



**Report
Of
The
Emergency Management
Think Tank**

May 2011

Final Report of the Emergency Management Think Tank

May, 2011

May 19, 2011

To: President George Crombie and the APWA Board of Directors
From: Think Tank on Emergency Management

Subject: Final Report of the Think Tank

Gentlemen and Ladies:

On behalf of the members of the Emergency Management Think Tank, we are pleased to submit our final report on our charge to explore the current “best practices” in Emergency Management and to make recommendations to you and the Board to provide the basis for APWA to develop innovative and creative solutions to advance the role of public works as a first responder and establish the future direction of emergency management within APWA.

The Think Tank committee spent countless hours in the study and analysis of the data created as a part of our charge and additional information provided by APWA staff.

As co-chairs, we sincerely appreciate the time and effort each member of our Think Tank contributes to the challenge that you presented. They, along with APWA staff performed exceptionally.

The report contains voluminous information and research that supports the conclusions and recommendations contained in the final report. We encourage you to become familiar with the contents of the report so that you can discuss it at your June meeting.

We hope that you will act favorably on the recommendations put forth and will find the necessary resources to support moving forward with the recommendations.

Finally, we thank you for the opportunity to continue to serve the members of our Association in the important endeavor.

Respectfully Submitted on behalf of the entire Think Tank,

Judith Mueller and Larry Lux, Co-Chairs

CC: Peter King, Executive Director
Teresa Hon, APWA Staff
Laura Berkey-Ames, APWA Staff

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Executive Summary

One of President Crombie's major priorities for 2010-2011 is *"to create a national emergency management program for public works that will provide the legal and technical training and other requirements that will allow public works organizations to help others during natural and man-made disasters"*. Another of his priorities is to *"bring leadership and innovation into APWA and ensure that APWA is on the cutting edge of the public works profession"*.

One of the strategies to accomplish these goals was to appoint a "Think Tank" (TT) to study and analyze the "best practices" that currently exist in the emergency management community and to develop innovative and creative solutions to advance the role of public works as a first responder. Think Tanks differ from customary committees or institutes in that a Think Tank is organized to think of new and creative ideas on a particular subject and/or give advice on what should be done.

In late September of 2010, a joint telephone conference call was conducted by President Crombie which was attended by the Think Tank (TT) appointees, the Emergency Management Committee (including some select former members of the committee), key members of the APWA staff and the Board Liaison to the EMC, Cora Jackson-Fossett. This meeting was a brainstorming session devoted to fleshing out the main issues to be addressed by the TT.

Following this meeting, President Crombie established four goals and objectives for the TT to investigate and explore:

1. Benchmark the current APWA emergency management initiatives and training outcomes with other comparable organizations. The goal is to identify the "best practices in the emergency management field".
2. Evaluate existing mutual aid systems currently up and running in the public works and utility sector. The goal is to identify "best practices in class".
3. Investigate funding opportunities at the Federal level that can be dedicated to public works training, education and resources. The goal is to ensure that public works as a first responder is getting the training and support at the national level that is required to prepare public works officials in the time of an emergency event....in other words, a fair share of the funding pie.
4. Examine current emergency management training activities at the Chapter level and the support being provided by APWA National. The goal is to ensure that our Chapters are getting consistent guidance on emergency training.

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There were 10 members appointed to the TT, as follows:

Judith Mueller, Director of Public Works, Charlottesville, VA., Co-Chair
Lawrence Lux, President, Lux Advisors, Ltd., Plainfield, IL., Co-Chair
Lawrence Bombara, retired Director of Public Works, Douglas, MA.
Sara Croke, President, Weather or Not, Inc., Shawnee Mission, KS.
Richard Evans, retired Director of Public Works, City/County of San Francisco, Martinez, CA.
Ron Illium, Regional Engineer, Basalite, Folsom, CA.
Kenneth Miller, retired Director of Public Works, Mundelein, IL.
Billy Nungesser, President, Plaquemines Parish, Belle Chasse, LA. (Advisor to the Think Tank)
Harry Weed, Superintendent of Public Works, Rockville Centre, NY. (Representing the
Emergency Management Committee)
Sherri Zimmerman, Assistant Professor, Indiana University of Pennsylvania, Harrisburg, PA.

Five meetings of the TT were held. Four were telephone conference calls and one was a face-to-face meeting in New Orleans, where hearings were held with a number of local agencies that were impacted by Hurricanes Katrina and Rita in 2005 and the Deepwater Horizon Oil Platform Disaster in 2010. In addition, numerous E-mails were exchanged between members and staff to discuss and clarify specific issues and to vet the TT recommendations. The detailed results of this hearing are included in Section VI of the full report.

The investigation and analysis was divided into four (4) parts;

1. An on-line survey of members and agencies that have experienced federal declarations during the past ten (10) years.
2. A telephone survey of California counties that have experienced federal declarations.
3. An on-line survey of APWA Chapters WITHOUT Emergency Management Committees. (This survey supplemented an earlier survey that was conducted by the Emergency Management Committee of Chapters WITH Emergency Management committees).
4. The current nationwide status and evaluation of existing Mutual Aid programs.

APWA staff members also provided a number of documents on; APWAs involvement in other coalitions; Appointments to other organizations, task forces and alliances; a copy of the FEMA information Bulletin that provides a status update on the current FEMA situation; and, DHS/FEMA grants currently available to public works agencies.

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On-Line Survey of Members

A 29 question on-line, electronic survey (*See Appendix H for full survey and results*) was sent to nearly 18,500 APWA members from every corner of the US and Canada. The survey was targeted towards those agencies that had experienced a federal declaration within the last 10 years.

A whopping 767 responses to the survey were received from 286 different agencies. This is one of the largest responses ever received to an APWA survey. This included data from nearly 250 separate declarations. Over 90% of the declarations were for the following three categories: Flooding (31.4%), Hurricanes (18.6%), severe storms/Winter/Ice storms (40.1%). It should be noted that virtually ALL of these occurrences included major public works response and recovery involvement.

Over 2/3 of the respondents felt that the response and assistance they received from FEMA was timely and helpful. There were numerous positive remarks about the FEMA personnel. Most of the positive comments suggested that FEMA provided valuable information and assistance in dealing with the voluminous and daunting paperwork involved in the event. They also noted that most FEMA personnel were knowledgeable.

FEMA uses many part-time contract employees for on-site disaster assistance. These personnel are called DAE's (Disaster Assistance Employees). They are not direct FEMA employees. It is not clear if most agencies understand this concept.

Of those who offered negative comments, the major issues were:

- There was too much FEMA team (both full time and DAE), turnover, especially at the decision maker level. This often resulted in a reversal of a previous decision by the prior manager. Many of the FEMA representatives in these positions of authority have little or no public works experience.
- Some decision makers provided conflicting information and were unable to resolve the conflict, to the detriment of the agency.
- Some suggested that it took FEMA too long to mobilize and when they finally arrived, the directions given were often inconsistent. .
- Some felt that reimbursements received were insufficient and that it took too long to process.

It would appear that prior training and/or FEMA experience helped to minimize the issues in dealing with FEMA. This is especially true if agencies have a computerized work order or

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emergency management software program in place and operational. (I.e. CityWorks, WebEOC, etc.)

More than ½ of the agencies reported dissatisfaction with the level of reimbursement provided by FEMA. The discrepancies appeared to involve incomplete or incorrect documentation, unclear FEMA policies and or direction, and FEMA decision reversals after the fact. FEMA equipment rates appear to be unrealistic.

While the overwhelming response to this question indicated that better and more thorough record keeping and documentation would have helped, some suggestions were offered to reduce future frustrations:

- Keep meticulous records and document everything
- Have a debris management plan in place
- Maintain current, accurate equipment lists and operational costs
- Get training for processing FEMA paperwork
- Track all labor, equipment and materials costs
- Use more contractors
- Develop robust mutual aid systems
- Develop and train damage assessment teams, and most importantly,
- Get written approvals from FEMA representatives before acting.

Of those who used mutual aid, it did not appear that the assistance came in the form of a structured agreement or organization. Most referenced law enforcement and fire as the primary mutual aid providers. It would appear that most public works mutual aid was provided by neighboring municipalities on an ad hoc basis or by a state agency.

When asked “what was your greatest need?” and “how APWA could have helped?” the following comments were offered;

- Better training in documentation and the declaration process
- Develop regional “strike teams” to provide initial assistance to local government
- Develop some sort of data base of public works emergency management experts to contact for assistance when needed.
- Provide more on-line and locally delivered emergency management training programs.
- Develop strong lobbying/relationship assistance to pave the way to appeal FEMA decisions.
- Develop a robust nationwide public works mutual aid network.
- Develop/distribute model contracts & agreements. Post on APWA web site

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- Develop a comprehensive program, in conjunction with one or more Universities, to develop and implement a certification program for public works emergency managers.
- Establish a relationship with FEMA to serve as a means of negotiating changes and improvements to FEMA policies.
- Develop and publish a public works “lessons learned” data base.

