Executive Analysis of Fire Service Operations in Emergency Management

Establishing a Training Matrix for Regional Response Teams

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: __________________________
Abstract

The problem was that the State of Wyoming regional response teams (RRTs) did not have standardized training guidelines which could cause inconsistency in response capabilities. The purpose of this research was to gather information that would provide guidance to establishing a training matrix for personnel who are assigned to the Wyoming RRTs. Research was conducted that answered questions about federal training requirements and national training standards for RRT members, other state RRT training guidelines and certification requirements. The research was conducted using questionnaires and semi-structured interviews. Results were used to make recommendations for creating a training matrix that could be used by Wyoming RRTs.
Table of Contents

Abstract...........................................................................................................Page 3
Table of Contents..............................................................................................Page 4
Introduction....................................................................................................Page 5
Background and Significance........................................................................Page 6
Literature Review............................................................................................Page 10
Procedures......................................................................................................Page 20
Results............................................................................................................Page 22
Discussion.......................................................................................................Page 28
Recommendations............................................................................................Page 34
Reference List..................................................................................................Page 38

Appendices

Appendix A: Questionnaire.............................................................................Page 43
Appendix B: States and Persons Contacted.....................................................Page 47
Appendix C: Summary of Responses to Questionnaire..................................Page 49
Introduction

The nation’s fire service has a track record of responding to emergencies with the goal of protecting citizens. Over the years that mission has expanded from not just responding to fires but responding to all natural and man made hazards that affect the public. The fire service’s emergency response capabilities have always been dependent upon the knowledge, skills, and abilities that the firefighters have obtained through proper training and by the tools which they are provided to do their job.

The fire service in the State of Wyoming, like other states, has continually tried to adapt to the expanding levels of service. As these all-hazard responses have become increasingly diverse, it has become more difficult for individual fire departments to provide all of the specialized skills and equipment that may be required in these responses. Several fire departments have established mutual aid agreements with not just other fire departments, but also with other emergency response agencies in order to augment their response capabilities.

Since the terrorist attacks of September 11, 2001, the federal government has made billions of dollars available to the nation’s emergency response agencies at all levels in an effort to expand and enhance the nation’s capabilities to respond to not only natural and man made disasters, but also the expanded threat of weapons of mass destruction (WMD). As grass root emergency response organizations have used these federal funds to strengthen their response capabilities, it has become evident that individual agencies still have the problem of being able to provide all of the specialized response capabilities for the high maintenance - low frequency events to which they might be expected to respond.
The Wyoming Office of Homeland Security (WOHS) has used part of their federal grants to fund the development of regional response teams (RRTs). These RRTs were developed to establish a capability for responding to hazardous materials and WMD emergencies. The problem is that the State of Wyoming RRTs does not have standardized training guidelines which could cause inconsistency in response capabilities.

The purpose of this research is to gather information that could provide guidance to establishing a training matrix for personnel who are assigned to the Wyoming RRTs. This training matrix might then be used to aid in bringing uniformity to the training that the members of the Wyoming RRTs receive which in turn could assist in bringing consistency to the RRTs response capabilities. Descriptive research will be utilized to answer the following research questions by using questionnaires and semi-structured interviews of personnel knowledgeable of training requirements for RRT members in other states. An analysis of literature related to laws, requirements, and standards related to the training of members of RRTs will also be conducted. The research questions are:

1. Are there federal training requirements for members of the RRTs?
2. Are there national training standards for members of RRTs?
3. What do other state RRTs have in their training guidelines?
4. Is other state RRTs requiring any certifications for their team members and if so what are the required certifications tied to?

Background and Significance

The State of Wyoming is the least populous of any state in the union and has the lowest population density of the continental 48 states (U.S. Census Bureau, 2006). This
fact has always created a challenge for the emergency services of Wyoming when it comes to providing specialized responses. Over 20 years ago leaders in the Wyoming emergency response community envisioned establishing RRTs that would be able to respond, with trained personnel and adequate equipment, to assist local jurisdictions in mitigating hazardous materials incidents to which those local jurisdictions did not have the capabilities to respond. Legislation, that was unsuccessful, was attempted several times by the Wyoming fire service organizations and the Wyoming Emergency Management Agency to provide the resources for implementing the regional response team concept.

The WOHS was formed in synchronization with the federal Office of Homeland Security after the terrorist attacks on September 11, 2001. This office was influential in getting Wyoming legislation passed which was consistent with the national call for regionalization of resources. The legislation was instrumental in authorizing the formation of the RRTs, providing a funding mechanism for their start up, and establishing authority to recover costs associated with the RRTs responses.

Federal Department of Homeland Security funds are provided to the WOHS to distribute for the purpose of enhancing the ability of state, local, tribal jurisdictions, and other regional authorities in the preparation, prevention, and response to terrorist attacks and other disasters. Localities can use grants for planning, equipment, training, and exercise needs. These monies have also been used for establishing seven RRTs in the State of Wyoming.

The seven teams were created to assist affected jurisdictions within the different regions of Wyoming with the intent to protect life and property against the dangers of
incidents and emergencies involving hazardous materials and WMD. The RRTs objective is to protect residents and responders alike. The teams were designed to provide all communities and counties, regardless of size or population, with an effective, professional response to hazardous materials and WMD incidents in a safe, expedient manner.

The RRTs are intended to supplement local resources when an incident is beyond the responding agencies capabilities. Such incidents generally require more advanced equipment and higher levels of responder training. The RRTs are not intended to take the place of local emergency response agencies, nor are they responsible for cleaning up hazardous materials spills. The RRTs, once deployed, will integrate within the local incident command system and will work as a component of the unified command structure when established.

The RRTs were tactically located in seven regions located across Wyoming taking into consideration, among other things, population centers and transportation corridors. For the most part, these teams were placed with fire departments that had existing capabilities for responding to hazardous materials incidents. The WOHS facilitated setting the groundwork for the RRTs and appointed regional team administrators to direct each team.

Initially the WOHS was coordinating the teams in reviewing the emergency response equipment that was to be procured. Seven response units were acquired for the regions and then the WOHS began providing funding directly to the RRTs to purchase response equipment. While there was communication between the regional team
administrators on the emergency response equipment they were reviewing, each team was allowed to purchase the response equipment that they felt was appropriate.

