Disaster Damage Assessment
for the Addison Fire Department

Chris W. Kellen
Addison Fire Department
Addison, Texas
CERTIFICATION STATEMENT

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

Signed: _______________________________
ABSTRACT

The problem addressed by this applied research project was that the Addison Fire Department did not have formal procedures outlining its role in disaster damage assessment. The purpose of this applied research project was to develop Standard Operating Guidelines to be utilized by the Addison Fire Department for disaster damage assessment. This was an action research project. The research questions answered were:

a) What is the importance of initial damage assessment in disaster situations?
b) What information should be obtained during initial disaster damage assessment?
c) What is the role of the Addison Fire Department in conducting initial disaster damage assessment?

The procedures used to complete this project included a literature review, personal observations of damage assessment forms, personal interviews, and the development of a Standard Operating Guideline for Disaster Damage Assessment that will be included in the Addison Fire Department's Operating Guidelines.

The results of this study identified the importance of conducting disaster damage assessment, listed the information needed for disaster damage assessment, and outlines the responsibilities of the Addison Fire Department personnel in initial damage assessment. These results were utilized to develop standard operating guidelines for conducting initial disaster damage assessment. These guidelines are included as part of the appendices.

The recommendations emphasize the importance of conducting disaster damage assessment once the danger has passed. Initial response will most likely involve responding to calls for service. Based on the status of responding units, companies would either collect rapid assessment information or conduct windshield assessments. The information needed for
each was outlined. Lastly, recommendations for the development of standard operating procedures, and training for disaster response were made.
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INTRODUCTION

The problem addressed by this research project is the fact that the Addison Fire Department does not have a Standard Operating Guideline (SOG) to address a formalized damage assessment procedure following a disaster. The Fire Chief is responsible for developing and maintaining the Town's Emergency Operations Plan (EOP), which includes damage assessment procedures; however this information has not been included in the fire department SOG's, practiced nor shared with operations personnel.

The purpose of this research is to develop Standard Operating Guidelines for formal initial damage assessment procedures for the Addison Fire Department. This study will be an action research project. The following questions will be answered as part of this study:

a) What is initial damage assessment in disaster situations?
b) What information should be obtained during initial damage assessment?
c) What is the role of the Addison Fire Department in conducting initial damage assessment?

BACKGROUND AND SIGNIFICANCE

The Addison Fire Department (AFD) is a rather young department, with its first paid members beginning in 1971. Today it employs 48 paid personnel in the operations division and operates out of two stations. The AFD provides both fire and emergency medical services in Mobile Intensive Care Units (MICU's) with equipment staffed by certified structural and aircraft rescue firefighters who are also cross-trained as paramedics. The administration is comprised of the fire chief, and administrative secretary, and three deputy chiefs over three divisions - Operations, Prevention and EMS / Training. The prevention division has two inspectors responsible for code enforcement, plans approval and inspections (TOA, website).
The Town of Addison (TOA) is located along the northern border of Dallas, Texas and is surrounded by several suburban areas. It is a very unique community consisting of only 4.3 square miles and a resident population of approximately 15,000 people, with seventy five percent living in rental type units (TOA website, 2007). The daytime/evening population may easily exceed 100,000 people due to the many businesses, hotels, restaurants, retail, mid-rise office buildings, light industrial and commercial properties located within the Town's boundaries. The Town also supports one of the busiest general aviation airports in the country, and its roadways experience very high volumes of traffic on a daily basis (TOA, website, 2007). Factors such as the Town's close proximity to a major metropolitan area, home to major corporations, host to many special events drawing hundreds of thousands of people annually, and a busy general aviation airport make it vulnerable should any type of disaster occur. A major hazard to the North Texas area is the frequent severe springtime storms producing flash flooding, straight-line winds and the threat of tornados that often accompany them. The North Texas Region is located within the area known as "Tornado Alley," which has historically suffered loss of life and significant damage to property. Deadly tornados have struck the immediate region in 1979, 1994, 1999, 2000, 2006 and 2007, and although the TOA has not suffered a direct hit from a tornado, the threat is imminent each year.

The North Central Texas Council of Governments (NCTCOG) has conducted a tornado damage risk assessment for the North Central Texas region which included the TOA and surrounding communities. A summary of these risk assessments concludes that violent class tornados have occurred on multiple occasions throughout Texas, and it is evident in the data that the North Dallas area is considered to be a 'hotspot.' Current models indicate individual
damage paths could result in over $5 billion loss of property and affect over 25,000 individual structures and apartment units (NCTCOG, 2007).