When discussing any specific needs or role that APWA could fill to make individual experiences easier, the following comments were offered;

- On-call regional disaster response teams
- Assistance with grants and funding
- Comprehensive training program with an emphasis on recovery issues
- More effective lobbying efforts
- Standardized/model contracts
- Better local/regional training
- More effective mutual aid programs
- Serve as a clearing house for public works disaster related information
- Be a strong advocate for dedicated public works funding and grants
- Have a FEMA “policy expert” on staff and available to answer questions.

Survey of California Counties

Thirty counties in California have experienced six disasters that have resulted in national declarations in the past fourteen years. The disasters experienced included earthquakes, storms, flooding, slides, debris issues and most recently, tsunamis.

In an effort to increase the dissemination of information from APWA National and other chapters regarding emergency management best practices, training and funding opportunities, an attempt was made to discover why many chapters do not currently have an emergency management committee.

Many would welcome the benefits of either an EM committee or designee especially if participation were made easy for them. They would like to have direct access to speak with a member currently involved in an EM committee to hear how to make that happen.

Too many members are not taking advantage or are unaware of the many resources APWA National currently has available. The complete results of this survey are contained in *Appendix J*.

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Face-to Face Meeting in New Orleans

The TT met in New Orleans in early April, 2011 and heard testimony from 9 representatives from Louisiana and Mississippi on their experiences with Hurricanes Katrina, Rita and the Deepwater Oil Platform collapse. These representatives were:

Col. Terry Ebbert, Former Director of Homeland Security, City of New Orleans, La.
Mr. Shelby LaSalle, Executive Vice-President, GEC/Krebs-LaSalle, New Orleans, La.
Mr. Shannon Davis, Director of Public Works, St. Tammany Parish, La.
Mr. David DeGeneres, Director of Public Works, Mandeville, La.
Mr. Carlton DuFrechou, General Manager, New Orleans Expressway Commission
Mr. Ron Smith, Assistant Public Works Director, Gulfport, Mi.
Mr. William Brundige, Boh Brothers Construction Co., New Orleans, La.
Mr. Dexter Accardo, Director, Office of Emergency Management, St. Tammany Parish, La.
Mr. Terry Blades, Vehicle Equipment Manager, City of Baton Rouge, La.

The discussions were informal with a free exchange of thoughts, ideas and suggestions being encouraged. Full details of this hearing are included in Section V of the full report. Many ideas and suggestions were recommended, which are detailed in the full report, however, the overarching issues that were consistent among each person interviewed were:

- Currently, FEMA is far too compliance driven as opposed to mission driven which leads to delays and conflicts in the recovery process. This situation needs to be re-evaluated and refocused back on providing assistance to impacted communities. APWA needs to take the lead in making this happen.
- There was too much FEMA team (both full time and DAE), turnover, especially at the decision maker level. This often resulted in a reversal of a previous decision by the prior manager. Many of the FEMA representatives have little or no public works experience.
- Some decision makers provided conflicting information and were unable to resolve the conflict, to the detriment of the agency.
- A major training and planning need is for better training in documentation and the declaration process.
- Many communities (especially smaller ones) have extremely limited personnel available, therefore, off-site training is not practical nor supported very well by elected officials. APWA needs to take the lead in negotiating with FEMA to develop a comprehensive on-line and field delivered training program for public works personnel, especially in the recovery area.

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- APWA needs to take a much more active role in negotiating and legislative action to provide better funding and training support for personnel, equipment and training for public works.
- APWA needs to place a priority on the development of regional “Disaster Recovery or Strike Teams” that would be available on relatively short notice to assist communities in establishing their recovery plans and documentation needs.

Current Public Works Mutual Aid Programs

Currently, there are only two (2) formal statewide programs that are governed and managed by local public works agencies;

- The New Hampshire Public Works Mutual Aid Program. This program is administered and funded by the New Hampshire LTAP at the University of New Hampshire, and;
- The Illinois Public Works Mutual Aid Network (IPWMAN). This program is organized, funded (by member dues), administered and governed by member public works officials from around the State of Illinois.

These two organizations have established a strong partnership with the existing law enforcement and fire mutual aid programs in their state as well as with the state Office of Emergency Management.

Emergency Management Assistance Compacts (EMAC) is the Congressionally ratified organization that provides form and structure to interstate mutual aid. Through EMAC, a disaster impacted state can request and receive assistance from other member states quickly and efficiently, resolving two key issues upfront, liability & reimbursement. This program is managed and administered by FEMA in conjunction with State EMA’s. (Additional information can be obtained at: www.emacweb.org).

The following states were identified as EMAC states on the APWA website list. These states apparently do not have any other established form of mutual aid at this time:

Alabama	Iowa	Oklahoma
Arizona	Mississippi	Oregon
Arkansas	Montana	Virginia
Delaware	North Dakota	Wisconsin
Indiana	Ohio	

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Since EMAC was approved by Congress in 1996 as Public Law 104-321, 50 states along with Puerto Rico, the US Virgin Islands, Guam and the District of Columbia have ratified the Compact. It should also be noted that most programs do not specifically include or reference public works...they are primarily directed towards fire and law enforcement.

With the exception of Illinois and New Hampshire, the majorities of the remaining states either operate under the direction and control of their state emergency management or Homeland Security Agency, or are discipline specific. (For example, Georgia has a statewide agreement; however, it only addresses fire.). Others are hit and miss as to their administration, management and application. The one overwhelming fact uncovered by our research is that there is no resemblance of consistency in any area or region of the USA. In Canada, training and assistance for all disciplines is mandated by federal law and applies to and is equally accessible to all disciplines.

Training and Funding for Public Works

FEMA has developed a fairly robust funding and grant program that primarily supports law enforcement and fire departments with training, equipment and facilities as well as supplemental funding for overtime and backfill of personnel when others are completing various training efforts.

While not widely known among public works agencies, FEMA provides some training that includes and applies to public works personnel at their National Emergency Management Training Center (NETC) in Emmitsburg, Maryland. Some courses are also offered on-line through FEMA. More detailed information on what is available can be found by visiting www.training.fema.gov.

Very little public works specific emergency management training is available for field delivery or on-line. This is problematic for many public works organizations. While training at the NETC is fully reimbursable, except for employee time and food, which alone poses a hurdle for most public works agencies, due to limited personnel and restrictions on out-of-state travel.

Findings and Conclusions of Think Tank

Following the analysis and discussion regarding the vast amount of data that was presented, a number of “consensus” conclusions were agreed upon:

- The feedback received from each of the sources (on-line survey, interviews and hearings and prior documentation) was remarkably consistent, which the TT feels lend credibility to the methodology used and the feedback received.
- The APWA web site needs to be a much more robust central location for all emergency management issues (i.e. legislation, funding/grants, FEMA policies, mutual aid, news, etc.)
- APWA staff needs to work towards establishing an annual meeting to be hosted by FEMA with the emergency management committee and others to discuss training and funding issues

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relative to public works. APWA also needs to have frequent, regularly scheduled meetings with FEMA decision makers to discuss and explore the previously identified matters.

- Frequently, following a disaster declaration, there is an unexpectedly high turnover in FEMA field personnel, resulting in contradictory decisions, confusion and on-going frustration for agencies. This needs to be addressed by APWA as a high priority.
- Those agencies who have been able to receive in-depth training have experienced much less difficulty and frustration in meeting the FEMA policies and procedures...they were prepared for it.
- There is no consistency in the laws, management and/or administration of mutual aid programs anywhere across the country.
- Documentation is a major issue in nearly every event. Inadequate documentation causes communities to secure less funding dollars than may be included in the declaration.
- There is a demonstrated need for a comprehensive training program to provide public works professionals with the skills, knowledge and abilities to effectively deal with FEMA and the FEMA public assistance program, including debris. The goal of the program should result in a “certified public works emergency manager”.
- There is a demonstrated need for “strike teams” or “disaster response teams” and a comprehensive data base of KSA’s to provide immediate (and possibly on-site) assistance to our membership in time of need. This would serve as a “best practice” and fill a need that is currently not addressed.
- APWA and FEMA need to develop and deliver more field delivery opportunities for public works training.
- There is a demand and need for a standardized nationwide public works mutual aid program.
- The Association needs to hire or retain the services a full time “grants person” and a FEMA “policy expert” to assist members when funding opportunities are present or there is a need for the service. An effective grants person could be self-funding.
- A one-size-fits-all FEMA program does not work effectively.
- A standard methodology and format for condition assessment valuation is required to enable agencies to accurately assess and determine the value of the public infrastructure for which they are responsible.
- There needs to be a more robust public works field communications network.
- Many members are unaware of the low or no-cost training currently available through FEMA or their State EMA.
- There is a strong need for APWA to pursue funding of equipment and personnel, especially in smaller communities where there are few personnel and much outdated equipment.
- Frequent (at least annual) face-to-face meetings with our counterparts in disaster response and recovery (fire, law enforcement, public health and EMS) must be conducted to assure that we, as responders, are on the same page as much as possible...
- Staff needs to put more effort into assisting Chapters to establish on-going relationships with state EMA/Homeland Security agencies.
- APWA must find a “friend of public works” in both houses of Congress and in the White House, regardless of the political party in power at any time. The last person that filled this

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role for APWA was Senator Jennings Randolph who retired in 1985 after nearly 40 years affiliation with APWA in both houses of Congress.