Since most of the RRTs were set up in fire departments which had existing response capabilities and training, training for the members of the RRTs was not initially a top priority. Team administrators were tasked with determining qualifications for members of the RRTs. Several of the RRTs team members were certified to the hazardous materials technician level by the Wyoming Firefighters Certification program, however certification in the state of Wyoming is voluntary.

A draft training matrix was developed by WOHS with the assistance of Texas Engineering Extension Service. This draft training matrix was multi discipline in nature, contained several recommended training courses that were only temporarily available, and was exceedingly cumbersome in recommended training time requirements. It also did not specifically refer to any national standards or laws.

In December of 2005, a private contractor was hired by WOHS to complete a study of core training needs for the Wyoming RRTs. This study evaluated the WOHS draft training matrix using National Fire Protection Association (NFPA) standards and OSHA 1910.120, “Hazardous Waste Operations and Emergency Response” (HAZWOPER; 2006). The recommendations remained aligned with the WOHS draft training matrix and made recommendations how to implement it. No other training matrix or outline was put forward for consideration.

As of May 2007 there is still not an adopted standardized training guideline or matrix for the Wyoming RRTs. There has been no evaluation criterion for team members
of the RRTs. There have been no standardized or evaluative training exercises for the RRTs.

The Community Risk Assessment/Capability Assessment Unit of the National Fire Academy’s Executive Analysis of Fire Service Operations in Emergency Management course describes how “resources should be properly trained, equipped, and configured” and “trained to accepted standards nationally, regionally, and statewide (U.S. Department of Homeland Security, United States Fire Administration, National Fire Academy [DHS, USFA, NFA], 2006, p. SM 4-34).

This applied research project will gather information on laws or standards on training for members of RRTs and review what best practices have been developed by other states for the members of their RRTs. This information will be used to make recommendations for developing a training matrix that could be used to bring consistency to the training of the members of Wyoming’s RRTs. Two of the five operational objectives of the USFA are supported by this research by responding appropriately in a timely manner to emerging issues and by promoting a comprehensive, multi hazard risk-reduction plan within communities led by fire service organizations (NFA, 2003, p. II-2)

Literature Review

History has shown that communities may not have the adequate resources to sustain a reinforced response to a major incident. There have been several methods developed for reinforcing and augmenting local resources in these types of major incidents, some of which include the Emergency Management Assistance Compact, local mutual aid agreements, and RRTs. Whatever resource is used, the outcome of the
situation is usually directly associated to the consistency of the policies, training, and incident management system that responders have in place.

A literature review was completed that focused on the four research questions: (a) Are there federal training requirements for members of the RRTs? (b) Are there national training standards for members of RRTs? (c) What do other state RRTs have in their training guidelines? (d) Is other state RRTs requiring any certifications for their team members and if so what are the required certifications tied to?

1. In researching if there are federal training requirements for members of RRTs, a focus on responder safety led to a review of the regulations that the Occupational Safety and Health Administration (OSHA) developed in response to the requirements set forth by the Superfund Amendments and Reauthorization Act of 1986 (SARA; 1910.120 Preamble to Final Rule, 1990). HAZWOPER (2006) can be found in the Code of Federal Regulations (CFR) in 29 CFR 1910.120 and lists requirements for worker safety at hazardous materials waste site operations and emergency response to hazardous substance releases. The State of Wyoming is an OSHA state in that it operates an occupational safety and health plan that has been approved by federal OSHA. Wyoming’s occupational safety and health plan has adopted the federal OSHA standards to protect all employees of individuals and organizations, including the state and all its political subdivisions (Wyoming Occupational Health and Safety Act, 2006).

Paragraph (q) (6) of the HAZWOPER regulation lists the training that is required for those responders engaged in emergency response to hazardous substance releases. The standard states that “training shall be based on the duties and function to be performed by each responder of an emergency response organization. The skill and
knowledge levels required…shall be conveyed to them through training before they are permitted to take part in actual emergency operations on an incident” (HAZWOPER, 2006).

Paragraph (q) (6) of HAZWOPER categorizes responders to hazardous substance releases in five levels (a) first responder awareness level, (b) first responder operations level, (c) hazardous materials technician, (d) hazardous materials specialist, and (e) on scene incident commander. The general role of the RRT members is generally considered to be more advanced and aggressive than the majority of most first responders. This role aligns with OSHA’s hazardous materials technician category in that RRT members generally respond in an offensive fashion with the intent of stopping the release of the hazardous substance. Depending on the assigned role of RRT members, they could possibly fall into OSHA’s hazardous materials specialist and on scene incident commander categories. Specific training criteria for the various categories of responders, who respond to hazardous substance releases, or potential releases, are outlined by OSHA in paragraph (q) (6) of the HAZWOPER regulation (HAZWOPER, 2006).

Criteria for trainers of the required topics is set forth in (q) (7) of the HAZWOPER regulation while requirements for annual refresher training are stated in (q) (8). Appendix E of the HAZWOPER regulation is a non-mandatory guideline that contains information that can be used for developing training curriculum for meeting the training requirements of (q) (6), (q) (7), and (q) (8) of the HAZWOPER regulation (HAZWOPER, 2006).

An interpretation of the HAZWOPER regulation was found during the literature review that clarifies HAZWOPER in relation to terrorist and WMD responses. The quip
states that OSHA’s role will be guided by the policies in the Federal Response Plan, the National Response Plan, and other legal authorities and that while OSHA may not be exercising enforcement authority during the terrorism or WMD incident, OSHA will resume those actions when operations at the incident are terminated by the lead federal agency (Fairfax, 2003).

OSHA also has other standards that have training requirements that may be applicable to RRTs. Some of these standards are: 29 CFR 1910.134, Respiratory Protection (2006); 29 CFR 1910.146, Permit Required Confined Spaces (2006); 29 CFR 1910.1030, Bloodborne Pathogens (2006); 29 CFR 1910.1200, Hazard Communication (2006).

The literature review found that the Environmental Protection Agency (EPA) also has training requirements that could affect members of RRTs. While OSHA has established the regulations for hazardous waste operations and emergency response that the Environmental Protection Agency (EPA) mandated through SARA, the EPA has established regulations that non-OSHA states must comply with the requirements of HAZWOPER (Worker Protection, 2006). While this would not affect Wyoming, it does affect RRTs in non-OSHA states by removing the exclusion to state and local governments from OSHA regulations.

