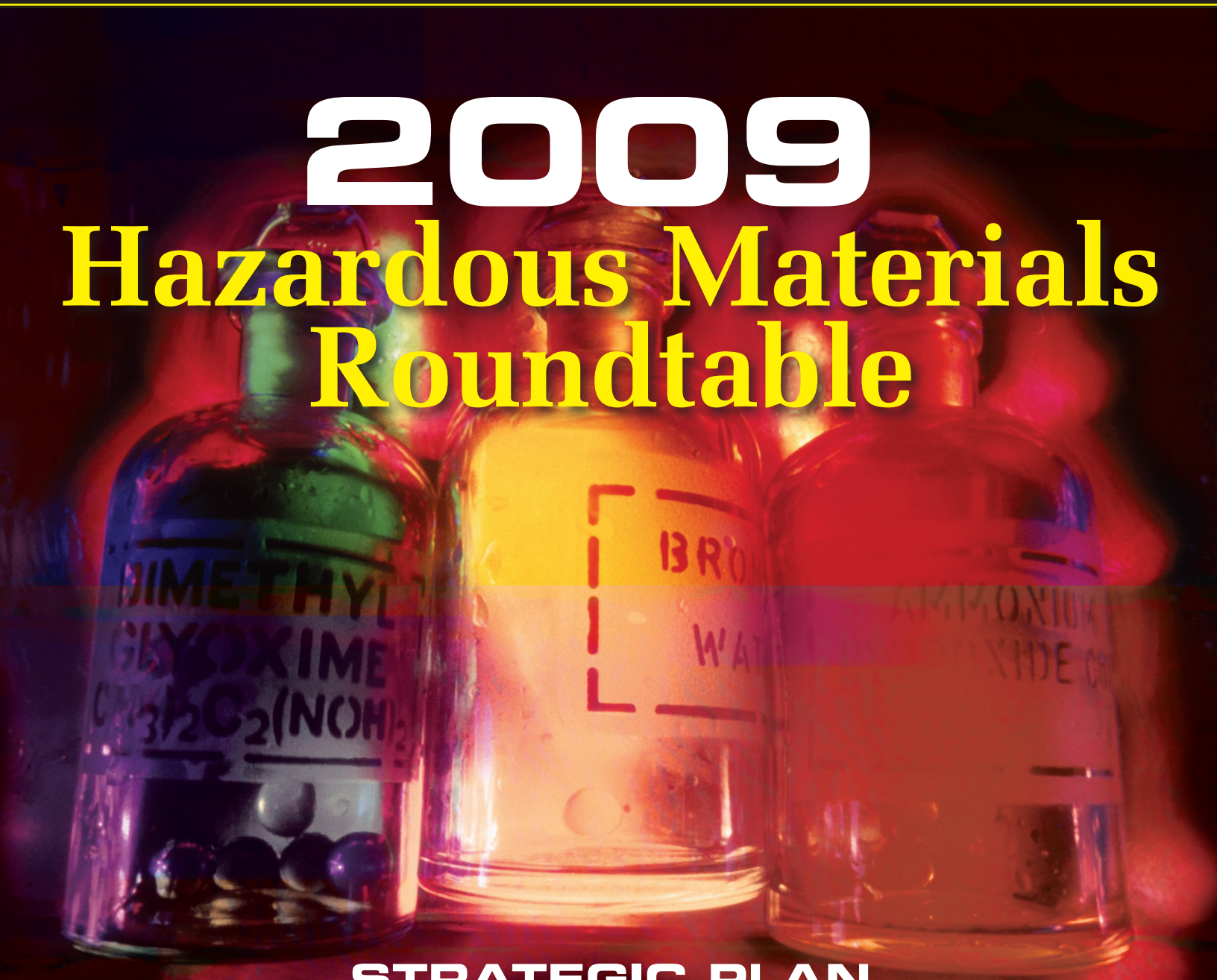
MARCH 10-11, 2009 • FAIRFAX, VIRGINIA

2009 Hazardous Materials Roundtable



STRATEGIC PLAN

IAFC INTERNATIONAL FIRE CHIEFS ASSOCIATION ORG 1873

Hazardous Materials Roundtable Strategic Planning
March 10-11, 2009

Final Report

Sponsored by the International Association of Fire Chiefs (IAFC)
in cooperation with the U.S. Fire Administration (USFA)

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The USFA supports the Hazardous Materials Roundtable through a grant with the IAFC on fire service hazardous materials preparedness and response. However, the positions developed by the Roundtable do not necessarily reflect the views of the USFA.

Hazardous Materials Roundtable
2009 Strategic Planning Report

EXECUTIVE SUMMARY

On March 10-11, 2009, the Hazardous Materials Roundtable met to develop an implementation plan for the recommendations that were offered in the 2007 Hazardous Materials Roundtable report. This report documents the issues and proposes initial actions and strategies. The Roundtable group consisted of 15 representatives from federal, state, and local government, fire and emergency services, private industry, and other key stakeholders from the hazardous materials community.

The meeting included a discussion of current emerging issues and was followed by a review and prioritization of the recommendations from the 2007 Roundtable Report into three general categories:

- *Completed or well underway:* Recommendations that have already been resolved or whose implementation is already well underway.
- *Discrete:* Recommendations that represent relatively simple action projects with a clear objective that can be assigned to a person or group, have a concrete beginning and end, and/or a short life cycle.
- *Complex, large, or long-term:* Recommendations of more complexity that require commitment and action from multiple parts of the system, are more involved endeavors, or are long-term in nature.

Action plans were then established for the twelve "Discrete" recommendations (see appendix beginning on page 30). Four complex recommendations were identified as most important and of highest priority. These issues were further refined to include the identification of the entity or organization having lead responsibility to provide the path of action.

In addressing the complex recommendations, the participants acknowledged that no single entity, including the Roundtable group, had the authority, resources, information, expertise, or need to resolve these systemic issues alone. They realized that although the Roundtable group could not single-handedly develop and implement whole-system solutions, it could develop mechanisms for doing so, and proceeded to identify three possible processes.

This report is intended to serve as an action plan for the hazardous materials community and its federal agency and industry partners.

The IAFC thanks the USFA for its continued support of the activities of the Hazardous Materials Roundtable.

Hazardous Materials Roundtable
2009 Strategic Planning Report

The risks associated with emergencies involving hazardous materials (hazmat) mitigation and control have been in the forefront of public safety planning for several years. The dramatic increase in production and distribution of industrial chemicals over the past 40 years has produced significant incidents, resulting in injury, death, property, and economic loss. Since September 11, 2001, rapid change in the world, combined with crises on many fronts, has created a new level of complexity in the hazardous materials response landscape never before experienced. Weapons of mass destruction (WMD), the criminal use of hazardous materials, new materials, emerging technologies, increased volume of hazardous materials being transported throughout the world by all modes of transportation, and the cross-system and cross-jurisdictional responsibilities inherent in this dynamic landscape challenge the hazardous materials response community like never before.

In an ongoing effort to increase the safety of responders and the public, and to improve the effectiveness of the hazardous materials response community, the International Association of Fire Chiefs' (IAFC) Hazardous Materials Committee has, for a number of years, convened a Hazardous Materials Roundtable of the nation's leading authorities on hazardous materials emergency response. The purpose of the Roundtable has been to review the current state of the hazardous materials response community, identify the critical issues, and recommend future strategies. A report identifying 34 key issues and establishing the direction for action was published after the 2007 Roundtable meeting.

In March 2009, recognizing the importance and urgency to initiate action on the recommendations they made, representatives of the Roundtable convened to develop action plans. This report documents the issues and proposes initial actions and strategies that Roundtable members, their constituencies, and others in the hazardous materials community can employ to address them.

EMERGING ISSUES

Since the 2007 Roundtable report, several important issues have emerged in the hazardous materials response community. Roundtable members identified these at the beginning of the meeting for incorporation into their action planning activities. These emerging issues are summarized below and are also discussed later in the action planning section.

Conflicting and Outdated Regulations

Hazardous materials emergency response operations are generally governed by Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1910.120(q). While this regulation is primarily intended for non-government industrial operations, the nature of the regulatory environment ultimately applies these rules to the public sector as well. More than 20 years have passed since the regulation was originally promulgated, and the regulation does not accurately reflect the current hazardous materials response environment, the industry philosophies related to worker protection, or risks to emergency responders assigned to respond to hazmat and WMD incidents.