- Expand and enhance the use of social media for emergency management issues
- APWA needs to develop a comprehensive model program to assist members in planning for the care of Public Works employees' families during and after a disaster. We cannot expect employees to work 12-18 hour days unless they know their families are adequately cared for.
- Many Public Works departments have insufficiently planned and/or trained their staffs to handle major disasters
- The Public Works profession has an image problem that does not adequately reflect its role as a First Responder. Many of our members do not see themselves as First Responders and as such have not set their community image so they are respected by their peer responders (Police, Fire, EMS) and elected leaders to appreciate the important role that they play in disaster response and recovery.

Recommendations of the Think Tank

The Think Tank recommends that the Board of Directors and APWA staff initiate the following actions to improve and enhance or efforts in public works emergency management:

1. The APWA Board of Directors needs to support the immediate development of a comprehensive education program that will provide a solid background for public works personnel in the management and administration of disasters. Completion of the curriculum would result in the awarding of a "Certified Public Works Emergency Manager" designation. This would not conflict with nor duplicate any other current certification programs. In fact, the program may be of interest to many other professional emergency managers. Similar programs have cost between \$500,000 and \$1,000,000 to develop and implement. FEMA currently has numerous applicable public works centric courses in their on-line and campus offerings. These courses could be incorporated as a part of the APWA curriculum. It is believed that funding could be secured from FEMA to support the development of this program. President Crombie has held preliminary talks with one of the most highly respected and influential firms and individuals, in the homeland security arena, (Adm. Thad Allen of the Rand Corporation) A preliminary strategy document is included in Appendix N. Appendix O contains a draft public works certification curriculum.
2. APWA should immediately explore the hiring or retention of a qualified and experienced "Grants person" and an expert in FEMA policies. An on-call consultant could serve in the initial capacity. These persons would be made available to members to assist in securing grants and acting as an intermediary in matters where conflicts between FEMA and the member agency may occur. The cost of such a person to APWA would be minor (once the program is up and running) as the program would become self-funding.
3. The APWA Board of Directors and the Emergency Management Committee needs to explore and support the development of nine regional "strike teams" who would be available on short notice to travel to a stricken community (upon request) to assist the affected agency in "hitting the ground running" when disasters strike. These volunteer teams would help set up

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- the response, recovery and documentation systems. The Emergency Management Committee should take the lead in developing these “strike teams”. There is also a role for the Regional Directors to coordinate, monitor and keep current.
4. There is a great need to re-constitute the APWA “peer matching” data base of emergency management KSA’s that members could consult on-line for advice on emergency management matters. The Emergency Management Committee should take the lead in organizing and developing this system, train the membership in its use and ensure that the participants are qualified for their role.
 5. We must develop a comprehensive emergency management educational program that not only focuses on the technical aspects currently being undertaken, but also on the development of service and a training and education program that will directly serve the membership, especially in small to medium sized communities.
 6. The Board of Directors needs to immediately pursue the retention of a high profile on-call lobbyist to assist staff and increase APWA’s efforts in the identification and development of a solid relationship with a “friend of public works” in each house of Congress as well as the White House. This person or firm needs to have solid connections on both sides of the political aisle. This person or firm could be retained on an as-needed basis, at least initially.
 7. APWA needs provide the necessary support and resources to initiate and support a strategy to secure federal funding for a standardized program for the purchase of equipment and personnel support for response and training. This would include securing the appropriate federal legislation for the development of a standardized nationwide mutual aid program. The existing programs in New Hampshire and Illinois provide a successful blueprint to accomplish this program.
 8. There needs to be a central location on the APWA web site for all information and data relative to emergency management, training and current legislation regarding public works. There is also a need to better use the social media currently available to promote the profile of public works among the general public.
 9. The Board of Directors must take action to redirect some of its current emergency management and lobbying effort towards activities that have a direct and immediate impact on our members and agencies. To date, staff has been successful in increasing the profile of public works within our peer organizations but more needs to be done to gain a better identity and level of respect within Congress and other political leaders throughout the country.
 10. APWA should consider working with the Chapters to develop a “care group” of support responders who would be available to provide assistance to the first responder personnel families’ immediately following and local emergency that take the responders from their families.
 11. The House of Delegates need to take the lead to work with each of the Chapters to set up partnerships in each state with EMA’s and FEMA to provide adequate training for all APWA members on FEMA documentation and reporting policies and requirements. The Delegates need to ensure that EMA and FEMA reps are invited to chapter meetings and conferences on a regular basis to forge these needed relationships and partnerships.

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12. APWA staff needs to provide chapters and members with quality materials and information to assist them in changing the image of APWA to one of being recognized as a real “first responder” by both their peer responders and elected leaders.

The Think Tank members suggest that the full Think Tank report and appendices be placed on the APWA web site and widely publish its availability, requesting feedback/suggestions on the report from the members.

The Think Tank also requests that the Board of Directors request that the House of Delegates Executive committee schedule time at the full meeting of the HOD in Denver to discuss the results of the Think Tank and receive feedback from the Delegates.

Each of the foregoing discussion points are explained in complete detail in the full report of the Think Tank.

Full Report of the Think Tank

I. Background and Origins

One of President Crombie's major priorities for 2010-2011 is "*to create a national emergency management program for public works that will provide the legal and technical training and other requirements that will allow public works organizations to help others during natural and man-made disasters*". Another of his priorities is to "*bring leadership and innovation into APWA and ensure that APWA is on the cutting edge of the public works profession*".

One of the strategies to accomplish these goals was to appoint a "Think Tank" (TT) to study and analyze the "best practices" that currently exist in the emergency management community and to develop innovative and creative solutions to advance the role of public works as a first responder. Think Tanks differ from customary committees or institutes in that a Think Tank is organized to think of new and creative ideas on a particular subject and/or give advice on what should be done.

Since its origins in the early 1980s as the Council on Emergency Management (CEM), the Emergency Management Committee (EMC) has made many significant accomplishments benefitting APWA members in many areas. There are also several areas that have been identified as areas for improvement. The first improvement area is a more widespread acceptance and recognition by our peers in disaster management, the media and elected officials as a first responder. The second improvement area is grants and funding for public works-centric staffing, equipment and training. The final improvement area is a nationwide standard and initiative for mutual aid in public works.

In late September of 2010, a joint telephone conference call was conducted by President Crombie which was attended by the TT appointees, the EMC (including some select former members of the committee), key members of the APWA staff and the Board Liaison to the EMC, Cora Jackson-Fossett. This meeting was a brain-storming session devoted to fleshing out the main issues to be addressed by the TT.

During this meeting, President Crombie requested that staff and the EMC respond to a series of questions regarding recent and past activities of the Committee. A copy of the response to this inquiry is included as *Appendix A*.

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II. Goals and Objectives of the Think Tank

Following this meeting, President Crombie established four goals and objectives for the TT to investigate and explore:

1. Benchmark the current APWA emergency management initiatives and training outcomes with other comparable organizations. The goal is to identify the “best practices in the emergency management field”.
2. Evaluate existing mutual aid systems currently up and running in the public works and utility sector. The goal is to identify “best practices in class”.
3. Investigate funding opportunities at the Federal level that can be dedicated to public works training, education and resources. The goal is to ensure that public works as a first responder is getting the training and support at the national level that is required to prepare public works officials in the time of an emergency event....in other words, a fair share of the funding pie.
4. Examine current emergency management training activities at the Chapter level and the support being provided by APWA National. The goal is to ensure that our Chapters are getting consistent guidance on emergency training.

A fully expanded summary of the Goals and Objectives is included as [Appendix B](#).

The TT was directed to complete its work and submit a final report to the APWA Board of Directors in time for consideration at the June 2011 meeting of the Board.