Homeland Security Presidential Directive 5 (HSPD-5; 2003) called for the establishment of a single, comprehensive national incident management system (NIMS). The NIMS is a system that improves response actions through the use of the incident command system and other standard procedures and preparedness measures. It also encourages development of multi-jurisdictional, statewide, and interstate regional
methods for coordinating incident management and obtaining support during large-scale or complex incidents. HSPD-5 orders that federal departments and agencies make adoption of the NIMS a stipulation for obtaining federal preparedness assistance funds (Bush, 2003). The funds that Wyoming used to create the RRTs was federal preparedness and assistance funds administered through grant from the WOHS.

2. In looking at national consensus standards that would be applicable to training members of RRTs, it was found that OSHA has used consensus standards extensively as a basis for its safety and health regulations. Sometimes these consensus standards are incorporated into the OSHA regulation and other times the various standard development organizations create consensus standards to further define an OSHA regulation. Some of the standard development regulation originations referred to by OSHA include American National Standards Institute, the NFPA, the American Society of Mechanical Engineers, and the American Society for Testing and Materials (Updating OSHA Standards, 2004).

The NFPA has developed three consensus standards dealing with responding to hazardous materials emergencies (a) \textit{NFPA 471: Recommended Practice for Responding to Hazardous Materials Incidents} (2002), (b) \textit{NFPA 472: Standard for Professional Competence of Responders to Hazardous Materials Incidents (NFPA 472; 2002)}, and (c) \textit{NFPA 473: Standard for Competencies for EMS Personnel Responding to Hazardous Materials Incidents} (2002). \textit{NFPA 472}, (2002) defines and exceeds the training competencies that are required in HAZWOPER, (2006). The \textit{NFPA 472} standard establishes competency levels for persons responding to hazardous materials incidents as (a) awareness, (b) operations, (c) technician, (d) private sector specialist employees, (e) hazardous materials branch officer, (f) hazardous materials branch safety officer, (g)
technician with tank car specialty, (h) technician with cargo tank specialty, and (i) technician with inter-modal tank specialty (NFPA, 2002).

The Hazardous Materials Transportation Uniform Safety Act of 1990, Section 117A authorized the Department of Transportation (DOT) to make grants available to states, territories, and Indian tribes to train public sector responders who respond to hazardous materials emergencies. In order to meet the legislated responsibilities the DOT has established the Hazardous Materials Emergency Preparedness (HMEP) Grant Program. The Federal Emergency Management Agency (FEMA) published Guidelines for Haz Mat/WMD Response, Planning and Prevention Training (FEMA, 2003) to accompany the HMEP grant program (FEMA, 2003).

This document attempts to delineate training requirements that would assist in training responders to hazardous materials and WMD incidents to full competency. It balances this task into two tracks. The first track is described as minimum training and is the training required by HAZWOPER (2006). The second track is described as the recommended training and is the training arrangement described in NFPA 472 (2002). Both of these tracks describe training stages that are the minimum training suitable for the different competency levels in each track (FEMA, 2003). Guidelines for Haz Mat/WMD Response, Planning and Prevention Training shows a strong relationship between HAZWOPER (2006) and NFPA 472 (2002) for training requirements for personnel who respond to hazardous materials emergencies.

The Office of Domestic Preparedness (ODP) WMD training program has been created in concert with existing codes and standards of agencies such as the NFPA and federal regulatory agencies, such as the OSHA. ODP has prepared a training program that
enhances the capability of responders to prepare for and respond to events of terrorism involving weapons of mass destruction, including chemical, biological, radiological, nuclear, and explosive (CBRNE) devices. This training program is detailed in ODP WMD Training Program, Enhancing State and Local Capabilities to Respond to Incidents of Terrorism (2004). This document identifies ten disciplines of first responders and defines levels of proficiency for each of those disciplines. While ODP’s levels of proficiency are titled similar to the levels in HAZWOPER (2006) and NFPA 472 (2002), the requirements for ODP’s proficiency levels do not totally align with either of those documents.

3. The literature review looked at what is contained in other states’ training guidelines for members of RRTs. The literature review revealed it is not uncommon that most agencies’ training requirements for members of RRTs are tied to OSHA’s HAZWOPER requirements for hazardous materials technician. In that document it states that the employee shall have received the listed training “and the employer shall so certify”... (HAZWOPER, 2006). Nevada’s training and recertification requirements for the members of their RRTs are entirely tied to the HAZWOPER, (2006) requirements (Nevada Division of Environmental Protection, 2005).

Pennsylvania’s requirements for RRT training is listed in Emergency Management Directive No. D2004-1 (Pennsylvania Emergency Management Agency [PEMA], 2004). This document requires RRTs to train team members in accordance to HAZWOPER (2006). Training is position specific and Pennsylvania requires a team to have the appropriate number of personnel trained to the levels that are defined in their team structure. Pennsylvania requires continuing education for members of their RRTs
and lists the minimum requirements that must be met over a four year period (PEMA, 2004). Pennsylvania’s list of requirements for recertification training aligns with HAZWOPER’s (2006) training recertification requirements. WMD training for members of Pennsylvania RRTs is based on the duties and functions to be performed by team members. The WMD training requirements are tied to the ODP levels. The actual ODP training level that responders are trained to is determined by the operational plans that are established by the RRTs (PEMA, 2004).

The literature review discovered that while most agencies train to the OSHA HAZWOPER (2006) standard, others are requiring that members of their RRTs comply with NFPA 472 (2002) training requirements. Members of Wisconsin’s RRTs not only must successfully complete at least 40 hours of training that meets the OSHA’s regulations before they may respond, they must also meet the competencies set forth by the NFPA 472 standard (Wisconsin Emergency Management, n.d.).

The literature review found some agencies, which in addition to requiring members of their RRTs to comply with the hazardous materials technician training requirements of HAZWOPER (2006) or NFPA 472 (2002) are also training their members to fill specialized and position specific functions. These positions include (a) Incident Commander, (b) Hazardous Materials Branch Safety Officer, (c) Technician with Tank Car Specialty, and Technician with Cargo Tank Specialty. The training requirements for these specialized positions are detailed in NFPA 472 (2002).