The Fire Chief has been designated as the Emergency Management Coordinator (EMC) and is responsible for the Emergency Management Plan (EMP). A hazard analysis has identified tornados as being the most likely vent to occur, having a major impact on personal and public property (TOA, EMP, pg. 10). Other forms of hazards, such as flash flooding, drought, winter storms, aircraft accidents and haz-mat incidents are also considered while planning for disaster response. However, a tornado is anticipated to have the greatest impact on the Town and the Addison Fire Department. The EMP addresses the need for damage assessment procedures following a disaster; however there is no policy or guidance as to individual responsibilities and what the criteria is for setting immediate priorities.

The Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) course curriculum at the National Fire Academy (NFA) stresses the importance of damage assessment procedures following a disaster in order to effectively mitigate the hazard. A well coordinated damage assessment response is critical to the fire department in order that personnel can respond efficiently and effectively in the event of a disaster within our community. It became apparent that the Addison Fire Department needed to incorporate a set of guidelines to accomplish this goal. This is directly related to two of the (USFA) Operational Objectives of promoting within communities a comprehensive, multihazard risk-reduction plan led by the fire service and responding appropriately in a timely manner to emerging issues.

LITERATURE REVIEW

There is no place on earth that has been spared the effects of a disaster. Whether it is due to natural or man-made causes, the effects are devastating to the affected population. Over the
years, the potential for more highly destructive events is rising due to the increases in world population and the growing concentration of people in urban areas. By the year 2020, it is projected the world population will be around 10 billion, and 60 percent of those will be living in urban areas (ICMA, 1991). The TOA certainly mirrors these projections today with the continued growth and revitalization of neighborhoods, which bring more and more people to our small urban area.

In June of 2006, Michael Chertoff, Secretary of the Department of Homeland Security (DHS) provided a report to Congress on the first phase of the Nationwide Plan Review of the United States preparedness for natural or man-made disasters. He expressed the priority of the National Preparedness Goal is to strengthen national planning in order to unify the actions and response of Federal, State, and local governments (DHS, 2006). The National Fire Protection Association (NFPA) recently updated NFPA 1600, Standard on Disaster/Emergency Management and Business Continuity Programs. This Standard focuses on five aspects of disaster/emergency management and business continuity programs. These are: prevention, mitigation, preparedness, response and recovery (NFPA, 2007). The Emergency Management Plan (EMP) for the Town has also recently been revised to incorporate changes to the National Incident Management System (NIMS), the National Response Plan (NRP) and the NFPA standards. Damage assessment is a key component of the preparedness and response phases of disaster and emergency management, Dr. David McEntire Ph.D., Emergency Administration and Planning at the University of North Texas, states that of all functions performed following a disaster, there is perhaps none more important than damage assessment (IAEM, 2002).

Just what is damage assessment? It is "a gathering of information, related to the impact, or series of events, on life and property within a defined area" (EAFSOEM SM 6-3, 2006). The
EAFSOEM student manual identifies two types of damage assessment: immediate and post incident. However, other literature on the subject identifies three types: initial, preliminary and technical (McIntire, McDowell, Moore, IAEM, 2002).

A key aspect of damage assessment is that it is dynamic and must be based on the disaster. Therefore, communities must identify potential hazards unique to their particular area in order to prepare a plan ahead of time and train on it (McDowell, Moore, IAFM, 2002). Furthermore, because damage assessment is dynamic, it should be a continuous process throughout the incident. This allows the incident commander or emergency managers to continually evaluate priorities, thus deciding how resources should be used, shifted or discontinued (ICMA, 2003).

Initial damage assessment is crucial following a disaster in order to determine the scope of the problem, injuries, life safety issues, damage to infrastructure and transportation routes. A study of the Paso Robles earthquake in San Simeon, California found that damage assessment played a key role during the initial minutes and hours of the disaster response operations. Assessing the impact of the disaster to request appropriate resources and determining specific priorities were instrumental in summoning additional personnel from surrounding jurisdictions (McEntire, Cope, 2004). This study showed the importance of early recognition of immediate needs and priorities, enabled first responders to get the needed resources quicker and allowed commanders to set strategic priorities in order to mitigate the immediate hazards.

The Texas Department of Emergency Management (DEM) provides a guide for steps that should be taken by local governments for initial damage assessment. This document stresses the importance of the initial local assessment. It further states that workable procedures and personnel should be trained beforehand, since speed and accuracy are essential in getting the
most help in the shortest period of time (DEM, 2007). This information is also essential to determine if a local disaster should be declared, which will set the stage for state and federal disaster declarations should there be a need (Keyes, IAEM, 2002).