III. Think Tank Members and Meetings

There were 10 members appointed to the TT, as follows:

Judith Mueller, Charlottesville, VA., Co-Chair

Lawrence Lux, Plainfield, IL-l., Co-Chair

Lawrence Bombara, Douglas, MA.

Sara Croke, Shawnee Mission, KS.

Richard Evans, Martinez, CA.

Ron Illium, Folsom, CA.

Kenneth Miller, Mundelein, IL.

*Billy Nungesser, Belle Chasse, LA. (advisor to the Think Tank)

Harry Weed, Rockville Centre, NY. (Representing the Emergency Management Committee)

Sherri Zimmerman, Harrisburg, PA.

*Mr. Nungesser did not participate in any of the meetings.

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The TT was provided with APWA staff support by Teresa Hon and Laura Berkey-Ames.

A detailed listing of the contact information for all members of the TT is included in Appendix C.

Five meetings of the TT were held. Four were telephone conference calls and one was a face-to-face meeting in New Orleans, where hearings were held with a number of local agencies that were impacted by Hurricanes Katrina and Rita in 2005 and the Deepwater Horizon Oil Platform Disaster in 2010. The results of this hearing are included in Section V of this report.

Summaries of the meetings held by the Think Tank are included in Appendix D.

IV. Methodology

The investigation and analysis was divided into five (5) parts;

1. An on-line survey of members and agencies that have experienced federal declarations during the past ten (10) years.
2. A face-to-face hearing in New Orleans with personnel involved in hurricanes Katrina and Rita and the Deepwater Oil Platform Explosion.
3. A telephone survey of California counties that have experienced federal declarations.
4. An on-line survey of APWA Chapters WITHOUT Emergency Management Committees. (This survey supplemented an earlier survey that was conducted by the Emergency Management Committee of Chapters WITH Emergency Management committees).
5. The current nationwide status and evaluation of existing Mutual Aid programs.

Copies of these documents are included in Appendix E.

Each of these items will be fully explored later in this section.

APWA staff members also provided a number of documents on; APWAs involvement in other coalitions; Appointments to other organizations, task forces and alliances; a copy of the FEMA information Bulletin that provides a status update on the current FEMA situation; and, DHS/FEMA grants currently available to public works agencies.

Copies of these documents are included in Appendix F.

The Think Tank also reviewed the available documents documenting the “APWA Peer Matching System” that was developed by the Council on Emergency Management (CEM) in the early 1980s. This was the very first project of the new CEM. A renewed effort to resurrect this system was undertaken by the EMC in 2005 that resulted in a “White Paper” recommending that the

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APWA Board support the necessary funding for, development of and implementation of a new “Public Works Disaster Resource Data Base” to assist in public works, planning, response and recovery efforts. A review of the minutes of the Board of Directors meetings for 2004, 2005 and 2006 did not reveal that the issue was ever considered, discussed or acted upon by the Board.

Copies of these items are included in Appendix G.

V. Survey Results

1. Member Survey

This survey was developed by TT members Larry Lux, Sara Croke and Harry Weed in conjunction with APWA Staff.

A 29 question on-line, electronic survey (See Appendix H for full survey and results) was sent to nearly 18,500 APWA members from every corner of the US and Canada. The survey was targeted towards those agencies that had experienced a federal declaration within the last 10 years. The focus of the questions was designed to generate input on the following issues:

- The nature of the declaration
- The lead agency during both response and recovery
- How challenged agencies were by the event
- Satisfaction with the FEMA response
- If and how mutual aid was used
- Satisfaction with the level of FEMA reimbursement
- Specific frustrations experienced
- How could APWA have helped?

A whopping 767 responses to the survey were received from 286 different agencies. This is one of the largest responses ever received to an APWA survey. This included data from nearly 250 separate declarations. Over 90% of the declarations were for the following three categories: Flooding (31.4%), Hurricanes (18.6%), severe storms/Winter/Ice storms (40.1%). It should be noted that virtually ALL of these occurrences included major public works response and recovery involvement.

The survey revealed that emergency management (42.7%) or public works (46.1%) was the lead agency in the response to nearly 90% of the events. During the recovery phase,

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public works was overwhelmingly the lead agency (74.3%), with emergency management a distant second (23.3%).

In response to the question, “was your agency severely challenged by the incident”, over 74% of the responders stated “yes”. Of the 133 agencies respondents that offered comments, they can be summarized as follows:

- Lack of trained and available personnel to provide adequate response
- Ability to provide 24/7 operations for a lengthy period
- Ability to continue services to other constituents while dealing with the disaster
- A wide variety of debris collection/removal/disposal and tree issues
- Lack of adequate equipment resources
- FEMA paperwork – unprepared for the volume
- Inability to track resource usage (documentation) – resulted in FEMA rejections
- Water related issues
- Damage assessment requirements and cost estimating
- Contracting issues – timeliness
- Meeting citizen/media expectations.

Over 2/3 of the respondents felt that the response and assistance they received from FEMA was timely and helpful. There were numerous positive remarks about the FEMA personnel. Most of the positive comments suggested that FEMA provided valuable information and assistance in dealing with the voluminous and daunting paperwork involved in the event. They also noted that most FEMA personnel were knowledgeable.

FEMA uses many part-time contract employees for on-site disaster assistance. These personnel are called DAE's (Disaster Assistance Employees). They are not direct FEMA employees. It is not clear if most agencies understand this concept.

Of those who offered negative comments, the major issues were:

- There was too much FEMA team (both full time and DAE), turnover, especially at the decision maker level. This often resulted in a reversal of a previous decision by the prior manager. Many of the FEMA representatives have little or no public works experience.
- Some decision makers provided conflicting information and were unable to resolve the conflict, to the detriment of the agency.
- Some suggested that it took FEMA too long to mobilize and when they finally arrived, the directions given were often inconsistent. .

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- Some felt that reimbursements received were insufficient and that it took too long to process.

It would appear that prior training and/or FEMA experience helped to minimize the issues in dealing with FEMA. This is especially true if agencies have a computerized work order or emergency management software program in place and operational. (I.e. CityWorks, WebEOC, etc.)

Although nearly ½ of the agencies that responded indicated that they have a written mutual aid agreement, only about 1/3 of the respondents employed mutual aid in the event. This seems inconsistent with the previous comments regarding the challenges they faced.

Of those who used mutual aid, it did not appear that the assistance came in the form of a structured agreement or organization. Most referenced law enforcement and fire as the primary mutual aid providers. It would appear that most public works mutual aid was provided by neighboring municipalities on an ad hoc basis or by a state agency.

Most indicated that any mutual aid was controlled and governed by their state or informal arrangements.

More than ½ of the agencies reported dissatisfaction with the level of reimbursement provided by FEMA. The discrepancies appeared to involve incomplete or incorrect documentation, unclear FEMA policies and or direction, and FEMA decision reversals after the fact. FEMA equipment rates appear to be unrealistic.

Interestingly, only 50% of the respondents indicated that they would do anything differently next time.

While the overwhelming response to this question indicated better and more thorough record keeping and documentation would have helped, some suggestions were offered to reduce future frustrations:

- Keep meticulous records and document everything
- Have a debris management plan in place
- Maintain current, accurate equipment lists and operational costs
- Get training for processing FEMA paperwork
- Track all labor, equipment and materials costs
- Use more contractors

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- Develop robust mutual aid systems
- Develop and train damage assessment teams, and most importantly,
- Get written approvals from FEMA representatives before acting.

When asked “what their greatest need was” and “how APWA could have helped”, the following comments were offered;

- Better training in documentation and the declaration process
- Develop regional “strike teams” to provide initial assistance to local government
- Develop some sort of data base of public works emergency management experts to contact for assistance when needed
- Provide more on-line and locally delivered emergency management training programs
- Lobbying/relationship assistance to pave the way to appeal FEMA decisions
- Develop robust nationwide public works mutual aid network
- Develop/distribute model contracts & agreements. Post on APWA web site
- Develop a comprehensive program, in conjunction with one or more Universities, to develop and implement a certification program for public works emergency managers
- Establish a relationship with FEMA to serve as a means of negotiating changes and improvements to FEMA policies
- Develop and publish a public works “lessons learned” data base.

When discussing any specific needs or role that APWA could fill to make individual experiences easier, the following comments were offered;

- On-call regional disaster response teams
- Assistance with grants and funding
- Comprehensive training program with an emphasis on recovery issues
- More effective lobbying efforts
- Standardized/model contracts
- Better local/regional training
- More effective mutual aid programs
- Serve as a clearing house for public works disaster related information
- Be a strong advocate for dedicated public works funding and grants
- Have a FEMA “policy expert” on staff and available to answer questions.