Maryland Fire and Rescue Institute have established a terrorism response training plan that is designed to enhance Maryland’s emergency response capability to terrorism events. This plan utilizes the ten core disciplines of first responders identified by the
ODP. The discipline that was focused on in the literature review was hazardous materials personnel and in particular, hazardous materials technicians. Maryland Fire and Rescue Institute’s terrorism response training adopts ODP’s WMD training program as the standard for specialized terrorism training for hazardous materials technicians (University of Maryland, 2004).

On April 3-4, 2006 the International Association of Fire Chiefs' Hazardous Materials Committee organized a hazardous materials team leader’s roundtable with 40 of the nation's top authorities on hazardous materials response to assess the existing state of the hazardous materials response community and suggest future strategies. The participants of the roundtable recommended that all emergency response organizations acknowledge that in order for emergency personnel to respond safely to incidents where hazardous materials and WMD are involved they must, at a minimum, first be trained to the core competencies of NFPA 472 (2002). The members of the roundtable further suggested that response agencies should perform a risk based community assessment after which their personnel should be trained in all operation specific skills that would apply to their response plans. The roundtable participants voiced their support for NFPA 472 (2002) and encouraged the federal government to utilize innovative training methods to augment the training and education available to responders (International Association of Fire Chiefs, (n.d.).

4. The last research question that the literature review looked at was if states are requiring any certifications for members of their RRTs and if so, to what are those certifications tied. OSHA requires that employees who respond to hazardous material emergencies shall have received the training listed in the HAZWOPER regulation “and
the employer shall so certify”... (HAZWOPER, 2006). Several of the materials reviewed in the literature review (PEMA, 2004; Nevada Division of Environmental Protection, 2005; Wisconsin Emergency Management, n.d.) showed that agencies are meeting the requirements of OSHA by certifying and requiring annual training as outlined in the HAZWOPER (2006) standard.

The National Board on Fire Service Professional Qualifications (Pro Board) states that “Certification is the verification that a candidate has successfully completed an evaluation of his/her knowledge, skills and abilities against the national standard” (National Board on Fire Service Professional Qualifications, n.d., Frequently Asked Questions section, para. 2). Both Pro Board and International Fire Service Accreditation Congress (IFSAC) are organizations that provide accreditation of fire service certification programs which meet stringent standards. Pro Board and IFSAC both have lists of several entities that have accredited certification programs which provide hazardous materials certification which are tied to NFPA 472 (IFSAC, 2007; Pro Board, 2007).

NFPA is very close to finishing its revision cycle for NFPA 472. The 2008 edition of the standard is titled NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents 2008 Edition. The 2008 edition of NFPA 472 has many sweeping changes and incorporates many skills that are related to hazardous materials response issues and terrorism and criminal use of hazardous materials. The new standard is also geared not to just fire service personnel, but all responders who would respond to hazardous materials and WMD emergencies (NFPA, 2007). This new standard should be very effective in linking the issues of
responding to hazardous materials emergencies with responding to terrorism and WMD incidents.

The information found in the literature review helped to show that the OSHA HAZWOPER regulation is the primary federal authority when it comes to training requirements for responders to hazardous materials emergencies. *NFPA 472 (2002)* was validated by the literature review as the prevailing national consensus standard for providing guidance to RRTs on what to train their members. Another training federal requirement found in the literature review was training on the NIMS. This training is required to continue receiving federal preparedness and assistance funds which support Wyoming’s RRTs through grants from the WOHS.

Training guidelines of RRTs assessed in the literature review found that the main focus for training members of RRTs is to comply with the requirements of HAZWOPER (2006) while attempting to use the guidance of *NFPA 472 (2002)*. The literature review revealed that RRTs that are requiring recertification training for the members of their teams are only recertifying to the requirements of HAZWOPER (2006). There were no teams found in the literature review that were requiring recertification to *NFPA 472 (2002)*.

**Procedures**

Qualitative research methods were used in an attempt to answer the four research questions. The National Emergency Training Center Learning Resource Center was searched for materials as part of the literature review. Pertinent reports, policies, and documents were ferreted out using the Yahoo and Google Internet search engines. The
literature review was instrumental in providing a foundation for defining information that was gathered in the actual research.

Limited information was found during the literature review for research questions three and four concerning what other state RRTs have in their training guidelines and whether or not other state RRTs are requiring specialized certification of their members. A questionnaire was developed to collect information that would assist in validating information found during the literature review. The questionnaire attempted to obtain answers concerning what training other state RRTs are requiring, what laws or standards the training is tied to, and who is providing that training. A sample of this questionnaire may be found in Appendix A.

The Home Land Security office or Emergency Management office representing each state in FEMA regions VIII, IX, and X was contacted by phone. A request was made from each state office for a referral to a person in their state who was knowledgeable of their RRTs and the training requirements for team members. The questionnaire (Appendix A) was read to the representative of each referred agency and the results recorded. After the questionnaire was completed, semi-structured interviews were then conducted with these personnel using the questionnaire as a guide.

Assumptions and Limitations

One of the assumptions to this project is that the representatives of the state agencies that were spoken to had a good understanding of the training requirements for members of their RRTs. While some of the state agencies may take active roles in the training of the RRT members, others are acting in a support role to existing resources.
One of the limitations to this research is that every state is autonomous as to if they utilize RRTs or how they set up and make use of RRTs. While it is possible that the states contacted in FEMA Regions VIII, IX, and X can assist in providing information on how training RRT members, the information may not be representative of other states in the nation.

Another limitation is that some of the agencies contacted fulfill only a funding mechanism role in the training of the members of their RRTs. An additional limitation of this research project would be dissimilar interpretations of training requirements for member of RRTs by the different states contacted.

**Definition of Terms**

Questionnaire – A list of questions that a number of people are asked so that information can be collected about something (Cambridge Dictionaries Online, (n.d.).

Semi-structured interviews – Interviews that are conducted with a fairly open framework which allow for focused, conversational, two-way communication. They can be used both to give and receive information (FAO Corporate Document Repository, (n.d.).

**Results**

When the individual states in FEMA Regions VIII, IX, and X were contacted there was found to be a diverse makeup of agencies that were coordinating operations and training the RRTs. A list of the persons providing information from the contacted states can be found in *Appendix B*. A summary of responses to the questionnaire may be found in *Appendix C*.