In comparison, the National Fire Protection Association (NFPA) 472, "Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents," is generally accepted as the minimum training standard by the emergency response community, and has been adopted by the Department of Homeland Security (DHS). While both OSHA 1910.120 and NFPA 472 started in approximately the same timeframe, NFPA 472 is now in its 5th edition (published in 2008), while OSHA 1910.120 has never been revised and updated.

An example of the failure of OSHA 1910.120 (q) to reflect current emergency response community practices is an OSHA letter of interpretation to a National Volunteer Fire Council (NVFC) request, dated November 7, 2008, stating that firefighters are not all required to be trained to the first responder operations level. Further, the letter states that firefighters who are not expected to respond to releases or potential releases of hazardous substances and who would simply notify appropriate authorities of the release only need to be trained to the first responder awareness level. Since the local volunteer fire department is the local authority having jurisdiction (AHJ) in many parts of the country, this opinion does not reflect current operational realities and would leave firefighters unprepared to deal with common day-to-day emergencies, including vehicle accidents involving loss of motor fuels, flammable liquid, and gas incidents.

While the Roundtable supports the need for health and safety regulations that pertain to hazmat/WMD emergency response operations, it is critical that such regulations accurately reflect current response threats, risks, and accepted practices. Unfortunately, the Roundtable members do not believe that OSHA 1910.120 (q) currently meets those benchmarks. The problem that the NVFC letter of interpretation creates within the hazardous materials emergency response community is that a number of response agencies view regulatory compliance as commensurate with operational effectiveness. The Roundtable believes that as the regulation now stands, there is no direct relationship between regulatory compliance and operational effectiveness.

The Roundtable reaffirmed its support for the 2007 recommendation (#20) that established the need for all emergency responders to be trained to the requirements of NFPA 472.

Biological Sampling

A recent U.S. Government Accountability Office (GAO) report identified shortcomings in the response capabilities for biological incidents. The report cited shortcomings in the sampling, detection, and concept of operations.

Hazmat Program Management Standard

While NFPA 472 establishes training competencies for emergency response to hazmat/WMD incidents, there is currently no standard or guidance on how to develop, manage, and sustain a hazmat response program.

The Roundtable supports current efforts of the NFPA 472 Technical Committee to review this issue and determine a pathway for addressing the gap. The NFPA 472 Technical Committee has established a Working Group to provide recommendations to the Technical Committee and will submit any requests for a new document to the NFPA Standards Council at its August 2009 meeting.

Hazard Response Communications
The need for improved, integrated mechanisms for delivering incident-specific information to hazardous materials responders in the field continues to grow. With differing jurisdictional technological capabilities, having multiple methods to deliver real-time information to field responders is an essential element in protecting both emergency responders and the community.

Supporting discussion points of this issue included:

- The U.S. Department of Transportation (DOT) currently has a five-year road map for how technology will be integrated, and is seeking stakeholder input on how these information needs should be prioritized.
- Material Safety Data Sheets (MSDS) – Several companies are not including full details about the safety, health, and toxic properties on their MSDS, which places first responders at distinct disadvantage when trying to protect themselves and the public following a spill, leak, fire, or medical exposure. The information contained on these forms is significantly influenced by the legal review process, which often results in a "watering down" of the information needed by the emergency response community.
- Many fire departments have limited radio communications capabilities and depend on a local dispatcher for effective connectivity with other entities. There is a need to develop infrastructure so that quality content and effective communications mechanisms can be used to deliver information to the end user.

Continued Conflict between Health/Safety and Security
There is a continuing conflict between health/safety and security with regard to access to information. While emergency responders have a valid need for sensitive information in order to respond effectively, valid security concerns exist regarding access to the information. Both aspects of this issue are appropriate, and a balanced solution that addresses the critical requirements of safety and security is needed. A question about the extent to which this is a real issue in the field was raised. Participants offered examples and discussed the need for more thorough exploration.

REFLECTION ON THE 2007 REPORT RECOMMENDATIONS

The group reoriented itself to the recommendations in the Roundtable report, had a general discussion, and reflected on why the recommendations are important. Discussion points included:

- The ultimate reason the recommendations are important is for the health and safety of responders and the public.
- The U.S. Department of Energy (DOE) invests resources in examining different energy sources as alternative fuels (e.g., hydrogen, etc.), but does not consider or incorporate emergency response impacts into plans for deploying alternative fuels into society. As a result, the responder community is continually reacting to the presence of these new hazards, placing responders, the public, and regulators at greater risk.
- Several of the recommendations can be used as templates for solving other issues. Once issues, processes, etc. are validated, then standard distribution channels can be put in place to dispense information to responders.

- The USFA's Training Resources and Data Exchange (TRADE) program currently has only an ad-hoc link to the hazmat community.

ACTION PLANNING

To begin the action planning process, participants sorted the recommendations from the 2007 Roundtable Report into three categories:

- *Completed or well underway:* Recommendations that have already been resolved or whose implementation is already well underway.
- *Discrete:* Recommendations that represent relatively simple action projects with a clear objective that can be assigned to a person or group, have a concrete beginning and end, and/or have a short life cycle.
- *Complex, large, or long-term:* Recommendations of more complexity that require commitment and action from multiple parts of the system, are more involved endeavors, or are long-term in nature.

Action Overview

Of the 34 original recommendations and four emerging issues newly identified:

- 14 have been completed or are underway,
- 12 are discrete tasks for which the Roundtable developed preliminary action steps,
- 12 are complex projects, four upon which Roundtable members decided to act. The remaining eight projects will be addressed at a later date.

See *Appendix: Revised Roundtable Recommendations Grid* on page 19 for details on all recommendations and the categories the Roundtable assigned to them.

The Roundtable identified action considerations that applied to all recommendations. They were:

- Where appropriate, science should guide the process. Recommendations and decisions should have a solid scientific foundation.
- Always ask: Is this already being done?
- Bring emergency response in on the **front end** of technological advancements, policy changes, etc. rather than after the implementation process.
- Technology transfer is key. Include technology transfer mechanisms in all action plans.

Preliminary Criteria for Action

The group developed preliminary criteria for considering which recommendations it would focus on for action planning. The intent was to prioritize the recommendations relative to the "biggest bang for the buck." These criteria included:

- Greatest impact
    - Health and safety impacts upon emergency responders
    - Widest population within the emergency preparedness and public community
- Consistency
- Ease of implementation
- Cost feasibility
- Potential for success

- Operability
- Extent to which we can reach decision makers

These considerations were used throughout the sorting process as touchstones, rather than formal ranking tools. At this point in the meeting, the goal was to minimize discussion on recommendations that were of lesser impact, or that were already underway or complete. Additionally, participants wanted to determine actions on as many recommendations as possible, so exploring all of them to some extent was preferable to making formal priority decisions and acting only on those.

Complete or Underway Projects

The following recommendations have either been completed or are in the implementation process. Therefore, no action planning on these recommendations was necessary (number indicates recommendation number assigned during the meeting, based on the grid).

We would like to see:

E EMERGING ISSUE. Need for the development of a document addressing the administration and management of a hazmat emergency response program throughout the emergency preparedness cycle.

2 The Hazmat Fusion Center play a role in identifying trends and sharing this information with emergency responders.

6 Participation in various committees and coalitions by Hazmat Roundtable members.

8 The development of a national strategy for consequence planning, management, mitigation, and response regarding the many hazards that face America today.

9 The Department of Homeland Security (DHS) publicly recognize an "all hazards" approach to planning and preparedness, and appropriately support those activities.

10 Local and state emergency management officials recognize that hazardous materials/weapons of mass destruction (WMD) incidents in their jurisdictions should receive the specific assessment and planning that may be lost in the all hazards approach.

13 Each authority having jurisdiction (AHJ) complete a risk-based community assessment and train personnel in all mission specific competencies that apply, based on their response plan.

16 Procedure-based response as a base level, with hazmat/WMD responders striving for the knowledge, skills, and experience necessary to implement a risk-based response.

17 The National Fire Protection Association (NFPA) 472 committee continue to develop hazmat/WMD competencies using the risk-based response model, and all hazmat/WMD curricula for operations and technician levels based on this model as well; the use of a procedure-based response matrix to improve first responder hazmat operational level risk assessment.