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Over ½ of the agencies belong to some sort of formal or informal mutual aid program. The organization and control of these programs differs significantly depending on the type of agency, state or region. Some of the agencies fall under the state EMAC (Emergency Management Assistance Compact) - the federally established mutual aid system for all disciplines. It is implemented only following major disasters.

A large number of agencies belong to the American Water Works Association's (AWWA) "WARN" system. This is a system funded by AWWA that is a loosely affiliated group of public and private water and wastewater agencies whose principal goal is to restore the revenue streams of the individual utilities by providing replacement equipment and materials required to restore service. There is no element devoted to city-wide recovery, debris management or FEMA funding beyond the local plant organizational needs.

The vast majority of the remaining programs are organized, managed and controlled by state or county agencies with little formal organization, particularly public works.

Currently, there are only two (2) formal statewide programs that are governed and managed by local public works agencies;

- The New Hampshire Public Works Mutual Aid Program. This program is administered and funded by the New Hampshire LTAP at the University of New Hampshire, and;
- The Illinois Public Works Mutual Aid Network (IPWMAN). This program is organized, funded (by member dues), administered and governed by member public works officials from around the State of Illinois.

These two organizations have established a strong partnership with the existing law enforcement and fire mutual aid programs in their state as well as with the state Office of Emergency Management.

2. Face-to-Face meeting in New Orleans

The TT met in New Orleans in early April, 2011 and heard testimony from 9 representatives from Louisiana and Mississippi on their experiences with Katrina, Rita and the Deepwater Oil Platform collapse. A summary of the testimony offered by each follows:

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Mr. Terry Ebbert, Ebbert & Associates, New Orleans, La.

Mr. Ebbert is a retired Marine Colonel who was with the State of Louisiana during Katrina/Rita and is now in private practice. He offered the following comments/suggestions:

- In his opinion, public works is the “heart and soul” of cities and a way must be found to effectively promote public works as a Public Safety agency.
- The major shortfall that FEMA has is in Recovery Planning. Most of the grant money from FEMA is spent to provide Response Planning, primarily to Law Enforcement and Fire agencies.
- FEMA is compliance driven as opposed to mission driven which creates problems and frustration with those directly involved in response and recovery. Their priorities need re-evaluation and re-focused on recovery.
- Disaster management is a logistics “disaster war”; however, there is no formalized war strategy in place to meet the logistics issues. He gave examples of how Wal-Mart, Lowes and Home Depot were able to provide logistical assistance within hours following the disaster, whereas, it took FEMA (and others) literally weeks to achieve the same level of service.
- There is a negative perception of who is in charge. He referenced the various iterations of the Federal Response Plan, nee, the National Response Plan, nee the National Response Framework. None of which, in his opinion are plans, but merely a textbook on how to do things.
- He strongly endorsed and promoted the need for communities to maintain current values of all public infrastructures. How can you document repair or reconstruction costs without knowing the current value? This was a recurring issue and resulted in communities recovering less reimbursement than they actually experienced in damages.
- APWA could assist by securing grant dollars for communities to attach accurate values to the cost of replacing the public infrastructure.
- An effective Debris Management Plan is essential to success. Hurricane Katrina created the need to deal with 38 million tons of debris at a cost of \$1.75 billion dollars.

Mr. Shelby LaSalle, Executive Vice President, GEC/KL Engineers, Metairie, La.

Mr. LaSalle is a principal consultant to the New Orleans Expressway Commission (the owner of the Lake Pontchartrain Bridge), former member of the APWA Board of

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Directors, Chair of the APWA Government Affairs Committee and a part-time local Police Officer. He offered the following comments and suggestions:

- APWA could have had more participation by sponsoring, hosting, or coordinating meetings with FEMA and the Bush Administration.
- APWA could have assigned an experienced public works person to act as support and advisor to the locals on matters affecting public works.
- Current FEMA policies don't allow "volunteers" (like those above) to be involved in the local discussions.
- He supports the development and training of a number of "Strike Teams" around the country with experience in specific types of disasters to be available for deployment on short notice to provide quick response and advice, especially to smaller agencies. APWA might consider developing these strike teams around the regional MPO's.
- He supports the development by APWA of an electronic resource data base of public works disaster experts who can provide assistance to communities.
- APWA needs to develop a more comprehensive and coordinated training program to better prepare communities for dealing with federal declarations, FEMA and documentation.

Mr. Shannon Davis, Director of Public Works, St. Tammany Parish and Louisiana Chapter APWA President and Mr. David DeGeneres, Director of Public Works, Mandeville, La. These gentlemen made a joint presentation and offered the following comments:

- Both suggested perseverance and flexibility when dealing with FEMA.
- It was highly recommended that communities pre-bid debris management contracts.
- A major issue for the Parish was cash flow and timely funding reimbursements.
- Communications was a major on-going issue. Power was out and cell phone systems were overloaded. Public works radio systems were inadequate.
- Experiencing 2 major events within a five year period has taken a severe toll on the residents of the area, resulting in increased suicides and a high level of foreclosures.
- They worked out a deal with the local Amateur Radio operators to assist in communications when other systems failed or were inoperable.
- The applicable FEMA equipment rates were out of date and inadequate.

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- FEMA changed decision makers too frequently, resulting in conflicting directions, reversal of previous decisions and general confusion as to who was in charge.
- They had a problem with locating and using temporary disposal sites. There were no pre-selected or approved sites.
- Feeding and housing of personnel was an issue.

Mr. Carlton Dufrechou, General Manager, New Orleans Expressway Commission

Mr Dufrechou offered the following comments:

- Communications were a major problem.
- He felt that the local and state politicians missed a tremendous opportunity by lacking the courage to negotiate harder with the Bush Administration and FEMA. He felt APWA could have played a support role in this.
- He suggested that APWA consider forming a series of “Disaster Response Teams” to provide immediate, qualified and experienced assistance.
- Communities and organizations must be willing to take some risk and chances and be adaptive to assure success.

Mr. Ron Smith, Assistant Public Works Director, City of Gulfport, Ms.

Mr. Smith offered the following comments:

- Katrina wiped out virtually everything in Gulfport. 5 of the 7 public buildings were destroyed and 75% of the fleet was destroyed, making effective response virtually impossible.
- With the emphasis on the damages in New Orleans, it took 30 days for FEMA to show up in Gulfport.
- Once FEMA arrived, Gulfport was fortunate. They had the same FEMA DAE manager in place throughout the entire event. This made the whole process very smooth and effective.
- There were not enough public works resources available either directly or through EMACs. A statewide or regional public works mutual aid system would have been very helpful and appreciated. It would have made the recovery much quicker had additional staff been available to deploy.
- Communications was an issue throughout the aftermath of the event.
- Fuel supply was an on-going challenge to keep the vehicles and equipment running.

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- The FEMA rate schedule was terrible.

Mr. William Brundige Jr., Team Leader, Boh Construction Co., New Orleans, La.

Mr. Brundige offered the following comments/suggestions:

- Documentation was an issue for them. They had no previous FEMA experience.
- They needed more qualified support help.
- Because of FEMA requirements, they designated all employees as “essential employees”.
- They lacked adequate equipment and a pre-staging plan for the equipment that was available.
- Had a software emergency management package been available and in use, such as WebEOC, their efforts could have been more coordinated and effective.
- He endorsed the development of strike teams.

Mr. Dexter Accardo, Director of Emergency Preparedness, St. Tammany Parish, La.

Mr. Accardo offered the following comments/suggestions:

- Comprehensive on-line or locally delivered training in the policies and procedures of FEMA is needed in all disciplines and level of government responders.
- Some focus of the training program should be on Operations Planning. This is an on-going issue.
- He suggested that APWA develop and publish a series of standardized templates for the various planning issues.
- There is a dire need for documentation training.

Mr. Terry Blades, Vehicle Equipment Manager, City of Baton Rouge, La.

Mr. Blades offered the following comments/suggestions:

- Baton Rouge coordinated vehicle fueling for local agencies. Problems occurred when FEMA and others commandeered the fuel shipments when they reached the state line. This created a fuel shortage nightmare for the local public works agencies.
- Documentation was an on-going issue.

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- APWA could help the local Chapter by developing and sponsoring locally delivered or on-line training for public works employees focusing on their roles and responsibilities during and after disasters.
- He suggested that communities conduct a self-assessment of their disaster capabilities.

Contact information for each of these presenters is included in [Appendix I](#).

3. *Survey of California Counties*

TT member Richard Evans (retired Director of Public Works for the City and County of San Francisco) conducted a series of written and telephone interviews with 31 California Counties regarding their experiences with FEMA and APWA.