The research found that not all of the states contacted are using RRTs to respond to hazardous materials and WMD emergencies. Three of the 14 states contacted stated
that while there were hazardous materials response teams in their state, these resources were local resources and not organized to be activated as regional resources. Only nine of the 14 states contacted said that they were using RRTs for response to WMD incidents.

In addition to answering the four research questions, the questionnaire and semi-structured interviews used in the research assisted in providing background on what level is coordinating and paying for the training of RRT team members. Local coordination of teams was split between a training advisory committee in two of the states and the local host agency for the RRT in four of the states. All of the states reported using federal grants to assist in paying for training of RRTs no matter what level the coordination was on.

Table 1

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<th>Local Pays</th>
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<td>4</td>
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Research Question 1. Are there federal training requirements for members of the RRTs? The literature review discovered that the main federal regulation in regards to training requirements for members of RRTs was the HAZWOPER (2006) regulation. The semi-structured interviews that were conducted as part of the research revealed that the primary focus of all of the states contacted is compliance with the HAZWOPER (2006) regulation.

Research Questions 2. Are there national training standards for members of RRTs? *NFPA 472* (2002) was found by the literature review to be the principal training
standard for the training of members of RRTs. The research that was conducted found that all of the states that were contacted were aware of *NFPA 472* (2002) and its value as a consensus standard that could be used to assist in creating objective training requirements.

Research Question 3. What do other state RRTs have in their training guidelines? The majority of the information for this research question was garnered from the semi-structured interviews that were conducted. Of the 11 states with RRTs that were contacted, a wide variation of training requirements for members of RRTs was found. It was also found that not all of the states have a training matrix for their RRTs.

Table 2

*RRT Training Structure*

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<tr>
<th>Training Matrix</th>
<th>No Matrix</th>
<th>Position Specific</th>
<th>Not Position Specific</th>
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<tr>
<td>5</td>
<td>6</td>
<td>6</td>
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California’s RRTs are resources of local jurisdictions that are activated by and integrated into the FIRESCOPE resource management program as the Hazardous Materials Specialist Group. Training requirements for the members of those RRTs are position specific and follow the FIRESCOPE ICS position list (V. Bennett, personal communication, July 26, 2007).

All of the states with RRTs contacted said that the primary focus of the training for members of their RRTs was hazardous materials specific with hazardous materials technician level training being the standard for personnel making entry into the hot zone.
There was also a general consensus in those contacted that first responders which support the RRTs should have training to the hazardous materials awareness or operations level.

The hazardous materials level training is being accomplished in different fashions by the various states. While many states or local jurisdictions are training the members of their RRTs using their own training curriculum, four of the states with RRTs are training their members using the *International Association of Fire Fighters Training for Hazardous Materials Response: Technician* (n.d.) curriculum. Other states reported sending members of their RRTs to hazardous materials technician training at the Transportation Technology Center in Pueblo, Colorado or using curriculum from the California Specialized Training Institute.

Some states report that the members of their teams receive specialist training in addition to the hazardous materials technician level training. This training is usually decided by a training advisory committee or by the hazards of a particular area that team members may experience. Some of the specialist training that was reported was for the hazardous materials incident commander, safety officer, tank car specialist, rail car specialist, and inter-modal specialist levels.

There was quite a variation in how the states with RRTs that were contacted were integrating WMD training into the training for their team members. Bill Collwell of Missoula Rural Fire District stated that “WMD is just hazardous materials with an attitude” (B. Colwell, personal communication, July 23, 2007). This comment was representative of how most of the states that were contacted are using RRTs whose training and competencies are based around hazardous materials response. Jeff Rylee of the Idaho Bureau of Homeland Security said that it is Idaho’s goal to have their seven
RRTs trained and equipped as Type I Hazmat Entry Teams (J. Rylee, personal communication, July 25, 2007). The capabilities for a Type I Hazmat Entry Team as outlined in the Resource Typing System of the National Mutual Aid and Resource Management Initiative Glossary of Terms and Definitions (FEMA, 2004) include WMD capabilities.

Mike Alexander with the Nevada Department of Public Safety stated that as his state continues to work on developing RRT capabilities that the training for RRTs is affected by the differences in motivation of law enforcement, fire service, and environmental agencies. Mr. Alexander stated that as his state’s efforts evolve on developing RRTs there is a definite need for the integration of law enforcement and the fire service when training for and responding to WMD incidents (M. Alexander, personal communication, July 26, 2007).

Research Question 4. Are other state regional emergency response teams requiring any certifications for their members and if so what are the certifications tied to? The research found that ten of the eleven states with RRTs contacted had some form of certification in place for their RRT members. It was split on who was actually certifying those RRT members. Six of the 11 states contacted which have RRTs had one of its agencies providing certification for RRT members while five states said that the local jurisdictions are providing certification for RRT members.

Of the certifications being provided to members of the 11 states with RRTs, it was found that four states are certifying to the OSHA HAZWOPER (2006) regulation while seven of the states are certifying to the NFPA consensus standards. All agencies were
meeting the requirements of the HAZWOPER (2006) regulation since those agencies certifying to the NFPA standard meet or exceed the HAZWOPER (2006) regulation.

The Colorado Hazardous Materials Responder Voluntary Certification Program requires that a person seeking certification at the technician level be a member of an organized hazardous materials response team in Colorado. Colorado also has certification for hazardous materials response teams which is intended to provide a measure of the team’s compliance with applicable standards. Certification levels include Operations Level Response Team and Technician Level Response Team (Colorado Department of Public Safety, Division of Fire Safety, n.d.).

Information was also collected that was beyond the scope of the research questions on whether any of the certifications that the states were providing were nationally accredited, and if so by whom. Information on recertification was also collected. This information was gathered for the purpose of possibly enhancing recommendations for certification that might possibly be intertwined with national credentialing issues in the future.