18 Strong oversight by the hazardous materials response community. This is required to examine and review any proposal or emerging technology options aimed at removing or replacing placards on hazardous material bulk transport containers (Note: restated from original).

21 A coordinated message from the major fire service organizations outlining the key components of the [NFPA 472] standard and identifying/clarifying the primary elements causing confusion.

22 The IAFC Board of Directors adopt a resolution to encourage its members, as well as all fire departments, to adopt the NFPA 472 Standard (5th edition, 2008).

25 The National Incident Management System (NIMS) Integration Center (NIC) work with stakeholders on development of credentialing processes and typing of resources for standardization clarity (work through the IAFC's Emergency Management Committee).

26 Fire departments consider adding WMD training to the recruit program to minimize overtime costs, and consider the train-the-trainer concept, using officers as trainers; the Occupational Safety and Health Administration (OSHA) add language requiring NFPA 472 compliance in applicable OSHA regulations currently under review in the *Federal Register* since WMD training is included as a competency in NFPA 472; and federal agencies link WMD training to grant funding and NIMS credentialing, while encouraging a multi-disciplinary approach.

30 The National Hazmat Fusion Center encourage and promote industry partnerships and joint meetings of the hazardous materials response community and chemical industry representatives so they can begin working together during the concept phase of product development.

Discrete Projects and Initial Action Steps

The following recommendations were identified as discrete projects and initial action steps were developed. Recommendations in this category are listed below (number/letter indicates recommendation identifier assigned during the meeting). Action plans for these recommendations are provided in *Appendix: Action Plans for Discrete Projects*, beginning on page 30.

We would like to see:

A EMERGING ISSUE. Regulation 29 CFR 1910.120(q) updated to reflect current industry philosophies and risks to emergency responders.

4 The creation of a coalition, similar to the Ethanol Emergency Response Coalition (EERC), for other alternative fuels such as hydrogen and biodiesel (Note: restated from original).

11 Local emergency management officials continue to include fire service personnel in community assessments and planning.

12 Assessments and response plans make their way to first responders for practical use during hazmat/WMD events in local jurisdictions.

14 The widespread establishment of effective mutual aid agreements and multi-agency response plans between military and civilian response teams for military installations under elevated threat level situations (Note: restated from original).

15 The completion of a community risk assessment, done in collaboration with other agencies at the jurisdictional level, to increase situational awareness.

19 LINKED TO #32. Appropriate federal agencies promulgate regulations that require all intermodal transport containers to be placarded, with appropriate commodity information

accompanying the shipment (required for all other modes of shipments for similar materials) and immediately available to emergency responders.

24 A feasibility study for accrediting hazmat training programs and nationally certifying individuals – "card-carrying" capable (Note: restated from original).

28 Departments utilize the IAFC *Terrorism Response: A Checklist and Guide for Fire Chiefs*, to assist in assessing their capabilities to prevent, prepare, respond, and recover from a terrorist event.

31 The involvement of first responders in the development of vaccines by the DHS, U.S. Department of Health and Human Services (HHS), Food and Drug Administration (FDA), and Centers for Disease Control (CDC).

32 LINKED TO #19. Increased U.S. representation in the international hazmat community.

34 The creation and/or enhancement of IAFC relationships with DHS Science & Technology, Department of Defense (DoD) Technical Support Working Group, and the Domestic Nuclear Detection Office (DNDO), as these agencies may be able to fund hazardous materials programs, projects, and other related initiatives.

Complex Projects

After the initial action plans for the discrete projects were developed, participants focused on the more complex recommendations, which are listed below (number/letter indicates recommendation identifier assigned during the meeting). We would like to see:

B EMERGING ISSUE. The continuing conflict between health/safety and security, with regard to access to information, be resolved. Responders have a valid need for sensitive information in order to respond effectively. At the same time, valid security concerns exist regarding access to information.

C EMERGING ISSUE. Deployment of accurate, real-time hazardous materials information communication mechanisms to assist emergency response in the field.

D EMERGING ISSUE. Improved biosampling capabilities.

1 A standard methodology for information dissemination and training program delivery to the fire service community. COMBINED WITH #3.

3 A standard training program geared toward all disciplines on the latest planning and response approaches to new fuels as they are developed. COMBINED WITH #1.

5 Funding and technical assistance from manufacturers for emergency response information development and dissemination.

7 The creation and funding of a research and development component for testing emerging technologies and fuels, as well as subsequent dissemination of study results and other data.

20 The training of all emergency responders, technicians, and specialists to the NFPA 472 standard. Also, at a minimum, all emergency response organizations recognize and accept that to have a safe and competent response to any incident where hazmat/WMD are involved, they must train their personnel to the Core Competencies for Operations Level

described in the NFPA 472 document, "Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents."

23 The creation of diverse, non-traditional training and delivery systems (not a one-size-fits-all approach) to enhance the training and educational opportunities for stakeholders.

27 Training by the monitor industry, as these new technologies continue to develop, on their use, limitations, interpretation of data, and maintenance. This will ensure the user maintains a level of competency. This training should be developed in cooperation with the monitoring industry and academic organizations such as the National Fire Academy (NFA) for standardization and local delivery through traditional methods or web-based technology.

29 Continued support of technology transfer from the DoD to the first responder community, with IAFC participation on technology transfer committees.

33 Increased public awareness and education with respect to decontamination in the event of a disaster/catastrophic event.

Stakeholders Needed for Action on Complex Projects

Having acknowledged that successful action on the recommendations in this category require the active participation of stakeholders throughout the system, the participants began to identify those needed for action. Using the emerging issue of the greater need for accurate, real-time hazmat information communications mechanisms (identified as "C," above) as the focus, participants identified the following stakeholders:

Federal Agencies

1. Federal Railroad Administration (FRA)
2. U.S. Coast Guard (USCG)
3. Federal Motor Carrier Safety Administration (FMCSA)
4. Federal Aviation Administration (FAA)
5. National Highway Traffic Safety Administration (NHTSA)
6. DOT Research and Innovative Technology Administration (RITA)
7. Transportation Security Administration (TSA)
8. Department of Homeland Security (DHS)
9. Federal Communications Commission (FCC)
10. Customs and Border Protection (CBP)
11. Immigration and Customs Enforcement (ICE)
12. Environmental Protection Agency (EPA)
13. Federal Emergency Management Agency (FEMA)
14. Pipeline and Hazardous Materials Safety Administration (PHMSA)
15. EPA Criminal Investigation Division (CID)
16. Federal Bureau of Investigation (FBI)
17. Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF)
18. Department of Defense (DoD)
19. Department of Energy (DOE)
20. Nuclear Regulatory Commission (NRC)
21. DoD Military Sealift Command (MSC)
22. United States Fire Administration (USFA)
23. National Institute for Occupational Safety and Health (NIOSH)
24. Department of Health and Human Services (HHS)

Safety Organizations

1. National Emergency Number Association (NENA)
2. Association of Public-Safety Communications Officials (APCO)
3. Commercial Vehicle Safety Alliance (CVSA)
4. International Association of Fire Chiefs (IAFC)

5. International Association of Fire Fighters (IAFF)
6. National Association of State Fire Marshals (NASFM)
7. National Volunteer Fire Council (NVFC)
8. COMCARE Emergency Response Alliance
9. National Security Agency (NSA)
10. International Association of Chiefs of Police (IACP)
11. International Association of Emergency Managers (IAEM)
12. National Governors Association (NGA)

Industry

1. Association of American Railroads (AAR)
2. Vessel Operators Hazardous Materials Association (VOHMA)
3. American Trucking Association (ATA)
4. Air Transport Association (ATA)
5. International Air Transport Association (IATA)
6. Interested Parties
7. American Chemistry Council (ACC)
8. Air Line Pilots Association (ALPA)
9. National Tank Truck Carriers (NTTC)
10. American Petroleum Institute (API)
11. American Association of State Highway and Transportation Officials (AASHTO)

Standards and Technology

1. National Institute for Standards and Technology (NIST)
2. International Organization for Standardization (ISO)
3. American National Standards Institute (ANSI)
4. National Fire Protection Association (NFPA)
5. American Society for Testing and Materials (ASTM)
6. Qualcomm
7. Labelmaster

The group continued its stakeholder brainstorming for recommendations #1 and #3, which are focused on education. The participants realized that many of the same stakeholders needed for action on developing real-time communications mechanisms are also needed for developing standard training programs and delivery mechanisms geared toward all disciplines on the latest planning and response approaches to new fuels as they are developed.