Thirty counties in California have experienced six disasters that have resulted in national declarations in the past fourteen years. The disasters experienced included earthquakes, storms, flooding, slides, debris issues and most recently, tsunamis. The attached documents (contained in [Appendix J](#)), include a letter of introduction, a list of the questions that were discussed, and a list of the counties surveyed.

The survey results provided the following information:

- In some cases the FEMA representative that started the project was different from the representative that finished the project. It was very frustrating when the closer disagreed with what the opener had agreed to. In more than one instance a consultant was brought in (not by the County) to support FEMA's position, and according to the County Engineer was wrong. Changes ordered by a new FEMA person in midstream of either design or construction were not uncommon. FEMA frequently objected to an agency's contracting process. Occasionally, the FEMA representative was unfamiliar with the type of work being done. This would often cause a project delay resulting in unnecessary changes and increased project costs.
- Conflicts with the US Fish and Wildlife Service, the US Forestry Service, the Endangered Species Coalition, the US Army Corps of Engineers, the Federal Highway Administration, and the Environmental Protection Agency have caused projects to be; disapproved, delayed, or significantly changed. In some instances, the desired results were not what was really needed and in one case caused the project to become ineligible for funding.
- One county has both levees and berms separating waterways from land. The environmental advocates wanted the berms landscaped and the Corps of Engineers said, "No". They do not see the distinction between dry and wet levees

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and berms. Several years later, this issue is still unresolved and the problem continues to exist.

- FEMA people frequently insist on a “one-size-fits-all” solution to a situation, failing to recognize that standards and methods differ state by state across the country.
- Smaller counties had problems with record keeping. The complaint was that FEMA forms change, seemingly to favor the Federal accountant rather than the local agency. One very large county has only 40 people in the whole department. The record keeping requirements became overwhelming.
- Recovery of funds varied from nothing, in one case, to 30% to 75% in other cases. The general consensus was that as they gained more experience in completing the forms, their ability to recover funds improved.
- Appeals were often rejected out-of-hand. In one instance a Congressman became involved in a project and for some reason an appeal was then accepted.
- Mutual aid was not much of a factor. Either the emergency was able to be handled with local resources or everybody (neighbors) had the same problems, so that each worked out their own problems.
- In one county, the Fire Chief handled the submittals. When the funds came down he parceled them out and Public Works didn't get all they should have. Most all counties have had some experience with the grant process. They have all have varying degrees of success. A group of counties banded together and invited the local FEMA representative to come in and go over the claim process. They said that this was most helpful and they made out better as a result.
- In more than one instance, the FEMA representative was not qualified or experienced to judge or comment on the work to be accomplished. However, their decisions ruled the day
- After the recent tsunami, Crescent City had 200 volunteers ready to remove the debris from the beach. The debris, mostly Styrofoam, came from the docks that were destroyed by the waves. The US EPA demanded an EIR (Environmental Impact Report) before the work could start. This is still unresolved. Other counties also commented on the problem of such demands, when in fact the problem being addressed was necessary for local use or to prevent further damage.
- One county had little knowledge of the grant process for getting equipment and training. They have submitted declarations because of extreme storms. They need snow blowers. The purchaser is the shop man. It is a very small department. They really don't know how to get some needed equipment. This county, like other small counties, does not have money for training if they have to travel for it.

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Training of some sort would be welcomed by most, although the need is varied. Localized training on record keeping, procurement, and the grant process and panel discussions of what went good or bad and how events were handled might all be helpful.

4. Summary of Survey of Chapters Without Emergency Management Committees

This survey was developed by TT member Sara Crooke in conjunction with APWA Staff.

In an effort to increase the dissemination of information from APWA National and other chapters regarding emergency management best practices, training and funding opportunities, an attempt was made to discover why many chapters do not currently have an emergency management committee. This survey was sent to Chapter Presidents and Delegates within weeks of the general member survey which had gone to all members. The results (only 7 Chapters responded) were somewhat disappointing and suggest that this committee is not a top priority until the need arises. This is especially true in today's economic situation; hopefully, timing is the reason for such a low response rate.

- Most respondents felt that an EM Committee would be helpful and envisioned improved networking for resources and training as the primary benefits. Most would be willing to offer an EM designee to help improve the flow of communications from National.
- The areas they would like to see addressed are similar to those who responded to the general membership survey: networking for best practices, training, funding and mutual aid. Chapter and/or individual member participation in EM activities varied similarly to the general survey. While 2 of the 7 Chapters had no knowledge of any activity at all, the other 5 Chapters ranged from small scale basic EM courses to full scale NIMS training and exercises.
- The "barriers" to having created a committee in the past include number of "active" chapter members and a lack of technical committees of any kind at the chapter level. Several respondents would welcome the opportunity to explore the concept. One even stated that a recent increase in membership, made now a good time to develop an EM committee.
- After talking with the former committee chair in the Kansas City (KC) Metro Chapter, it was recommended that we link the interested parties with those chapters that have a very simple but effective approach to get them on board and to maintain interest. The KC Metro Chapter approach was simply to designate one person to attend the meetings of their area planner, Mid-America Regional Council's emergency management group. Their specific mission was to get a seat at the table where those in emergency management, police, fire, etc., were already meeting and setting regional policy as well as sharing resources including training and grant writing. While not every region has this unique situation, the primary goal of using the EM committee to establish PW as an equal to other first responders in the areas of information, training and funding could prove beneficial.
- Most would prefer that the EM committee meetings occur in conjunction with the Chapter meetings. Half would appreciate electronic or phone only involvement. Note that the KC

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- Chapter only meets once or twice a year. It was the designee's attendance at the regional EM meetings that was the primary activity. They have been quite effective. Hence, the simpler the mission and actions, the more likely APWA will see EM committees/designees growing.
- One of the most enlightening parts of this survey is the lack of awareness of inexpensive EMI training either web-based or on-site in Maryland that is available through FEMA. Furthermore, the nine different previous attempts at APWA Emergency Management outreach did not achieve the awareness levels that were anticipated. The excellent news is that members are eager to hear more about all of these including how to form an EM committee or simply designate a member as a liaison to improve the flow of information from National to the Chapters.
 - Another standout point was that the Canadian members are already be required by law to work with their Provincial EMO for all disasters. Therefore, an outreach plan by APWA to help them create EM committees would not seem effective.

Conclusion: Many would welcome the benefits of either an EM committee or designee especially if participation were made easy for them. They would like to have direct access to speak with a member currently involved in an EM committee to hear how to make that happen.

Too many members are not taking advantage or are unaware of the many resources APWA National currently has available.

A copy of the full survey is included in *Appendix K*.

5. Nationwide Status of Public Works Mutual Aid

This analysis was provided by TT member Ken Miller with assistance from APWA staff.

The summary that follows includes the websites that were searched in regards to "mutual aid", and were provided to the Think Tank Committee on mutual aid for review by APWA. An addendum of additional websites has been included for informational purposes related specifically to public works mutual aid.

EMAC = Emergency Management Assistance Compact (Federal) – A Congressionally ratified organization that provides form and structure to interstate mutual aid. Through EMAC, a disaster impacted state can request and receive assistance from other member states quickly and efficiently, resolving two key issues upfront, liability & reimbursement. This program is managed and administered by FEMA in conjunction with State EMA's. (Additional information can be obtained at: www.emacweb.org).

The following states were identified as EMAC states on the APWA website list. These states apparently do not have any other established form of mutual aid at this time:

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Alabama	Iowa	Oklahoma
Arizona	Mississippi	Oregon
Arkansas	Montana	Virginia
Delaware	North Dakota	Wisconsin
Indiana	Ohio	

Since EMAC was approved by Congress in 1996 as Public Law 104-321, 50 states along with Puerto Rico, the US Virgin Islands, Guam and the District of Columbia have ratified the Compact. It should also be noted that most programs do not specifically include or reference public works...they are primarily directed towards fire and law enforcement.

With the exception of Illinois and New Hampshire, the majorities of the remaining states either operate under the direction and control of their state emergency management or Homeland Security Agency, or are discipline specific. (For example, Georgia has a statewide agreement; however, it only addresses fire.). Others are hit and miss as to their administration, management and application. The one overwhelming fact uncovered by our research is that there is no resemblance of consistency in any area or region of the USA. In Canada, training and assistance for all disciplines is mandated by federal law and applies to and is equally accessible to all disciplines.

A state by state listing of mutual aid organizations is included in [Appendix L](#).

A further search of “public works mutual aid” on “Google” provided the following results of note.