Table 3

| Contacted States with RRTs Using Nationally Accredited Certification |
|-----------------|--------|-------|------|------|
|                 | IFSAC | NPQS  | Both | None |
| 1               | 2     | 2     |      | 6    |
Table 4

*Contacted States with RRTs: Recertification Method*

<table>
<thead>
<tr>
<th>Original Certification</th>
<th>Continuing Education (OSHA)</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>

**Discussion**

The use of RRTs to respond to hazardous materials and WMD incidents is one way of providing specialized emergency response capabilities to the public. These teams are designed to respond to complex incidents that require advanced equipment and highly developed training. The makeup of RRTs is such that at times members of these teams may come from multiple jurisdictions. Team members must be able to interface in a competent manner to mitigate any number of critical situations.

Providing RRT members the knowledge, skills, and abilities to safely respond and to be able integrate with other RRT members in a consistent manner can be an overwhelming challenge. Time constraints may be one of the biggest challenges when providing specialized training to team members. Establishing a workable training matrix to map out training requirements for RRT members may assist in maintaining consistency in training. In assembling a training matrix for RRT members, potential response scenarios should be evaluated and applicable laws and standards pertaining to training requirements for those response scenarios should be reviewed.

Paragraph (q) (6) of the HAZWOPER regulation lists the training that is required for responders engaged in emergency response to hazardous materials releases. The standard emphasizes that “The skill and knowledge levels required…shall be conveyed to
them through training before they are permitted to take part in actual emergency operations on an incident” (HAZWOPER, 2006). The regulation goes on to categorize skill levels of responders to hazardous substance releases and the competencies that the responders should have.

HAZWOPER (2006) was promulgated by OSHA and is a federal law whose scope is reinforced by EPA’s Worker Protection (2006) regulation. All RRTs fall under the authority of one or the other of these regulations and the training requirements that they contain. While there is a quip that states that OSHA may not be exercising enforcement authority during acts of terrorism or WMD incidents, OSHA will resume those actions when the operations at the incident are terminated by the lead federal agency (Fairfax, 2003). It is the author’s opinion that RRTs would be well served to comply with the training requirements outlined in HAZWOPER (2006) at a minimum. RRTs that respond to perform offensive operations should train their members to the technician level as outlined in paragraph (q) (6) of HAZWOPER (2006). In addition, the appropriate NIMS training that are outlined in HSPD-5 (Bush, 2003) would seem to be imperative to supporting an effective incident management at a scene where an RRT might respond to.

National consensus standards are developed by various boards and viewed as a best practices formula for a certain activity or process. Consensus standards can be voluntarily adopted and do not carry the force of law. However, consensus standards may be used to evaluate actions, items, or events and may be referred to as the norm.

*NFPA 472: Standard for Professional Competence for Responders to Hazardous Materials Incidents* (2002) was found by the literature review and the research to be the
predominant consensus standard for training requirements for persons responding to hazardous materials incidents. *NFPA 472* (2002) is much more thorough and descriptive in outlining training requirements for responders to hazardous materials incidents. This fact has positives and negatives. Being more detailed in the training requirements has the potential for ensuring that there is consistency in training, responders are better trained, and responses are safer. The down side to having more comprehensive training requirements is that the training requires more time to successfully complete.

The literature review and research found that there is additional training that RRT members could receive. Teams should once again review their anticipated response activities to see if any other OSHA compliance training would apply. Regulations that might be included in this review would include Respiratory Protection (2006), Bloodborne Pathogens (2006), Hazard Communication (2006), and Permit Required Confined Spaces (2006). OSHA compliance training would be important to review if a particular RRT falls under the legal jurisdiction of OSHA.

Other training that RRT members could be receiving was revealed by the research. One example of this training is the specialized levels as outlined in *NFPA 472* (2002). These levels include hazardous materials branch officer, hazardous materials branch safety officer, technician with tank car specialty, technician with cargo tank specialty, and technician with inter-modal tank specialty. The training of RRT members to these levels would most likely be dependent on the response requirements of the RRT and may not be applicable to all team members.

The literature review found several references and recommendations for training RRT members for response to WMD and CBRNE incidents. The ODP has created a
WMD training program that has several quality training programs. One of the perceived problems that the author sees is that the ODP has tried to reinvent the wheel and yet still use the same terminology that is being used by HAZWOPER (2006) and NFPA 472 (2002). An example is that ODP’s definition of a technician is very different than that of HAZWOPER (2006) or NFPA 472 (2002). This use of similar terminology for qualifications can create confusion in the emergency services and may lead some RRTs to believe that their members are meeting the intent of HAZWOPER (2006) when indeed they are not.

The paths of hazardous materials response and WMD response training seem to have separated and be running parallel courses, looking at each other and yet not recognizing or complimenting each other. It almost appears that entities may be trying to create a stand alone approach to WMD response in order to siphon federal funds.

It is this author’s opinion that WMD response is another specialized level of hazardous materials response and that the training that RRT members receive should be conducive to responding to both types of events. When the new NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents 2008 Edition is released, it should lay a firm foundation for rejoining the training effort for responding to hazardous materials and WMD events.

The research helped to validate the value of the relationship between training and certification. It was found that certification standards helped to provide a pathway to consistency in training. The research found that 10 of the eleven states contacted which have RRTs, had certification of some form in place for their RRT team members. There were different formulas for determining certification criteria ranging from requirements
being decided by training advisory committees to certification requirements being aligned with *NFPA 472* (2002) and being governed by a state certification authority.

Research found that the Colorado Hazardous Materials Responder Voluntary Certification Program certification of hazardous materials response teams provides a measure of the teams’ compliance with applicable standards (Colorado Department of Public Safety, Division of Fire Safety, n.d.). This type of certification system allows hazardous materials response teams to focus on their response capabilities in relation to training, equipment, and continuing education. Some teams may find it impossible to maintain a technician level team yet may find it attainable to maintain an operations level team.

The author believes that certification of competencies could provide reliable levels of proficiency when establishing a training matrix for RRTs. When the national consensus standard *NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents 2008 Edition* is released, it should make it easier to define capability requirements in a training matrix for responding to both hazardous materials and WMD incidents.

The research collected information on how many of the states contacted had certification programs that were nationally accredited. It was found that five of the 11 states contacted which have RRTs, had nationally accredited programs. Accreditation is the endorsement from a third party assessment of an agency’s certification system. The assessment includes all phases of certification testing including completeness, fairness, security, validity and relationship to the national standards. The author believes that national accreditation of a certification system is one more step in assuring consistency.
and would be beneficial when choosing the competency levels that would be part of a training matrix for an RRT.