This discovery led to a rich discussion on how they, as a small group of people without the full authority, resources, expertise, information, or need to change the entire system, can develop and implement cross-system solutions. The group revisited its role as a Roundtable body and brainstormed several scenarios for mechanisms to initiate systemic change (discussed later in this report) before moving on to develop action plans for the recommendations most important to the group.

Action Plans for Complex Projects

Of the 12 complex projects identified, the group determined which ones were most important to act upon. The group identified four key issues for action (number/letter indicates recommendation identifier assigned during the meeting). We would like to see:

B EMERGING ISSUE. The continuing *conflict between health/safety and security*, with regard to access to information, be resolved. Responders have a valid need for sensitive information in order to respond effectively. At the same time, valid security concerns exist regarding access to information.

C EMERGING ISSUE. Deployment of *accurate, real-time hazardous materials information* communication mechanisms to assist emergency response in the field.

1/3 A *standard methodology* for information dissemination and training program delivery to the fire service community. A *standard training program* geared toward all disciplines on the latest planning and response approaches to new fuels as they are developed.

20/A *The training of all emergency responders, technicians, and specialists to the NFPA 472 standard.* Also, at a minimum, all emergency response organizations recognize and accept that to have a safe and competent response to any incident where hazmat/WMD are involved, they must train their personnel to the Core Competencies for Operations Level described in the NFPA 472 document, "Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents." Combined with:

EMERGING ISSUE. *Regulation 29 CFR 1910.120(q) updated and the conflict between OSHA's letter of interpretation and recognized standards resolved.*

Small groups formed for each issue among those who felt most strongly in favor of acting on the issue. The groups were asked to frame the issue, identify who is needed to act, and provide the path of action.

Issue #1: Conflict between Security and Safety

The Issue
Security concerning chemical facilities and transportation of hazmat has created the following issues between law enforcement and the fire service/emergency response community:

- Classified information about Chemical Facility Anti-Terrorism Standards (CFATS) Tier I and Tier II facilities is not shared with fire/hazmat responders. A minimum of "secret" clearance is required to access this information for planning and preparedness activities (clearances not typical to fire).
- Under the National Infrastructure Protection Plan (NIPP), the Tier I and Tier II critical infrastructure/key resource assets, once identified, will require a minimum of "secret" security clearance to view data for planning and preparedness activities.
- Without a level playing field in these areas, homeland security grant funding will go to law enforcement for prevention programs. Funding for emergency response is eliminated.
- Regional intelligence fusion centers do not include fire/hazmat partners.

Who is Needed for Action
DHS, chemical industry, U.S. Senate and House Homeland Security Committees, FBI, IAFC, IAFF

Path of Action: Position Paper
IAFF, IAFC, and other related stakeholders to draft a position paper to revise appropriate regulations and policies to allow fire/hazmat access to critically sensitive information and equal access to planning, preparedness, and response funding.

Issue #2: Hazardous Materials Information Communication Mechanisms

The Issue

- Lack of standardized shipping papers and communication tools.
- Current methods don't provide a complete picture of hazards (e.g., MSDS, bills of lading, etc.).
- Shipping papers are confusing, used for business practices, and are not standardized.
- Evolving concepts/tools are improving communications in other industries. How can we capitalize on these innovations and improve our methods?
- Responsible party on shipping papers needs to be properly identified
- International vs. domestic regulations cause confusion for emergency responders.

End State Desired

- Improve communication to emergency responders by supplying timely, complete, and accurate information in the event of an incident;
- Reduce the overall risk in the transportation system by reducing the likelihood of delayed or diverted shipments;
- Reduce intermodal impediments by eliminating discrepancies in information and time delays

associated with the physical transfer of shipping papers;

- Reduce congestion and improve system reliability by facilitating the effective electronic transfer of information using readily available technologies and standard communication protocols;
- Enhance the security of imported materials by increasing the completeness and accuracy of information obtained from international trading partners; and
- Reduce environmental impacts by improving information flow to response agencies and expediting clean-up and remedial actions.

Who is Needed for Action
Roundtable members and their agencies, and other stakeholders identified on pages 10 and 11 of this report.

Path of Action: Project Participation
Participation by all stakeholders, including those on the Roundtable and their agencies, in the PHMSA Hazardous Materials Automated Cargo Communications for Efficient and Safe Shipment project (ACCESS). Contact: Ryan F. Paquet, P.G., Assistant Director of International Standards, USDOT/PHMSA Office of Hazardous Materials Safety.

Issue #3: Standard Methodology for Getting Information/Education to Responders

The Issue

- Emerging technology/changing world.
- Lots of misinformation.
- We don't know what we don't know. The net result is that we are often "scared of ghosts."
- Getting information to the right people in an appropriate timeframe can solve this.

We need to transmit the most accurate information to first responders as quickly as possible in order to protect lives and property.

Key Considerations

- Identify the information needed
    - Emerging issue
    - Future change (getting ahead of issues)
- Find ways to understand and share knowledge.
- Determine how to reach all responders.

Who is Needed for Action

- Government (DOT, Department of Agriculture, DOE) – These agencies represent the money, direction, and motivators.

- FEMA (coordinate in emergency response) – They are the connection to emergency response end users.
- Industry (associations/innovators) – These are the implementers, the first point for access.

Path of Action: Meeting

- Assign champions (one from each of three areas, above).
- Meet with the money people (listed under "Who is Needed for Action" above) to--
    - Make the case for emergency response issues to be part of the beginning approach.
    - Categorize issues and install as part of path forward planning.
    - Find ways to identify gaps in communications and solve them (using existing system).
- Establish partnership to solidify.

Issue #4: The OSHA Regulation Issue

The Issue

- The regulation does not accurately reflect either current industry philosophies or risks to emergency responders assigned to respond to hazmat/WMD incidents.
- The fact that it no longer reflects operational realities impacts training and safety.
- There is confusion with interpretations by the regulatory agency.
- It is inconsistent with emergency response consensus standards (NFPA 472) and DHS.

Who is Needed for Action

U.S. Secretary of Labor, Assistant Secretary of Labor, OSHA (cc: to OSHA oversight committee, DHS, NIOSH, FEMA, HHS, National Institute of Environmental Health Sciences, EPA, etc.)