Responding to day-to-day emergencies typically falls under the jurisdiction of local fire and emergency medical services whether it is a paid, volunteer or private service organization. Initial response is the responsibility of local government's emergency service departments with help from mutual aid companies. The primary responsibility for damage assessment, according to the TOA's EMP, is assigned to the Deputy Fire Chief of Operations, David Benson. When questioned about the information that should be obtained by fire department personnel (personal communication, December 28, 2007), he responded "initial damage assessment information should include the number of injuries, the need for search and rescue operations, transportation requirements for the injured and the extent of damage to critical buildings and infrastructure."

The Governor's Division of Emergency Management refers to the initial assessment provided by first responders as a "rapid assessment." This information should focus on the "humanitarian and emergency needs/activities" such as life safety issues which can involve injuries, fatalities, mass care, search and rescue operations and/or hazardous materials. Furthermore, this also includes "life lines" such as water, electric, gas and treatment facilities as well as transportation. Lastly, "critical facilities" which include public buildings such as fire and police stations, jails, courthouses, hospitals, long term care facilities and communication buildings should also be included in initial assessments ((DEM-62, 2007).

This information should be communicated to the Incident Commander or Emergency Operations Center (EOC) as soon as possible in order for management teams to set priorities, determine the extent of damage, and decide what further assistance will be required.
The role of the AFD in conducting damage assessment will obviously be critical in the early stages of an event. The EAFSOEM Student Manual describes two levels of damage assessment—immediate and post-incident, whereas the TDPSDEM identifies three—rapid, windshield and site assessment. The initial or rapid damage assessment must be initiated during the response phase of the incident. First, arriving units must determine immediate life safety issues and the extent of damage to life lines such as utilities, transportation systems and critical facilities (pg. 11). The TDPSDEM also provides a Mass Care Rapid Assessment Guideline. These guidelines address the nature, severity, geographical location, population affected, incident stability, special equipment needed as well as requirements that may be needed to support the mass care of sick and/or injured civilians and first responders. This initial damage assessment is extremely important as it is required to support the request for state and federal assistance.

Once the immediate needs have been identified and addressed, a more detailed assessment to more accurately determine the extent of damage to residential, businesses and public property is needed. This is referred to by the State as the 'windshield assessment'. The City of Dallas, Texas utilizes two types of damage assessment teams, composed of local personnel, each with a team leader reporting to a Damage Assessment Officer. One team is responsible for assessing damage to publicly owned property such as emergency services buildings, roads, bridges, municipal buildings and water control facilities. A second team surveys damage to residential homes and businesses. All damages are categorized and recorded on forms provided by the State (EMP, 1-4).

Proper documentation of damage assessment is critical in determining immediate needs, and it is also important as a way of documenting estimated financial losses so that state and federal disaster declarations can be substantiated. The TDPSDEM (2002) provides standard
forms that should be utilized by local governments. These include Windshield Assessment Forms, a Disaster Summary Outline and Guidelines for Preliminary Damage Assessment. The following information will assist the community's recovery following a disaster.

**PROCEDURES**

This research began by verifying a lack of damage assessment procedures to be utilized in disaster situations by the Addison Fire Department and establishing a need for guidelines. The first question addressed the importance of initial damage assessment in disaster situations. This question was answered by reviewing relevant literature of past disasters and first responders' past experiences in overwhelming situations. Research studies of previous disasters were used. Literature from disaster and emergency management organizations and standard operating guidelines from organizations that face similar risks were studied.

To answer the second question, what information should be obtained during initial damage assessment, relevant literature was reviewed from other city's emergency management plans along with documents provided by the State of Texas. Personal interviews were conducted with the Deputy Chief of Operations for the AFD, who is responsible for damage assessment procedures in disaster situations.

To answer the third question, what is the role of the AFD in conducting damage assessment, relevant literature from other fire departments, the EASFSOM Student Manual, as well as disaster management information and documents provided by the State of Texas were reviewed. The Addison Fire Chief, Noel Padden, who also serves as the EMC for the TOA was also personally interviewed, as was the Deputy Chief of Operations, David Benson.
Assumptions

The assumption is made that the TOA's EMP states damage assessment will be performed and managed by the Deputy Chief of Operations. There is conflicting literature as to assignment of responsibilities and procedures to be conducted during damage assessment. This research only addresses initial damage assessment procedures conducted within the first 24 hours following an event. It is also assumed, due to the small number of operations personnel on duty each shift in the AFD, that boundary drop and mutual aid agreement will have to be utilized. Finally, it is assumed that other Town department employees will play a role in assisting with damage assessment as outlined in the TOA's EMP.

Limitations

The scope of this research was to determine what initial damage assessment procedures were and what the fire department's role should be in this process. The guidelines developed address only the responsibilities of fire department personnel as related to initial damage assessment procedures during a disaster situation.