Information was also collected by the research on recertification of competencies of members of RRTs. Paragraph (q) (8) (i) of HAZWOPER (2006) lists OSHA’s requirements for annual refresher training stating that, “Those employees who are trained in accordance with paragraph (q) (6) of this section shall receive annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly” (HAZWOPER, 2006). NFPA 472 (2002) is a consensus standard for minimum competencies for responders to hazardous materials incidents and does not specifically address refresher training but instead infers that competencies should be kept current. Recertification requirements are generally set by certifying authorities and are specific to the individual certification authority.

The research found that nine of the 11 states contacted which have RRTs, had some form of recertification requirements. Six of those states based their recertification requirements to OSHA continuing education requirements. Three of the states based their recertification on the original certification requiring all competencies to be repeated. Recertification is generally found to be quite controversial but it is the author’s opinion that some form of recertification should be in place to maintain proficiency and consistency of skills. Idealistically, recertification to NFPA 472 (2002) would be the best practice. It would be up to the individual RRT to determine what time constraints affect the training schedule and then determine recertification requirements for RRT members. At a minimum, HAZWOPER (2006) annual refresher training requirements must be met.
Recommendations

In making contact with the 14 states that make up FEMA regions VIII, IX, and X the author found that the state of Wyoming is very fortunate to have had the leadership and ability to facilitate composing their seven RRTs. Moving forward with attempting to establish a workable training matrix for members of Wyoming’s RRTs will take time and effort, but will not be a daunting task.

It is first recommended that the initial focus on establishing a training matrix for the RRTs would be to establish objectives for the potential events that these teams will be responding to. This research has focused on RRTs which respond to hazardous materials and WMD responses. The addition of specialized WMD response capabilities such as bomb technicians to an RRT would facilitate establishing a separate training matrix. The use of the expertise of technical specialists, such as health specialists during a biological response, would be an assumed need for RRTs.

The author suggests that a training advisory committee made up of key players be established to facilitate the creation of a workable training matrix for Wyoming RRTs. Members of this advisory committee should include representatives of all seven teams, the WOHS, and the Wyoming Fire Marshal’s office. The training advisory committee should make a determination of what the response capabilities of each team will be and the training that would be needed by the RRT members that are expected to make those responses.

Keeping in mind that responses could be quite dynamic, a basic position list should be developed that would provide adequate resources for a given response or that would be available to draw from. FEMA’s document, Resource Typing System of the
HAZWOPER (2006) regulations should be scrutinized to make sure that any training goals established are in alignment with OSHA requirements. *NFPA 472* (2002) should also be reviewed to see if it would be feasible to pursue setting training requirements that meet those outlined by that standard. When evaluating the use of HAZWOPER (2006) requirements or the *NFPA 472* (2002) consensus standards the author advises discretion in making sure that the time constraints of the training matrix are attainable. The training matrix could be expanded in the future to enhance the quality and quantity of the training once a solid training program is on track.

The advisory committee should review the RRT anticipated response activities to see if any other OSHA compliance training might apply. Regulations that might be included in this review would include Respiratory Protection (2006), Bloodborne Pathogens (2006), Hazard Communication (2006), and Permit Required Confined Spaces (2006).

The advisory committee should also review any specialized training needs of RRTs when establishing a training matrix for the RRT members. One example of this training is the specialized levels such as those outlined in *NFPA 472* (2002). These levels include hazardous materials branch officer, hazardous materials branch safety officer, technician with tank car specialty, technician with cargo tank specialty, and technician with inter-modal tank specialty. Specialized WMD training needs for RRT members should also be evaluated. The training of RRT members to these levels would most likely
be dependent on the response requirements of the RRT and may not be applicable to all team members.

The Wyoming Fire Marshal’s Office currently offers certification for the Hazardous Materials Technician level. The Wyoming Fire Marshal’s Office also offers Pro Board accredited certification for the Hazardous Materials Operations and Hazardous Materials Awareness levels. All three of these certifications are based on NFPA 472 (2002). The training advisory committee should try to incorporate these certification requirements into the training matrix for RRT members. The use of hazardous materials levels that are certified could provide a more consistent path for training RRT members.

When the new NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents 2008 Edition is released, the training advisory committee should work in harmony with the Wyoming Fire Fighter Certification Committee to align certifications with the new standard. This effort would assist in rejoining the training effort for responding to hazardous materials and WMD events.

The training advisory committee should also work with the Wyoming Fire Fighter Certification Committee in evaluating the possibility of establishing certification of hazardous materials response teams such as the program established by the Colorado Hazardous Materials Responder Voluntary Certification Program. This type of certification system would allow hazardous materials response teams to focus on their response capabilities in relation to training, equipment, and continuing education where some teams may find it impossible to maintain a technician level team, yet may find it attainable to maintain an operations level team.
Last, but not least, the training advisory committee should establish some form of continuing education requirements for RRT members. Idealistically, these continuing education requirements could be established in conjunction with the Wyoming Fire Fighter Certification Committee as recertification of that committee’s certifications. It should be remembered however that, like the initial required training, the continuing education requirements should be attainable.

These recommendations are based on the original purpose of this research. The purpose of this research was to gather information that could provide guidance to establishing a training matrix for personnel who are assigned to Wyoming RRTs. This training matrix might then be used to aid in bringing uniformity to the training that members of Wyoming RRTs receive which in turn could assist in bringing consistency to the RRTs response capabilities. It is also hoped that establishing a training matrix for the Wyoming RRTs will assist in keeping the RRT members safe.
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Appendix A

Establishing a Training Matrix for Regional Response Teams

Questionnaire

Dear Emergency Professional,

The following is a questionnaire to collect information that will provide guidance to establishing a training matrix for personnel who are assigned to the Wyoming Regional Response Teams. The information collected will be part of an applied research project that I am preparing as a component of my participation in the National Fire Academy Executive Fire Officer Program. The completed applied research paper will also be submitted to the Wyoming State Emergency Response Commission Training Committee and the Administrators of the Wyoming Emergency Response Teams to possibly assist them in establishing a training matrix for members of the Wyoming Emergency Response Teams. If you could please spare a few moments to complete and return this questionnaire, it would be greatly appreciated.