Path of Action: White Papers

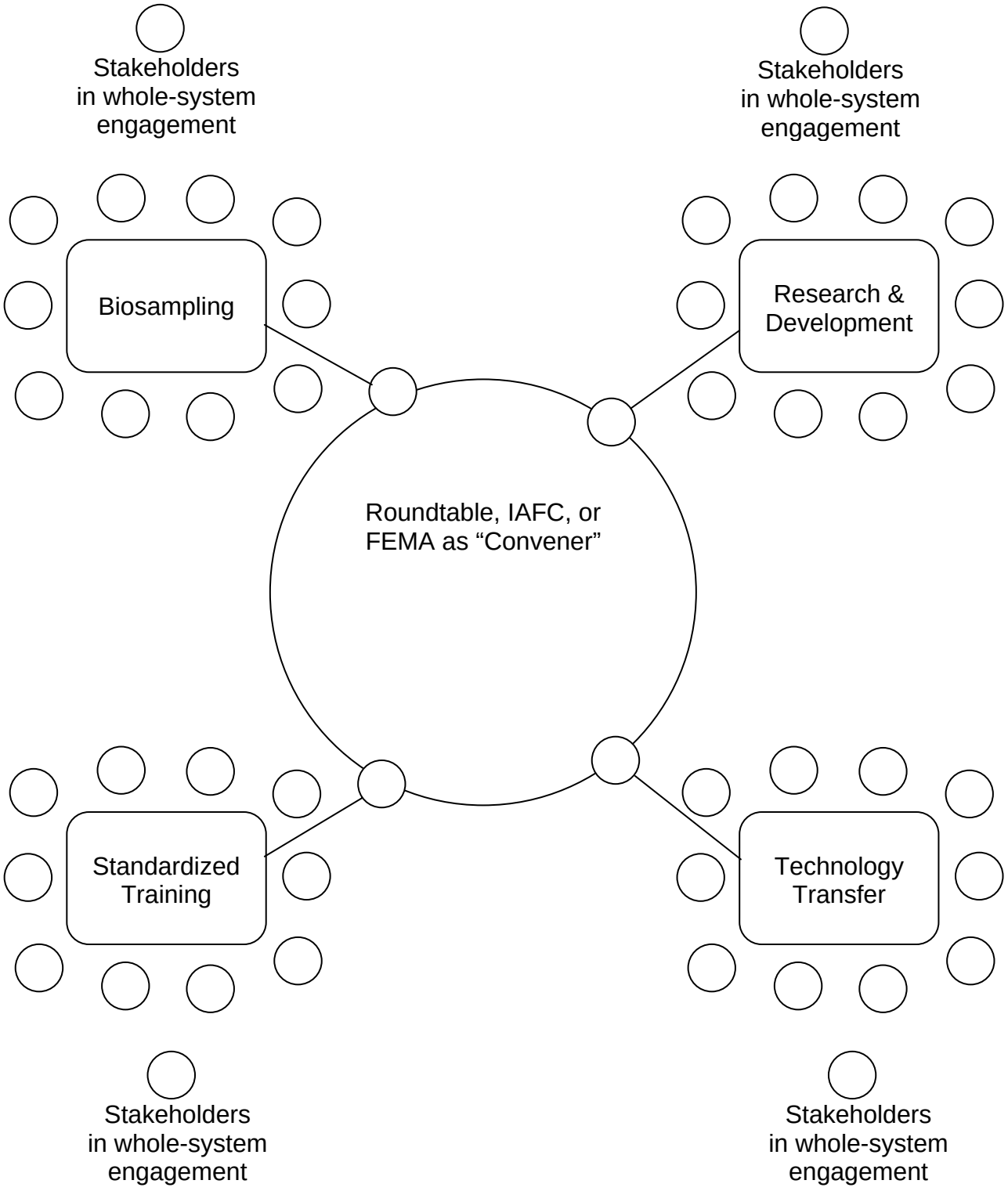
We need a standard that reflects 2009 operational realities for all emergency response disciplines for hazmat/WMD responders.

- White paper to encourage regulatory changes.
    - IAFF, IAFC, InterAgency Board (IAB)
    - Not NFPA or federal agencies
    - Send to U.S. Secretary of Labor and OSHA.
- Short term action–question to OSHA framed to support current realities.

NOTE: Response to letter of interpretation underway; update of standard itself is longer-term. Roundtable recommends that IAFC/IAFF/NFPA develop a long-term government relations strategy to update the regulation.

SCENARIOS FOR INITIATING SYSTEMIC CHANGE

As the group recognized the systemic nature of several of the issues for which Roundtable recommendations existed, they brainstormed ways to initiate systemic change. Participants acknowledged that no single entity, including the Roundtable group, had the authority, resources, information, expertise, or need to resolve these systemic issues alone. They realized that, although the Roundtable group could not single-handedly develop and implement whole-system solutions, it could develop mechanisms for doing so. Several possible scenarios and mechanisms emerged, which are described next.



Using Roundtable recommendations that require systemic action as examples, this is one model envisioned for initiating systemic change. In this model, a national body serves as convener for whole-system planning and action.

Another scenario has the Roundtable:

- Frame issues of high priority
- Discuss methods to disseminate information; develop the pipelines for flow of information and training.
- Identify champions for engaging all stakeholders.
    - Convene stakeholders for each issue.
    - Original purpose of Roundtable was to discuss emerging issues. Consider changing the mission of Roundtable so that it becomes a leadership entity (would need staff and funding to be effective).
      IAFC/IAFF/NASFM → Roundtable → Issues, Stakeholders, Desired State → Partnerships
    - Broaden Roundtable to include homeland security, law enforcement, emergency management, etc.
- Process: Identify the issue, determine desired end state, develop path to achieve end state, and assign tasks.

A third scenario has this flow:
Roundtable identifies two to three high priority issues → Frame the issue → Determine pathway for stakeholders → End state → Identify champion within the Roundtable → Funding proposal to appropriate federal agency or agencies.

Next Steps

The group developed the following next steps:

1. The IAFC Hazmat Committee to review the final report and submit letter to IAFC Board with implementation priorities and recommendations.
2. Draft report to be distributed informally to constituent groups for their information.
3. The Hazmat Committee will review the draft report in April and the report will be finalized in May. The Hazmat Committee will then meet on May 27 to develop letter to IAFC Board.
4. Press release, web postings, articles, circulation to Roundtable participants.
5. Other funders could assist in providing forums for meetings every six months.

Note: Roundtable members suggest inviting OSHA to be a part of the Roundtable.

ROUNDTABLE PARTICIPANTS

IAFC Hazardous Materials Committee

Timothy Butters	Assistant Chief, City of Fairfax (VA) Fire Department
Greg Noll	Program Manager, South Central (PA) Task Force
Robert Royall	Assistant Chief, Emergency Operations, Harris County (TX) Fire Marshal's Office

Fire/EMS Services

Elizabeth Harman	Director, Hazardous Materials/WMD Training Department, International Association of Fire Fighters
Robert Ingram	Battalion Chief, Center for Terrorism & Disaster Preparedness, New York Fire Department

Government Representatives

Charles Fitzsimmons	Federal On-Scene Coordinator, Region III, Environmental Protection Agency
Ryan Paquet	Assistant Director of International Standards, Pipeline and Hazardous Materials Safety Administration, Department of Transportation
Steve Patrick	Operations Coordinator, FBI Hazmat Response Unit
Gordon Sachs	Disaster & Emergency Operations Specialist, U.S. Forest Service
Bill Schoonover	Staff Director, Hazmat Division, Federal Railroad Administration, Department of Transportation
Jonathan Szalajda	Chief, Policy & Standards Development Branch, National Personal Protective Technology Laboratory, National Institute for Occupational Safety and Health
Wayne Yoder	Hazmat/WMD Program Manager, U.S. Fire Administration

Industry Representatives

William Burket	Manager, Emergency Response & Prevention, Bayer Corporation (representing Transportation Community Awareness and Emergency Response)
Rick Raksnis	Director, Operations Center, CHEMTREC

IAFC Staff

Ed Plaugher	Director of National Programs
Ken LaSala	Director of Government Relations
Vicki Lee	Program Manager
Rynnel Gibbs	Program Assistant

APPENDIX A: REVISED ROUNDTABLE RECOMMENDATIONS GRID

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
A	EMERGING ISSUE. Regulation 29 CFR 1910.120(q) updated and the conflict between OSHA's letter of interpretation and recognized standards resolved.	Current Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1910.120(q) is 20 years old and does not accurately reflect either current industry philosophies or risks to emergency responders assigned to respond to hazmat/weapons of mass destruction (WMD) incidents. National Fire Protection Association (NFPA) 472 operations level is generally accepted as the minimum training standard and has been adopted by the Department of Homeland Security (DHS). However, the letter of interpretation from OSHA to the National Volunteer Fire Council (NVFC) (dated November 7, 2008) states that firefighters are not all required to be trained to the first responder operations level. Further, the letter states that firefighters who are not expected to respond to releases or potential releases of hazardous substances and who would simply notify appropriate authorities of the release only need to be trained to the first responder awareness level. This is a direct regulatory conflict between two government authorities and puts the entire responder community in a safety, training, and compliance limbo that puts lives, property, and the system itself in jeopardy.		Discrete/Prelim. actions developed
B	EMERGING ISSUE. The conflict between health/safety and security resolved.	There is a continuing conflict between health/safety and security with regard to access to information. Responders have a valid need for sensitive information in order to respond effectively. At the same time, valid security concerns exist regarding access to information. Both aspects of this issue are appropriate and a balanced solution is needed. A question about the extent to which this is a real issue in the field was raised. Participants offered examples and discussed the need for more thorough exploration.		Complex/ Roundtable taking action
C	EMERGING ISSUE. Accurate, real-time hazardous materials information communication mechanisms	The need for improved, integrated mechanisms for delivering information on hazardous materials to responders in the field is becoming more of an issue. With differing jurisdictional technological capabilities, multiple ways to deliver real-time		Complex/ Roundtable taking action

