OIG highlighted, as well as many other paper records concerning follow-up that were available in hard copy, but had not been scanned into the electronic database at the time of the OIG's audit.

Staff reviewed the files for each of the agency's 641 recommendations to ensure the presence of the following essential documents:

- An initial notification letter informing the recipient of the issuance of the CSB's recommendation(s)
- Board action report(s) and associated recommendation response evaluation(s) for all board votes regarding recommendation status designation(s).
- Status change letter(s) informing the recipient of board actions relevant to CSB's recommendations (e.g., advancement, closure)

When these documents could not be located in the electronic database, staff searched its office files as well as those of the Office of General Counsel. Numerous missing items were found and filed; when a document could not be located, staff so noted it in the electronic database. In addition to closing gaps related to these basic records, our review found numerous other records related to follow-up that were scanned and entered into the electronic database. These additional data largely reflected documents from before 2005-06, when CSB began using the electronic database for recommendations records.

Our review revealed that: (1) the missing records constituted only a small proportion of the overall records; (2) many of them actually existed but were missing only signatures; and (3) most of the incomplete records date to before mid-2005, when the recommendations office was created and no electronic record-keeping tool was available. The actual review results present a more accurate picture of the missing data than is suggested in the OIG draft audit report. Of an estimated total of 2,000 records (the three key records above multiplied by a total of 641 recommendations), approximately 114 records (6%) were found to be missing or partly missing. Twenty-five (22%) of these were found in our review. Of the remaining 89 incomplete records, approximately 63% were only missing a signature on a document but were otherwise accurate. Moreover, approximately 66% of the records containing gaps involved investigations completed prior to 2004, before the recommendations office formally existed, and before electronic records management was implemented. Finally, our review indicates that nearly 100% of records since 2006 have the three basic documents listed above.

U.S. Chemical Safety and Hazard Investigation Board

SUBJECT: Most Wanted Chemical Safety Improvements Program

CONTENTS

1. **PURPOSE.** This Order establishes a "Most Wanted Chemical Safety Improvements Program" ("Most Wanted Program" or "Program") for the Chemical Safety and Hazard Investigation Board (CSB) to:

   - identify the most important chemical safety improvement goals of the CSB in the form of a "Most Wanted List" of Chemical Safety Improvements, which will be based on recommendations resulting from CSB investigations, studies, hearings, and similar fact-finding activities;

   - make efficient use of limited resources to pursue implementation of changes that are most likely to achieve important national-level safety improvements;

   - focus special advocacy efforts by Board Members and staff on the Most Wanted List;

   - inform the CSB's deployment decisions and strategic allocation of staff resources; and

   - issue periodic reports of the activities of the Program.

   This Order provides policy guidance for the conduct of the Program, including the periodic selection and advocacy of the Most Wanted List, issuance of periodic reports on the Program, guidelines for advocacy by Board Members and staff, and a summary of the key roles of staff offices in the Program. As described in this Order, the extent of advocacy activities surrounding the Most Wanted List will depend on the resources available to the CSB.

2. **EFFECTIVE DATE.** This Order is effective upon passage by the Board.

3. **BACKGROUND AND AUTHORITY.** The CSB authorizing statute, 42 U.S.C. § 7412(r)(6)(C)(ii) assigns the CSB the responsibility to "issue periodic reports to the Congress, Federal, State and local agencies … concerned with the safety of chemical production, processing, handling and storage, and other interested persons, recommending measures to reduce the likelihood or the consequences of accidental releases and proposing corrective steps to make chemical production, processing, handling and storage as safe and free from risk of injury as is possible …."

   The CSB conducts investigations, studies, and research concerning chemical incidents and hazards (or potential hazards), and the Board issues preventive or corrective recommendations to various parties based upon the findings of those activities to prevent similar incidents in the future. These recommendations serve as the basis for the Most Wanted List.

4. **POLICY.** The Most Wanted List will be a group of critical safety improvements selected by the Board for intensive follow-up and heightened awareness. The list will be based primarily on CSB recommendations and their potential to enhance chemical safety at the national level when implemented, but may also involve broader issues drawn from other fact-finding activities of the CSB. The selection of the Most Wanted List will consider and assess risk, through information such as:

a. the nature of the risk and estimated extent of exposure to workers and offsite populations;

b. previous loss and potential for future loss of life or property, illnesses, and environmental damage;

c. very high risks disproportionately affecting discrete but highly identifiable groups of individuals (e.g., a narrow sector of industry or certain specialized workers facing a very high probability of risk);

d. strong concern of important sectors of a community, civic leaders or the like; and

e. The possibility that advocacy will help bring about change.