Please check the appropriate box or add any additional information that you would like.

Your input and time are greatly appreciated.

1. Does your state use regional response teams (RRTs) to respond to hazardous materials emergencies?

YES

NO
2. Does your state use RRTs to respond to weapons of mass destruction (WMD) emergencies?

   YES

   NO

3. What level coordinates the training for your RRTs?

   State

   County

   District

   City

4. Who coordinates the training for your RRTs?

5. Who is responsible for the cost of the training for members of your RRTs?

6. Do you have a training matrix for your RRTs?

   YES

   NO

7. Are training requirements for members of your RRTs position specific?

   YES

   NO

8. Is certification a part of your training requirements for members of your RRTs?

   YES

   NO

9. If certifications are part of the training requirements for members of your RRTs, who issues those certifications?
10. If certifications are part of the training requirements for members of your RRTs, what are they tied to?

OSHA

NFPA

Other

11. Are any of those certifications nationally accredited?

YES

NO

12. If any of your certifications are accredited, by who are they accredited?

IFSAC

NPQS

Other

13. Do you require recertification for any of your certifications?

YES

NO

14. If you require recertification for any of your certifications, do you recertify to the original certification or by another method?

Original certification

Continuing Education (OSHA)

Other Method
15. Do you have a list or a matrix of the training requirements for the members of your RRTs that you would be able to share?

YES

NO

Thank you for your help on this project. If you would like the results of this questionnaire or the final report, please let me know.

Lyle Armstrong

Battalion Chief

Rock Springs Fire Department

600 College Drive

Rock Springs, WY 82901

(307) 352 – 1475

rsfd@yahoo.com
# Appendix B

## Contacted States and Person Providing Information

### FEMA Region VIII

<table>
<thead>
<tr>
<th>State</th>
<th>Agency</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>Division of Fire Safety</td>
<td>Tami Babylon</td>
</tr>
<tr>
<td>Montana</td>
<td>Missoula Rural Fire District</td>
<td>Bill Colwell</td>
</tr>
<tr>
<td>North Dakota</td>
<td>Emergency Management Division</td>
<td>Bruce Buchholtz</td>
</tr>
<tr>
<td>South Dakota</td>
<td>Office of Emergency Management</td>
<td>Doug Hinkle</td>
</tr>
<tr>
<td>Utah</td>
<td>Utah Fire and Rescue Academy</td>
<td>Hugh Connor</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Office of Homeland Security</td>
<td>Kim Lee</td>
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### FEMA Region IX

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<th>State</th>
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<th>Name</th>
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<tbody>
<tr>
<td>California</td>
<td>California Specialized Training Institute</td>
<td>Vance Bennett</td>
</tr>
<tr>
<td>Nevada</td>
<td>Department of Public Safety</td>
<td>Mike Alexander</td>
</tr>
<tr>
<td>Arizona</td>
<td>Tucson Fire Department</td>
<td>Brad Olson</td>
</tr>
<tr>
<td>Hawaii</td>
<td>State Civil Defense</td>
<td>Ken Lesperance</td>
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### FEMA Region X

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<tr>
<td>Idaho</td>
<td>Bureau of Homeland Security</td>
<td>Jeff Rylee</td>
</tr>
<tr>
<td>Washington</td>
<td>State Patrol, Fire Protection Bureau</td>
<td>Ron Bowen</td>
</tr>
<tr>
<td>Oregon</td>
<td>State Fire Marshal’s Office</td>
<td>Sue Otjen</td>
</tr>
<tr>
<td>Alaska</td>
<td>Department of Environmental Conservation</td>
<td>Mala Kalyan</td>
</tr>
</tbody>
</table>
### Appendix C

#### Summary of Responses to Questionnaire

1. Does your state use RRTs to respond to hazardous materials emergencies?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
</tr>
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</table>

2. Does your state use RRTs to respond to WMD emergencies?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>9</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
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</table>
3. What level coordinates the training for your RRTs?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
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<tbody>
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<td>State</td>
<td>5</td>
</tr>
<tr>
<td>Local Jurisdiction</td>
<td>6</td>
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</tbody>
</table>

4. Who coordinates the training for your RRTs?

<table>
<thead>
<tr>
<th>Responses</th>
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<tbody>
<tr>
<td>State Agency</td>
</tr>
<tr>
<td>RRT Training Advisory Committee</td>
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<tr>
<td>Local Jurisdiction</td>
</tr>
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</table>

5. Who is responsible for the cost of training for members of your RRTs?

<table>
<thead>
<tr>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
</tr>
<tr>
<td>Local Jurisdiction</td>
</tr>
</tbody>
</table>
6. Do you have a training matrix for your RRTs?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>5</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
</tr>
</tbody>
</table>

7. Are training requirements for members of your RRTs position specific?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>6</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
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</table>

8. Is certification a part of your training requirements for members of your RRTs?

<table>
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<th>Responses</th>
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<td>Yes</td>
<td>10</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
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</tbody>
</table>
9. If certifications are part of the training requirements for members of your RRT, who issues those certifications?

<table>
<thead>
<tr>
<th>Responses</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>State Agency</td>
<td>6</td>
</tr>
<tr>
<td>Local Jurisdiction (Employer)</td>
<td>5</td>
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</tbody>
</table>

10. What are the training requirements for members of your RRTs tied to?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
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</tr>
<tr>
<td>NFPA</td>
<td>7</td>
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</table>

11. Are any of your certifications for the members of your RRTs nationally accredited?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>5</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
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</tbody>
</table>
12. If any of your certifications are accredited, by who are they accredited?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFSAC</td>
<td>1</td>
</tr>
<tr>
<td>NPQS</td>
<td>2</td>
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<tr>
<td>Both IFSAC and NPQS</td>
<td>2</td>
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13. Do you require recertification for any of your certifications?

<table>
<thead>
<tr>
<th>Choices</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>9</td>
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<tr>
<td>No</td>
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</table>
14. If you require recertification for any of your certifications, do you recertify to the original certification or by another method?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
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<tbody>
<tr>
<td>Original certification</td>
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<td>Other method</td>
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</table>

15. Do you have a list or a matrix of the training requirements for the members of your RRTs that you would be able to share?

<table>
<thead>
<tr>
<th>Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
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