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
	deployed.	information to the field is important.		
D	EMERGING ISSUE. Improved biosampling capabilities.	A recent Government Accountability Office (GAO) report identified shortcomings in the response capabilities for biological incidents. The report cited shortcomings in the sampling, detection, and concept of operations. A response to this report is being issued via a statement to DHS, but the issue itself is unresolved.		Complex
E	EMERGING ISSUE. Hazmat program management standard.	NFPA 472 sets training competencies, but there is currently no standard or guidance on how to build, manage, and sustain a hazmat program. A working group was convened to write a scope and purpose paper. The paper was sent to the NFPA 472 committee for input on whether a standard is needed and if so, what should be included.		Underway
1	A standard methodology for information dissemination and training program delivery to the fire service community. COMBINED WITH #3.	**Alternative Fuels:** Emergency response community concerns surrounding the growth of alternative fuels include production, transportation, storage, and placarding issues. There is a need to develop a standard methodology for information dissemination and training program delivery to the fire service community.	IAFC, IAFF, DOT, DOE, USFA, NFPA	Complex/ Roundtable taking action
2	The Hazmat Fusion Center play a role in identifying trends and sharing this information with emergency responders.	**Alternative Fuels:** The newly created International Association of Fire Chiefs (IAFC)/Department of Transportation (DOT) National Hazmat Fusion Center can play a role in identifying trends and sharing this information with emergency responders.	IAFC, IAFF, DOT	Underway
3	A standard training program geared toward all disciplines on the latest planning and response approaches to new fuels as they are developed. COMBINED WITH #1.	**Alternative Fuels:** Standard training programs (both classroom delivery and web-based) should be developed so that all disciplines receive the latest planning and response information regarding these new fuels as they are developed. The planned National Academies' Transportation Research Board's project to assess hazmat capabilities throughout the United States will be critical to ensuring that all hazardous materials teams receive training and informational updates in a timely manner. To avoid duplication of effort, the National Hazmat Fusion Center should determine which	IAFC, IAFF, DOT	Complex/ Roundtable taking action

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
		other organizations/agencies may already have initiatives in these areas. This will ensure that standardized training is developed and that accurate and uniform planning and response information is available to the emergency response community.		
4	RESTATED FROM ORIGINAL. The creation of a coalition, similar to the EERC, for other alternative fuels such as hydrogen and biodiesel.	**Alternative Fuels:** The Ethanol Emergency Response Coalition (EERC) is a great example of how key stakeholders came together to address emergency response concerns with ethanol. Similar efforts around other alternative fuels such as hydrogen and biodiesel is recommended.	IAFC, DOT, Manufacturers	Discrete/Prelim. actions developed
5	Funding and technical assistance from manufacturers for emergency response information development and dissemination.	**Alternative Fuels:** The producers of these products should continue to display responsible care by assisting with funding and technical assistance in emergency response information development.	Manufacturers	Complex
6	Participation in various committee and coalitions by Hazmat Roundtable members.	**Alternative Fuels:** Interested members of the Roundtable should participate as members of these committees.	Hazmat Roundtable members	Underway
7	The creation and funding of a research and development component for testing emerging technologies and fuels, as well as subsequent dissemination of study results and other data.	**Alternative Fuels:** The Roundtable participants recommend that a research and development component for testing emerging technologies and fuels be created and adequately funded, perhaps within one of the following federal agencies–DOT, DHS, National Institute of Standards and Technology (NIST), or the National Personal Protective Technology Laboratory (NPPTL). Information needed would include chemical, physical, and health properties of these new fuels. This information, along with proper response information, will then be developed and provided to federal, state, and local organizations and agencies.	DOT, DHS, NIST, Legislation	Complex
8	The development of a national strategy for consequence planning, management, mitigation, and response to the many hazards that face America today.	**Consequence Planning, Management and Response:** The Roundtable participants support the development of a national strategy for consequence planning, management, mitigation, and response to the many hazards that face America today.	DHS, National Response Framework	Complete
9	DHS publicly recognize an "all	**Consequence Planning, Management and Response:**	DHS, USFA	Complete

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
	hazards" approach to planning and preparedness, and appropriately support those activities.	The Roundtable recommends that DHS publicly recognize an "all hazards" approach to planning and preparedness, and appropriately support those activities. Currently DHS, to a large extent, has been primarily focused on areas of prevention. Even with aggressive prevention programs, history has shown that events still occur. While prevention measures such as intervention and interdiction should continue as law enforcement responsibilities, consequence management and response should be delegated to the fire service and must be simultaneously supported, developed, and strongly encouraged by DHS.		
10	Local and state emergency management officials recognize that hazardous materials/WMD incidents in their jurisdiction should receive the specific assessment and planning that may be lost in the all hazards approach.	**Consequence Planning, Management and Response:** The Roundtable recommends local and state emergency management officials recognize that hazardous materials/ WMD incidents in their jurisdiction should receive the specific assessment and planning that may be lost in the all hazards approach.	IAFC (outreach), USFA	Discrete/ Complete
11	Local emergency management officials continue to include fire service personnel in community assessments and planning.	**Consequence Planning, Management and Response**: The Roundtable recommends that local emergency management officials continue to include fire service personnel in community assessments and planning.	IAFC (outreach), USFA	Discrete/Prelim. actions developed
12	Assessments and response plans make their way to first responders for practical use during hazmat/WMD events in the local jurisdiction.	**Consequence Planning, Management and Response:** The Roundtable recommends that assessments and response plans make their way to first responders for practical use during hazmat/WMD events in the local jurisdiction.	IAFC, USFA (outreach)	Discrete/Prelim. actions developed
13	Each authority having jurisdiction completes a risk-based community assessment and trains personnel in all mission specific competencies that apply, based on its response plan.	**Consequence Planning, Management and Response:** The Roundtable recommends that each authority having jurisdiction completes a risk-based community assessment and trains personnel in all mission specific competencies that apply, based on their response plan.	USFA, IAFC, EPA	Discrete/ Complete
14	RESTATED FROM ORIGINAL. The widespread establishment of effective mutual aid agreements and	**Hazmat Ops and Efficiency:** Effective mutual aid agreements and multi-agency response plans must be implemented throughout the country and include military	IAFC, USFA (outreach), DoD	Discrete/Prelim. actions NOT developed

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
	multi-agency response plans between military and civilian response teams for military installations under elevated threat level situations.	and federal installation hazmat teams, as well as private hazmat response teams. Mutual aid and regional response planners must be aware of the impact of lockdown limits imposed on military bases during crisis conditions such as the DHS Threat Level–Red. During these periods, military and federal hazmat teams may be limited to base or installation response only. These mutual aid agreements and multi-agency response plans must be exercised routinely to ensure coordination during a major event.		
15	The completion of a community risk assessment, done in collaboration with other agencies at the jurisdictional level, to increase situational awareness.	**Hazmat Ops and Efficiency:** First responders must be able to assess the situation (chemical, biological, explosive, radiation, and dirty bombs) and use proper judgment upon arrival at any incident. If the incident does not seem like one the department can handle with available resources, other agencies should be contacted for assistance. A community risk assessment, done in collaboration with other agencies at the jurisdictional level, can be helpful in increasing situational awareness. This assessment would define the capabilities, limitations, and mission of each jurisdiction during a hazmat/WMD incident in their community.	IAFC, USFA, EPA (outreach)	Discrete/Prelim. actions developed
16	Procedure-based response as a base level, with hazmat/WMD responders striving for the knowledge, skills, and experience necessary to implement a risk-based response.	**Hazmat Ops and Efficiency:** The Roundtable participants recommend procedure-based response as a base level, yet hazmat/WMD responders should strive for the knowledge, skills, and experience necessary to implement a risk-based response. Sharing best practices, such as those found through the National Hazmat Fusion Center and the Lessons Learned Information Sharing System (www.llis.gov), will help develop the experience to implement a risk-based response.	IAFC, IAFF	Complete
17	The NFPA 472 committee continue to develop hazmat/WMD competencies using the risk-based response model, and that all hazmat/WMD curricula for operations and technician levels be based on this model as well. Roundtable participants would also like to see the use of a procedure-based response matrix to improve first	**Hazmat Ops and Efficiency:** The Roundtable participants recommend that the NFPA 472 committee continues to develop hazmat/WMD competencies using the risk-based response model. The Roundtable participants recommend that all hazmat/WMD curricula developed for the operations and technician levels be based on the risk-based response model.	NFPA, IAFC (outreach)	Complete