Definitions

Damage Assessment- gathering of information related to the impact of an event, or series of events, on life and property within a defined area. (EAFSOEM, 2006)

Rapid Assessment- initial survey of the disaster damages.

Windshield Assessment- performed immediately after a disaster and completed without leaving the vehicle; used to determine response priorities and needs.
RESULTS

The results of this study confirm the North Texas region is similar to every part of the world in that it is susceptible to man-made and natural disasters. Although the overall size of the TOA is quite small, it is surrounded by a large metropolitan area, home to several large corporations, and is home to one of the busiest general aviation airports in the nation with many expensive aircraft. A risk analysis has identified a tornado as being the most likely event that would cause significant injuries and damage to the Town as well its infrastructure. As recently as May 8, 2006, three people were killed and ten injured as a late night-night tornado swept through a rural North Texas suburb just north of the Town of Addison. One of Texas' worst tornados struck Wichita Falls, a small North Texas town, on April, 1979, killing 42 people, resulting in over 1700 injuries and destroying over 3000 homes (National Weather Service, 2007).

To answer the first question, "what is the importance of initial damage assessment in disaster situation?" the EAFSOEM manual clearly indicates how important initial damage assessment is in "sizing up" the event early on in the incident. In the United States, first response falls on the shoulders of local/municipal fire, EMS and police departments, which means they are the ones responsible for initial damage assessment. Life safety issues must be addressed first, just as they are in all fire department responses. Incident commanders need this information so that needed resources can be requested early. The study of damage assessment procedures from the Paso Robles earthquake in San Simeon, California illustrated how rapid damage assessment was crucial in obtaining needed resources. Conversely, the response by the federal government to Hurricane Katrina in New Orleans was delayed for many reasons including the lack of pre-planned damage assessment procedures (McEntire, 2007).
In answer to question two, "What information should be obtained during initial damage assessment?" the research found that the information to be obtained is similar to what is needed on every incident in order for incident commanders to respond appropriately to the incident. Life safety of first responders and those injured from any event is always the first priority. Determining if there are any injuries to first responders will help the incident commander determine if units can remain in service to respond. Second, determining injuries to civilians will be necessary in order to prioritize treatment and transport to medical facilities. Medical facilities will need to be informed so preparations can be made for large numbers of casualties. Operations Chief Benson (personal communication, December 28, 2007) with the AFD stated that initial damage assessment should focus on a rapid assessment to prioritize life safety issues, conduct search and rescue operations, triage, treat and transport the injured and evaluate structural damage for safety purposes.

Fire departments should also be prepared to evaluate the extent of damage to high priority facilities, public buildings and infrastructure. High priority facilities include hospitals, nursing homes, water treatment facilities and power stations. Public buildings are important because the local government will need to be able to respond to the needs of the community. Damage to infrastructure will affect how first responders are able to access critical areas with needed equipment and personnel.

Information pertaining to the extent of the damage is critical in order for incident commanders to make decisions related to needed resources. It is also important for documentation purposes so that, when local resources are overwhelmed, they can request assistance from the State of Federal government. Proper documentation is the key to getting needed assistance quickly. The TDPSDEM (2002) requires a Disaster Summary outline
(Appendix A) in order to obtain disaster assistance from the State. It also provides Mass Care Rapid Assessment Guidelines (Appendix B) that can be utilized by first responders to assist with proper documentation and ensure all pertinent information has been acquired.

What is the role of the AFD in conducting initial damage assessment? The AFD's role in conducting damage assessment is to determine the scope of the event, request needed resources and prioritize activities in a systematic manner. The City of Springfield Oregon's Emergency Management Plan (2007) divides damage assessment into the following four stages: 1) Rapid Damage Assessment (RDA), which consists of a windshield survey conducted immediately after an event and completed within 24 hours; 2) Initial Damage Assessment (IDA), which is a more detailed assessment that provides supporting information for a state of emergency declaration and for requesting a presidentially declared disaster; 3) Preliminary Damage Assessment (PDA) process, which is performed by teams from the Red Cross as well as Federal, State and local representatives, and which concentrates on evaluating emergency recovery costs; 4) Secondary Damage Assessment SDA, which is performed by teams with technical expertise to determine if buildings, bridges, roads and other critical infrastructure are safe for use or occupancy.

The City of Dallas utilizes damage assessment teams made up of local personnel and a DA Officer. These teams are divided up into two types: 1) The PA Team which surveys damage to government property and private non-profit organizations; and 2) IA Teams which assess the impact on citizens and businesses. Each team has a designated leader who compiles the findings and reports the information to a Damage Assessment Officer (EMP, Annex J, 2007).
The TDPSDEM (2002) recommends that first responders' initial assessment provide a "snapshot" of the situation. It is called a rapid assessment. This assessment is normally limited to life safety issues and life lines such as utilities, transportation and critical facilities, including those related to medical and communication functions. After these immediate needs are addressed or identified, a windshield assessment should be done. This is a more detailed assessment to determine the extent of damage to residential and business property. A policy was developed according to these guidelines (Appendix D) in order to follow suggested guidelines provided by The State of Texas in completing disaster assessment forms.