At least once per year, the Board shall vote to select or revise the Most Wanted List based on factors such as a review of the advocacy activities of the previous year, staff advice, arising opportunities for impact, and others.

The list shall be published on the CSB webpage and publicized through other means.

The Most Wanted List does not preclude advocacy for all other recommendations issued by the CSB, and may be modified as the status of issues change during the year (e.g., recommended actions are implemented by recipients, new opportunities arise).

5. **RESPONSIBILITIES.**

a. **Board Members.**

(1) Periodically vote to select the "Most Wanted List" and monitor the operation of the Program.

(2) Consider additions or other changes to the Most Wanted List during the year as necessary.

(3) Select and individually take the lead in advocating specific "Most Wanted" issue areas through speeches, editorials, scientific and lay articles, interviews, contacts with potentially influential stakeholders, press conferences, videos, and similar activities.

b. **Role of Staff Offices in the Program.**

(1) Office of Recommendations.

(a) Act as the primary staff office responsible for coordinating the implementation of the Program, including the contributions of other offices.

(b) Assign a specific staff member as the lead person accountable for coordinating the Most Wanted Program.

(c) Annually develop and recommend a draft Most Wanted List to the Board for consideration.

(d) Develop and deliver periodic progress reports, at least annually, on the Program to the Board and others.

(e) Identify, recommend, and participate in advocacy activities, consistent with resources.

(f) Recommend additions or other changes to the Most Wanted List during the year as necessary.

(g) Collaborate with the Office of Congressional, Public, and Board Affairs as described in 5.d., below.

c. **Office of Congressional, Public, and Board Affairs.**

(1) Prepare and distribute written, audio-visual, and other relevant materials to encourage coverage of the Most Wanted List and its issues.

(2) Contact media sources to encourage coverage of the Most Wanted List.

(3) Post the Most Wanted List and related information on the CSB website, and update as needed.

(4) Collaborate with the Office of Recommendations on the items listed in 5.d., below.

d. **The two above departments will collaborate in:**

(1) helping draft speeches, articles, editorials, and similar written pieces to submit to print or electronic publications on behalf of Board or staff members;

(2) assisting the Board Members in identifying and participating in events, speaking engagements, and similar activities likely to contribute to the advocacy of the Most Wanted List;

(3) assisting the Board Members in preparation of slides, presentations, handouts, and other materials related to advocacy of the Most Wanted List;

(4) helping identify venues for Board Member and staff presentations that present opportunities for advancing the Most Wanted List, and encourage Board and staff members to present; and

(5) preparing web, printed, and audio-visual materials for advocacy activities.

e. **Office of Investigations.**

(1) Support advocacy activities through testimony, hearings, contacts with recipients and potential supporters, public presentations, interviews, and similar activities.

(2) Recommend changes to the Most Wanted List during periodic reviews or at other times, as necessary.

6. **ADVOCACY.** Board Members and staff will advocate for the items on the Most Wanted List through these and similar methods:

    a. publicizing the Most Wanted List Report;

    b. conducting public education through the CSB webpage;

    c. using web announcements, press releases, press conferences, interviews, editorials, and similar written pieces;

    d. providing testimony at federal, state, or local legislative, administrative, and rulemaking hearings, and similar venues;

    e. featuring the Most Wanted List in Board and staff speeches, especially before groups that may advance the implementation of issues on the list; and

    f. engaging in written and verbal communication with recommendation recipients, other interested parties, and important stakeholders on behalf of items on the Most Wanted List.

7. **REVIEW AND UPDATE.** The Managing Director with the support of the Office of Recommendations and other staff shall be responsible for reviewing this Order on a periodic basis and for proposing revisions to the Board.

U.S. CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD

June 12, 2012.

Appendix C

Distribution

Chairperson and Chief Executive Officer, U.S. Chemical Safety and Hazard Investigation Board
Managing Director, U.S. Chemical Safety and Hazard Investigation Board
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