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
	responder hazmat operational level risk assessment.	The Roundtable participants continue to recommend that a procedure-based response matrix be used to improve first responder hazmat operational level risk assessment. A credible risk assessment remains a crucial first step in this process. A number of models can assist first responders in risk assessment. One such model is a provision of NFPA 472: Analyze, Plan, Implement and Evaluate (A-P-I-E). Fire departments should have an Emergency Response Plan and Standard Operating Procedures or Standard Operating Guidelines for notification, deployment, mitigation, and demobilization. The primary goal, until adequate and properly trained personnel are on scene, is to protect the public and first responders.		
18	RESTATED FROM ORIGINAL: Strong oversight by the hazardous materials response community is required to examine and review any proposal or emerging technology options aimed at removing or replacing placards on hazardous material bulk transport containers.	**Hazmat Identification Methods**: Strong oversight by the hazardous materials response community is required to examine and review any proposal or emerging technology options aimed at removing or replacing placards on hazardous material bulk transport containers. New technologies must be pursued to give emergency responders at the scene real time data on content and response. The Roundtable participants suggest looking further into emerging technologies (such as 3-D bar coding, UPC, and other technology) and systems developed by other disciplines. For example, the trucking industry has been successful in tracking over-the-road shipments and engaging a master shut-off switch if a truck deviates from its designated route.	DOT, IAFC, Carriers, Legislation	Underway
19	LINKED TO #32. Appropriate federal agencies promulgate regulations that require all intermodal transport containers to be placarded, with appropriate commodity information accompanying the shipment (required for all other modes of shipments for similar materials) and immediately	**Hazmat Identification Methods:** Current regulations must be built upon to improve information on hazardous materials shipments. Appropriate federal agencies must promulgate regulations that require all intermodal transport containers to be placarded, with appropriate commodity information accompanying the shipment (required for all other modes of shipments for similar materials) and immediately available to emergency responders. This includes containers loaded in the U.S. as well as those	DOT	Discrete/Prelim. actions developed

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
	available to emergency responders.	entering the U.S. for transit from one port to another while using transport systems as a land bridge with no local delivery intended.		
20	The training of all emergency responders, technicians, and specialists to the NFPA 472 standard. Also, at a minimum, all emergency response organizations recognize and accept that to have a safe and competent response to any incident where hazmat/WMD are involved, they must train their personnel to the Core Competencies for Operations Level described in the NFPA 472 document, "Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents."	**Training:** The Roundtable participants support training all emergency responders, technicians, and specialists to the NFPA 472 standard. NFPA 472 applies to all emergency responders who respond to the emergency phase of a hazmat/WMD incident, regardless of the individuals' response discipline. The Roundtable participants further recommend that, at a minimum, all emergency response organizations recognize and accept that to have a safe and competent response to any incident where hazmat/WMD are involved, they must train their personnel to the Core Competencies for Operations Level responders level described in the NFPA 472 document, "Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents." Each authority having jurisdiction must complete a risk-based community assessment and train personnel in all mission specific competencies that apply, based on their response plan. Any level less than the Core Operations level is not safe, and will place personnel and the public at risk.	IAFC, USFA, IAFF	Complex/ See OSHA ISSUE in EMERGING ISSUES
21	A coordinated message from the major fire service organizations outlining the key components of the [NFPA 472] standard and identifying/clarifying the primary elements causing confusion.	**Training:** Since reports of misinformation about the standard are circulating among emergency responders, the participants recommend that a coordinated message from the major fire service organizations be distributed to the fire service, outlining the key components of the standard and identifying/clarifying the primary elements causing confusion. Similar outreach should be initiated by other emergency responder associations to their memberships.	USFA, IAFC, IAFF	Discrete/ Complete
22	The IAFC Board of Directors adopt a resolution to encourage its members, as well as all fire departments, to adopt the NFPA 472 Standard (5th edition, 2008).	**Training:** The Roundtable participants recommend that the IAFC Board of Directors adopt a resolution to encourage its members, as well as all fire departments, in the adoption of the NFPA 472 Standard (5th edition, 2008).	IAFC	Discrete/ Complete
23	The creation of diverse, non-	**Training:** The Roundtable participants recommend the	NFPA, IAFC,	Complex

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
	traditional training and delivery systems (not a one-size-fits-all approach) to enhance the training and educational opportunities for stakeholders.	creation of diverse, non-traditional training and delivery systems (not a one-size-fits-all approach) to enhance the training and educational opportunities for stakeholders. All hazmat/WMD training programs should adhere to the discipline-neutral NFPA 472 compliant curricula for state and local agency delivery.	IAFF, USFA	
24	RESTATED FROM ORIGINAL: A feasibility study for accrediting hazmat training programs and nationally certifying individuals – "card-carrying" capable.	**Training:** The Roundtable participants recommend that to improve and standardize hazmat/WMD response, a non-fire service specific credentialing system such as the International Fire Service Accreditation Congress/Pro Board for Hazmat Response be investigated. A system similar to the national registry for Emergency Medical Services (EMS) could serve as a model. The Roundtable additionally recommends that federal compliance be required through control of grant funds.	IAFC, IAFF	Discrete/Prelim. actions developed
25	The National Incident Management System (NIMS) Integration Center (NIC) work with stakeholders on development of credentialing processes and typing of resources for standardization clarity (work through IAFC EMC).	**Training:** The Roundtable participants also recommend that the National Incident Management System (NIMS) Integration Center (NIC) work with stakeholders on development of credentialing processes and typing of resources for standardization clarity (work through IAFC EMC).	DHS, USFA, IAFC, IAFF	Discrete/ Underway
26	Fire departments consider adding WMD training to the recruit program to minimize overtime costs; consider the train-the-trainer concept, using officers as trainers; OSHA add language requiring NFPA 472 compliance in applicable OSHA regulations currently under review in the *Federal Register* since WMD training is included as a competency in NFPA 472; and federal agencies link WMD training to grant funding and NIMS credentialing, while encouraging a multi-disciplinary approach.	**Training:** Currently, WMD training is predicated on funding availability. To ensure that this training is delivered to all personnel, the Roundtable participants recommend that: i. Fire departments consider adding WMD training to the recruit program to minimize overtime costs. ii. Fire departments consider the train-the-trainer concept, using officers as trainers. iii. OSHA add language requiring NFPA 472 compliance in applicable OSHA regulations currently under review in the *Federal Register* since WMD training is included as a competency in NFPA 472. iv. Federal agencies link WMD training to grant funding and NIMS credentialing, while	i. and ii. – USFA, IAFC, NFPA, IAFF iii. – OSHA iv. – DHS	Complete

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
		encouraging a multi-disciplinary approach.		
27	As these new technologies continue to develop, training on their use, limitations, interpretation of data, and maintenance should be developed by the monitor industry to ensure the user maintain a level of competency. This training should be developed in cooperation with the monitoring industry and academic organizations such as the National Fire Academy for standardization and local delivery through traditional methods or web-based technology.	**Training:** As technology continues to improve and become readily available for field instrumentation used in response testing, the Roundtable participants recognize the need for trained, experienced responders (i.e., operations level mission specific air monitoring) who can interpret the data being collected. While this has increased capabilities for first responders, it has also brought additional challenges. The Roundtable participants recommend that as these new technologies continue to develop, training on their use, limitations, interpretation of data, and maintenance should be developed by the monitor industry to ensure the user maintain a level of competency. This training should be developed in cooperation with the monitoring industry and academic organizations such as the National Fire Academy for standardization and local delivery through traditional methods or web-based technology.	Manufacturers, USFA, IAFC, IAFF	Complex
28	Departments utilize the IAFC *Terrorism Response: A Checklist and Guide for Fire Chiefs*, to assist in assessing their capabilities to prevent, prepare, respond, and recover from a terrorist event.	**Secure Information:** The Roundtable participants recommend that departments utilize the IAFC *Terrorism Response: A Checklist and Guide for Fire Chiefs*, to assist in assessing their abilities to prevent, prepare, respond, and recover from a terrorist event.	IAFC	Discrete/Prelim. actions developed
29	Continued support of technology transfer from the DoD to the first responder community, with IAFC participation on technology transfer committees.	**Technology:** The Roundtable participants recommend continued support of technology transfer from the DoD to the first responder community. The Roundtable participants recommend that a hazardous materials responder who is a member of the IAFC or other fire service organization participate on any existing technology transfer committees, as this would assist in the exploration of what technology can be applied from the DoD to the civilian fire service.	DoD, IAFC	Complex
30	The National Hazmat Fusion Center encourage and promote industry partnerships and joint meetings of the hazardous materials response community and chemical industry	**Emerging Issues:** The Roundtable participants recommend that the National Hazmat Fusion Center encourage and promote industry partnerships and joint meetings of the hazardous materials response community and chemical industry representatives so they can begin	IAFC, American Chemistry Council (ACC)	Complete