**DISCUSSION**

The study found that damage assessment is one of the most important functions in order to understand the severity of damage, determine priorities caused by any disaster and assess immediate needs (McEntire, 2002). The research showed that the DHS considers damage assessment as a critical component in determining the impact an event will have on the community and government services (EAFSOEM, 2006). The State of Texas has also provided a framework on how to handle damage assessment for local jurisdictions (Appendix A). This framework provides a consistent and comprehensive way for local governments to provide vital information to the State concerning the extent of damages should a disaster declaration be needed. Addison Fire Department Operations Chief, David Benson (personal interview, 12/28/07) stressed how important initial damage assessment was in setting priorities for the event and getting the needed resources quickly to help mitigate the disaster. These opinions were similar to those found in literature review and studies of disaster response.

The procedures and definitions of some of the terms related to conducting damage assessment varied somewhat from the literature and to individual plans. The EAFSOEM Student
Manual (2006) only lists two types of damage assessment; immediate and post incident. While McEntire, (2007) list three; rapid, preliminary and technical damage assessment. It was also found that the terms rapid, initial and windshield assessments were used to describe assessments by first responders immediately following an event, often simultaneously while rescue operations could still be underway. This period would typically last for 24 hours. Lastly, departments varied on who would be conducting damage assessment. The City of Richardson, Texas (2002) and the City of Springfield, Missouri (2007) would utilize fire department personnel to conduct initial damage assessment whereas, the City of Dallas (2007) would use teams made up of familiar with assessing damages to buildings and infrastructure.

The results of this study point out the need for the TOA's EMP to specifically address the responsibilities of all those involved in an event. Furthermore, the AFD should have standard operating guidelines to address how fire department personnel should respond to a disaster within the Town. Once guidelines are in place, it is necessary for all the key players to train and exercise the plan to ensure a thorough understanding and make adjustments. Fire Chief and EMC Noel Padden (personal interview, 12/28/07) stated most cities do not plan, train and exercise their emergency plans enough, without it, results of initial damage assessment procedures will likely fall short.

**RECOMMENDATIONS**

This study confirmed the need for local first responders to conduct post-disaster damage assessments. It is recommended that procedures outlining these activities be incorporated into the disaster planning processes of these organizations for the following reasons:

1. Damage assessment provides specific problem identification and allows for a more coordinated disaster response effort.
2. It is the key to determining response strategies.

3. It is necessary to determine the status of resource availability and the capability to respond.

4. It is essential for obtaining disaster assistance at the state and federal levels and for facilitating disaster recovery efforts.

The first priority during any disaster should be the safety of first responders. Safe shelter should be predetermined for all on-duty personnel until the danger has passed. Personnel should not be responding to calls if an event is known and/or imminent. Those caught out in their respective districts should exercise their best judgment in seeking shelter. Personnel must try to maintain communications with dispatch. Any injuries to personnel, damage to facilities or equipment that could affect response must be communicated to shift officers and dispatch.

Fire companies should provide damage assessment information through rapid assessment reporting and/or windshield surveys. Rapid assessment information should be relayed to communications or field supervisors in conjunction with disaster response activities, and should provide, at a minimum, the following information:

1. Geographical boundaries affected with structural damage reported as minor (obvious visible damage), moderate (significant damage to the structure), or major (total destruction or enough to require demolition).

2. Numbers and types of casualties.

3. Needs for search and rescue.

4. Locations of any fires or hazardous materials releases.

5. High occupancy structural damage.

6. Major thoroughfare blockages.

7. Major utility outages.
Whenever the danger has passed, personnel should report their status and if not responding to calls for service, should begin initial damage assessment procedures. Initial damage assessment of their districts should be performed utilizing the Windshield Assessment Form (Appendix C.) Copies of this form along with instructions should be available on the apparatus at all times.

The Addison Fire Department should incorporate Disaster Damage Assessment into their Standard Operating Guidelines (Appendix D). Operations personnel should participate in regularly scheduled disaster response training that includes familiarization with these procedures as well as the proper use of any associated forms such as the Windshield Assessment Form (Appendix C). Organizations whose responsibilities include Emergency Management functions should be familiar with all procedures and forms needed for detailed damage reports, assistance requests, and recovery efforts.