- www.maa.org – The website for the Massachusetts Municipal Association’s announcement from October 2010 that the “municipal relief” bill was enacted by the legislature. The bill included the key provisions to encourage formal inter-municipal cooperation in the areas of public works & public safety. Section 24 of Chapter 188 of the Acts of 2010 established a statewide public works MAA, and also a public safety MAA. Participation is a local option. The Massachusetts Municipal Association & the Massachusetts Highway Association assisted in the development & the passage of the bill.
- www.oregon.gov/ODOT - The website for the Oregon Public Works Emergency Response Cooperative Assistance Agreement. Administered by the State DOT – Office of Maintenance since 2007. Website includes general information, MAA, membership list & program guidelines.
- <http://dpw.lacounty.gov> – The website for California’s “Public Works Mutual Aid Agreement” since 1989. Website includes home page, MAA, directions on becoming a member, procedure guide, document library, membership listing, links, FAQ’s. Appears to be a MAA arrangement, perhaps administered by LA County?

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- Wisconsin's MAA was found, but no formal website for PW MA was found. Appears to be under administration by State, with some APWA Chapter involvement. www.mrsc.org/contracts - Washington's "Public Works Emergency Response MAA". Administered by the Municipal Research & Services Center of Washington.
- www.t2.unh.edu/ma/ - Technology Transfer Center – New Hampshire LTAP at the UNH website for the "New Hampshire Public Works Mutual Aid Program". Appears to be administered by the NHDOT & University of New Hampshire. The website indicates that New Hampshire's PW statewide MA program "is the first in the nation of its kind". Slogan – "Communities Helping Communities". Over 100 current members. Fire & Law Enforcement liaison positions appear vacant. The website for the organization is excellent in that it provides extensive information related to the program & emergency plan, instructions & procedures, presentations and the organizational make-up. Have had actual MA deployments under this system.
- www.ipwman.org – The website for the "Illinois Public Works Mutual Aid System (IPWMAN)" indicates that IPWMAN is a statewide public works mutual aid system for all disciplines related (loosely) to PW for all hazard incidents. IPWMAN is a Not-For-Profit and was incorporated in the State of Illinois in 2009, with IRS 503 designation in 2011. The organization is administered by the Officers and the Board of Directors which are elected from the membership. Membership is primarily public works practitioners, many if not most APWA – Illinois or Chicago Metro Chapter members / Officers / Directors / Chairs. Supported by both APWA State Chapters. Other non-voting members include other local & regional first responder disciplines, along with State and Federal agencies. MAA agreements with the State and between the members are in place. IPWMAN has a seat in the State EOC, and on the Illinois Terrorism Task Force. IPWMAN has received funding through these positions. IPWMAN can respond to local, regional and state-wide needs, and can be declared as a State Asset for large-scale or EMAC response needs. Slogan – "Neighbors Helping Neighbors". Legalities, reimbursement and other key issues covered by legal reviews and State and local legislative actions. By-Laws have been established and implemented. Currently over 100 member agencies. Website is excellent in that it provides extensive information related to the program and emergency plan, instructions & procedures, presentations, FAQ's, Letters of Support and organizational make-up. Have had actual MA deployments under this system. (**Disclosure**- both Larry Lux and I are founding members, and continue to work on behalf of the organization. In addition, I have served as Vice-President.)

Mutual Aid Conclusions:

1. There are numerous bits of information on legislation, MAA's and programs under review or development in regards to PW, and other disciplines. Many are at the ground floor, while others seek a national program as does APWA. Fire and Law Enforcement, as an example, have yet to fully establish a national program, even though they have been in existence for many years.
2. There does not appear to be a cohesive model or method for developing a program, or for the necessary legislative authority.

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3. The reimbursement and liability concerns are addressed in various fashions. In all but one case other than the EMAC, the recipient of the mutual aid assistance from others is responsible for the reimbursement costs of those responding to assist. This is believed to imply those costs not to be reimbursed as a result of a State, or a State and Federal disaster declaration. The Illinois program provides assistance from others members at no cost for up to a five day period, where either a rotation of assistance takes place, or the State has declared a disaster or emergency. In the latter case, the reimbursement reverts back to day one.
4. There are two groups who have grown and established themselves to a statewide level in respect to PW, who have programs and support from other responding disciplines, elected officials at various levels, the State and Federal agencies and who have received the legislative authority and recognition necessary. They are New Hampshire and Illinois.
5. There are established MAA groups that could be developed and implemented into a new model group / program once established. As of this review they appear to be mostly concentrated in the New England, and the west and southern coastline areas.
6. There has never been a better time for the nationwide initiative to combine and develop a uniform and unified local, statewide and national program under the auspices and the flagship of APWA, with each chapter / state being the foundation at all response levels. A new era of very limited resources and the seemingly more frequent events and emergency responses being required, combined have produced an increased expectation along with the notable frustrations of the general public as reported upon by the media on the recent national responses activated. These factors have cultivated the right environment which has brought us to this time and place for action.

VI. Training and Funding Currently Available to Public Works

FEMA has developed a fairly robust funding and grant program that primarily supports law enforcement and fire departments with training, equipment and facilities as well as supplemental funding for overtime and backfill of personnel when others are completing various training efforts.

While not widely known among public works agencies, FEMA provides some training that includes and applies to public works personnel at their National Emergency Management Training Center (NETC) in Emmitsburg, Maryland. Some courses are also offered on-line through FEMA. More detailed information on what is available can be found by visiting www.training.fema.gov.

Very little public works specific emergency management training is available for field delivery or on-line. This is problematic for many public works organizations. While training at the NETC is fully reimbursable, except for employee time and food, which alone poses a hurdle for most public works agencies.

Most public works agencies operate at minimum staffing levels, so sending one or more employees away from home for training, results in reduced staffing levels while they are away. On the other hand, fire and police normally have overtime and backfill dollars available through their state emergency management agencies to cover replacement personnel while others are attending out of the area training. Law and fire agencies are able to do this because of their rotating shift working

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schedules. Public Works is primarily a daytime department with all available personnel on duty all the time.

Field delivery or on-line training would offer public works agencies the opportunity to expand and enhance their emergency management training without creating major operational issues.

FEMA also provides extensive funding for fire and police vehicles, equipment and personnel under a variety of programs. A significant portion of this funding is dedicated to providing modern resources for small rural departments and agencies. There is no such funding pool for public works in similar situations.

Dedicated grant programs also exist for large cities, Urban Area Security Initiatives (UASI), funding for transit agencies and communications equipment for fire & police. There are also a number of grant programs for which public works is eligible, but are not well known to our members, except for those related to flood control and mitigation.

VII. Historical Note

Many of our surveys and interviews suggested that APWA national develop and organize a data base of individuals, organizations and teams who could be available for deployment, telephone support or advice to agencies stricken by disaster.

This suggestion is certainly not a new one for our members or our profession. In the early 1980s, one of the first priorities of the Council on Emergency Management was to develop a national “peer matching” system. This occurred prior to the common use and application of computer technology.

While the system was relatively short-lived, at its peak, the data base included 138 public works professionals possessing boots-on-the-ground disaster experience and willing to assist other agencies. The system was cumbersome and difficult to maintain with no one person or group responsible for the organization and administration, which resulted in its ultimate ineffective use.

As previously discussed, in 2005, the Emergency Management Committee visited this issue once again and studied the need for such a system, however, there is no evidence that the issue was ever placed before or acted upon by the Board of Directors (*See Appendix G*)

VIII. Findings and Conclusions of Think Tank

Following the analysis and discussion regarding the vast amount of data that was presented, a number of “consensus” conclusions were agreed upon:

- The APWA web site needs to be a much more robust central location for all emergency management issues (i.e. legislation, funding/grants, FEMA policies, mutual aid, news, etc.)