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
	representatives so they can begin working together during the concept phase of product development.	working together during the concept phase of product development.		
31	The involvement of first responders in the development of vaccines by the DHS, U.S. Department of Health and Human Services (HHS), Food and Drug Administration (FDA), and Centers for Disease Control (CDC).	**Emerging Issues:** The Roundtable participants recommend that, as vaccines are being developed by the DHS, HHS, FDA, and CDC, first responders be involved in this process. This will assist in determining if the vaccine is appropriate for the level of risk to exposure by clearly documenting the positive and negative aspects of the vaccine and any effects on the responder.	IAFC, IAFF, DHS, HHS, FDA, CDC	Discrete/Prelim. actions developed
32	LINKDED TO #19. Increased U.S. representation in the international hazmat community.	**Emerging Issues:** With respect to international transportation regulations, the U.S. hazardous materials response community is currently not well represented in the international arena. There is a need to learn the issues and become more formally engaged through participation in the International Technical Committee for the Prevention and Extinction of Fire (CTIF). The Roundtable participants recommend that the DOT provide funding to support the participation of IAFC members and those of other fire service organizations in the U.S. delegation to the United Nations in the arena of international hazmat regulations. International updates may then be widely distributed by the National Hazmat Fusion Center to all registered hazmat teams.	DOT, Legislation	Discrete/Prelim. actions developed
33	Increased public awareness and education with respect to decontamination in the event of a disaster/catastrophic event.	**Emerging Issues:** There is a need for public awareness and education with respect to decontamination in the event of a disaster/catastrophic event. Local agencies should focus on publicizing existing resources, such as Community Emergency Response Teams, Citizen Corps, Fire Corps, etc. The Roundtable participants recommend that the DHS/Federal Emergency Management Agency (FEMA) consider developing updated citizen preparedness and educational materials for public service announcements and use by local fire departments as part of their public education programs.	DHS, USFA	Complex
34	The creation and/or enhancement of IAFC relationships with DHS Science	**Emerging Issues:** A significant amount of research and data will be provided to the fire/EMS service by the newly	IAFC, DoD, DHS, DOT	Discrete/Prelim. Actions developed

#	Recommendation: We would like to see...	Explanation	Agency Responsibility	Recommendation Type/Status
	& Technology, DoD Technical Support Working Group, and the Domestic Nuclear Detection Office, as these agencies may be able to fund hazardous materials programs, projects, and other related initiatives.	created IAFC/DOT National Hazmat Fusion Center. The IAFC is encouraged to create and/or enhance its relationships with DHS Science & Technology, DoD Technical Support Working Group, and the Domestic Nuclear Detection Office, as these agencies may be able to fund hazardous materials programs, projects, and other related initiatives. The Roundtable participants also recommend that the IAFC and other fire service organizations seek funding from these agencies and private industry to explore new technologies that enhance the safety of responders.		

APPENDIX B: ACTION PLANS FOR DISCRETE PROJECTS

#	Discrete Task	Why it's Important	First Few Actions	Who
A	OSHA Issue (discrete component).	See action plan, page 12.	Short term action–question to OSHA "framed" to support our regulations. Response to letter of interpretation underway; update of standard itself is longer-term. Roundtable recommends that IAFC/IAFF/NFPA develop a long-term government relations strategy to update the standard.	
4	RESTATED FROM ORIGINAL. Assess need to create a coalition, similar to the Ethanol Emergency Response Coalition (EERC), for other alternative fuels such as hydrogen and biodiesel.	-So we don't spend time/money on things we don't need. Also to: -Validate assumptions. -Build on success. -Capitalize on real value found in similar efforts. -Clarify if there really is a hazard for responders regarding manufacturer's process/storage.	-Review scientific information. -Identify renewable fuels on the horizon. - Pull together consortium on Interagency Alternative Fuels Council: Where are we and what does the future look like?	IAFC to Fusion Center
11	Local emergency management officials continue to include fire service personnel in community assessments and planning.	-So they'll know capabilities and resources are available. -They'll be more familiar with hazards. -They'll establishe partnerships/collaboration BEFORE event.	-Letter to fire service, mayors, emergency management, local emergency planning committees. -Reaffirm. -Survey: How many locals are involved in community assessments?	

12	Assessments and response plans make their way to first responders for practical use during hazmat/WMD events in the local jurisdiction.	Because hazmat/WMD are opportunities to learn.	-Petition PHSMA to require flow study data to go to first responders to receive funding (transportation). -Develop education mechanisms for awareness of Tier 2 data: EPA Program.	-IAFC to Fusion Center
#	**Discrete Task**	**Why it's Important**	**First Few Actions**	**Who**
14	RESTATED FROM ORIGINAL. The widespread establishment of effective mutual aid agreements and multi-agency response plans between military and civilian response teams for military installations under elevated threat level situations.	(Group did not work on this issue).		
15	The completion of a community risk assessment, done in collaboration with other agencies at the jurisdictional level, to increase situational awareness.	See #11 and #12.	See #11 and #12.	See #11 and #12.
24	RESTATED FROM ORIGINAL: A feasibility study for accrediting hazmat training programs and nationally certifying individuals – "card-carrying" capable.	-Establishes standard recognized across multiple jurisdictions. -Enhances mutual aid & taskforce operations.	-Find money. -Identify organization to champion . -IAHMT?	IAFC to go to NFPA (IAHMT?)
28	Departments utilize the IAFC *Terrorism Response: A Checklist and Guide for Fire Chiefs* to assist in assessing their capabilities to prevent, prepare, respond, and recover from a terrorist event.	-Provides consistency in planning/preparation for dealing with terrorism and response. -Improve safety for responders and communities. -Better prepares hazmat community for terrorist incidents.	-Distribute widely and encourage use (beyond IAFC membership, including USFA, DHS, Big 7).	IAFC Homeland Security & Terrorism Committee

#	Discrete Task	Why it's Important	First Few Actions	Who
31	The involvement of first responders in the development of vaccines by the DHS, HHS, FDA, and CDC.	-Ensures their health and safety. -Gives them input since they're the ones to be inoculated. -Helps them understand what is put into their bodies and why. -Provides decision-making tools for decisions on usage/distribution.	-Encourage/support Big 7 interagency board positions on vaccines (letter from Tim Butters to constituencies). -Coordinated action by stakeholders.	
32 & 19	Increased U.S. representation in the international hazmat community. #19 LINKED TO #32. Appropriate federal agencies promulgate regulations that require all intermodal transport containers to be placarded, with appropriate commodity information accompanying the shipment (required for all other modes of shipments for similar materials) and immediately available to emergency responders.	-Emergency responder health and safety.	-IAFC to participate in scheduled meetings in advance of international meetings. -Identify key issues for U.S.: petition PHMSA- responders-IAFC/IAFF. -Develop working group of stakeholders. -Fusion center to disseminate information. -List differences in regulations. -Hire consultant for analysis.	IAFC
34	The creation and/or enhancement of IAFC relationships with DHS Science & Technology, DoD Technical Support Working Group, and the Domestic Nuclear Detection Office, as these agencies may be able to fund hazardous materials programs, projects, and other related initiatives.	-Potential funding stream. -Improves local capability to respond to hazmat incidents. -Improves safety. -Gives responders voice in policy/R&D decision making.	-Identify key individuals with key federal responsibility. -Educate IAFC.	IAFC to Roundtable