Finally, it is recommended that any disaster response organization wishing to improve its rescue and recovery efforts should incorporate into their disaster planning the development of procedures for damage assessment and reporting in accordance with local, state, and federal laws and regulations. Consulting state emergency management recovery guidelines will ensure proper information is being gathered should further assistance be needed.
REFERENCES


Appendix A

Date: 
Time: 

Disaster Summary Outline

GENERAL

Jurisdiction (County/City): __________________________ Population: ____________

Type of Disaster (Flood, Hurricane, Tornado, etc.) ___________________________________________________________________________

If this is a flood event, does the City/County participate in the National Flood Insurance Program (NFIP)?

Yes/No

Inclusive dates of the disaster: _______________________________________________________________________________________

Was a local disaster declaration issued? Yes/No (Not applicable for Agriculture assistance only)

Contact Person: __________________________ Title: __________________________

Address: __________________________ City: ____________ Zip Code: ____________

Phone ( ) ____________ Fax ( ) ____________

Pager ( ) ____________ 24-Hour Duty Officer/Sheriff’s Office ( ) ____________

INDIVIDUAL ASSISTANCE

Casualties: (Contact local area hospitals)

A. Number of Fatalities ____________

B. Number of Injuries: ____________

C. Number Hospitalized: ____________

Number of homes isolated due to road closure (high water, etc.): _______________________________________________________________________

Agricultural Losses: (Contact the Farm Service Agency in your county)

Is agricultural assistance needed? Yes/No If yes, please attach USDA flash situation report

Residential Losses - Primary Residence Only: (Local Damage Assessment) See guidelines on page 4.

<table>
<thead>
<tr>
<th>Type of Homes</th>
<th>Destroyed</th>
<th>Major Damage</th>
<th>Minor Damage</th>
<th>Affected</th>
<th>% Covered by Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Homes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Homes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-Family Units</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Estimated number of persons whose situation will not be satisfied by volunteer organizations (Contact local volunteer organizations)

Are shelters opened: Yes/No How many? ________________

Name, location, capacity, and current occupancy of shelters?

---

### Business Losses/Impacts:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th># Covered by Adequate Insurance</th>
<th>Total estimated repair cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Damage (greater than 40%)</td>
<td></td>
<td></td>
<td>$</td>
</tr>
<tr>
<td>Minor Damage (less than 40%)</td>
<td></td>
<td></td>
<td>$</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td>$</td>
</tr>
</tbody>
</table>

How many businesses have ceased operations: __________________________

How many businesses have experienced economic injury: ________________

Estimated number of persons unemployed because of this disaster: (Contact affected businesses and the local Texas Workforce Commission Office)

---

**PUBLIC ASSISTANCE**

NOTE: All disaster related costs should be separated into the seven damage/work categories listed below:

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>No. of Sites</th>
<th>Estimated Repair Costs</th>
<th>Anticipated Insurance *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debris Clearance</td>
<td></td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Emergency (EMS, Fire, Police)</td>
<td></td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Road &amp; Bridge</td>
<td>Roads - Paved</td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td>Roads - Unpaved</td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td>Bridges - Destroyed</td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td>Bridges - Closed &amp; Repairable</td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td>Bridges - Damaged &amp; Serviceable</td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td>Culverts - Totally washed away</td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td>Culverts - Damaged &amp; still in place</td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Water Control Facilities (Dams, levees, dikes)</td>
<td></td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Buildings &amp; Equipment</td>
<td></td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Public Utility Systems (Gas, Electric, Sewer, Water)</td>
<td></td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Other (Recreational Facilities, Airports, etc.)</td>
<td></td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

* Anticipated insurance is normally calculated by subtracting any deductible, depreciation or uncoverable loss from the estimated repair cost

DEM-93-Page 2 (Rev. 4/00)
Total annual maintenance budget (i.e. Public Works, Road & Bridge): $________________________

Start of Fiscal Year: Month ____________

**Others** (Contact non-profit or governmental, medical, emergency, utility, educational, custodial care facilities, etc.)

<table>
<thead>
<tr>
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Totals $ $ 

This form is for damage assessment reporting purposes only. In accordance with the State Emergency Management Plan, if a Mayor/County Judge determines that a situation is of such severity and magnitude that an effective response is beyond the affected jurisdiction's capability to recover, a letter outlining the disaster impact and the need for supplemental State and/or Federal assistance must accompany this DSO.