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- APWA staff needs to work towards establishing an annual meeting to be hosted by FEMA with the emergency management committee and others to discuss training and funding issues relative to public works. APWA also needs to have frequent, regularly scheduled meetings with FEMA decision makers to discuss and explore the previously identified matters.
- Frequently, following a disaster declaration, there is an unexpectedly high turnover in FEMA field personnel, resulting in contradictory decisions, confusion and on-going frustration for agencies. This needs to be addressed by APWA as a high priority.
- Those agencies who have been able to receive in-depth training have experienced much less difficulty and frustration in meeting the FEMA policies and procedures...they were prepared for it.
- There is no consistency in the laws, management and/or administration of mutual aid programs anywhere across the country.
- Documentation is a major issue in nearly every event. Inadequate documentation causes communities to secure less funding dollars than may be included in the declaration.
- There is a demonstrated need for a comprehensive training program to provide public works professionals with the skills, knowledge and abilities to effectively deal with FEMA and the FEMA public assistance program, including debris. The goal of the program should result in a “certified public works emergency manager”.
- There is a demonstrated need for “strike teams” or “disaster response teams” and a comprehensive data base of KSA’s to provide immediate (and possibly on-site) assistance to our membership in time of need. This would serve as a “best practice” and fill a need that is currently not addressed.
- APWA and FEMA need to develop and deliver more field delivery of training for public works.
- There is a demand and need for a standardized nationwide public works mutual aid program.
- The Association needs to hire or retain the services a full time “grants person” and a FEMA “policy expert” to assist members when funding opportunities are present or there is a need for the service. An effective grants person could be self-funding.
- A one-size-fits-all FEMA program does not work effectively.
- A standard methodology and format for condition assessment valuation is required to enable agencies to accurately assess and determine the value of the public infrastructure for which they are responsible.
- There needs to be a more robust public works field communications network.
- Many members are unaware of the low or no-cost training currently available through FEMA or their State EMA.
- There is a strong need for APWA to pursue funding of equipment and personnel, especially in smaller communities where there are few personnel and much outdated equipment.
- Frequent (at least annual) face-to-face meetings with our counterparts in disaster response and recovery (fire, law enforcement, public health and EMS) must be conducted to assure that we, as responders, are on the same page as much as possible...
- Staff needs to put more effort into assisting Chapters to establish on-going relationships with state EMA/Homeland Security agencies.

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- APWA must find a “friend of public works” in both houses of Congress and in the White House, regardless of the political party in power at any time.
- Expand and enhance the use of social media for emergency management issues
- APWA needs to develop a comprehensive model program to assist members in planning for the care of Public Works employees’ families during and after a disaster. We cannot expect employees to work 12-18 hour days unless they know their families are adequately cared for.
- Many Public Works departments have insufficiently planned and/or trained their staffs to handle major disasters
- The Public Works profession has an image problem that does not adequately reflect its role as a First Responder. Many of our members do not see themselves as First Responders and as such have not set their community image so they are respected by their peer responders (Police, Fire, EMS) and elected leaders to appreciate the important role that they play in disaster response and recovery.

IX. Recommendations

The Think Tank recommends that the Board of Directors and APWA staff initiate the following actions to improve and enhance or efforts in public works emergency management:

13. The APWA Board of Directors needs to support the immediate development of a comprehensive education program that will provide a solid background for public works personnel in the management and administration of disasters. Completion of the curriculum would result in the awarding of a “Certified Public Works Emergency Manager” designation. This would not conflict with nor duplicate any other current certification programs. In fact, the program may be of interest to many other professional emergency managers. Similar programs have cost between \$500,000 and \$1,000,000 to develop and implement. FEMA currently has numerous applicable public works centric courses in their on-line and campus offerings. These courses could be incorporated as a part of the APWA curriculum. It is believed that funding could be secured from FEMA to support the development of this program. President Crombie has held preliminary talks with one of the most highly respected and influential firms and individuals, in the homeland security arena, (Adm. Thad Allen of the Rand Corporation) A preliminary strategy document is included in Appendix N. Appendix O contains a draft public works certification curriculum.
14. APWA should immediately explore the hiring or retention of a qualified and experienced “Grants person” and an expert in FEMA policies. An on-call consultant could serve in the initial capacity. These persons would be made available to members to assist in securing grants and acting as an intermediary in matters where conflicts between FEMA and the member agency may occur. The cost of such a person to APWA would be minor (once the program is up and running) as the program would become self-funding.
15. The APWA Board of Directors and the Emergency management Committee needs to explore and support the development of nine regional “strike teams” who would be available on short notice to travel to a stricken community (upon request) to assist the affected agency in “hitting the ground running” when disasters strike. These teams would help set up the

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- response, recovery and documentation systems. The Emergency Management Committee should take the lead in developing these “strike teams”. There is also a role for the Regional Directors to coordinate, monitor and keep current.
16. There is a great need to re-constitute “peer matching” data base of emergency management KSA’s that members could consult on-line for advice on emergency management matters. The Emergency Management Committee should take the lead in organizing and developing this system, train the membership in its use and ensure that the participants are qualified for their role.
 17. We must develop a comprehensive emergency management educational program that not only focuses on the technical aspects currently being undertaken, but also on the development of service and a training and education program that will directly serve the membership, especially in small to medium sized communities.
 18. The Board of Directors needs to immediately pursue the retention of a high profile on-call lobbyist to assist staff and increase APWA’s efforts in the identification and development of a solid relationship with a “friend of public works” in each house of Congress as well as the White House. This person or firm needs to have solid connections on both sides of the political aisle. This person or firm could be retained on an as-needed basis, at least initially.
 19. APWA needs provide the necessary support and resources to initiate and support a strategy to secure federal funding for the standardized program for the purchase of equipment and personnel support for response and training. This would include securing the appropriate federal legislation for the development of a standardized nationwide mutual aid program. The existing programs in New Hampshire and Illinois provide a successful blueprint to accomplish this program.
 20. There needs to be a central location on the APWA web site for all information and data relative to emergency management, training and current legislation regarding public works. There is also a need to better use the social media currently available to promote the profile of public works among the general public.
 21. The board of directors must take action to redirect some of its current emergency management and lobbying effort towards activities that have a direct and immediate impact on our members and agencies. To date, staff has been successful in increasing the profile of public works within our peer organizations but more needs to be done to gain a better identity and level of respect within Congress and other political leaders throughout the country.
 22. APWA should consider working with the Chapters to develop a “care group” of support responders who would be available to provide assistance to the first responder personnel families’ immediately following and local emergency that take the responders from their families.
 23. The House of Delegates need to take the lead to work with each of the Chapters to set up partnerships in each state with EMA’s and FEMA to provide adequate training for all APWA members on FEMA documentation and reporting policies and requirements. HOD’s need to ensure that EMA and FEMA reps are invited to chapter meetings and conferences to forge these needed relationships and partnerships.

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24. APWA staff needs to provide chapters and members with quality materials and information to assist them in changing the image of APWA to one of being recognized as a real “first responder” by both their peer responders and elected leaders.
25. Place full Think Tank report and appendices on APWA web site and publish availability, requesting feedback/suggestions on the report from the members.
26. Request that the House of Delegates Executive committee schedule time at their meeting in Denver to discuss the results of the Think Tank and receive feedback from the Delegates.

X. Summary

On behalf of the entire Think Tank committee, we wish to thank Teresa Hon and Laura Berkey-Ames for their high level of effort and support for this project. We also wish to thank each of the Think Tank members for the time, energy and commitment they put forth on this effort.

All of the foregoing information and recommendations are consistent with the APWA Strategic Plan and Emergency Management Position Statements. (See Appendix M). We also believe that the information contained in this report meet the goals and objectives originally established by President Crombie.

We strongly encourage the Board of Directors to support and fund the findings of this project for the future benefit of our 29,000 members. We cannot let this effort die for lack of follow-up or commitment.

The Think Tank and we, as co-chairs stand ready to address any additional issues that your deliberations may uncover.

Finally, thanks to President Crombie for the opportunity to serve our association on this important assignment.

Respectfully submitted,

Larry Lux
Co-Chair

Judy Mueller
Co-Chair

May 20, 2011

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Following distribution of the report, duplications and mislabeling was identified. Corrections have been noted below.

Appendices

Appendix A:	Staff response to President Crombie inquiries (October 2010)
Appendix B:	Think Tank Goals and Objectives
Appendix C:	Think Tank member contact information
Appendix D:	Think Tank meeting summaries
Appendix E:	Surveys <ul style="list-style-type: none">• On-line survey of members having a federal declaration in last 10 years (Appendix H)• Written and telephone survey of 31 Northern California Counties (Appendix J)• On-line survey of Chapters <i>without</i> Emergency Management Committees (Appendix K)• Analysis of current mutual aid programs (Appendix L)
Appendix F:	Staff provided information <ul style="list-style-type: none">• FEMA Grants and Assistance Programs• FY 2010 Preparedness Grants Program Information• APWA involvement in EM coalitions• APWA EM external appointments
Appendix G:	Peer Matching – PW Disaster Resource Data Base
Appendix H:	Member Survey and Results
Appendix I:	Face-to-face presenter contact information
Appendix J:	Survey of California counties
Appendix K:	Survey of Chapters without Emergency Management Committees
Appendix L:	Current Mutual Aid Programs <ul style="list-style-type: none">• Mutual aid State-by-state listing of mutual aid organizations• Analysis of mutual aid web sites
Appendix M:	APWA Strategic Plan and Position Statements (See www.apwa.net)
Appendix N:	Rand Corporation Draft Proposal
Appendix O:	Draft Emergency Management Certification curriculum

If interested in viewing the appendices, please contact Teresa Hon (thon@apwa.net)