Once this form is completed, submit pages 1-3 to your local Disaster District Committee, and to:

Texas Department of Public Safety  
Division of Emergency Management  
P.O. Box 4087  
Austin, Texas 78773 or FAX to: 512-424-2444  

DEM-93-Page 3 (Rev. 4/00)
RESIDENTIAL LOSS GUIDELINES

Destroyed: Structure is permanently uninhabitable and cannot be repaired. Look for the following:
- Structure gone, only foundation remains;
- Major sections of walls missing or collapsed;
- Entire roof gone with noticeable distortion of the walls;
- Structure has shifted off of its foundation;
- More than 4 feet of water, over 12" for mobile homes.

Major: Structure is currently uninhabitable and extensive repair is required to make it habitable. Look for the following:
- Portions of the roof, including decking, missing;
- Twisted, bowed or cracked walls;
- Penetration of structure by trees or cars, etc.;
- 2 to 4 feet of water, 6" to 12" for mobile homes.

Minor: Structure is habitable with minor repairs. Look for the following:
- Many missing shingles, broken windows and doors;
- Siding loose, missing or damaged;
- Minor shifting or settling of foundation;
- Damaged septic systems (flood);
- 6" to 2 feet of water, less than 6" for mobile homes.

Affected: Structure is habitable. Some minor damage may be eligible for assistance. Look for the following:
- A few missing shingles;
- Some broken windows;
- Damage to cars;
- Damage to Air Conditioner Compressor only;
- Less than 6" of water.

Estimating Insurance: The following are general guidelines to estimating insurance coverage.
- Renters are less likely to have insurance.
- Low income residents are less likely to have insurance.
- Homeowners who are still paying off their mortgage will normally have the appropriate type of insurance.
- Residents who are flooded and reside in an area that does not participate in the NFIP or in an area that has been sanctioned for NFIP code enforcement violations will not have flood insurance.
- Residents who are flooded but whose property is not located in the Special Flood Hazard Area (SFHA) will probably not have flood insurance.
Appendix B

Mass Care Rapid Assessment Guidelines

Assess…the nature and severity
What has occurred?
- Weather event
- Industrial event
- Technical event
- WMD event

Assess…geographical location
Where did the event occur?
- Localized to one area or widespread
- Multiple cities impacted
- Multiple counties impacted

Assess…affected populations
Who is impacted?
- General public
- Special needs populations
- Medical facilities
- Specialized care institutions
- Assisted living facilities

How many are impacted?
- Estimated population of impacted area
- Estimated evacuating populations to your area

Assess…the stability of the incident
What may occur?
Will incident escalate?
Is evacuation a requirement?
Is contamination a factor?
Is the event worsening? Assess timelines
Is the event stabilizing? Assess timelines
Is the event over?

Assess…special equipment
- Personal protective equipment
- Detection equipment
- Decontamination requirement

Assess…potential for mass care support
Do you currently have spontaneous evacuation sites occurring?
Do you currently have spontaneous shelters occurring?
Do you currently have a refuge of last resort open?
Do you currently have spontaneous responders?

Assess…mass care for emergency response workers
Immediate mass care on site for emergency response workers

Hydration stations for emergency response workers
- Individualized food and water sites in or near impacted area

Rehabilitation centers for emergency response workers
Assess…mass care requirements
Immediate mass care (life essential support) for disaster victims

Hydration Stations
• Individualized food and water in or near impacted area

Shelters
• Number of shelter facilities needed
• Types of shelters
• Special medical needs sheltering
• Special assistance sheltering
• Pet/large animal sheltering
• Host county sheltering agreements requested
• Long term sheltering anticipated

Water
• Bottled water
  - Amount - Delivery site - Timelines
• Bulk water
  - Amount - Delivery site - Timelines

Food
• Mass feeding at fixed locations
  - Number of sites
  - Estimated numbers to be fed

Mass feeding with mobile kitchens
• Number of sites
• Estimated number to be fed

Medical needs
• Emergency medical services
  - Inside impacted area
  - Shelters
  - Evacuation sites

Comfort stations / rest centers
• Rehabilitation for disaster victims

Crisis Counseling
• Critical Incident Stress Management
• Disaster Mental Health Services
• Pastoral counseling

Social Services
• Unusual situations requiring specialized mass care
  - Vouchers for immediate personal needs
  - Phones of welfare status/inquires to family members

Distribution centers
• Bulk food
• Bulk water
• Clothing
• Clean up supplies
Taking care of Texans
Emergency management officials should work closely with voluntary organizations by continually assessing and identifying mass care requirements to ensure that the needs of disaster victims are being met within their jurisdiction.

Assess…additional mass care requirements
Are opened shelters in a safe area?
Are spontaneous shelters still open?
Are shelter operations sufficient?
Are feeding operations sufficient?
Are unique resources needed due to the nature of this even?
Will the amount of mass care resources required increase or decrease depending on
• Change in severity of threat, disaster or emergency event?
• Change in time lines of event?
• Change in evacuation from impacted area?
• Change in return to impacted area?
• Change in alternative transportations route and method of re-supply to impacted area?

Requesting assistance…
Requests for emergency assistance should be resolved with resource capabilities at the lowest level of government. If local governments are over-whelmed and additional mass care support is needed, requests for assistance are forwarded from local jurisdictions (cities or counties) through the appropriate Department of Public Safety Disaster District which may in turn request assistance from the Division of Emergency Management State Emergency Operations Center.

Updated 2/2002
WINDSHIELD ASSESSMENT FORM

County: ______________  City: ______________  Subdivision: ______________  Disaster Description: ____________________________________________

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<th>Income Levels</th>
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* Editorial Note: This classification system is the same as the Residential Loss Guidelines utilized for completion of the Disaster Summary Outline.
Appendix D

<table>
<thead>
<tr>
<th>ADDISON FIRE DEPARTMENT STANDARD OPERATING GUIDELINES</th>
<th>SOG DISASTER DAMAGE ASSESSMENT #301</th>
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<td>EFFECTIVE DATE: 1/05/2008</td>
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Purpose: To establish guidelines for disaster response and procedures for disaster damage assessment by the Addison Fire Department.

Policy: It is the policy of the Addison Fire Department to assist the community in disaster recovery efforts by preserving departmental response capabilities, maintaining communications, and participating in the disaster damage assessment process.

I. Response during the event:

A. During periods of eminent danger (i.e. funnel clouds sighted) all companies are to shelter in place at their respective stations until the immediate danger has past.

B. If companies are caught out "on the air", exercise sound judgment to best avoid the threat such as moving out of the path of funnel clouds, seeking shelter, or avoiding low lying areas during flooding.

C. Maintain communications and update current status and run disposition with dispatchers.

D. The Emergency Operations Center (EOC) shall be activated.

II. Immediately after the event:

A. Promptly report all member casualties (injuries or fatalities) and any damage to department equipment, apparatus, or facilities that will hinder response capabilities to communications and/or supervisors.

B. The EOC shall be fully staffed and maintained as needed throughout the recovery process.

C. All damage assessment reports are to be processed through the appropriate supervisor and/or IC to the EOC.

III. Operations Division:

A. Rapid Assessment- Companies engaged in response should be aware of the need to relay damage information relating to the event that will be essential for response and recovery efforts to the IC and the EOC. This information should be transmitted as soon as possible either through normal communications procedures with dispatchers or through field supervisors in the event of communication failure. The initial goal should be to identify the geographical boundaries of the affected area(s) and
classify damage to structures as minor (obvious visible damage), major (significant damage to structures in the area), or destroyed (total destruction or enough to merit demolition). Damage in the following categories should be reported:

1. Life Safety- Estimate injuries and fatalities, determine the needs for search and rescue, identify any fires or hazardous conditions, and determine mass care needs such as damage to high occupancy structures.
2. Lifelines- Report major damage to or loss of utilities, transportation systems, or blocked roadways.
3. Essential Facilities- Significant damage to medical care facilities, nursing homes, or other support facilities should be reported.

B. Windshield Assessment- Once the threat of immediate danger has passed companies not involved in response should first test communications equipment by reporting the present status of personnel, equipment, apparatus, and facilities to the dispatcher. Companies should next check on the air, drive their respective districts, report rapid assessment information as outlined above, and complete as much of the Windshield Assessment Form as possible for their district. Utilize the accompanying damage description list in order to determine the extent of damage to structures and estimate insurance coverage. Request assistance as needed to complete the process. Exercise judgment prior to direct involvement and maintain a triaged approach to search and rescue activities in order to do the most good.

C. Search and Rescue- Maintain personnel safety at all times. Resources should be committed in a way that will maximize efforts. Triage structures to be searched. Structures deemed unsafe for entry should be identified by red barrier tape while those with possible structural instability should be considered limited entry structures and marked with yellow barrier tape. During initial phases rescue attempts in these structures should only be attempted if verbal communication with trapped victims can be established and proper procedures are followed.

IV. Emergency Management Coordinator:

A. When the threat of disaster is eminent or as soon as possible following an event the Emergency Management Coordinator will activate and maintain the Emergency Operations Center (EOC). The location of the EOC will be the Training Room of Addison Fire Station One.

B. Coordinate assignment of damage assessment teams and the assimilation of assessment information. Local damage assessment is the responsibility of the Finance and Building Inspection Departments. The American Red Cross will initiate its own damage assessment.
C. In the event that state or federal assistance is needed supervise the submission of a Disaster Summary Outline to the State Division of Emergency Management, ensure that the Mayor issues a declaration and proclamation of local disaster as well as a written request for assistance letter to the governor.